

Preservation of Agricultural Land in Nova Scotia



Prepared by the Nova Scotia Land Review Committee, July 2010

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Prepared for

**Honourable John MacDonnell, Minister
Nova Scotia Department of Agriculture**

and

**Honourable Ramona Jennex, Minister
Service Nova Scotia and Municipal Relations**

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July 2010

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July 7, 2010

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Dear Hon. MacDonnell and Hon. Jennex,

Attached is the final report of the Agricultural Land Review Committee. In preparing it, Committee members met in eight meetings, two conference calls, nine public meetings, and three meetings with organizations. Time spent in meetings represented only a fraction of each member's commitment to the process, as substantially greater amounts of time were devoted to reading background material in preparation for their Committee activities.

The research and discussions which gave rise to this document identified a number of surprising or unexpected impediments to the use of agricultural land in this province, of which the magnitude of potential interference of neighbouring development on adjacent farmland and the severe depletion of some of the land base currently in use stand out. While the results of the report are sobering in regards to its assessment of current availability of active agricultural land in Nova Scotia relative to probable future need, the committee feels the report provides a useful road map for future research and policy activities from this initial point of departure.

The Committee is extremely grateful to your respective ministries for the opportunity this project has afforded us to research and articulate what the public also seems to have known in its heart of hearts and expressed at each public meeting—it is time for Nova Scotia to conserve its agricultural land resources.

Yours truly,



Richard Williams, Chair
Agricultural Land Review Committee

Nova Scotia Agricultural Land Review Committee

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Executive Summary

The Nova Scotia Agricultural Land Review Committee (the Committee) was appointed by the Minister of Agriculture and Minister of Service Nova Scotia and Municipal Relations to investigate preservation of agricultural land in Nova Scotia. This report provides the results of the Committee's investigations that included public consultation (Chapter 2), review of literature and synthesis of a variety of information gathered into a discussion of the issues surrounding Nova Scotia farmland (Chapter 3), recommendations for Provincial Government programs and actions (Chapter 4), and a discussion of timing of actions and an overview of additional resources needed (Chapter 5).

Active farmland in 2006 was about a third of the area in use in 1901 and Nova Scotia's current population is double 1901 levels. This implies that we would need an active farmland base approximately 800,000 hectares bigger than what Nova Scotia currently has to feed Nova Scotians - if we were to eat a 1901 diet at 1901 levels of agricultural productivity. Providing a healthy diet to all Nova Scotians from provincial production, based on the Canada Food Guide, would require an additional 53,000 hectares of land in food crops at current average yields; however, the Committee's analysis assumes that all farmland presently in production is of sufficient quality, based on soil, climate and other characteristics, to produce any crop. Many crops, especially those that are presently in a deficit production situation such as vegetables and grains, cannot be grown on much of the land that is now in production. Therefore, the 53,000 hectare agricultural land deficit should be considered a minimum.

Present and future farmland supply and demand is challenged by several factors:

- Abandonment of agricultural land as a result of declining farm profitability. Farmers have had to deal with the pressures over the past decade of a globalized food system that has created competition with other countries. Many of these countries receive much greater support from their governments, through both direct payments and trade barriers, than do Nova Scotia farmers and do not have to produce their food under the same health and safety requirements.
- Removal of land and fragmentation of the farmland base as a result of development. Simple occupancy of former agricultural lands by development has removed land from agriculture but is not nearly as big a problem as impairment of the optimal use of the land from nearby development. Calculations using a 300 foot buffer zone around developed and developable properties suggest that the productivity of approximately 30% of the farmland base could be negatively impacted by encroachment of non-farm development, based on a 1998 provincial database.
- Depletion of the soil's capacity to produce food through loss of fertility appears to be increasing. Based on statistical analysis of provincial agricultural soil samples, all major nutrients have been in decline since the early 2000s. Costs to address the lime deficit alone are estimated to exceed \$30 million and this underestimates the degree of depletion as poorer farming operations tend not to conduct soil sampling programs. The cost to repair current levels of depletion is sobering: to

- return soil nutrient levels to optimal for a typical beef operation would take six years and cost a little over \$8,000 per hectare or \$800,000 for an hundred hectare operation.
- Some of our most productive land is threatened by rising water levels. Almost 10% of the active farmland base is dyke land; arguably the highest quality of land Nova Scotia has available. The resource is actively threatened by hurricanes, land subsidence, and potential climate warming. The Province is ostensibly in regulatory control of the dykes protecting this land and nearby communities, but a number of other jurisdictions have an interest in maintaining the levees including adjacent towns, and Federal Government interests, all of whom should be concerned with their upkeep.

The following recommendations address these factors and suggest concrete steps to protect and expand productive agricultural land in Nova Scotia. Recommendations were grouped into five categories: general, governance, land-use information, maintenance of the current agricultural land base, and measures to address farm profitability.

General Recommendations

Recommendation 4.1.1: Provincial action to preserve and protect agricultural land should be enacted as soon as possible. While some initiatives will necessarily take longer to develop due to funding realities and structural and regulatory requirements, delay will not only result in the loss of valuable agricultural resources but will also raise the final cost to the public.

This recommendation is in response to the rapid loss of productive agricultural land from the impacts discussed above. This recommendation calls for an overarching commitment from the Province to preserve and protect a natural resource in a fair and comprehensive approach, as identified in the Committee's terms of reference (see Appendix A).

Recommendation 4.1.2: The cost of preserving agricultural land should not be borne only by the farm community. Preservation of the capacity to grow food and support the rural economy benefits Nova Scotia in general and those who benefit should share in the cost of protecting agricultural land.

This recommendation addresses the issue of fairness so that the costs of preserving land are not borne by farmers only. Farmland is frequently the most valuable and largest single asset a farm family owns and preservation without recognizing the cost to those farmers is not fair when all society benefits from protection of a natural resource.

Recommendation 4.1.3: The Province should develop an overall strategy for conserving its vital natural capital including forest lands, agricultural lands, aquifer recharge areas, the coastal zone, areas of high tourist and recreational potential, wildlife habitat, and areas with high-value mining potential. It should be based on a thoroughgoing analysis of future need and not the relative popularity of the resource in question in the public mind.

Creating a natural resource strategy for one sector in isolation of others will create a patch-work approach that does not maximize the overall benefit to Nova Scotia. While the Committee believes that the Province should act on specific recommendations immediately, actions should be flexible enough to respond to an overall natural resource strategy, which is likely to take some time to develop.

Recommendation 4.1.4: The Provincial Government is the owner of a significant amount of land of good agricultural quality. That land should be clearly identified and managed in a method such that it is preserved for potential agricultural use. The Province should bind any future contracting parties on its Crown forest lands to allow agricultural development post tree harvest at the Crown's discretion.

This recommendation is designed to preserve a significant public asset so that it is available to Nova Scotia for the production of food and/or fibre if additional land is required in the future. While this land will remain available for other uses, its quality and availability as productive agricultural land must not be destroyed as part of non-agricultural activities.

Governance of Agricultural Land

Recommendation 4.2.1: The Province should amend and expand the Statement of Provincial Interest (SPI) as it relates to agricultural land to delineate clear parameters for the identification, protection and preservation of farmland and define minimum steps that municipalities must follow to protect agricultural land.

Input received during the consultation process indicated that municipal authorities, planners and the general public are not satisfied with the existing SPI because it is unclear as to application and does not define clear parameters and objectives for preservation and/or development of farmland. The Committee believes that this is a necessary step for the Provincial Government to ensure that all municipal units in Nova Scotia are dealing with agricultural land in a consistent manner.

Recommendation 4.2.2: The Province of Nova Scotia should enact legislation to remove the responsibility for the conservation and/or preservation of agricultural land from any municipality without a municipal plan, or with a municipal plan that does not address the conservation of agricultural lands within the entirety of its jurisdiction, and have it instead reside with the Province until such a time as the municipality can develop a plan addressing the preceding and have it approved by the Province.

Few municipalities have enacted agricultural land use by-laws or municipal plans that address the conservation of agricultural lands in a comprehensive approach. The provincial SPI only applies to those municipal plans that include agricultural land issues. This inconsistent approach has created a situation in which farmers, developers and

planners across the province face differing regulatory regimes that create advantages and disadvantages for municipal units.

Deficiencies in Land-Use Information

Recommendation 4.3.1: The Province should immediately conduct a full scan of all information related to agricultural land use that is available from federal, provincial and municipal sources, prepare a comprehensive database of this information, identify information gaps and take steps to rectify those gaps.

There are information deficiencies that need to be addressed to help make wise land-use decisions. Much of this information is available or can be gathered with few resources while other information will take longer to generate and will need more time and money. A significant amount of information has been gathered by the Departments of Agriculture and Service Nova Scotia and Municipal Relations in support of the Committee's review. This information has been valuable to the Committee's review and deliberations and forms a good base upon which to build a comprehensive database of agricultural land and its uses for the province.

Maintenance of an Agricultural Land Base

Recommendation 4.4.1: The Province of Nova Scotia should take immediate steps to preserve the existing agricultural land base because of the significant cost and time requirements associated with recovery of non-producing agricultural land.

There are a number of steps that the Province can take to promote maintenance of the existing land base, both through incentives and regulatory restrictions. Some steps were addressed in sub-recommendations and are discussed in Section 4.4 of the report.

Recommendation 4.4.1.a: All class two and three agricultural soils and cleared class four agricultural soils, as defined in the Canada Land Inventory for Agriculture, should be designated for conservation.

Recommendation 4.4.1.b: The removal and sale of topsoil on any Class 2 to 4 agricultural lands should be prohibited.

Recommendation 4.4.1.c: Agricultural land tax exemptions and the grants in lieu of taxation of agricultural land should be suspended on all agricultural lands not being actively used.

Recommendation 4.4.1.d: The 20% change of use tax should be tightened up so that there is no way to avoid triggering through manipulation of the present system. Tax funds thus generated could be used to support compensation for the loss of development opportunities or outright land purchases through a land trust.

Recommendation 4.4.1.e: Provincial law to allow for the purchase of agricultural conservation easements should be enacted.

Recommendation 4.4.1.f: The Province should create tax incentives for charitable donations to bona fide Land Trusts.

Recommendation 4.4.1.g: The Province should emphasize programs to support development of agricultural biomass energy systems to both support farm economic activity but also to maintain the present land base as productive farmland.

Recommendation 4.4.1.h: All Provincial programs of substantial value to the agricultural community such as land clearing, drainage, large-scale soil amendment expenditures, fencing, infrastructure assistance, and advantaged financing should have a condition attached that the Province will recover such public investments if the property leaves the sector.

Recommendation 4.4.1.i: Lands acquired by the Farm Loan Board through repossession will have an agricultural conservation easement attached that runs with the land on resale.

Recommendation 4.4.2: Measures should be taken as soon as possible to strengthen and maintain dyke land defences.

Failure of the dykes to protect low-lying areas from seawater flooding would have a significant impact on agriculture, but that impact would be felt well beyond the damage to farmland. Many Nova Scotia communities would suffer severe flooding, damaging residences, businesses and having a negative impact on whole economic sectors (e.g.: tourism). Transportation systems would be damaged and, in some cases, destroyed (e.g.: Tantramar Marsh highway and rail crossings). The Committee believes that it is incumbent upon the Provincial Government to aggressively address this issue by taking the lead in developing a coordinated dyke land protection program.

Recommendation 4.4.3: The Province should take immediate steps to develop a comprehensive soil health improvement program to address the reduction in soil productivity and to improve and preserve the natural capital for today and for future agricultural endeavours.

Healthy soils are important for productive agriculture, supporting biodiversity in our ecosystems, reducing greenhouse gases through carbon storage and maintaining environmental stability. Nova Scotia citizens benefit from healthy soils, not only from food production, but also because it contributes to clean water and air, enhances habitats and beautifies our rural communities.

Measures to Make the Sector More Profitable

Recommendation 4.5.1: The Nova Scotia government must take all steps possible, including dedicating the necessary financial and human resources, to support and stimulate a return to profitability to all sectors of the agricultural industry.

While the Committee is aware that the provincial government has dedicated resources to the industry to support profitable agriculture, the Committee believes that the risk of a significant loss of much of the farm community is very high and reaching critical levels. Section 4.5 discusses some programs and actions that may help address this issue, which is the main influence on farmland abandonment and depletion of soil productivity.

The Committee believes that action should be initiated as soon as possible on all of these recommendations, but recognizes that it will take varying times to achieve the objectives of each recommendation. Section 5 groups the recommendations in four categories: foundational, short timeline, intermediate timeline, and long term timeline. Some recommendations can be achieved with existing resources while others will require additional human resource and financial commitments. Section 5 discusses required resources within the Committees knowledge and understanding of the action needed and resources available.

1.0 Introduction

The Nova Scotia Agricultural Land Review Committee (ALRC) was commissioned to conduct a review of agricultural land preservation issues by the Minister of Agriculture and Minister of Service Nova Scotia and Municipal Relations in the fall of 2009 (Appendix A). The ALRC process consisted of a review of existing literature and regulations on agricultural land and its preservation, a public consultation, and a synthesis of information gathered into recommendations.

Agricultural land is the basis for our current supply of food and a significant portion of the fibre we use. Agricultural products are becoming increasingly important to energy, health care and the bio-products industries. This latter development may actually be a reversion to agriculture's role in previous centuries. Society began replacing many non-food agricultural products with synthetics based on fossil fuels in the late nineteenth century and this accelerated in the twentieth century. However, challenges to fossil fuel supply and demand factors have driven the costs of energy to very high levels, creating opportunities for agriculture to revive its multifunctional position in society.

Supply of, and demand for, agricultural land is affected by a broad range of factors. While supply is relatively finite in that Nova Scotia has a certain land mass and only a portion of that is suitable for agricultural production, actual supply of land in production reflects such factors as:

- Agricultural activity as reflected in maintenance of existing farmland and clearing of forested land suitable for agriculture.
- Protection of existing land bases by dyke maintenance, maintenance of good fertility levels (lower fertility increases land needed for a given production level), economic factors that stimulate increased or decreased agricultural activities, and policies and regulations regarding development of agricultural land.

Demand for agricultural land reflects both farm and non-farm uses:

- Farmland is generally preferred as development land compared to some other land sources. Active farmland is frequently flat, well drained and in attractive locations making it less expensive to develop and in demand by consumers.
- Profitable agricultural activity increases demand for farmland as farmers expand their operations. Land is more likely to be abandoned, sold for development or fertility allowed to deplete when farms are unprofitable.
- Agricultural land is also in demand for infrastructure such as roads for similar reasons to those that make it attractive for residential and commercial development.

Nova Scotia is well endowed with potentially productive agricultural land, being a little over 29 percent¹ of our total land area, as defined by the Canada Land Inventory (CLI) for Agriculture. In the 1970s and '80s, the Federal Government rated the land in each

¹ Statistics Canada, Environment Accounts and Statistics Division; Government of Canada, Canada Land Inventory

province on a scale from Class 1 to Class 7 for its agricultural potential, with Class 1 being the very best. Nova Scotia has no Class 1 land, but almost 1.57 million hectares in Classes 2, 3, and 4. This is out of a total provincial area of about 5.55 million hectares. See Appendix F for agricultural profiles of the province and each county, including agricultural land lost through development.

While the CLI tells us how many millions of hectares we have, it does not mention how much of that resource is in agricultural production. Much of what was once cleared for farming has reverted to forests. According to Canadian census figures, cleared farmland has declined steadily since at least 1901. Only 181,915² hectares was still active in 2006, defined in the Census of Agriculture as land in crops, producing food and fibre for our needs. This area divided by our population amounts to 0.19 hectares per person or 0.76 hectares per family of four.³ Certainly enough to raise most of the fruits and vegetables a family could need. But then add to that enough land to satisfy that family's share of the:

Grain to produce the bread and cereals they eat;
Grain to produce the chicken and turkey they eat;
Grain to produce the pork they eat;
Pasture, hay, and grain to produce the beef and lamb they eat;
Pasture, hay, and grain to produce the milk they drink.

Further compounding the situation is that the same piece of ground should not be used over and over again to grow cultivated crops, due to the threat of erosion, compaction, nutrient depletion and loss of soil structure. It should be rotated to other crops to maintain healthy soil. This could increase the amount of land needed per person or family and the total amount of farmland required in Nova Scotia.

While absolute self-sufficiency may be beyond near-term capabilities and not even desirable, when other critical natural resource needs are taken into consideration, the current level of agricultural land in production is not sufficient to provide a healthy, balanced diet to all Nova Scotians based on the Canada Food guide and crops that can be grown in Nova Scotia's climate. Nova Scotia requires an additional 53,000 hectares of land in food crops at current average yields to have the capacity to feed Nova Scotia's present population (Appendix G). However, the Committee's analysis assumes that all farmland presently in production is of sufficient quality, based on soil, climate and other characteristics, to produce any crop. Many crops, especially those that are presently in a deficit production situation such as vegetables and grains, cannot be grown on much of the land that is now in production. Therefore, the 53,000 hectare agricultural land deficit should be considered a minimum. Is this a reasonable level of capacity in light of some of the factors that will impact our food system over the coming years? Later sections of this report review potential developments, both locally and globally, that may significantly increase our agricultural land requirements.

² Statistics Canada, Agricultural Division, Truro, NS, 2010

³ (181,915 ha /938,183 people), Statistics Canada, *Quarterly Demographic Estimates*, July— September 2009

The Agricultural Land Review Committee, in reviewing both material from public consultations and submissions and its own research, has concluded that Nova Scotia must retain its current active agricultural land base in usable form and make certain that an additional reserve of remaining fallow and forested lands, with good agricultural potential, remain unencumbered for future use. The additional amount of land required should reflect a detailed analysis of the potential impacts of the factors discussed in Section 3 of this report (e.g.: energy cost changes, potential climate change impacts) on supply of, and demand for, provincial agricultural land as well as the productive capacity of the land protected.

The amount of farmland in active production; the number of people actively involved in the sector; and the status of agriculture as a profession are all approaching their all-time low in Nova Scotia. There is a unique confluence of events either occurring, or soon to occur, which may pressure an increase in the sector's land area, number of people involved, and relative importance to the rest of society.

2.0 Public Consultation

2.1 Introduction

A major part of the Agricultural Land Review process included seeking public input through meetings and receipt of written submissions. The ALRC addressed the public consultation process by:

- Preparing a background document, *Is Nova Scotia Running out of Agricultural Land*, that reviewed Nova Scotia agriculture and discussed potential land use issues as they relate to Nova Scotia and preservation of farmland. The paper also provided an overview of some options that could be used to preserve agricultural land (Appendices B and C).
- Establishing a website (www.nsaglandreview.com) that provided
 - public meeting locations and dates;
 - downloadable documents including the ALRC background paper and links to Nova Scotia Department of Agriculture (NSDA) papers on land use issues;
 - a comments section that the public could complete and submit from the website;
 - an e-mail address (info@nsaglandreview.com) that the public could use to submit more lengthy input; and
 - a postal address for those who submitted their input by mail. Written input was accepted from January 20, 2010 to March 26, 2010.
- Holding nine public meetings in eight communities across the province. The ALRC background document and contact information were available to participants at each meeting in case they had not accessed the information from the website.
- Arranging three target-group meetings with the Nova Scotia Federation of Agriculture (NSFA) Council of Leaders, Licensed Professional Planners Association of Nova Scotia (LPPANS), and the Union of Nova Scotia Municipalities (UNSM). Contacts were made with, and information provided to, the Aboriginal and African-Nova Scotian Communities.
- Media releases, advertising and interviews by the ALRC Chair were used to inform the public of public meetings and the issues addressed by the process. The ALRC Chair completed 17 newspaper and radio interviews over the course of the public meeting period and print media provided regular updates on the meeting process.

Public meetings were held in the evening and, while scheduled for two hours, were extended as necessary to provide all participants that wished to speak the opportunity to do so. Speakers were allocated five minutes for their initial presentation and were allowed to return to the microphones to make additional comments after all other speakers had an opportunity to make their presentations. Presentations were recorded on tape as well as being summarized in notes by a recorder. Participants were advised of presentation guidelines and that they would be recorded at the beginning of each meeting.

The ALRC Committee Chair started each meeting with a presentation based on the background document that ended with five questions that meeting participants were asked to address (Appendices D and E).

- *Is there an agricultural land issue in Nova Scotia?*
- *Should we do something about it?*
- *What should we do about it?*
- *If this involves public expenditures, are we willing to pay for it?*
- *If good agricultural lands are considered of value to all Nova Scotians, should their preservation be the responsibility of our local municipalities or the provincial government?*

The general presentation, including the five questions, was made at the NSFA meeting and a targeted presentation including general themes from public input was used with LPPANS and UNSM. The latter two meetings were designed to receive feedback from professionals relative to addressing issues raised from general public input.

The table below provides meeting locations and dates.

MEETING LOCATIONS AND DATES

LOCATION	DATE
Halifax	January 27, 2010
Antigonish	February 3, 2010
Sydney	February 4, 2010
Stewiacke	February 10, 2010
Lunenburg	February 24, 2010
Yarmouth	February 25, 2010
Berwick	March 3, 2010
Oxford	March 11, 2010
Halifax	March 13, 2010
NSFA, Truro	February 11, 2010
LPPANS, Truro	March 25, 2010
UNSM, Truro	March, 30, 2010

The following table provides statistics on the twelve meetings including attendance and speakers by location with speakers distributed between farmers and non-farmers. It appeared that farmers made up the largest portion of those attending almost all meetings with a more even balance in Halifax. Sydney also had a lower proportion of farmers than rural venues, but farmers still represented well over half those attending. Many of the non-farmers that spoke at the meetings indicated that they were from farm families either directly (first generation away from farm) or indirectly (related to farmers).

NSALRC MEETING STATISTICS

LOCATION	ATTENDANCE	SPEAKERS		
		FARMER	NON-FARMER	TOTAL
Halifax	63	31	13	18
Antigonish	57	18	13	5
Sydney	34	18	11	7
Stewiacke	96	17	12	5
Lunenburg	36	10	7	3
Yarmouth	29	13	7	6
Berwick	135	24	14	10
Oxford	36	17	13	4
TOTAL PUBLIC MEETINGS	486	148	90	58
NSFA	35			
LPPANS	13			
UNSM	15			
TOTAL MEETINGS ATTENDANCE	549			

One-hundred-and-twenty-one written submissions were received ranging from a few sentences to over 40 pages. Approximately 10% of the submissions were copies of presentations made at the public meetings. Public input was been grouped into general themes, which are discussed below. Charts of response frequency for some themes are provided with brief descriptions of the charts and data used to create them.

2.2 General Themes

Respondents at both the public meetings and through written submissions expressed two overarching themes relating to agricultural land preservation - loss of land to development and abandonment.

Almost all respondents believe that agricultural land should be protected. Those who did not were generally farmers who pointed out that there is a lot of land that is not being farmed in the province that was previously in production; therefore, Nova Scotia has a surplus of agricultural land and protection is not necessary.

The background document identified three main pressures helping to reduce our agricultural land base: development, abandonment, and, less obvious, depletion of land quality. **Development** pressures come from physical occupancy of land and indirect pressure on farming activities by non-farm neighbours who are unaware of accepted agricultural practices. **Abandonment** is a result of loss of profitability forcing farmers to abandon land because they can no longer afford to maintain it in agricultural production. **Depletion** is the loss of land productivity from soil erosion and loss of nutrients, which are frequently related to economic issues as farmers reduce their inputs as the cost of fertilizer and cropping activities increases.

Development and abandonment were the two main reasons identified by the public for loss of agricultural land. Submission emphasis at the public meetings was weighted more to one or the other depending on meeting location. Written submissions placed more emphasis on development, although geographic influence on opinions in written submissions could not be determined due to the lack of location identification in many of the electronic submissions.

2.3 Other Themes

Several other themes were identified in the review of public input. They have been grouped into six categories. This section discusses each of those themes and presents charts of the relative importance of an issue assuming that the number of people that identified an issue relates to its importance. The first two themes (Sections 3.1 and 3.2) include two charts each and the other themes (Sections 3.3 to 3.6) are combined into two charts at the end of Section 3.6.

The charts indicate response rates for six themes:

- 1) Responsibility for government oversight of agricultural land broken into five options;
- 2) Input that supported or opposed zoning;
- 3) Input that identified farm profitability as a major issue in the preservation of agricultural land;
- 4) Input that indicated that society needs to change its attitude toward agriculture and recognize its importance to Nova Scotia;
- 5) Input that identified food security as an issue; and
- 6) Input that identified public education as an important method to better inform Nova Scotians of the value of Nova Scotia agriculture.

Charts are provided based on analysis of all input (public meeting presentations plus written submissions) and for public meeting presentations only. Presenters at public meetings generally self-identified as farmers and non-farmers while it was not possible for many of the written input respondents to be classified in this manner. Charts for public meeting input provide responses distributed between farmers and non-farmers. Many respondents expressed opinions on several themes, while some identified issues that were not mentioned frequently enough to be considered a theme.

2.3.1 Governance and Responsibility

This issue was specifically identified in one of the five questions asked in the public meetings and included in the ALRC background document:

“If good agricultural lands are considered of value to all Nova Scotians, should their preservation be the responsibility of our local municipalities or the provincial government?”

The majority of those that expressed an opinion believe that the provincial government should take a more active role in protecting farmland. Opinions of those who believe the province should be more involved fell mainly into three camps with minimal support for two other options. The three main options identified included:

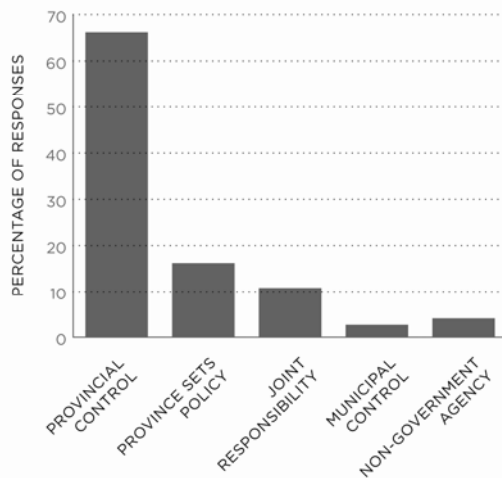
- Removing all control over farmland from municipal governments;
- The province should establish overall policy applicable to the whole province and municipal governments would be responsible for applying the policy with recourse to the provincial government; and

- Municipal and provincial governments should cooperate more closely in governance of agricultural land so that geographic differences can be accommodated.

The other two options identified were leaving control with municipal government and establishing an arms-length organization similar to the Utility and Review Board to oversee agricultural land use.

Chart 1 provides the percentage of respondents that support the five types of governance options identified. Seventy-four of those providing input through both public presentations and written submissions (total 268 responses) expressed an opinion on this option.

CHART 1
AGRICULTURAL LAND USE RESPONSIBILITY
ALL INPUT (74 RESPONSES)



The chart indicates that approximately two-thirds of those who expressed an opinion believe that the province should regulate all provincial agricultural land use, with 16% supporting a system under which the province sets firm policy guidelines that municipalities apply, and 12% supporting some sort of cooperative joint responsibility between provincial and municipal governments. Municipal control and a non-governmental agency were supported by two (2.7%) and three (4.1%) respondents, respectively.

CHART 2
AGRICULTURAL LAND USE RESPONSIBILITY BY FARMER AND
NON-FARMER RESPONSES PUBLIC MEETINGS (30 RESPONSES)

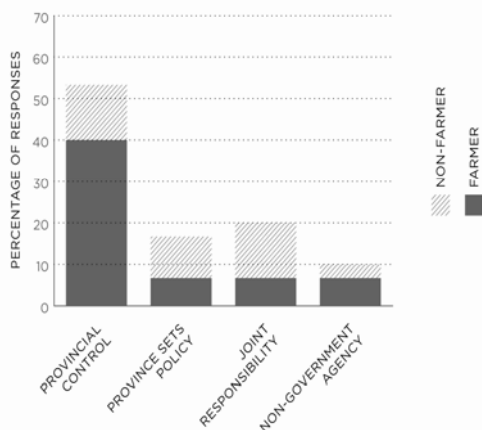


Chart 2 provides the same information as chart 1, relating to governance, for public meeting presentations broken down by responses between farmers and non-farmers.

Thirty of a total 148 speakers at public meetings addressed this issue. Fifty-three percent of those who expressed opinions supported provincial control, of which 40% were farmers. Support for other options ranged from 10% to 20%, and in each case farmers represented 6.7% of total responses (2 responses each). No public meeting speaker expressed the opinion that municipal governments should control agricultural land.

2.3.2 Land Zoning

Respondents that expressed opinions on zoning generally indicated their support for, or opposition to, restrictions on development of agricultural land without providing opinions on the variety of zoning approaches available to authorities. Zoning to protect agricultural land without compensation to farmers was opposed by most farmers and many rural residents at public meetings, and by some of those who mentioned this issue in written submissions. Farmers, the exception being some younger farmers, generally opposed zoning restrictions on agricultural land unless present owners were adequately compensated for the perceived loss of land value from loss of development options.

Support for zoning in public meeting presentations was geographic with more people, still a minority of speakers, supporting it in Berwick, Halifax and, to a lesser extent, Sydney and Yarmouth. Zoning was strongly opposed by speakers in Berwick, Oxford, Lunenburg, Stewiacke and Yarmouth and, to a lesser extent, Antigonish. All speakers stated that the cost of protection of agricultural land is a societal issue and should not be borne by the farmer alone. Written submissions generally tended to support zoning as an option for preserving agricultural land.

Input that provided opinions on zoning and development, other than a flat “yes” or “no” to protection by zoning, supported controlled, residential-cluster development as a means to both preserve land and allow residential development.

CHART 3
AGRICULTURAL LAND ZONING
ALL INPUT (93 RESPONSES)

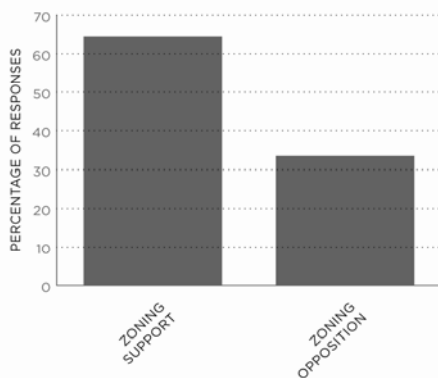
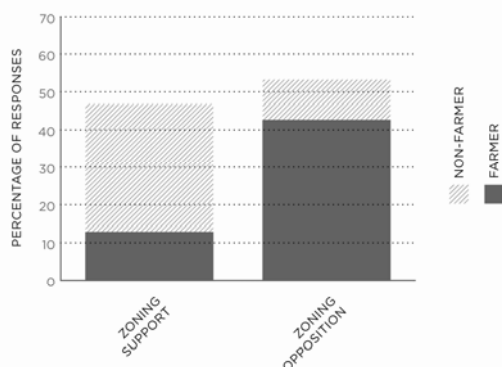


Chart 3 provides percentage of responses of the ninety-three respondents that expressed opinions on zoning, through either public meeting presentations or written submissions, with 60 (64.5%) supporting and 33 (35.5%) opposing.

Chart 4 provides the percentage breakdown of responses for public meeting presentations for farmers and non-farmers. Forty-seven respondents expressed opinions on zoning with 46.8% (22 responses/6 farmers) supporting and 53.2% (25 responses/20 farmers) opposing.

CHART 4
AGRICULTURAL LAND ZONING BY FARMER AND NON-FARMER
RESPONSES PUBLIC MEETING (47 RESPONSES)



2.3.3 Farm Profitability

Sections 3.3 to 3.6 provide information on the four other themes that were identified by respondents as issues. These themes, unlike the two above, do not require the respondent to take a position for or against or to choose among options. The sections summarize comments made by respondents and the charts after Section 3.6 provide the number of respondents that identified the issue.

Farm profitability was the most frequently mentioned issue placing challenges on the preservation of agricultural land. Those providing responses indicated that the issue has an important impact on both development and abandonment of farm land. Many speakers stated that Nova Scotia does not have a “land crisis” but a “farmer crisis”, meaning a farm profitability crisis. Comments included:

- Profitable farming will remove development pressures for most areas of the province except the rural-urban interface where land values for development far outweigh potential profit from agricultural production.
- Profitable farms will ensure succession and food sustainability because new entrants and younger farmers will see business opportunities in agriculture. Profitable agriculture will lead to increased provincial agricultural production, further supporting our food system and the rural economy.
- Many respondents stated that climate change and increasing transportation costs will benefit farmers eventually, but Nova Scotia may lose its production base prior to that happening unless steps are taken to support the industry pending those developments.
- Farmers lack retirement plans or pensions and depend on the sale of their operations, in whole or piecemeal, for their retirement; therefore, profitable farms that generate funds for investment will allow farmers to invest in retirement plans and support land value as productive farmland.
- A number of public meeting presentations and some written submissions stated that farms would be profitable if the consumer’s food dollar was distributed equitably across the supply chain. Respondents indicated that government has allowed the retail and processing sectors to gain excess market power through consolidation; and that government needs to address the monopolistic conditions created by the consolidation of the retail and processing sectors to ensure that farmers receive a fair price for their products.

2.3.4 Changing Society’s Attitude towards Agriculture

Some speakers and those who provided written input indicated that Nova Scotians in general have lost touch with agriculture and believe that it is a low-technology industry with little opportunity for business or employment. These respondents believe that the public needs to value agriculture for its impact on the Nova Scotia economy, rural sustainability, food and fibre production, indirect contribution to other sectors such as tourism, and provision of high-quality products. Specific public input included:

- Nova Scotia is becoming a service economy and losing production-based economy. Services are important but farming, fisheries, forestry, mining and manufacturing create wealth, while services merely circulate wealth.

- Designate farmland and the industry's infrastructure as a critical resource to create a sustainable food system. Humans need air, water and food to survive. We protect our air and water but not our food production system.
- Protect farmland using land trusts funded from multiple sources. This would also support sustainability by reducing capital costs to new entrants who could lease the land rather than having to direct limited capital to its purchase (see Appendix G for examples of Land Trusts).
- Agriculture needs to be appreciated as a profession that has opportunities for people and that will attract trained new entrants at all levels of the supply chain.

2.3.5 Food Security and Safety

A number of respondents indicated that food security and safety were issues. Respondents identified transportation interruptions and potential prohibitive increases in energy costs as risks to a secure Nova Scotia food supply. Food safety risks usually related to perceived differences in the regulatory regimes under which local and imported food is produced. The belief was expressed that many countries from which Nova Scotia imports food use production practices that are not allowed locally because they are not safe to people and/or the environment. Opinions expressed by respondents included:

- Consolidated processing and lack of processing capacity in the province not only hurts farm profitability but compromises food security and increases safety issues because we lack a necessary part of the infrastructure to provide local food all year.
- Focusing on food security implies that farming becomes a priority to society and is looked at as a "necessity of life" just like air and water.
- Some indicated that the present focus on food security and safety ignores farm profitability and profitable farms are necessary to maintain a local food supply. Protecting the land without the rest of the food production system will not provide food security.
- Others believe that a focus on food security and safety should lead to sustainable agriculture in the long run as it will eventually lead to profitable farming.
- Some people made the statement that Nova Scotia only has 10-days supply of food. Others pointed out that this relates to our current food preferences, which include many imported items that we do not produce, not a life-sustaining diet and that we are actually able to provide a sustainable diet for a much longer period.

2.3.6 Public Education

A number of presenters at public meetings, and a few written submissions, identified the public's lack of knowledge regarding agriculture and food as an important barrier to maintaining a viable agricultural sector and land base. Comments included:

- The public does not understand:
 - Risks to our food supply through such things as transportation interruption and food security issues.
 - The business of agriculture in general and that it is a high-technology industry that requires significant management skills and is not a minimum-wage sector.

Agriculture offers career opportunities and options for entrepreneurs wishing to start a business.

- The strengths that food sustainability would bring to the province through increased economic activity and decreased environmental pressure.
- Respondents believe that education activities need to concentrate on city residents because many of them do not have an appreciation for the agricultural sector and its importance to the provincial economy. Speakers indicated that the traditional connection between urban and rural Nova Scotia is being lost as a greater portion of the provincial population becomes urbanized.
- An effective public education program needs to be supported by a long-term commitment that emphasizes the health benefits of eating locally grown food rather than processed imports. It will take time to bring the general public to an appreciation of agriculture and short-term educational programs will not effectively accomplish this goal.

CHART 5
THEMES BY NUMBER OF RESPONSES
ALL INPUT (268 RESPONSES)

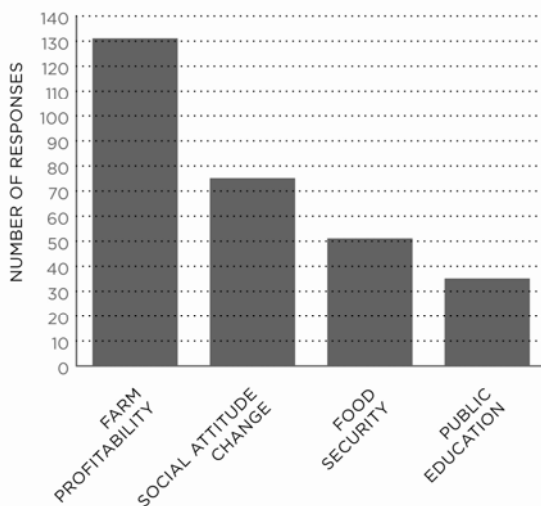


Chart 5 provides the number of total respondents that expressed opinions on the four themes discussed in Sections 3.3 through 3.6.

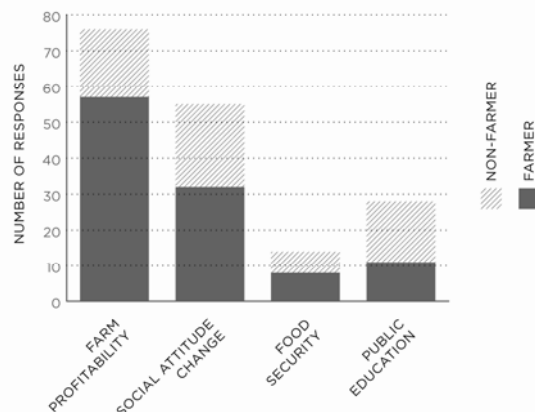
- Farm profitability was identified by 131 respondents as an issue in agricultural land preservation;
- Societal attitude change toward agriculture was an issue for 75 respondents;
- Of those that provided input, 51 respondents expressed concerns regarding food security and safety; and
- Public education was identified as an issue by 35 respondents.

Chart 6 provides the number of responses to the themes from public meeting input separated between farmers and non-farmers.

Chart 6 indicates that:

- Farm profitability was identified by 76 respondents as an issue in agricultural land preservation, of which 57 were farmers;

CHART 6
THEMES BY FARMER AND NON-FARMER RESPONSES
PUBLIC MEETINGS (148 RESPONSES)



- Society changing its attitude towards agriculture was an issue for 55 respondents, of which 32 were farmers;
- Of the 14 respondents that expressed concerns regarding food security, 8 were farmers; and
- Public education was identified as an issue by 28 respondents, of which 11 were farmers.

Food security and safety was less of an issue to presenters at public meetings than those who provided written submissions, while public education was identified as an issue by relatively more public meeting presenters.

2.4 Other Points from Public Input

Other relevant points were made at public meetings that were informative.

- The property tax exemption for agricultural lands needs to be reviewed and applied only to production agriculture. Many landowners are abusing the designation by running recreational properties (e.g.: personal riding horses) or leaving land idle for years. Inactive agricultural land should have a tax penalty rather than a subsidy, as an incentive to make it available to farmers and the savings should be applied to industry development or a land trust. However, some respondents thought that a “penalty” property tax would actually act as an incentive to some landowners, particularly seniors, to develop inactive land for non-agricultural purposes because of increased ownership costs.
- The whole area of agricultural land and sector protection and sustainability is a long-term project. Identify what can be done in the short term and do it and start working on the long-term issues. Do not expect major changes in the short term.
- Nova Scotia has lost much of the infrastructure that sustained farming (e.g.: processing) and needs to focus on rebuilding it in a form that is applicable to Nova Scotia agriculture and markets. Nova Scotia is in critical danger of losing the “human infrastructure” (i.e.: knowledge) necessary to produce food within the province. The investment to recreate an agricultural industry would far outstrip that needed to maintain one.
- The issue of biosolids was raised by one or two speakers at most public meetings and was mentioned in some written submissions. For those mentioning biosolids, their feeling was that it had the potential to contaminate agricultural lands because of toxic substances in municipal human waste streams.
- The imposition of a levy on the sale of all food products or a dedicated increase in HST was suggested by a number of respondents as a possible source of funding for increasing the profitability of the sector and/or funding for an agricultural land trust.

There were also some interesting single opinions that related to agricultural land and industry preservation, including:

- Waste heat from coal-fired power stations in Cape Breton should be used as a low-cost source of heat for the greenhouse industry.

- Nova Scotia legislation needs to be modified to allow for conservation easements to be applied to agricultural lands.
- The introduction, or more properly, reintroduction of small-scale agricultural operations in urban areas could be a useful additional source of the Province's food, and just as importantly, help in reacquainting the urban population with the nature and demands of the agricultural sector.
- In the name of safety, a number of regulations are stifling attempts by small-scale agriculturalists to start or maintain a business; regulations regarding the production and sale of eggs and meat birds were cited.
- The Province is missing an opportunity to create new wealth by allowing the agricultural sector to wither while Nova Scotia's wealth is exported to out-of-province production areas for things that we could produce.
- The sector is important enough to Nova Scotia to have a dedicated Minister of Agriculture, rather than one who has responsibility for multiple portfolios.

2.5 Summary

The Nova Scotia ALRC public consultation process drew 549 Nova Scotians to 12 meetings and 120 written submissions on the topic of preserving agricultural farmland. Input was received from 268 people and/or groups. This input was wide ranging and addressed issues that directly and indirectly relate to agricultural land use and preservation. The above discussion summarizes input provided by those that took part in the process.

Public input overwhelmingly supported the protection of farmland but emphasized that costs associated with that protection cannot be borne by farmers alone. Input providers also believe that protection and preservation of agricultural land goes beyond zoning and regulation to maintenance of a sustainable agricultural industry. They believe that achieving that goal requires a change in attitude by Nova Scotians to agriculture and its importance to the province; and that this change will take a long-term commitment to public education on the issues.

The majority of respondents also believe that the Provincial Government should take the lead and responsibility in addressing agricultural land and sector preservation in Nova Scotia.

3.0 Influences and Risks Associated with Agricultural Land

3.1 Factors that Impact Supply of Agricultural Land

This section discusses factors that have the potential to impact Nova Scotia's supply of land for agricultural production. Section 3.2 discusses factors that impact the demand for agricultural land. Some factors may impact both supply and demand, such as development of agricultural land for non-agricultural uses, and could be included in either Sections 3.1 or 3.2. The location of the discussion of a specific topic does not indicate that the Committee does not recognize this dual impact.

3.1.1 Cost of Recovery from Non-Agricultural Uses

The supply of active agricultural land can be increased by clearing non-active agricultural land from other uses, such as forestry and/or previously abandoned land. The investment to recover land is large, ranging from \$4,000 to \$8,000 per hectare depending on the condition and location of the land. For example, recovering an amount equal to the 2006 hectares in crops would be approximately \$1 billion. That investment, using a basic rate of return of 5% and average investment cost of \$6,000, would be worth \$300 annually per hectare. It should also be noted that much of the good agricultural land in forest is remote from roads and existing infrastructure, which would significantly increase the recovery cost of such properties.

The cost of reclaiming agricultural land represents an extremely substantial investment, one that in all likelihood exceeds any cost to the public purse of maintaining it in an agricultural state in the first place. One method, suggested at a number of the public meetings, would be to develop a dependable market for agricultural biomass such as fuel pellets derived from grass, or the harvest of short rotation fast-growing tree species such as hybrid poplar, willow, etc. This strategy may help keep land in agricultural production while the demand for reasonably compensated food production develops and the wind, tidal, and solar infrastructure currently under development, which will eventually replace at least a portion of the total biomass demand, is constructed.

3.1.2 Risks to Nova Scotia Dyke Land

Predicted changes in world climate, fresh water distribution, and sea levels are projected to reduce some of the land area currently under irrigation worldwide and pressure areas with sufficient natural rainfall, such as Nova Scotia, for greater production. There are few subjects currently more controversial than the issue of climate change; however, to severely affect world agricultural production, climate changes do not need to occur worldwide but only in portions of the major grain producing regions. Adverse climatic shifts in some of the world's grain producing and exporting regions such as Canada, the US, Australia, Eastern Europe, and South America could create shortages. Likewise rising sea levels could put some of the world's important rice production areas, like the Ganges River Delta, Mekong Delta, etc. increasingly underwater. Nova Scotia is not free from this threat from rising sea levels as nearly 10% of the Province's agricultural land now in production is comprised of dyke lands, which are at risk without ongoing dyke

upkeep and height increases.

Nova Scotia has about 17,400 hectares of dyke land⁴. This land was created from former salt marshes and is some of the most productive agricultural land in the province. Its disadvantage is that, at the best of times, high tides are only a few feet below the top of the dykes holding back the seawater from these lands. While arguments about the validity of climate change and its potential to increase sea levels continue to simmer, there is no doubt that a major hurricane churning up the Bay of Fundy pushing an incoming spring tide could put almost 10% of our best quality agricultural land underwater as has already happened with the Saxby Gale in 1869. Failing that, there is also the risk posed by the sinking of our coastline due to levelling of the land started by the melting of the last ice age glaciers.

3.1.3 Provincial Natural Capital

The province's approach to Nova Scotia's overall natural capital has an impact on the amount of land that is available to agriculture. For instance, to designate most wetland areas as off-limits to agricultural production when farmland may also be in short supply in the future makes little sense. Stated another way, if the Province feels that 12% of its total area needs to be set aside for the conservation of wilderness areas⁵, what is an appropriate area and level of Provincial investment for agriculture, forestry, high-value tourist attractions, etc.?

An integrated approach to conservation of all forms of natural capital is necessary to determine the true potential supply of land for agricultural production. To that end, any recommendations in this report regarding the amount of agricultural land that should be retained in the sector should be subject to modification at such time as the Province has reached a decision in designating and creating strategies for the retention of all areas of critical natural capital.

3.1.4 Loss of Ownership and Control

In an environment of increasing agricultural land scarcity worldwide, ownership of Canadian farmlands may pass to foreign investors. Canadian farmland costs have been identified as some of the lowest in the world⁶ and have attracted the attention of corporate, and in some instances, sovereign state investors. It is well known, for instance, that Saudi Arabia and China are actively seeking to purchase large tracts of farmland in Africa and South America.

Increased competition for the ownership of Canadian farmlands could prove a boon for those wishing to exit the sector, and as a source of employment for those wishing to work in the sector but without the wherewithal to be farm owners themselves. However,

⁴ S. Robinson, van Proosdij, D and Kolstee, H. , "Changes In Dykeland Practices In Agricultural Salt Marshes In Cobequid Bay, Bay Of Fundy," *BoFEP Conference Proceedings, 2004*, p.1

⁵ www.gov.ns.ca/news/details.asp?id=20100324006

⁶ The Globe and Mail / Source: Knight Frank LLP, *Cheap Canadian Farmland Lures Foreign Buyers*, Steve Ladurantaye, Wednesday, August 19, 2009

careful consideration must be given to the advisability of foreign ownership of large tracts of Canadian farmland, given its potential to reduce food supplies for domestic consumption. It was not considered advisable to include water as one of the resources for sale under the NAFTA agreement. Does it make any more sense for farmland? Prince Edward Island enacted legislation to limit land ownership through its *Prince Edward Island Land Protection Act*⁷ to ensure concentration of ownership does not negatively impact the Island's economy, environment or social structure.

3.2 Factors that Impact Demand for Agricultural Land

Factors were identified in the consultation and research portions of the Committee's activities that impact demand for agriculture, both increasing and decreasing it, for both agricultural and non-agricultural purposes. The relative impact of these factors is frequently different depending on location within the province. For example, demand for development for residential and commercial non-farm purposes is greatest when proximity is relatively close to an urban centre.

3.2.1 Farm Profitability

Farm profitability was by far the most frequently identified issue in both public meetings and written submissions driving loss of agricultural land. As was said at one of the public meetings, "Agricultural zoning isn't going to stop the trees growing up in the fields." And if the sector continues to go back to forest, as has been the general trend since at least 1901, the cost to bring back these lands into agricultural production will be nearly unsupportable, as noted above. Low or negative levels of farm profit lead to abandonment of agricultural land, particularly in areas that are dependent on one or a few commodities or are remote from markets. Lack of profit also leads to depletion of land fertility and increased pressure to sell good farmland for non-agricultural purposes, many of which destroy its potential to ever return to agricultural production. Viable farm businesses maintain agricultural resources into the future.

Addressing profitability should involve a multifaceted approach including raising the profile and importance of the industry in the public mind. As was stated at the Sydney meeting, "At the very base of the problem of agricultural profitability is the fact that as a society we do not value agriculture." Such an approach would involve finding the true cost of production, including the value of the natural capital utilized, along with the development of organizational structures and supporting legislative structures to help producers achieve a reasonable return either from the marketplace, or if necessary, by regulation.

If the agricultural land base is to be retained in a usable condition pending greater future use, the issue of farm profitability for the non-supply managed sectors of the agricultural economy can no longer be ignored.

⁷ <http://www.irac.pe.ca/document.asp?file=legislation/LandsProtAct.asp>

3.2.2 Development for Non-Agricultural Uses

As noted previously, many of the characteristics of farmland make it attractive for development for other uses, including residential and commercial development as well as public infrastructure. Nova Scotia has incentives and regulations designed to limit development of agricultural land, but the Committee's review indicates that the current tools which the province has at its disposal for controlling or influencing agricultural land use appear to be inadequate for the job.

While the Province has the right to review municipal plans, or amendments to same, that propose to utilize CLI class 2-4 land for non-agricultural purposes, not all municipalities have municipal plans, and under those circumstances development of agricultural land does not have to be approved by the Province. This leaves significant areas of the province where development may take place without the ability of the Provincial Government to intervene.

As was pointed out in most public meetings, the wisdom of allowing individual municipalities to control and manage resources that are vital to all Nova Scotians is open to question. Many believed that municipalities might not always have the human resources to accurately evaluate what agricultural lands needed to be retained and what lands might be safely converted to other uses. Speakers felt that municipal councillors were "too close" to the issue, subject to constant haranguing and bullying, by both pro- and anti-development forces.

Public input also indicated that respondents believe that municipal councils had difficulty turning down proposals for conversion of farmland to higher uses because the prevailing wisdom was that such conversions would increase the tax base and level of revenue of the municipality. It should be noted that studies in other rural jurisdictions, such as in Suffolk County, New York and Vermont, show that non-farm developments usually consume far more tax dollars in servicing costs than they actually provide in the form of taxes^{8,9}. A study of the cost of servicing rural areas in St. Catharines, Ontario found that it cost \$1.40 to service rural developments for every \$1.00 of tax revenue generated¹⁰.

Finally, where natural capital is of benefit to all Nova Scotians, it would seem unreasonable to put the onus for its protection on individual municipalities. Notwithstanding the foregoing, it should be pointed out that a few jurisdictions have legislation addressing the retention of good-quality agricultural land, notably Kings County, and the municipalities of East and West Hants. If the province is to take over the conservation of the resource base or become more involved in its governance, some method of integrating and accommodating current functioning land-use structures and protocols into the overall approach needs to be made.

⁸ *Agriculture and Farmland Protection Plan: The Economy of Agriculture*, Suffolk County Planning Department, 1996, p. 25.

⁹ D. Brighton, *Land Conservation and Property Taxes in Vermont*, Vermont Land Trust, 2009

¹⁰ Diamond, A. J. (Jack), *The Sunday Edition*, CBC Radio, June 20, 2010.

Transportation policy is inextricably linked with agriculture land use. It becomes very apparent when one views the agricultural lay-down pattern in each county of the Province that there is very little farming activity not occurring along a provincially maintained road. Good roads allow for suburban and exurban developments to occur farther and farther away from city centers. It has been argued that current development pressures on agricultural lands in Kings County are dependent to a large degree on the decision taken in the 1970s to locate Highway 101 on the valley floor amongst the better quality soils, rather than on the valley slopes.

While decent roads are undeniably necessary to move agricultural produce to market, the provision of limited access highways, by making it easier for commuters to live in a less expensive jurisdiction and still make a reasonable commute to work, can place undue development pressures on good agricultural land. Clearly a great deal more thought must be given in the future to transportation access to agricultural areas. Similarly, rail links are likely to become increasingly important transportation carriers in the future given their vastly greater energy efficiency in moving goods in relation to truck transport¹¹. Future rail line abandonments need to be avoided and existing abandonments reconsidered if agricultural areas are to be adequately serviced in a reduced energy milieu. Consideration should be given to purchasing, or if necessary, expropriating rights-of-way for selected road beds which have already gone from "rails to trails." Future transportation necessity should not be sacrificed to current recreational demands.

3.2.3 Productive Capacity of Agricultural Land

Although the general public quickly identified the development and abandonment of agricultural land as mechanisms by which land is removed from the agricultural sector, very little concern was expressed over soil depletion. Depletion of soil fertility and structure effectively increases the amount of land that must be farmed to achieve a given level of production. Although a few participants mentioned removal of topsoil and sod farming as concerns, little was heard about soil erosion and nutrient loss. This may turn out to be a much more significant issue in the future than is currently realized.

Recent cataloguing of Nova Scotia soil tests indicate that two of the major plant nutrients, potassium and phosphorus, have been steadily depleted from our soils since 2002. Levels of calcium carbonate and magnesium carbonate (lime), necessary to make major nutrients available to crops, are also in decline. A 2009 report¹² estimated that an investment of over \$30 million dollars would be necessary to bring Nova Scotia farmland currently in production to the optimum soil pH, a measure of acidity that is managed by using lime. Using recent nutrient pricing and the depleted levels of nutrients found in typical operating beef farms as an example, it has been estimated that it would take six years and \$8,500 per hectare to bring soil nutrients back to optimum levels¹³. This cost is similar to clearing a hectare of land, although the newly cleared farmland would need fertilizers and other soil amendments at additional cost for optimal production.

¹¹ S. Austin, *Did Buffett Buy Railways for Peak Oil*, oil-price.net, 2009

¹² L. Leblanc, LP Consulting Ltd., *Soil Health in Nova Scotia*, May 2009

¹³ L. LeBlanc, LP Consulting Ltd, 2010, personal communication

As noted above, all the major plant nutrients contained in commercial fertilizer, being nitrates, phosphates, and potash, will rise in price as energy costs go up, the former because it is synthesized from natural gas, the latter two because the cost of mining and transporting them involves a significant energy component. Data from Agriculture and Agri-Food Canada's Nappan Research Station¹⁴ indicates that, compared to land fertilized with commercial fertilizers, it can take 1.6 times as much land to produce the same volume of product fertilizing only with manure¹⁵, and almost five times as much land without any fertilizer. Depletion of soil nutrients will have a major impact on the demand for land as fossil-based energy source prices increase.

The increasing cost of commercial fertilizers and the possibility that phosphorus reserves may eventually be exhausted makes it imperative that a socially acceptable way be found to recycle nutrients, contained in the food items shipped from farm to urban centers, back to the farm where they can grow another crop. Policymakers need to keep this fact in mind as the debate over biosolids continues.

In a similar vein, tillage practices in the province need to be reviewed to determine whether sufficient attention is being paid to the reduction of soil erosion, planting of cover crops, and crop rotation. The latter practice is already legally mandated in the neighbouring province of Prince Edward Island.

3.2.4 Public Education and Awareness

Public support is important to ensure that demand for alternative uses for agricultural land is minimized and that preservation of agricultural land into the future remains a primary focus for Nova Scotia citizens. Public input from the consultation process identified various opportunities to educate the public in the school system, through promotion of local products, and maintaining an on-going system of awareness activities.

Promotion of "urban farming" is also an opportunity to educate the public about growing food. Urban properties have a number of desirable attributes of good agricultural land, being proximity to market; a moderated climate due to the urban 'heat island effect' and general shelter from the wind; availability of water; ease of transportation; and a reduced distance for recycling nutrients. To establish reasonable parameters for urban agriculture, pilot projects could be initiated to determine the types of crops and animal husbandry most suitable to, and least disruptive of, the urban milieu.

It takes long periods and dedication to educate the public on an issue as complicated and important as maintaining the capacity to produce food and fibre; however, the systems

¹⁴ Y. Papadopoulos, Agriculture and Agri-Food Canada, Experimental Farm, Nappan, NS; E.Reekie, Acadia University, Biology Dept., Wolfville, NS; U. Gupta, Agriculture and Agri-Food Canada, Research Station, Charlottetown, PEI, 1991

¹⁵ Analysis of the fertility value of manure over the past several years indicates that its value as a fertilizer has been decreasing as the quality of inputs to livestock feed rations drops as a result of reducing land fertility. This spiraling drop in manure quality as a fertilizer would increase the land required in comparison to the 1991 study.

exist (e.g.: media, NSDA marketing programs, education system) to effectively generate interest in, and awareness of, agriculture and its importance to Nova Scotia.

3.3 Global Impacts

Global pressures have, and will continue to, impact the demand for agricultural land in Nova Scotia. Increased pressure from the globalization of the food supply chain has, among other impacts, put pressure on Nova Scotia farm profits and led to increased abandonment of farmland.

3.3.1 Fossil Fuel Supply

For most of its 10,000 year existence agriculture has been a wholly solar dependent phenomenon, where farm fertility inputs were based on animal and green manures, and the motive power for the sector was muscle based and fuelled by solar derived food energy. In the past century, particularly post-World War II, the inputs and motive power for the sector have been derived from “fossil sunshine” stored long ago in the form of petroleum products derived from the remains of ancient plants and animals. The petroleum era has freed up millions of additional hectares of agricultural land for food production, as it was no longer needed to produce energy inputs or motive power for the sector.

Agriculture's ability to achieve ongoing increases in productivity on a per hectare basis has been largely based on the use of fossil fuel energy to extract, produce, and apply chemical fertilizers, pesticides and herbicides, and fuel the machinery necessary to grow, harvest, refrigerate, and transport the crop. In the absence of some transformative advance in energy production, unavoidable and very significant increases in the cost of fossil fuels will put increased upward pressure on the amount of land needed to produce even current levels of consumption because of reduced intensity of energy use per hectare. The situation may also require increases in available hectares to accommodate more fibre production for clothing-to replace that provided by the petrochemical sector and land devoted to biomass production for energy to fuel the agricultural and other sectors.

As fossil fuels start to dwindle, the sector will be increasingly pressured back towards living within its energy means. In the short run, as energy prices increase, this will result in increases in the cost of food production inputs and eventually an increase in the price of food. In the longer run, actual shortages of these petroleum-based inputs may result in a reduction in food produced per hectare and reduce the level of food importation from other agricultural areas. This will potentially lead to increasing reliance on local agriculture and more land devoted to the sector in Nova Scotia. Likewise there will be a need to devote more agricultural land to produce energy crops to run modern farm machinery (or in some cases provide food to fuel a return to muscle based production). Increasingly, imports from other agricultural regions may be priced out of our markets due to rising production and transportation costs.

3.3.2 Shifts in Global Economic Power

Shifts in global economic power will provide competition from other countries for foods currently imported into Canada as rising income levels in emerging economies allow consumers to purchase higher-value foods. This will lead to higher prices globally and pressure greater domestic production where the capability to substitute domestic production for imports exists.

With the advent of freer trade in agricultural products in recent years, there has been a trend for grocery chains to source product from around the world, often times because of lower production costs based on a variety of factors such as better climate, lower health, safety, and environmental standards, reduced wages, and the like. The ability of Canada to compete in the marketplace for imported food has been supported by a strong currency and a strong economy, neither of which can be taken for granted in the future. It would appear that India and China may be increasingly capable of competing with Canada and other developed nations for scarce resources including food and petroleum, thereby increasing the importance of our domestic supply capability.

3.3.3 Long Term Demographic Changes

Shifts in world population in response to the preceding, such as large-scale migrations, are not unprecedented, such as the very large influx of Irish refugees to North America following the potato famine in the mid-1800s. In the medium to long term, Nova Scotia could be called upon to settle significant numbers of new people in the event of climate change, other adverse natural or political events, or just the pressures of a continuously expanding world population. In the past 60 years, the world population has gone from 2.5 billion people to almost 7 billion. Nova Scotia's growth in population has been far more modest during that same time frame growing from 642,584 people in 1951 to 938,138 in 2009.

Besides the pressures of a growing population on terrestrial food supplies, a major alternative source of protein for much of the world has been degraded, and in some instances destroyed, during that same time frame. The demise of cod stocks and significant reductions in food fisheries such as tuna are illustrative. The future situation may present Nova Scotia with an opportunity to increase its contribution to the world food supply and, not incidentally, avail itself of an economic opportunity. Some economists argue that Nova Scotia must increase its population just to maintain an adequate workforce in the face of a rapidly greying and retiring population¹⁶.

Economic opportunities based on expansion of many manufacturing and transportation industries are clearly limited in a future with dwindling supplies of fossil fuels. Regions with relatively large areas of intact natural capital, such as healthy agricultural lands, well-managed watersheds, etc. are likely to be the economic drivers of the future, as other regions whose economies were largely based on extractive activities run out of supply.

¹⁶ Canmac Economics Ltd, Josza Management and Economics, Dr. Jim McNiven, and David Sable and Associates, *The Nova Scotia Demographic Research Report: A Demographic Analysis of Nova Scotia into 2026*, December 2006.

Nova Scotia will have the opportunity to expand economic opportunity based on the wise use of renewable resources of its forests, of agricultural lands, wind, and tidal power at a time when many other manufacturing sectors are contracting.

3.4 Risk of Fragmentation

Development characteristics also have a significant impact on agricultural land availability and use. The agricultural industry follows a series of regulations and guidelines when determining the location for agricultural buildings and practices for both crop and livestock production. Setbacks, distances from adjacent properties and/or wells, reflect farm structure use (e.g.: livestock, crop storage) and production practice (e.g.: spraying of pesticides, manure application) with more intensive uses requiring greater setbacks.

The Committee has characterized the impact of these setbacks as “quarantining” of agricultural land – the amount of land that is potentially removed from its most productive agricultural use as a result of residential and other non-agricultural development adjacent to active farmland. Quarantining can significantly alter farm operations by decreasing land available for crops, fragmenting cropland into smaller units that are less efficient to work, and altering production and management systems to address potential complaints from neighbours on odour, noise, dust, and so on¹⁷. A 2009 survey of Nova Scotia farmers found that almost half had changed the way they carry on their agricultural activities because of proximity to neighbours, with many of these changes reducing productivity or increasing costs¹⁸.

The Committee was able to gather information, with the valuable assistance of the Nova Scotia Department of Agriculture, of the potential impact quarantining of agricultural land would have on available farmland in production in the province based on ALIP and other data and an assumption of a minimum setback. The analysis for Nova Scotia focused on small properties that are either on or adjacent to agricultural land based on 1998 ALIP data and the following is taken directly from Appendix F.

Some lands currently in agriculture may be relatively easily removed for other forms of development. A contributing factor is lot size. Nova Scotia has approximately 19,000 properties of less than two hectares in size that are centered in ALIP lands. This amounts to just under 11,500 hectares of ALIP land. Another 27,000 properties are adjacent to ALIP land. In total, Nova Scotia has a total of 46,000 small (less than 2 ha) properties either on, or adjacent to, ALIP farmland. These properties total approximately 30,000 hectares.

¹⁷ While farmers are theoretically protected from nuisance complaints by the Nova Scotia Farm Practices Act, they generally avoid conflict with neighbours and adjust their activity in response to increased residential proximity to their farm operations.

¹⁸ Kelco Consulting Ltd., *Environmental Services Provided by Nova Scotia Agriculture*, prepared for the Nova Scotia Federation of Agriculture, March 2009.

An attempt was made to estimate the amount of farm land lost to urban development. A land cover file based on satellite and fly-over images from the NS Department of Natural Resources (DNR) was compared to the original ALIP file from 1998 to determine which farm lands had become designated as urban as of the date of the DNR images.

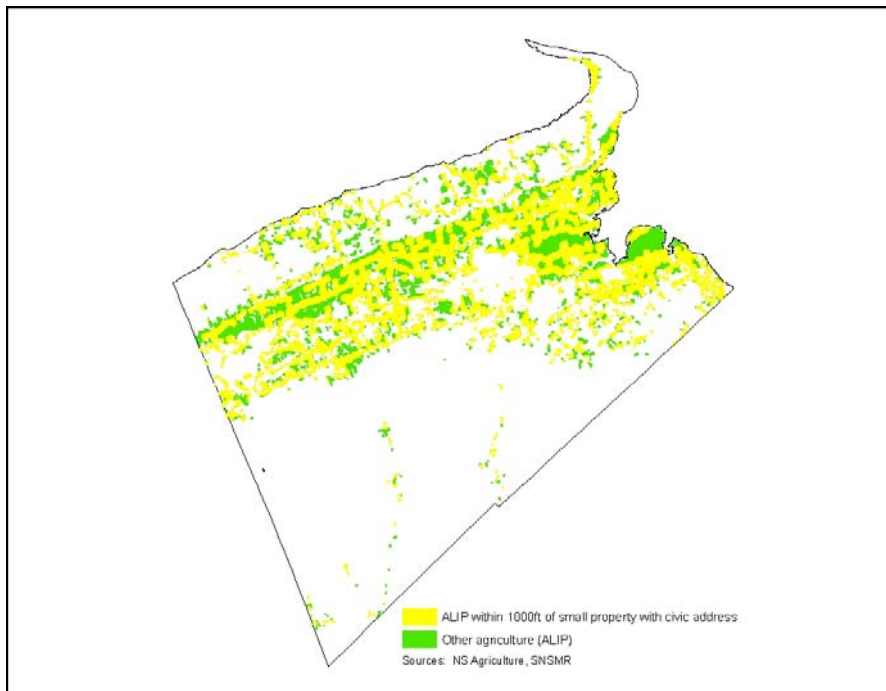
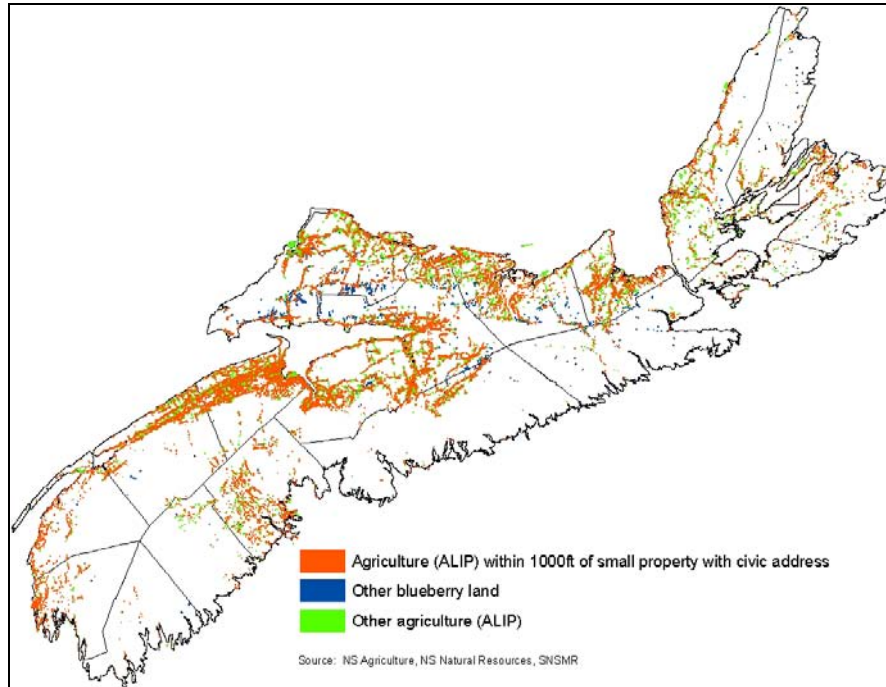
Approximately 3,500 hectares (1.5 percent) of ALIP lands in Nova Scotia have been lost to urban development since 1998 based on this methodology. It should be noted that over the longer term approximately 80,000 hectares of agricultural land has been lost to urban development.

While physical occupancy of land by non farm development or land with the potential for non-farm development can be used to estimate potential loss of land to the sector, the effect of development on adjacent agricultural lands is probably of greater significance in terms of area affected. In order to estimate the area of farmland that is at risk due to the proximity of development, a 300 ft (91.44m) buffer was drawn around the property line of each small (less than 2ha) property and the amount of ALIP farmland falling under this zone was calculated.

The 300 foot buffer was chosen in order to give an estimate of how much agricultural land is close enough to other forms of development that nuisance or development conflicts could occur. There are a number of recommended setback distances, from various jurisdictions, and for a wide number of agricultural uses. The 300 foot setback was used by Kings County as a setback distance between livestock barns and residential dwellings, and was recommended by the county's Agricultural Working Group to increase to 600ft (in the case of siting new non-farm dwellings) in 2007 (Municipality of Kings, 2007).

Nova Scotia has about 30 percent of its farmland (as designated by ALIP) within that buffer zone of 300 feet of the boundary of properties that are small enough to either currently be developed, or to be relatively easily developed. Of the roughly 70,000 hectares of agriculture in this class, approximately 70 percent are within 300 feet of a small property with a civic address. This indicates that a significant portion of agriculture in Nova Scotia faces the issues that are associated with urban encroachment on farmland. Detailed information and maps on land encroachment for the province and each county are included in Appendix F.

The maps below provide an indication of the potential impact on Nova Scotia and Kings County if setbacks of 1,000 feet, similar to those established in Tulare County, California, were imposed. Almost all agricultural land in Kings County and most of the land in relatively populated rural areas of the province would be impacted.



3.5 Summary

Nova Scotia's agricultural land capacity appears substantial; however, our existing productive agricultural land is being challenged. Many of the challenges and influences relate to development for non-agricultural uses, abandonment because of lack of profitability in some sectors, and depletion of the lands productive capacity, also a

function of profitability. These issues are with us now and will continue to demand attention in the near term.

Other influences are beyond our immediate horizons and control, such as the price of fossil-fuel based energy inputs, influences from climate change, and so on. Some of these factors will take many years to have a significant impact on Nova Scotia, the provincial agricultural sector, and demand and supply of agricultural land. Some of the longer-term influences will provide opportunities for the agricultural sector as long as Nova Scotia maintains the agricultural resources necessary to take advantages of them – resources that include agricultural land as well as the knowledge and infrastructure that support a productive agricultural sector.

4.0 Analysis and Recommendations

This section provides a discussion relating the previous sections of this report to Nova Scotia's situation. Recommendations are presented with the ALRC's reasoning behind them in five categories: general recommendations, governance of agricultural land, land-use information, maintenance of agricultural land base, and industry profitability. Neither the categories nor recommendations are in order of priority or importance with the exception of recommendations 4.1.1 and 4.1.2 (General Recommendations Section), which the Committee believes are critical to the maintenance of a Nova Scotia agricultural land base in an equitable approach.

4.1 General Recommendations

Recommendation 4.1.1: Provincial action to preserve and protect agricultural land should be enacted as soon as possible. While some initiatives will necessarily take longer to develop due to funding realities and structural and regulatory requirements, delay will not only result in the loss of valuable agricultural resources but will also raise the final cost to the public.

A number of tools exist that would allow the province to conserve agricultural lands through conservation easements, outright purchase, changes in regulatory requirements, etc. Delay in taking action will have significant impacts, such as potential increases in the cost of purchasing development rights or land rather than more immediate purchase as is indicated in the Suffolk County example (see Appendix H). Failure to act now will make it more expensive in future because more of the current cleared land base will have devolved to nonfarm development or forest; thus the cleared resource base will be scarcer when in demand, and therefore cost more to compensate farmers for the loss of development potential. Likewise, for agricultural land that has devolved back to forest, increased energy costs will raise the real dollar cost of returning forest land to full agricultural production.

The Province should consider including agricultural lands as suitable for conservation in a redefinition of the Environmental Goals and Sustainable Prosperity Act and allocate money for the purchase of development rights for the same reason it is conserving wilderness areas, portions of the coastal zone, etc. While there are several options to address this issue, one used regularly in various jurisdictions is to create a compensation fund to address the loss of potential development for farmland owners.

Public monies that are spent in conserving agricultural lands should be viewed as a long-term investment that will pay back for an even longer period of time. Well managed agricultural lands, such as are found in some parts of Europe, China and Southeast Asia, have been in production for thousands of years and there is no reason that good-quality lands here cannot remain productive for a similar length of time. As such, financing for conservation measures could be entertained using long-term financial instruments, such as 30, 50, or even 100 year bonds because the benefit of such public investment will accrue not only to the current generation, but for many generations to come.

Recommendation 4.1.2: The cost of preserving agricultural land should not be borne only by the farm community. Preservation of the capacity to grow food and support the rural economy benefits Nova Scotia in general and those who benefit should share in the cost of protecting agricultural land.

Restrictions on development of agricultural land for non-farm uses through zoning or other proscriptive regulation frequently reduces the value of that land compared to uses other than agriculture. This decrease in value has a negative impact on farmers and their businesses by reducing their ability to finance their farm operations due to the lowering of the asset's value and reduces the farmers' ability to realize maximum value for that asset when sold. The reduction in sales value can have a significant impact on the quality of life that a retired farmer can achieve.

A variety of methods to compensate land owners for foregone opportunities is used. The methods generally fall into two types that reflect voluntary or mandatory approaches. Voluntary programs frequently use land trusts or other funding systems to purchase the rights to develop a property for non-agricultural uses based on a farm business offering the land and/or a restriction (easement) on the land that will keep it in agriculture perpetually for an agreed price. Mandatory programs, such as zoning, restrict the landowner's ability to develop the land for non-agricultural purposes, although they do not guarantee that the land will remain in production. The following discussion summarizes some options that are available to Nova Scotia to compensate farmers for the loss of development opportunities and/or to keep land in productive agriculture rather than losing it to development.

While compensation for agricultural zoning is not legally required, the Committee feels strongly that if this measure is undertaken to conserve agricultural lands some method of compensation should be forthcoming to landowners and their holdings at the time such legislation is enacted. With this in mind, it would not be unreasonable to offer similar levels of compensation for loss of development opportunities as would occur under voluntary sales of development rights to Land Trusts. Typically these involve paying for the difference between the land value for agriculture and its value for non-farm development. For counties with pre-existing agricultural zoning, compensation for loss of development opportunities should be limited to owners who owned the land at the time of the enactment of the zoning regulations. Persons who purchased or inherited the parcels after the zoning was enacted should not be eligible for compensation, as the purchase or inherited value of the land reflected the fact that development potential had already been extinguished.

The Committee recognizes that there will be continued pressure for growth on the fringes of rural and urban communities and that agricultural land will be encompassed in the desired growth areas, especially if those areas are currently or easily serviced with sewer, water and other infrastructure. It is reasonable for communities to want to expand onto this adjacent land. However, development onto, or adjacent to, farmland tends to drive out productive agriculture through both displacement for construction and the impact of

new residential developments on the farmer's ability to follow normal agricultural practices because of noise, odour or other complaints.

Where a need arises in the future for development outside existing towns, villages, hamlets, etc., the developing entity would have to demonstrate that there are no suitable parcels (those without agricultural potential) available. Communities should be required to show that they have made rigorous attempts to find alternatives to developing agricultural land and that they have exhausted all alternatives. They should then be required to make available a sum of money equivalent to the cost of purchasing and clearing for agricultural production an area of land of equal agricultural value, and possibly of greater area, being proposed for development. Alternatively, the developing community could purchase agricultural conservation easements on surrounding agricultural land the surface area of which was greater than that proposed for development at the urban/rural fringe. This requirement would help maintain the province's existing production capacity.

The Province could actively pursue the purchase of "agricultural rights" of farms with CLI class two through four lands based on paying a percentage of the current agricultural market value or the replacement value of the land. For the latter a determination of replacement value and potential approaches to maintaining the land in productive agriculture could include:

- The cost to clear and amend the soil of another parcel to an equivalent state minus financial adjustments made for various land quality elements including length of growing season, relative productive value between different CLI classes, degree of operational impairment posed by proximity of non-farming properties, access to roads, proximity to markets, and costs to correct residual fertility at time of purchase.
- The Province could offer the property owner from whom the agricultural easement is purchased the option of a lump sum cash settlement or a tax advantaged yearly bond interest payment (the idea here is to turn the farmer into a bondholder, so that financing costs can be potentially spread over a long period of time, as befits the benefit to the general public).
- Land protected would not be allowed to be impaired through the operational use of the property for agricultural purposes, nor could such easements be used for non-agricultural purposes.
- The Province could permit, on a contract basis, the existing property owner to utilize the agricultural easement for agricultural purposes, subject to existing legislation. If the land is not used for farming for a certain period, except where mitigating circumstances can be demonstrated (sickness, death, natural disaster, etc.), or if by soil examination and analysis the quality of the easement is shown to be significantly impaired from its purchase date, the farmer would be in breach of contract, and the Province could, at its discretion, contract with a third party to use the land.
- The Province could elect to make additional payment(s) to the landowner for demonstrable improvements, as determined by a neutral third party, in the fertility and workability of the agricultural easement.

- The Province could offer this program up until such a time that it feels a sufficient area of land has been protected in regards to the public interest or public finances no longer permit additional purchases.

The advantage to the preceding is that the Province is not paying on the speculative value for land development purposes, as in a system to compensate for loss of development opportunities, but the true agricultural value. At a number of public meetings the impression was given by speakers that many farmers felt they could not sell their operations as farms. Landowners beyond the urban areas may take this offer up rather quickly, while farmers at the urban fringe may hold out to see if development can be forced. However, if it is made clear to the near urban farmers that the program is not unlimited in length, and that further development around their perimeter may reduce rather than augment future payments due to further impairment of their lands workability, this may encourage a number in the direction of seeking compensation for their loss of development opportunities. There is little doubt that some near urban farms may already be operationally limited to the point that continued success is unlikely. These operations could be used to establish hard boundaries between urban and farming activities.

The Province may want to give consideration to increasing the property deed transfer tax to encompass a fee which could be pooled provincially to assist in the broader purchase of conservation easements on all lands with significant resource value (agricultural lands, aquifer recharge areas, areas of high tourist amenity, critical coastal zone areas, old-growth forests, critical wildlife habitat, etc.) This approach would not place any area of the province at a disadvantage relative to real-estate costs and would potentially raise significant funds to invest in the Province's natural capital.

Irrespective of whatever compensation system is used, either compensation for zoning or voluntary purchase, no compensation payments should be made for loss of development opportunities on agricultural lands that should not be used for non-farm development in the first place. These lands would include floodplains, dyke lands, coastal farmlands with high rates of erosion/subject to inundation, and other lands that would pose a risk to human habitation. However, such lands could be eligible for compensation in a system based on purchase of "agricultural rights".

Recommendation 4.1.3: The Province should develop an overall strategy for conserving its vital natural capital including forest lands, agricultural lands, aquifer recharge areas, the coastal zone, areas of high tourist and recreational potential, wildlife habitat, and areas with high-value mining potential. It should be based on a thoroughgoing analysis of future need and not the relative popularity of the resource in question in the public mind.

As noted in Section 3.1.3, agricultural land preservation should be included in a comprehensive strategy for all of the province's natural capital. Decisions are too often made that favour one resource to the detriment of the other based on a short-term outlook that reflects public interest at the time rather than the long-term interests of Nova Scotian society.

Nova Scotia is in the favourable position of having a broad range of natural capital that can be used for economic as well as societal purposes. As energy and resource commodity prices increase, Nova Scotia can be well placed to take advantage of the development of alternate energy and fibre sources if a comprehensive plan to protect, enhance and develop its natural capital is adopted. Concentration on agricultural land, or other types of resources, in isolation of the full range of natural capital will lead to sub-optimal policy that does not maximize the benefits of all Nova Scotia resources to the Province.

Recommendation 4.1.4: The Provincial Government is the owner of a significant amount of land of good agricultural quality. That land should be clearly identified and managed in a method such that it is preserved for potential agricultural use. The Province should bind any future contracting parties on its Crown forest lands to allow agricultural development post tree harvest at the Crown's discretion.

This recommendation is designed to preserve a significant public asset so that it is available to Nova Scotia for the production of food and/or fibre if additional land is required in future. While this land will remain available for other uses, its quality and availability as productive agricultural land must not be destroyed as part of non-agricultural activities.

The Province is in control of considerable amounts of land with high agricultural potential, being 4,589 hectares of class two, 84,200 hectares of class three, and 51,759 hectares of class 4 for a total of 140,360 hectares of land with reasonable agricultural potential. Although most of this land is currently under Crown forest, and may also be leased to timber or pulp operations, it could be utilized as a reserve for future need as existing forest leases expire.

Forestry is important to Nova Scotia's economy and this recommendation is not designed to remove land from forestry, but rather to protect the land's potential for the production of food if it is needed.

It is understood such agricultural development should be under the control of the Province or its assignees and not under that of the forest contractor. In addition, the Crown should include in future forestry contracts the ability to proceed with land clearing and subsequent agricultural usage prior to normal harvest time on payment of a reasonable penalty to the contractor if the land is needed to support agricultural production.

4.2 Governance of Agricultural Land

Recommendation 4.2.1: The Province should amend and expand the Statement of Provincial Interest (SPI) as it relates to agricultural land to delineate clear parameters for the identification, protection and preservation of farmland and define minimum steps that municipalities must follow to protect agricultural land.

Input received during the consultation process indicated that municipal authorities, planners and the general public are not satisfied with the existing SPI because it is unclear as to application and does not define clear parameters and objectives for preservation and/or development of farmland. The Committee believes that this is a necessary step for the Provincial Government to ensure that all municipal units in Nova Scotia are dealing with agricultural land in a consistent manner.

The Province will need trained and knowledgeable people to develop and administer an effective SPI. These resources include, but are not limited to, licensed planners in both the Nova Scotia Department of Agriculture and Service Nova Scotia and Municipal Relations. Many municipalities have qualified planners and the departments that will be working with them need to have staff with at least the same qualifications.

Some current municipal regulations require an Agrologist Report on the suitability of land for agricultural purposes to assess a request for development of farmland. These reports can vary widely across, and within, municipalities depending on the location and situation. The amended SPI should define and standardize the purpose, uses and content of Agrologist Reports so that the reports are consistent across the province.

An important feature of an amended SPI should be a condition that setbacks be required on all non-farm parcels developed adjacent to class 2-4 agricultural lands similar to those imposed on farms for siting and development of their properties for agricultural uses. The one-sided application of setbacks imposes hardship on farm businesses and increases the incidence of loss of productive agricultural land because of issues with neighbouring developments. Setbacks imposed on developers of land adjacent to farmland could be reduced on the establishment of an adequate greenbelt for sound and spray drift reduction purposes to encourage in-filling on the part of the developer.¹⁹

Recommendation 4.2.2: The Province of Nova Scotia should enact legislation to remove the responsibility for the conservation and/or preservation of agricultural land from any municipality without a municipal plan, or with a municipal plan that does not address the conservation of agricultural lands within the entirety of its jurisdiction, and have it instead reside with the Province until such a time as the municipality can develop a plan addressing the preceding and have it approved by the Province.

Few municipalities have enacted agricultural land use by-laws or municipal plans that address the conservation of agricultural lands in a comprehensive approach. The provincial SPI only applies to those municipal plans that include agricultural land issues. This inconsistent approach has created a situation in which farmers, developers and planners across the province face differing regulatory regimes that create advantages and disadvantages for municipal units. Those municipalities without restrictions on

¹⁹ McGinnis, Gillian, *Urban-Rural Edge Area Nuisance Mitigation Strategies in Kings County, Nova Scotia*, December 2009.

development of agricultural land may be more attractive to developers than those with comprehensive land preservation regulations because of the reduced land preparation costs associated with farmland as compared to land that would have to be cleared, flattened and so on.

This lack of consistency creates a regulatory situation in which there are winners and losers based on a municipality's attitude toward stewardship of agricultural land for future generations. Minimum standards must be established to ensure a level playing field for developers, farmers and municipal authorities across the province.

4.3 Recommendations to Rectify Deficiencies in Land-Use Information

There are information deficiencies that need to be addressed to help make wise land-use decisions. Records of the number of hectares of good-quality agricultural lands that have been removed from the sector by some other use are incomplete. For instance when reviews and subsequent waivers of land use proposals subject to Statements of Provincial Interest are made, the land areas involved are not always stated.

The Provincially run ALIP (Agricultural Land Inventory Program), which identified all active, and in some instances inactive, farmland in the province in 1998, has not been kept up to date since that time. Therefore it is difficult to know how much land has truly changed from agricultural to other uses. As noted elsewhere, there appears to be a discrepancy between stated acreage in production derived from the 2006 Census of Agriculture and acreage of lands receiving the agricultural tax exemption in that year.

To make good agricultural land use policy it is imperative to know how much land is leaving or being added to the sector in each year and for what reasons. Land that is leaving the sector through abandonment (i.e.: growing up in trees), may imply a radically different set of policies than for land which is being gobbled up by housing developments at the edge of an urban area.

A significant amount of information has been gathered by the Departments of Agriculture and Service Nova Scotia and Municipal Relations in support of the Committee's review. This information has been valuable to the Committee's review and deliberations and forms a good base upon which to build a comprehensive database of agricultural land and its uses for the province.

Recommendation 4.3.1: The Province should immediately conduct a full scan of all information related to agricultural land use that is available from federal, provincial and municipal sources, prepare a comprehensive database of this information, identify information gaps and take steps to rectify those gaps.

Some of the information required to monitor land use in the province is available but gives conflicting results. While the amount of land that draws the agricultural property tax exemption is well above that presently being farmed, and was increasing until the last few years, over 8,000 hectares (19,705 acres) of land has been reclassified from agriculture to non-agriculture designation in the last five years, much of it in counties

with restrictions on development of agricultural land (Appendix I). Data from diverse sources is not being gathered into one location and reconciled.

Issues that should be considered in development of a comprehensive database and information system include, but are not limited to:

- Legislation and information systems are in place to record the identity and province/country of origin for all land purchasers and the amounts of land purchased; however, that information is not monitored and the extent of ownership of Nova Scotia's natural capital is not regularly calculated or reported. Systems should be put in place to monitor the extent of foreign ownership of agricultural and other land important to the viability and sovereignty of Nova Scotia. Consideration should be given to requiring Cabinet review for any land purchase consisting of substantial hectares (threshold amount to be determined by province) or of such a size as to exert a controlling or distorting influence on agricultural markets and/or commodity pricing; such a review should be transparent and available for public viewing
- The use and disposition of all cleared and forested agricultural land should be monitored on a continuous basis (essentially an ongoing ALIP) to determine what amounts are reverting to forest, what amounts are being converted to nonfarm use, and the degree to which productivity of the soils is being augmented, maintained, or degraded; reversions to forest could be monitored by remote sensing, conversions to non-agricultural use determined through ongoing statements of hectares by the relevant municipality, and soil quality through the monitoring of Provincial soil test lab results; statistically relevant spot sampling of soils may be necessary to include agricultural lands not normally soil tested and also to determine ongoing loss of soil due to erosion
- An analysis of the CLI class of currently active farmland needs to be made with a view to determining what amounts of Classes 2-4 comprise the current active land base, given the much greater productivity and value of Class 2 land relative to lesser classes; the most recent analysis of the composition of active farmland by CLI class, the ALIP data base, reflects information that is now more than 13 years old. This analysis should be a new, enhanced ALIP that encompasses variables beyond soil type, such as agronomic characteristics (e.g.: length of growing season, heat units) relevant to use (e.g.: grapes, stone fruit). These should be entered into a good information base that can be used by decision-makers.
- In light of more recent information regarding soil utility, the productive capacity of some soils relative to their rating under the CLI, such as Cornwallis and Nictaux soils in the Annapolis Valley, should be re-examined, and if necessary, reclassified.

4.4 Maintenance of an Agricultural Land Base

Means must be found to maintain the present agricultural production land base in good cropping condition so that it can be used to take advantage of future opportunities. Farmland that is left idle quickly grows up in brush and weeds; drainage systems break down from lack of maintenance; and the land reverts to a state that requires significant investment to return it to agricultural production.

Recommendation 4.4.1: The Province of Nova Scotia should take immediate steps to preserve the existing agricultural land base because of the significant cost and time requirements associated with recovery of non-producing agricultural land.

There are a number of steps that the Province can take to promote maintenance of the existing land base, both through incentives and regulatory restrictions. Some of these steps are addressed in the following sub-recommendations to Recommendation 4.4.1.

Recommendation 4.4.1.a: All class two and three agricultural soils and cleared class four agricultural soils, as defined in the Canada Land Inventory for Agriculture, should be designated for conservation.

Farms with parcels of land not suitable for agriculture, based on definitions from the SPI, may be permitted to engage in comprehensive development agreements in regard to nonfarm development with setback provisions to protect the workability of the surrounding good farmland and clustering provisions to reduce the municipal service burden for the municipality; setback requirements should be attached to the parcel slated for development whether the developer is the farmer himself, or a person to whom he sells the parcel; where the owner can demonstrate through analysis by a qualified soil expert that a parcel of land within a general Class 2-4 land is not of that qualification, development may proceed subject to other site plan requirements.

All farms would retain the ability to construct further dwellings for farm labour and retiring family members; however, the ownership of such dwellings will run with the land and not be permitted to be deeded separately, and should be confined to a limited acreage encompassing the farm dwelling and other farm buildings.

Recommendation 4.4.1.b: The removal and sale of topsoil on any Class 2 to 4 agricultural lands should be prohibited.

As noted previously, damage to agricultural land's ability to produce to its potential through depletion of fertility and soil structure has a significant impact on the amount of land needed for the production of food and fibre. Removal of topsoil from productive farmland immediately depletes that land's fertility and severely curtails its production capacity.

Recommendation 4.4.1.c: Agricultural land tax exemptions and the grants in lieu of taxation of agricultural land should be suspended on all agricultural lands not being actively used.

While the exemption of active agricultural lands from municipal taxation may offer an incentive to retain lands in agricultural production, there is evidence that there may be significantly greater areas of land receiving this exemption than are in actual agricultural production. For instance, the 2006 census figures for active agricultural land indicates there were 182,915 hectares or 451,991 acres in use, while provincial records indicate that 590,385 acres attracted a grant in lieu of taxes in the same year. This represents a

potential overpayment to the municipalities of Nova Scotia of almost \$347,000 in that year.

To the extent possible, and subsequent to completion of a new ALIP assessment to create a property base, remote sensing technology should be used to identify properties attracting the exemption, but not being used for agriculture, because the cost of ongoing ground-truthing would eat up much of the savings. Some period in which the farmland is not used for agricultural production, such as two years of successive, non-harvested, growth, would be sufficient to indicate it is not being actively farmed; one year's growth could be for weed control, green manure plough down, etc. Exceptions to the minimum period rule could be made in the case of family illness or other catastrophic circumstances or if the land is planted to short rotation biomass production. The owners should be contacted and told that failing the active use of the property for agricultural production, it will be taxed as resource property, or a higher value assessment, if this is appropriate given the context of the property in regards to the surrounding area. However, such reclassification will not alter the farm property's status as a protected resource. A clearinghouse for biomass purchasing should be established to develop a list of farmers willing to harvest biomass on lands beyond their own, and the landowner facing a change in taxation would be paired up with said farmers, where possible, to avoid a change in taxation; monies saved through the identification of unqualified exempted property could be used for agricultural land conservation purposes.

Recommendation 4.4.1.d: The 20% change of use tax should be tightened up so that there is no way to avoid triggering through manipulation of the present system. Tax funds thus generated could be used to support compensation for the loss of development opportunities or outright land purchases through a land trust.

Information gathered in the course of the Committee's review indicates that the province has not established a definitive information or management system to manage application of the change of use tax. Developers and/or those selling land have found methods to avoid application of the tax partly because the system is not rigorous enough to counter claims by proponents and their legal representatives. Government representatives who try to apply the tax are at a disadvantage because they do not have ready recourse to information or legal counsel to assess appeals to application of the tax.

The change of use tax provides little incentive or barrier to the development of agricultural land for non-agricultural purposes and needs to be changed to ensure it achieves its objective. To accomplish this, the tax penalty should run with the deed until such a time that the property is converted from farming, forestry, or resource use to capture the high dollar value penalties on change of use. Tax funds thus generated could be used to support compensation for loss of development opportunities or outright land purchases through a land trust.

Recommendation 4.4.1.e: Provincial law to allow for the purchase of agricultural conservation easements should be enacted.

Discussion with NSDA staff indicated that the applicability of the law allowing conservation easements for other types of resource land to agricultural land has not been clearly determined. This issue should be determined and if agricultural land cannot be included under existing legislation, amendments should be enacted to allow its inclusion. This step will make it easier to protect critical agricultural land as is currently the case with other types of resource land.

Recommendation 4.4.1.f: The Province should create tax incentives for charitable donations to bona fide Land Trusts.

A tax incentive, either in the form of money or in the form of the differential property valuation between development value and farm value as an equivalent donation, would provide an incentive for those who support preservation of agricultural lands to achieve that goal by donating land (or an agricultural easement) or money to a land trust. This approach has been used in many other jurisdictions within and outside Canada as a means to preserve and protect agricultural land. This step would ensure that farmland is available to beginning farmers at reasonable cost.

Recommendation 4.4.1.g: The Province should emphasize programs to support development of agricultural biomass energy systems to both support farm economic activity but also to maintain the present land base as productive farmland.

Biomass production for energy has been identified as a potential revenue source for farmers. The Committee also recognizes that biomass production has the potential to maintain the productive capacity of the present agricultural land base; however, significant action by the provincial government is required to stimulate and accelerate development of the agricultural biomass sector. The Province could act as, or facilitate the creation of, distributors for grass-based biomass deliveries to major customers, targeting their own provincial buildings or the Nova Scotia Power Corporation.

All grass pellets or similar biomass products intended for combustion could be sold through a Provincial clearing house or a number of facilitated distributors while the market is being firmly established with a view to connecting harvesters of surplus grassland material with customers in the energy sector. This market could be regulated as a public utility with guaranteed feed in tariffs for producers of agriculturally derived biomass for combustion purposes. A feed in tariff should be arrived at that reflects farmers' true costs of production, including nutrient loss, plus a reasonable return to both labour and investment.

The strategy of using underutilized hay and grasslands should be of greatest benefit to the livestock sector, portions of which are currently having difficulty making a profit, but have the expertise and machinery necessary to harvest the biomass for energy. Such a strategy could keep the land in production while other measures work to improve the

profitability of food production on such lands.

Recommendation 4.4.1.h: All Provincial programs of substantial value to the agricultural community such as land clearing, drainage, large-scale soil amendment expenditures, fencing, infrastructure assistance, and advantaged financing should have a condition attached that the Province will recover such public investments if the property leaves the sector.

Investment in land by taxpayers for agricultural purposes should not enhance the land's attractiveness for development. A system should be developed to track land that has received funding and been subsequently developed so that Nova Scotians will be able to recover, with an applicable interest charge, this investment.

Recommendation 4.4.1.i: Lands acquired by the Farm Loan Board through repossession will have an agricultural conservation easement attached that runs with the land on resale.

This change in policy provides the Province with a means to ensure that land sold through repossession by the provincial agricultural lending organization is not lost to agriculture at the time of sale or in the future.

Recommendation 4.4.2: Measures should be taken as soon as possible to strengthen and maintain dyke land defences.

Failure of the dykes to protect low-lying areas from seawater flooding would have a significant impact on agriculture, but that impact would be felt well beyond the damage to farmland. Many Nova Scotia communities would suffer severe flooding, damaging residences, businesses and having a negative impact on whole economic sectors (e.g.: tourism). Transportation systems would be damaged and, in some cases, destroyed (e.g.: Tantramar Marsh highway and rail crossings). The scope of damage from a failure of the dykes would go well beyond agriculture and encompasses responsibilities for all levels of government, but it is not apparent that any one government or department is taking the lead in addressing the issue. The Committee believes that it is incumbent upon the Provincial Government to aggressively address this issue by taking the lead in developing a coordinated dyke land protection program.

Loss of dyke land can be replaced by clearing some of the potential agricultural land currently under forest or that was abandoned in more recent years and has grown up in alders and bush. However, some experts feel that Nova Scotia forests are already either near, or over, long term sustainable harvesting levels. Our forest lands also need to continue providing the very useful functions of conserving water, providing wildlife habitat, recreational opportunities, as well as lumber and pulp, and are being called on to produce biomass, production of which may increase in the future.

Even if the forested land were not already a productive part of our environment, the cost to clear large amounts of it for agriculture may not be affordable, due to the high cost of

machinery operations, lime, and fertilizer to bring the land into production. Estimated cost to bring forested land into production range from \$4,000 to \$5,000 per hectare to remove rocks and tree stumps and level for agricultural production. Drainage raises the cost to about \$8,000 per hectare.²⁰ Also, in most cases, more acreage would have to be recovered from an alternative land base because of the relative productivity value of dyke land as compared to other agricultural land.

Recommendation 4.4.3: The Province should take immediate steps to develop a comprehensive soil health improvement program to address the reduction in soil productivity and to improve and preserve the natural capital for today and for future agricultural endeavours.

Healthy soils are important for productive agriculture, supporting biodiversity in our ecosystems, reducing greenhouse gases through carbon storage and maintaining environmental stability. Nova Scotia citizens benefit from healthy soils, not only from food production, but also because it contributes to clean water and air, enhances habitats and beautifies our rural communities.

Soil health is determined by a number of factors such as the biological, chemical and physical properties of the soil, degradation resistance, and ability to provide optimum nutrients and water, and provides a positive impact on the environment.

Nova Scotia soil pH and nutrient levels have been significantly decreasing over the past 10 years, which is having a profound effect on Nova Scotia agriculture. A 2008 report²¹ analyzed over 61,000 soil tests which clearly showed a decrease in soil health in all Counties of Nova Scotia. This decrease would be greater if soil tests had also been conducted on abandoned farmland.

One means of measuring indicators of soil health is through a soil testing program. Nova Scotia producers began implementing nutrient management planning in 2002. Since this time, there has been an increase in the number of soil samples taken in the province. Nutrient management planning has uncovered the practice of “unbalanced” fertilization. During times of economic restraint and increased fertilizer prices, producers rely on the nutrient nitrogen to provide the most immediate response and cut back on other fertility inputs. In order for producers to increase the nutrient and pH levels on the farm, they would have to significantly invest in nutrient and soil amendment sources to improve soil test levels, a difficult demand when farms are unprofitable.

To address Nova Scotia soil health conditions, a mediation strategy is essential for a more competitive and productive agricultural land base. The world demand for fertilizers continues to increase due to population increases and changes in diet in developing countries. More fertilizer is required to produce grain and forage to meet these dietary

²⁰ L.LeBlanc, LP Consulting Ltd, 2010, personal communication

²¹ L.LeBlanc, LP Consulting Ltd., *Nova Scotia Nutrient Management Planning, Phase 2*, Prepared for the Nova Scotia Nutrient Management Plan Steering and Expert Committee, March 2008.

changes, which require huge amounts of this input. It is generally believed that pressures on fossil fuels and its products will continue and that farmers may not have the economic ability to implement measures to improve, let alone maintain, soil health. This translates to continued deterioration in soil health conditions. If it becomes necessary for Nova Scotia to supply more food to feed its population, it will be difficult to produce adequate crop yields and quality to meet those increased demands. More land than is currently in production will be required as fewer kilograms of product will be grown per acre.

Manitoba developed a comprehensive soil management program²² that hinges on five basic principles:

1. Keeping soil in place by reducing tillage practices.
2. Maintaining or improving soil quality parameters, such as organic matter and desirable soil structure.
3. Managing and protecting water supplies.
4. Planning a crop rotation system made up of crops that are profitable and protect soil quality.
5. Applying only the amount of inputs to achieve reasonable crop production targets.

Programs need to be implemented to address soil health in Nova Scotia. These could include improved funding for nutrient management plans, continued support for environmental farm planning, soil nutrient, amendment and conservation programs. A program could be designed that gives organic recyclable products a heavier “weight” for funding. The program could designate organics such as manure (e.g.: chicken compost, mink manure, etc), Class A biosolids, ash, and composts as preferred soil amendments because of their broad impact on soil health. Thus, the Province would be increasing soil health and encouraging renewable resources rather than those that are heavily dependent on fossil fuels.

Nova Scotia provides the least amount of funding for these types of programs as compared to other provinces in Canada, including the Atlantic Provinces. There are Federal cost-share opportunities that the Province can participate in to alleviate costs to assist producers to implement improvement projects.

4.5 Measures to Make the Sector More Profitable

As noted by many of those who provided input through the public consultation process, many of the pressures that create risks to maintaining a viable farm land base in Nova Scotia will be reduced by a profitable agricultural industry. Unprofitable farm businesses are under more pressure to develop their land for non-agricultural uses, are more likely to stop farming and abandon their land, and are unable to maintain good fertility levels due to a lack of funds to purchase inputs. While a profitable industry will not remove all development pressures, particularly in areas of rural-urban interface, profitability will remove much of the development pressure and ensure that farm businesses are attractive to succeeding generations of farmers.

²² www.gov.mb.ca/agriculture/soilwater/soilmgmt/index.html

Recommendation 4.5.1: The Nova Scotia government must take all steps possible, including dedicating the necessary financial and human resources, to support and stimulate a return to profitability to all sectors of the agricultural industry.

While the Committee is aware that the provincial government has dedicated resources to the industry to support profitable agriculture, the Committee believes that the risk of a significant loss of much of the farm community is very high and reaching critical levels. Those who provided public input to the Committee believe that the Nova Scotia government does not understand the current state of the provincial agricultural sector and the severe impact that any further loss of economic activity from agriculture will have on rural Nova Scotia.

Potential areas of concentration of effort were identified in the public consultation and included such things as:

- Farms provide significant social benefits through their provision of ecological goods and services. Provision of these benefits create costs to farmers through capital investment, on-going maintenance and increased production costs²³ to ensure that Nova Scotia's environment and biodiversity are maintained and enhanced. These non-market benefits are not normally reflected in the price paid to farmers for their products. Many countries acknowledge the benefits to their society and costs to the farmers that provide them through the provision of on-going payments to offset the increased production expenses. The province of Nova Scotia should investigate a program to compensate farmers that provide ecological goods and services based on an enhancement of the Nova Scotia Environmental Farm Plan program. The Province of New Brunswick conducted a pilot project in 2008-09²⁴ on valuing and compensating for these services, elements of which could be adopted based on Nova Scotia's resources and experience.
- Long-term funding for a provincial advertising campaign making the public aware of the desirable attributes of locally produced food needs to be continued until the practice of seeking locally produced food becomes second nature to consumers. This could include assisting with television advertising for farm and farmers' markets, and other appropriate direct marketing channels, telling the public what's in season and referring them to online databases to locate Nova Scotia food sources.
- For commodities or groups of farmers willing to organize, support for the development of cooperatives or Marketing Board structures to achieve bargaining clout with the processing and retail sectors should be provided.
- Active and ongoing monitoring of the cost of production for major commodities needs to be resurrected as an ongoing function of the Nova Scotia Department of

²³ Kelco Consulting Ltd., *Impact of Changes in Regulatory Requirements and Societal Expectations on Nova Scotia Farmers*, Prepared for the Nova Scotia Federation of Agriculture, July 2006.

²⁴ Eastern Canada Soil and Water Conservation Centre, *Investigation of the use of the Environmental Farm Plan (EFP) as an EG&S Management and Policy Tool*, Prepared for the Province of New Brunswick and Government of Canada, March 2009.

Agriculture to supply good information for farmers and other industry stakeholders.

- The province should investigate novel funding options to support the industry, such as devoting a portion of the HST to the support of the agricultural sector (and other critical natural resources/natural capital) to serve as a source of funding. In defence of this measure, the generally fresher, vitamin and nutrient laden characteristics of locally produced food, and their attendant beneficial effects on the health of all Nova Scotians, can be cited. Another alternative would be to tax all processed foods and make the proceeds available to strengthen both the production and processing sectors in the Province. These funds could also be directed to the purchase of property/development rights as discussed earlier.
- The Province should explore the use of waste heat from power stations, and other facilities suitable for cogeneration, for greenhouse operations. Consideration should be given to allowing the use of such waste heat to substitute for the equivalent energy required to be generated by provincially mandated renewable fuels on the condition that the generating agency contributes the savings to funding the construction of the greenhouse operation.
- A clearinghouse function should be provided by the province to connect farm operators who are without any perceived heirs or successors to the operation with new entrants to the sector. It may be necessary to launch another recruiting drive such as was done after World War II that resulted in a large influx of farmers from Europe; however, this should only be done after exhausting all potential Nova Scotia, Atlantic, and Canadian applicants to avoid the perception that immigrants are being given advantages over Canadian citizens. If climatic change leads to significant degradation in other agricultural regions, there may be opportunities to simultaneously secure highly skilled agricultural labour and management for the sector and provide humanitarian relief. This clearinghouse function should be initiated in the very near future, given the likelihood of a potential labour shortage and challenges of industry succession over the next decade.

5.0 Summary and Conclusions

The terms of reference presented to the Nova Scotia Agricultural Land Review Committee by the Ministers of Agriculture and Service Nova Scotia and Municipal Relations included four areas of interest that were to be addressed in the final report (Appendix A). The recommendations discussed in detail in this Section of the report are grouped below under the appropriate headings. This summary identifies the areas of interest and the specific recommendations that address them.

1) Any changes that should be made to existing legislation, policies and programs to ensure fair treatment for all.

This issue is addressed by recommendations:

Recommendation 4.1.2: The cost of preserving agricultural land should not be borne only by the farm community. Preservation of the capacity to grow food and support the rural economy benefits Nova Scotia in general and those who benefit should share in the cost of protecting agricultural land.

2) The adoption of any new initiatives to preserve agriculture land including a determination if any geographical areas or types of soil should be subject to special consideration.

This issue is addressed by recommendations:

Recommendation 4.1.1: Provincial action to preserve and protect agricultural land should be enacted as soon as possible. While some initiatives will necessarily take longer to develop due to funding realities and structural and regulatory requirements, delay will not only result in the loss of valuable agricultural resources but will also raise the final cost to the public.

Recommendation 4.3.1: The Province should immediately conduct a full scan of all information related to agricultural land use that is available from federal, provincial and municipal sources, prepare a comprehensive database of this information, identify information gaps and take steps to rectify those gaps.

Recommendation 4.4.1: The Province of Nova Scotia should take immediate steps to preserve the existing agricultural land base because of the significant cost and significant time requirements associated with recovery of non-producing agricultural land.

- a. All class two and three agricultural soils and cleared class four agricultural soils, as defined in the Canada Land Inventory for Agriculture, should be designated for conservation.
- b. The removal and sale of topsoil on any Class 2 to 4 agricultural lands should be prohibited.
- c. Agricultural land tax exemptions and the grants in lieu of taxation of agricultural land should be suspended on all agricultural lands not being actively used.

- d. The 20% change of use tax should be tightened up so that there is no way to avoid triggering through manipulation of the present system. Tax funds thus generated could be used to support compensation for the loss of development opportunities or outright land purchases through a land trust.
- e. Provincial law to allow for the purchase of agricultural conservation easements should be enacted.
- f. The Province should create tax incentives for charitable donations to bona fide Land Trusts.
- g. The Province should emphasize programs to support development of agricultural biomass energy systems to both support farm economic activity but also to maintain the present land base as productive farmland.
- h. All Provincial programs of substantial value to the agricultural community such as land clearing, drainage, large-scale soil amendment expenditures, fencing, infrastructure assistance, and advantaged financing should have a condition attached that the Province will recover such public investments if the property leaves the sector.
- i. Lands acquired by the Farm Loan Board through business failure will have an agricultural conservation easement attached that runs with the land on resale.

Recommendation 4.4.2: Measures should be taken as soon as possible to strengthen and maintain dyke land defences.

Recommendation 4.4.3: The Province should take immediate steps to develop a comprehensive soil health improvement program to address the reduction in soil productivity to improve and preserve the natural capital for today and for future agricultural endeavours.

Recommendation 4.5.1: The Nova Scotia government must take all steps possible, including dedicating the necessary financial and human resources, to support and stimulate a return to profitability to all sectors of the agricultural industry.

3) The role of municipalities and non governmental organizations in the preservation of agriculture land.

This issue is addressed by recommendations:

Recommendation 4.2.1: The Province should amend and expand the Statement of Provincial Interest (SPI) as it relates to agricultural land to delineate clear parameters for the identification, protection and preservation of farmland and define minimum steps that municipalities must follow to protect agricultural land.

Recommendation 4.2.2: The Province of Nova Scotia should enact legislation to remove the responsibility for the conservation and/or preservation of agricultural land from any municipality without a municipal plan, or with a municipal plan that does not address the conservation of agricultural lands within the entirety of its jurisdiction, and have it instead reside with the Province, until such a time as the municipality can develop a plan

addressing the preceding and have it approved by the Province.

4) Advice as to whether steps regarding public education and public land preservation should be taken.

This issue is addressed by recommendations:

Recommendation 4.1.3: The Province should develop an overall strategy for conserving its vital natural capital including forest lands, agricultural lands, aquifer recharge areas, the coastal zone, areas of high tourist and recreational potential, wildlife habitat, and areas with high-value mining potential. It should be based on a thoroughgoing analysis of future need and not the relative popularity of the resource in question in the public mind.

Recommendation 4.1.4: The Provincial Government is the owner of a significant amount of land of good agricultural quality. That land should be clearly identified and managed in a method such that it is preserved for potential agricultural use. The Province should bind any future contracting parties on its Crown forest lands to allow agricultural development post tree harvest at the Crown's discretion.

The Committee believes that this report and recommendations achieve its mandate as stated in the terms of reference to:

“ ... provide advice to the Ministers of Agriculture and Service Nova Scotia and Municipal Relations on what steps should be taken and what processes should be put into place regarding the preservation of agriculture land to fairly represent the interests of all Nova Scotians. The committee will determine if adequate protection for agriculture land already exists without taking special measures or if there is a need to further protect land in Nova Scotia.”

Some of the Committee's recommendations can be enacted more immediately than others. Some recommendations require new or amended provincial acts and regulations and will take longer to adopt, while others need more effective application of existing legislation and regulations, and use of existing resources and information and can be enacted fairly quickly. The following sections identify recommendations that, in the Committee's opinion, can be enacted with relatively little delay and those that will take longer to bring to fruition. This distribution by timelines does not mean that recommendations that will take longer to enact can be delayed – the Committee urges the provincial government to immediately begin the process to develop all recommendations in this report. The distribution is designed to identify the relative length of time that should be required to complete the actions associated with the recommendations.

The components of Recommendation 4.4.1 on industry profitability are included in the following discussion and the umbrella recommendation (4.4.1) is excluded.

5.1 Foundational Recommendations

Foundational recommendations are those that state an overarching objective and general policy to meet that goal. The Committee considers its first two recommendations as forming the foundation upon which an effective and fair agricultural land use policy can be built.

Recommendation 4.1.1: Provincial action to preserve and protect agricultural land should be enacted as soon as possible. While some initiatives will necessarily take longer to develop due to funding realities and structural and regulatory requirements, delay will not only result in the loss of valuable agricultural resources but will also raise the final cost to the public.

This recommendation addresses the issue of the need to protect and preserve agricultural land as a necessary step to maintaining the province's capacity to produce food and fibre and the economic and other benefits the agricultural industry brings to Nova Scotia.

Recommendation 4.1.2: The cost of preserving agricultural land should not be borne only by the farm community. Preservation of the capacity to grow food and support the rural economy benefits Nova Scotia in general and those who benefit should share in the cost of protecting agricultural land.

This recommendation goes to the concept of fairness in that all those that benefit from Nova Scotia agriculture and its continuation contribute to the preservation of an agricultural asset that, once lost, is either very expensive or impossible to get back.

5.2 Short Timeline Recommendations

Short timeline recommendations are those that the Committee believes can be adopted, in whole or in part, soon without significant investment, changes to legislation or creation of new infrastructure, although dedication of some resources will be necessary.

Recommendation 4.1.4: The Provincial Government is the owner of a significant amount of land of good agricultural quality. That land should be clearly identified and managed in a method such that it is preserved for potential agricultural use. The Province should bind any future contracting parties on its Crown forest lands to allow agricultural development post tree harvest at the Crown's discretion.

This step will provide the province with an agricultural land buffer in the event that more farmland is needed to meet increasing demand that cannot be met with privately owned land. This recommendation is not designed to relieve the pressures and issues related to agricultural zoning and industry preservation as the cost to replace existing or easily maintained agricultural land with forested land is extremely expensive.

Recommendation 4.4.1.a: All class two and three agricultural soils and cleared class four agricultural soils, as defined in the Canada Land Inventory for Agriculture, should be designated for conservation.

This recommendation addresses the preservation of Nova Scotia's best farmland and is integral to maintaining an agricultural industry. Information gathered for this study indicates that the best farmland is already in, or adjacent to, land in agricultural production and is also under significant development pressure. Delay will only lead to the loss of more agricultural capacity.

Recommendation 4.4.1.b: The removal and sale of topsoil on any Class 2 to 4 agricultural lands should be prohibited.

Topsoil removal depletes the soil and immediately makes it useless for crop production. This issue can most likely be dealt with under existing legislation.

Recommendation 4.4.1.d: The 20% change of use tax should be tightened up so that there is no way to avoid triggering through manipulation of the present system. Tax funds thus generated could be used to support compensation for the loss of development opportunities or outright land purchases through a land trust.

The issues of the ineffectiveness of the change of use tax appear to be in how the law is applied and the resources dedicated to collecting the tax. Data is available to determine the extent and cost to the province of failure to collect the change of use tax. This issue can be dealt with through management changes within existing resources.

Recommendation 4.4.1.g: The Province should emphasize programs to support development of agricultural biomass energy systems to both support farm economic activity but also to maintain the present land base as productive farmland.

Farmland is being abandoned on a regular basis because of the lack of profitable alternatives for its use. The Committee believes that the Province has the resources and authority to develop and support energy biomass systems and should make every effort to accelerate its development.

Recommendation 4.4.1.h: All Provincial programs of substantial value to the agricultural community such as land clearing, drainage, large-scale soil amendment expenditures, fencing, infrastructure assistance, and advantaged financing should have a condition attached that the Province will recover such public investments if the property leaves the sector.

The Committee was advised that the authority to recover this public investment is already included in existing programs but that a system has not been enacted to effectively record and manage recovery. Enacting this recommendation consists of determining and creating an effective means to track the investment and changes to land use.

Recommendation 4.4.1.i: Lands acquired by the Farm Loan Board through repossession will have an agricultural conservation easement attached that runs with the land on resale.

The Farm Loan Board presently secures most of its lending with an Agreement of Sale over property that provides it with quasi or effective ownership of the land. The Committee believes that this should make it relatively easy to enact this legislation.

5.3 Intermediate Timeline Recommendations

Recommendations in this category are those that will take more time to investigate, develop, fund and/or create or amend legislation.

Recommendation 4.2.1: The Province should amend and expand the Statement of Provincial Interest (SPI) as it relates to agricultural land to delineate clear parameters for the identification, protection and preservation of farmland and define minimum steps that municipalities must follow to protect agricultural land.

This recommendation requires a careful review and assessment of the requirements for an effective Statement of Provincial Interest relating to agricultural land. As noted previously, planning expertise within government to support the development and maintenance of the SPI is also needed. Also, it is reasonable that the Province seek input from Municipal Governments to ensure that the amended SPI does not place overly onerous requirements on their resources. This process will take some time.

Recommendation 4.2.2: The Province of Nova Scotia should enact legislation to remove the responsibility for the conservation and/or preservation of agricultural land from any municipality without a municipal plan, or with a municipal plan that does not address the conservation of agricultural lands within the entirety of its jurisdiction, and have it instead reside with the Province, until such a time as the municipality can develop a plan addressing the preceding and have it approved by the Province.

The Committee believes that this recommendation is one of the most important and should be achieved as soon as possible; however, it may take new or amended legislation to achieve.

Recommendation 4.3.1: The Province should immediately conduct a full scan of all information related to agricultural land use that is available from federal, provincial and municipal sources, prepare a comprehensive database of this information, identify information gaps and take steps to rectify those gaps.

This recommendation will take some time to complete as, even though much of the information is available, it rests with different levels of government and other sources that will have to be brought into the process.

Recommendation 4.4.1.c: Agricultural land tax exemptions and the grants in lieu of taxation of agricultural land should be suspended on all agricultural lands not being actively used.

The effective application of tax exemptions or penalties for the non-use of agricultural land must be based on information that will have to be defined and collected, which will take time and resources. The Committee envisages a new, improved ALIP as the base that can then be maintained with other tools, but time and resources will have to be dedicated to designing and completing the new ALIP and tools for subsequent management of the land information.

Recommendation 4.4.1.e: Provincial law to allow for the purchase of agricultural conservation easements should be enacted.

This step will require either a new/amended law or determination that existing legislation presently provides authority to enact this recommendation. It has been included in the “Intermediate” group on the assumption, hopefully wrong, that legislation will be necessary.

Recommendation 4.4.1.f: The Province should create tax incentives for charitable donations to bona fide Land Trusts.

While there is significant comparative legislation in other jurisdictions, comparable situations will have to be reviewed and Nova Scotia legislation enacted.

Recommendation 4.4.3: The Province should take immediate steps to develop a comprehensive soil health improvement program to address the reduction in soil productivity to improve and preserve the natural capital for today and for future agricultural endeavours.

As with some other recommendations, it will take time to develop this program so that it is comprehensive and effective, and to negotiate cost-shared funding with the Federal Government under existing programs.

Recommendation 4.5.1: The Nova Scotia government must take all steps possible, including dedicating the necessary financial and human resources, to support and stimulate a return to profitability to all sectors of the agricultural industry.

The Committee recognizes that the Nova Scotia Department of Agriculture and Province of Nova Scotia have, and continue to develop, programs to support industry profitability. This recommendation is to provide the government with incentive and ideas in its ongoing efforts and it is the Committee’s hope that success will be achieved quickly.

5.4 Long Timeline Recommendations

These recommendations, because of their complexity or the number of interests involved, are expected to take longer to bring to fruition; however, it is important that the Province begin work on them very soon. The length of time necessary to achieve their goals does not make them less important than other recommendations.

Recommendation 4.1.3: The Province should develop an overall strategy for conserving its vital natural capital including forest lands, agricultural lands, aquifer recharge areas, the coastal zone, areas of high tourist and recreational potential, wildlife habitat, and areas with high-value mining potential. It should be based on a thoroughgoing analysis of future need and not the relative popularity of the resource in question in the public mind.

Development of an overall strategy for conserving all of our vital natural resources is complicated and involves many issues and interests. The results of this process will have repercussions on many generations to come and a project of such importance cannot be rushed.

Recommendation 4.4.2: Measures should be taken as soon as possible to strengthen and maintain dyke land defences.

While several jurisdictions have an interest in, or responsibility for, dyke land or the dykes that preserve that land, the impact of the failure of the system of dykes in Nova Scotia will be felt most within our province. For this reason, it is incumbent upon the Provincial Government to take the lead in bringing all the players together to begin development of a comprehensive, and probably costly, program to protect the many assets, resources and communities that depend on the dyke system for protection. The Committee recognizes that this process will take some time, but an aggressive start must be made now.

Appendix A – Terms of Reference



Agriculture
Office of the Minister

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January 14, 2010

Mr. Rick Williams
Chair, Agricultural Land Review Committee
2186 West River Road
RR#3 Saltsprings, NS
B0K 1P0

Dear Mr. Williams:

The final Terms of Reference for the Agricultural Land Review Committee as agreed to by the Minister of Agriculture and the Minister of Service Nova Scotia and Municipal Relations are attached. These Terms of Reference highlight the mandate, scope and time frame for the committee's work in addition to reporting requirements and dates.

We want to thank you and your fellow committee members for undertaking this important work on behalf of the Province of Nova Scotia and all Nova Scotians. Best of luck with the consultation sessions and we look forward to receiving your complete report.

Yours sincerely,

A handwritten signature in cursive script, reading 'John MacDonell'.

John MacDonell,
Minister of Agriculture

A handwritten signature in cursive script, reading 'Ramona Jennex'.

Ramona Jennex,
Minister of Service Nova Scotia
and Municipal Relations

TERMS OF REFERENCE AGRICULTURAL LAND REVIEW COMMITTEE

BACKGROUND

Nova Scotia has limited amounts of agriculture land. The 2006 Census of Agriculture reported that there was 181,915 hectares of farmland in crops at that time. This is located in various areas across the Province. Concentrations of land are found in the Annapolis Valley Region, the Musquodoboit, Shubenacadie, and Stewiacke Valleys, the North Shore of the Province, Antigonish County, portions of Cape Breton Island and Lunenburg County, with smaller pockets scattered throughout the Province.

The land base is under pressure from a number of competing uses including building lots and recreational pursuits. This is not surprising given that agricultural land is cleared, easy to build on and often located close to built up centers, many of which were originally settled to service the agriculture community.

The Province has taken a number of initiatives to help preserve agriculture land. For example, farmland is exempt from municipal taxation; this provides an incentive to keep land in production. The Province pays a grant to municipalities to assist with the costs associated with this policy. It also has in place a statement of provincial interest found in the Municipal Government Act that requires municipalities to adopt measures to preserve agricultural land when carrying out land use planning exercises. The Department of Agriculture has a number of programs in place to assist farmers and help make farming more viable and help attract new farmers to the industry.

At the same time a debate is underway both within the agriculture community and outside of it, as to what the long term future of the agriculture land base should be. Questions have been raised as to whether all prime agriculture land (Canada Land Inventory Class 2-4) should be preserved; how much land is actually needed for our food security; whether farmers should have the right to sell their land for whatever purpose makes economic sense; whether land uses that are incompatible with agriculture (e.g., private homes, hospitals, day cares etc.) should be restricted from agricultural areas and the role society as a whole should play in any exercise to preserve land.

To help address these issues an Agriculture Land Review Committee with members appointed by the Province of Nova Scotia will be created. Members will have a background in or

understanding of agricultural issues.

MANDATE

The general mandate of the Agriculture Land Review Committee is to provide advice to the Ministers of Agriculture and Service Nova Scotia and Municipal Relations on what steps should be taken and what processes should be put into place regarding the preservation of agriculture land to fairly represent the interests of all Nova Scotians. The committee will determine if adequate protection for agriculture land already exists without taking special measures or if there is a need to further protect land in Nova Scotia. Specifically, the Committee will:

- **Take the lead in ensuring a consultation document is prepared by NSDA staff, review drafts and approve the final document and its distribution. The document and/or public information provided may include the following:**
 - Review current, and historical trends, in NS agricultural land use
 - Review policy and programs in Canada and other jurisdictions for the preservation of land and their potential applicability to Nova Scotia;
 - Review existing policies, programs and legislation in Nova Scotia to determine their effectiveness in preserving land and what issues, if any, these may be creating for the agriculture community and other land owners;
 - Review barriers to preserving agriculture land including issues related to the intergenerational transfer of land;
 - Review the effects of fragmentation or conversion of agriculture land to other uses on remaining agricultural operations such as creating land use conflicts or increases in agricultural land costs;
- **Establish a process of public consultation which will include a variety of means to obtain public input, including:**
 - A request for written submissions from the public and holding a minimum of six public forums to hear oral submissions on issues related to the preservation of agriculture land; and
 - Consultations with the Nova Scotia Federation of Agriculture, the Union of Nova Scotia Municipalities, the Aboriginal community, and Municipal Planners (Kings, E. Hants, etc.)
- **Prepare a final report based on information gathered in the public consultation process and exploring issues identified that affect land use planning. The report will identify areas of interest to the public that may require action by the Province of Nova Scotia**

regarding agriculture land in the future including:

- Any changes that should be made to existing legislation, policies and programs to ensure fair treatment for all;
- The adoption of any new initiatives to preserve agriculture land including a determination if any geographical areas or types of soil should be subject to special consideration;
- The role of municipalities and non governmental organizations in the preservation of agriculture land; and
- Advice as to whether steps regarding public education and public land preservation should be taken.

TIME FRAME

The Committee will be appointed and begin its work in December 2009 and will conclude by June 2010. The Committee will meet as needed throughout the process.

SUPPORT

The Committee will be supported by the internal working group on agricultural land chaired by the Department of Agriculture. This group will assist with research and provide background information to the Committee where possible.

Administrative support (meeting facilities, conference calls, minutes, etc.) to the Committee will be supplied by the Department of Agriculture.

REPORTING

The Committee will report to the Minister of Agriculture as follows:

- Discussion document and PowerPoint presentation will be submitted in January 2010.
- An interim report on progress to date at the end of the consultation process (written submissions and public meetings) in March 2010, and
- Submit the Committee's final report in June 2010.

BUDGET

The Budget for the Committee will be up to \$100,000.

Appendix B – Background Document - English



Is Nova Scotia Running Out of Agricultural Land?

Discussion Paper by Agricultural Land Review Committee

2010

Is Nova Scotia Running Out of Agricultural Land?

Discussion Paper by Agricultural Land Review Committee

Is Nova Scotia running out of agricultural land? Is this another stomach-churning crisis we have to face along with peak oil, a sagging world economy, the threat of climate change, a destroyed cod fishery, famine in Africa, world water woes, the threat of nuclear war? The list goes on.

On the face of it, the answer is no. Nova Scotia is well endowed with decent agricultural land, being a little over 29 percent¹ of our total land area, as defined by the Canada Land Inventory (CLI) for Agriculture. In the 1970s and '80s, the Federal Government rated the land in each province on a scale from Class 1 to Class 7 for its agricultural potential, with Class 1 being the very best. Nova Scotia has no Class 1 land, but almost 1.62 million hectares in Classes 2, 3, and 4. This is out of a total provincial area of about 5.55 million hectares. So given the vastness of our agricultural resource, we're okay, right?

Well, maybe not quite as okay as we might hope. While the CLI tells us how many thousands of acres we have, it does not mention how much of that resource is in agricultural production. Much of what was once cleared for farming has reverted to forests. It turns out only 181,915² hectares are actually still active, producing food and fibre for our needs. This area divided by our population amounts to 0.19 hectares per person or 0.76 hectares per family of four.³ That's a piece of ground almost equal to five NHL hockey rinks side by side.⁴ Certainly enough to raise most of the fruits and vegetables a family could need. But then add to that enough land to satisfy that family's share of the:

*Grain to produce the bread and cereals they eat;
Grain to produce the chicken and turkey they eat;
Grain to produce the pork they eat;
Pasture, hay, and grain to produce the beef and lamb they eat;
Pasture, hay, and grain to produce the milk they drink.*

Further compounding the situation is that the same piece of ground shouldn't be used over and over again to grow cultivated crops, due to the threat of erosion, compaction, nutrient depletion and loss of soil structure. It should be rotated to other crops. In the long run you'll need at least three times your fruit and vegetable garden area to maintain healthy soil. This could increase the amount of land needed per person or family.

From this, most people would instinctively see that the land base may be starting to look a little shy of their needs.

There's another potential problem. Nova Scotia has about 17,400 hectares of dykeland⁵. This is land created from former salt marshes and is some of the most productive agricultural land that we have. Its disadvantage is that, at the best of times, high tides are only a few feet below the top of the dykes holding back the seawater from these lands. One humdinger of a hurricane

could put almost 10 percent of our best remaining agricultural land under saltwater. If a hurricane didn't do it, a projected rise in sea levels due to climate change might, and failing that there's always the sinking of our coastline due to leveling of the land started by the melting of the last ice age glaciers.

If we're going to lose 10 percent to flooding, maybe we can clear some of that potential agricultural land currently under forest? The forestry people may take a dim view of that, however. Some experts feel that Nova Scotia forests are already either near, or over, long term sustainable harvesting levels. Our forest lands also need to continue providing the very useful functions of conserving water, providing wildlife habitat, recreational opportunities, as well as lumber and pulp, and may well be called on to produce biomass in the future. Even if the forested land were not already a productive part of our environment, the cost to clear large amounts of it for agriculture may not be affordable, due to the high cost of machinery operations, lime, and fertilizer

to bring the land into production. Estimates to bring forested land into production range from about \$4,000 to \$5,000 per hectare, depending on the amount of rocks and tree stumps to be removed. Drainage raises the cost to about \$8,000 per hectare.⁶

According to Canadian census figures, cleared farmland has declined steadily since at least 1901. In essence there are three main pressures helping reduce our agricultural land base: development, abandonment, and, less obvious, depletion of land quality.

Development

Much attention has been given in recent years to good agricultural land and land with good agricultural potential that has been lost to housing or other forms of urban and suburban development. Indeed, between 1951 and 2001 Canada lost 16,100 square kilometers, an area almost equal to three Prince Edward Islands, to urban and rural built up areas, transportation and utilities.^{7,8} In some respects, Nova Scotia

has been fortunate that much of the urban development has taken place on lands in the Halifax-Dartmouth area, which is not generally well suited to farming. Compare this with Toronto and the surrounding urban region, much of it on Class 1 soils.

Development reduces our supply of agricultural lands in two ways: physical occupancy, and effects on nearby land. A house and a yard do not take up a huge amount of land by themselves, but the pattern, when repeated endlessly in housing developments, along with the streets and other services necessary to service them, takes its toll. A different threat to agricultural land arises from scattershot development all through the countryside. A house here and there won't use up much land, but does tend to restrain the activities on large amounts of surrounding farmland. Newcomers to rural areas often won't tolerate machinery or livestock noise early in the morning or late at night, or the smell of freshly spread manure, or the use of various agricultural chemicals

or pesticides. This effectively “quarantines” a much larger area of land for agricultural use than the simple amount occupied by house and yard. “Right to farm” legislation is supposed to protect farmers from harassment in these circumstances, but when the number of non-farm dwellings reaches a critical, political mass, the continued ability to farm these lands may be overridden by legislated response. There are always greater numbers of homeowners than farmers, and politicians pay attention to the numbers.

Abandonment

While non-farm development of agricultural land is a serious issue, abandonment also poses a great threat to our land base. Former agricultural lands have been steadily returning to forest, over the last century. While some of those lands probably should not have been cleared in the first place, others are returning to bush because much of the farm sector has not been profitable for a number of years.⁹ Reasons for this include technological advances, more open trade, and reduced

competition in the domestic food retailing and processing sectors, among others. Significant advances in machinery, plant and animal genetics, and increased energy use per acre in the form of relatively low cost fuel, fertilizer, pesticides and herbicides helped make Canada a net exporter of grains, pork, and beef, among other commodities. We produce more of these products than we can eat ourselves. This strategy works fine while export markets are open and willing to pay for our products, but when they aren't, product piles up locally, farm prices plummet, and farmers are forced to give up their farms. The BSE scare of a few years ago nearly destroyed the Nova Scotia and Canadian beef industry, when export markets were closed. The effects of a high Canadian dollar and public fears over “swine flu” have effectively eliminated Nova Scotia's swine industry, and severely damaged Canada's.

Another contributor to the profitability problem is the excessive competition Nova Scotia farmers face with imported goods. More

open trade has allowed Canada to export its domestic surpluses, but the flip side is also true. Countries with cheaper production and labour costs have benefited from low transportation costs (until very recently) and gained increased access to our markets. Not all commodities in Nova Scotia can compete. Grocery chains can source these imported foods, which are often heavily subsidized by the producer's government, from all over the planet when price and quality allow. Local farms, particularly small ones, are often unable to assemble sufficient production to sell to more distant, and occasionally more profitable, markets. In fact, some Canadian retail chains will only accept locally produced food if the volume is large enough to supply all their stores in the region. It should be noted, however, that a number of Nova Scotia farming operations have successfully scaled up to meet these grocery chain distribution requirements.

In essence, grocery chains have the world from which to draw their produce, while many

local farmers are limited to selling to a few national chains, which are in no great hurry to see who can pay the farmer the most. This is not to say retail chains should necessarily be faulted for their behaviour. Shareholders demand that corporations return as much profit as the market will bear. Reduced corporate competition in recent years has increased the market clout of remaining food retailers, and their ability to take a greater share of the food dollar. Farmers can try to sell directly to the public to get a better price for their products, and a growing number of Nova Scotia farmers are successfully doing that. It must be recognized, however, that this is a different job from farming and has its own time and skill requirements to develop and maintain direct marketing opportunities.

Depletion

There is another serious loss of land, one which is less obvious to the public. This is the loss of land quality and productivity. This can take the form of soil erosion and compaction and also result from a failure to resupply the

land with nutrients that have been extracted and shipped away in the form of food and fibre. Long term cropping will deplete land of vital nutrients and unless these nutrients are returned from the cities, or new sources are mined and spread on the land, its productive capacity will decline. Nova Scotia soils have become increasingly poorer over the last ¹⁰ years, as many farmers attempt to maintain income by reducing crop expenses like lime and fertilizer. Farmers are effectively taking loans from the soil bank, but the loans aren't getting paid back. One vital soil nutrient, phosphorous, is thought to be in short supply worldwide, with minable fertilizer reserves limited to a few decades. This calls into question the long term viability of an export-based agriculture system, where nutrients essential to the continuation of the industry are being exported along with the food, never to be returned to our soils. However, a similar criticism could be leveled in our own country and province, where nutrients rarely return from the cities to the land, because of the "ick" factor and public concerns about

contamination and disease.

These are some of the forces causing farmers to cease production and let their land go back to bush or be sold for development. Consumers will argue that the current system delivers low cost food reliably, so why fix something that's working for you.¹⁰ And it's true, Canada's population pays one of the lowest dollar amounts for food, as a percentage of disposable income, of any country in the world.¹¹ This extra disposable income has then worked its way into increased spending for a variety of other goods, from consumer electronics to automobiles to housing prices, as a consequence. Beneficiaries of this transfer of wealth are probably not going to line up to push for changes which result in lower disposable income to themselves, and the beneficiaries are nearly all of us.

So What?

Should we try to produce food here, if it's cheaper, and available, elsewhere? Maybe not, as long as:

- we could be sure that transportation costs from other agricultural regions would never rise sharply;
- other major agricultural areas wouldn't experience drought, disease, or warfare, thereby reducing or cutting off supplies;
- other major agricultural areas didn't have their production bought out, or their producing lands sold to countries short of land themselves but with the money to outbid us for the resources;
- rising energy costs did not threaten to increase our land requirements to produce the same amount of food;
- increased energy costs did not require a certain percentage of agricultural land for biomass production

Questions

Keeping the above information in mind, please consider the following:

- Is there an agricultural land issue in Nova Scotia?
- Should we do something about it?
- What should we do about it?
- If this involves public expenditures, are we willing to pay for it?
- If good agricultural lands are considered of value to all Nova Scotians, should their preservation be the responsibility of our local municipalities or the provincial government?

The next section examines some of the tools, policies, and legal remedies to address agricultural land use.

Options for Protecting Agricultural Land¹²

Current Policy Environment

Under the British North America Act of 1867, the provinces have the statutory power to regulate land use, as property rights are held by the Crown. Land owners technically do not own the land but are “very privileged tenants”. This is in contrast to the United States where property rights are embedded in its constitution.

Municipal governments have been given authority for land use planning in Nova Scotia, subject to provincial interest. The Province adopted five Statements of Provincial Interest (SPIs) in 1999. One of these statements relates to the protection of agricultural land. Its goal is “to protect agricultural land for the development of a viable and sustainable agriculture and food industry.”¹³ Municipalities, when adopting or amending a municipal plan,

must follow the SPI set out by the provincial government. In the case of the agriculture SPI, planning documents are subject to provincial review if lands in farming or with agricultural potential (CLI Classes 2, 3, and 4) are affected.

In terms of agricultural land protection, the shortcoming of the SPI is that not all municipalities have plans that would trigger a provincial review, such as a municipal plan that only dealt with the protection of a water supply, or the location of wind turbines. Also some municipal plans do not apply to the entire municipality. That means that the SPIs do not cover all areas of the province where good agricultural land can be found.

A second policy which provides an incentive to keep land in agriculture is a tax exemption. Farmland in Nova Scotia is exempt from property taxes as long as the land remains in agricultural production. The Province reimburses municipalities for the forgone tax revenues. This exemption

applies only to the farmland, not the buildings on the property. If and when agricultural land is converted to other uses, it is taxed at 20 percent of the assessed value.

In some cases, municipalities have developed agricultural land protection policies. The municipalities of Kings, East Hants, West Hants and parts of Halifax County have established agricultural land use zones where the intended use of the land is agriculture, and where other forms of development are limited.

Policy Options

Governments have a number of policy options available to influence how agricultural land is used. These policies have varying degrees of government intervention ranging from a hands-off approach, where land use decisions are determined by individual property owners under free market conditions, to land use restrictions imposed by the Crown. Each

option along the spectrum will vary in terms of cost to taxpayers, political acceptability, and effectiveness in protecting land from non-agricultural development. For example, while the free market decisions pose no direct costs to government, significant amounts of land may be lost from agricultural production for generations. On the other hand, strict government controls would keep land available for agriculture but could be prohibitively costly and might have little public support.

The following are examples of policy options used in other areas around the world to protect agricultural land from development:

Profitable Agriculture

The ideal situation is for agriculture to be the most profitable use of the land without need for government assistance. A less ideal case is when agriculture must rely on government policy to be profitable.

Pros

- No costs to government in the ideal situation (agriculture that is profitable on its own);
- No policy decisions for government;
- Effective in keeping land in agriculture.

Cons

- Substantial cost to government when agriculture is profitable only through government policies;
- Even profitable agriculture may not be able to match the bids from non-agricultural sectors.

Conservation Easements (CEs)—Sale or Donation of Development Rights

A parcel of land may have a number of potential values, depending on its use. For example, land may have agricultural value, but also value for residential or commercial development. A conservation easement recognizes that the land may

have development potential and allows for the non-agricultural, development values to be purchased by, or donated to, a conservation easement group. Alternatively, the development rights may be exchanged for government cash or a tax credit. After the non-agricultural rights are sold, the land cannot be developed for any use other than agriculture. This process is similar to what Ducks Unlimited does to preserve wetlands.

Pros

- There may be no or little cost to government if use rights are donated by landholder or purchased by a non-governmental organization;
- The land is protected from other forms of development;
- Decisions are voluntary.

Cons

- If government is the purchaser of the use rights, there can be substantial cost to taxpayers;
- Where government is not involved,

effectiveness in protecting agricultural land can be variable, as it is largely dependent on the existence of a private group, like Ducks Unlimited, that is willing and able to make the purchase.

Transfer of Development Credits (TDCs)

This strategy is similar to conservation easements in that non-agricultural use rights are removed from a parcel of land. In a TDC, a developer or government purchases these rights from the farmer. In return, the developer is allowed to build a greater number of houses, dwellings, apartments, etc., a process known as a “density bonus”, on another parcel of land which he owns. For example, a developer might be allowed to put up an apartment complex, instead of single family homes, on another property.

Pros

- No cost to government if TDCs are sold and purchased in the private sector;
- Voluntary transactions – private property rights are not infringed upon;
- Denser development reduces pressure on agricultural land and allows for more efficient provision of municipal services.

Cons

- If government is the purchaser of the development rights, there can be substantial cost to taxpayers;
- Effectiveness in protecting agricultural land can be variable, as success partly depends on a lively housing market, with demand for new construction;
- It is somewhat complicated as a policy tool.

Tax Policy Tools

Differential tax assessment is a common tool and already in use in Nova Scotia through the tax exemption for farmland, discussed earlier. Other jurisdictions have

imposed specific tax rules on the transfer or sale of agricultural resources to provide incentives to keep land in agriculture. The State of Vermont increases capital gains taxes (taxes on an increase in property value over time) on land held for less than six years. This is done to reduce land speculation, keep land costs down; and reduce subdivision. Estate taxes in Connecticut are reduced on agricultural land if the land is kept in farming for ten years.

Pros

- Provides a financial incentive to keep land in agriculture.

Cons

- Perceived or actual loss of tax revenues for government;
- No guarantee that land will stay in agriculture past the date restrictions.

Mitigation Ordinances

The City of Davis, California allows

developers to purchase agricultural land for other forms of development, but requires that two acres of additional agricultural land be protected for every one removed. The additional land is protected via conservation easements. A further requirement is that the protected land be adjacent to the land being developed.

Pros

- Little or no cost to government as transactions occur in the private sector;
- Property rights are maintained;
- Requirement that protected land be adjacent results in a defined boundary between urban and rural areas (no cookie cutter development);
- Successful in protecting a significant percentage of farmland.

Cons

- May drive up land values and conservation easement values and deter non-agricultural development in an area.

Agricultural Land Zoning

This is a common policy tool which limits the use of land for non-agricultural purposes through regulation.

Pros

- Cost to government is mostly administrative;
- Effective in protecting agricultural land as long as zoning regulations remain strict.

Cons

- Impacts ability to use private land as desired by the landowner;
- Limits non-agricultural development in these areas;
- Political pressure to change/eliminate zones undermines the ability to protect farmland.

Security Areas

These are areas of agricultural land where the “right to farm” is recognized and/or enhanced. They may provide protection

from non-agricultural development, and are often initiated voluntarily by a group of farmers with sufficient land holdings.

Pros

- No infringement on property rights;
- Protects agriculture from nuisance complaints;
- Little to no cost.

Cons

- Questionable ability to protect agricultural land over the long term.

Government Purchase of Agricultural Land

By purchasing agricultural land, government can ensure the land stays in the industry. Government can make it available to farmers through agricultural leases or by attaching conservation easements that remove non-agricultural development options at time of resale.

Pros

- Agricultural land is removed from development pressures;
- Can be sold/leased to farmers at a discount;
- Land owners are compensated for the value of their land.

Cons

- High government cost;
- Compensation to land holders may be a point of contention.

The policy options described above have been used in various forms and in different combinations in many parts of the world. While not exhaustive, these options provide a brief introduction to some of the tools available.

Endnotes

- 1 Statistics Canada, Environment Accounts and Statistics Division; Government of Canada, Canada Land Inventory
- 2 Statistics Canada, Agricultural Division, Truro, NS, 2010
- 3 (181,915 ha /938,183 people), Statistics Canada, *Quarterly Demographic Estimates*, July— September 2009
- 4 $((200 \text{ ft} \times 85 \text{ ft} / 43560 \text{ ft}^2/\text{acre})) / 2.47 \text{ ha}/\text{acre} = .158 \text{ ha}$; $(.76 \text{ ha} / .158 \text{ ha}) = 4.81$ NHL hockey rinks
- 5 S. Robinson, van Proosdij, D and Kolstee, H. , “Changes In Dykeland Practices In Agricultural Salt Marshes In Cobequid Bay, Bay Of Fundy,” *BoFEP Conference Proceedings, 2004*, p.1
- 6 L.LeBlanc, LP Consulting Ltd, 2010, personal communication
- 7 N. Hoffman, Filoso, G. & Scholfield, M. , *Rural and Small Town Canada Analysis Bulletin*, Statistics Canada, Vol. 6, No.1, January 2005, p.9, Table 2
- 8 $(16,100 \text{ square kilometers} / 5660 \text{ square kilometers PEI}) = 2.84$ PEIs
- 9 J. Scott, Colman, R., *The GPI Soils And Agriculture Accounts, Economic Viability Of Farms And Farm Communities In Nova Scotia And Prince Edward Island—An Update*, GPI Atlantic, 2008, pp. ii,iii
- 10 Statistics Canada, *CANSIM Table 380-0024 and special tabulation for AAFC*
- 11 OECD Database, *National Accounts Detailed Tables*, Volume 2, 1970-2003, Detailed aggregates
- 12 Section derived from: M. Devanney, Maynard, M., *A Review of Initiatives Intended to Conserve Agricultural Land*, N.S. Dept. of Agriculture, Province of Nova Scotia, 2008
- 13 Statement of Provincial Interest Regarding Agricultural Land, Municipal Government Act, 1998, c. 18, Sch. B.

Appendix C – Background Document - French



Comité d'étude des terres agricoles de la Nouvelle-Écosse
Document de travail

2010

Comité d'étude des terres agricoles de la Nouvelle-Écosse

Document de travail

Est-ce que les réserves de terres agricoles de la Nouvelle-Écosse sont en train de s'épuiser? Sommes-nous ici confrontés à une autre crise inquiétante venant s'ajouter à l'épuisement des ressources pétrolières, à la faiblesse de l'économie mondiale, à la menace du réchauffement climatique, à la destruction de l'industrie de la pêche à la morue, à la famine en Afrique, au manque d'eau sur la planète et à la menace d'une guerre nucléaire? On pourrait allonger la liste...

De prime abord, la réponse est non. La Nouvelle-Écosse est riche en terres agricoles de qualité, puisque celles-ci représentent un peu plus de 29 pour cent¹ de la superficie totale de la province, selon l'Inventaire des terres du Canada (ITC) pour l'agriculture. Dans les années 1970 et 1980, le gouvernement fédéral a classé les terres de chaque province selon une échelle de sept catégories pour ce qui est de leur potentiel agricole, la catégorie 1 représentant les terres ayant le plus grand potentiel. La Nouvelle-

Écosse n'a pas de terres de catégorie 1, mais elle a près de 1,62 millions d'hectares de terres de catégorie 2, 3 et 4, sur une superficie totale d'environ 5,55 millions d'hectares. Avec d'amples ressources agricoles comme celle-ci, nous sommes tranquilles, n'est-ce pas?

Peut-être pas autant que nous l'aimerions. L'ITC nous indique combien de milliers d'arpents de terres nous avons, mais il ne mentionne pas la proportion de ces terres qui fait l'objet à l'heure actuelle d'une production agricole. Bon nombre des terres qui ont été défrichées à une certaine époque pour l'agriculture sont redevenues des forêts. Il s'avère que la superficie des terres agricoles actuellement en activité n'est en réalité que de 181 915 hectares² et sert à la production d'aliments et de fibres pour répondre à nos besoins. Si on divise cette superficie par le nombre d'habitants de la province, on obtient un taux de 0,19 hectares par personne, soit 0,76 hectares pour une famille de quatre³. Ceci représente un terrain à peu

près équivalent à cinq pistes de hockey de la LNH mises côte à côte⁴. C'est certainement suffisant pour cultiver la majorité des fruits et des légumes dont une famille a besoin. Mais ajoutez à cela la superficie des terres dont la famille aurait besoin pour produire

es céréales pour fabriquer le pain et les céréales qu'elle consomme

les céréales pour alimenter les poulets et les dindes qu'elle consomme

les céréales pour alimenter les porcs qu'elle consomme

le pâturage, la paille et les céréales pour alimenter les bœufs et les agneaux qu'elle consomme

le pâturage, la paille et les céréales pour alimenter les vaches qui produisent le lait qu'elle consomme.

Ce qui aggrave encore la situation, c'est qu'il faut éviter d'utiliser les mêmes terres de façon répétée pour cultiver des plantes, en raison de la menace de l'érosion, du tassement, de l'appauvrissement en nutriments et de la perte de structure des sols. Il faut cultiver ces plantes en rotation avec d'autres

plantes. À long terme, il faut au moins trois fois la superficie de votre jardin de fruits et de légumes pour pouvoir s'assurer que la terre reste en bonne santé. Ceci peut faire augmenter la superficie de terres agricoles nécessaire par personne ou par famille.

À partir de là, la plupart des gens comprennent bien instinctivement que les réserves de terres agricoles de la province risquent de ne pas suffire pour subvenir à leurs besoins.

Il existe un autre problème potentiel. La Nouvelle-Écosse dispose d'environ 17 400 hectares de terres endiguées⁵. Il s'agit de terres obtenues grâce à l'assèchement d'anciens marais salants, qui font partie des terres agricoles les plus productives que nous possédions. L'inconvénient de ces terres est que, au mieux, la marée haute arrive à quelques pieds à peine en dessous du sommet des digues qui empêchent la mer d'envahir ces terres. Avec un ouragan dévastateur, ce sont jusqu'à 10 pour cent de

nos terres agricoles les plus productives qui pourraient se retrouver sous les eaux. Et si ce n'est pas un ouragan, cela pourrait être la montée du niveau des océans prévue en raison du changement climatique. Il y a aussi l'affaissement de nos côtes en raison de l'aplanissement des terres, qui a commencé après la fonte des glaciers de la dernière glaciation.

Si nous perdons 10 pour cent de nos terres endiguées en raison d'inondations, peut-être que nous pourrions défricher certaines de ces terres à potentiel agricole qui sont à l'heure actuelle redevenues des forêts? Mais les spécialistes de l'exploitation forestière ne seraient peut-être pas enchantés d'une telle nouvelle. Certains experts pensent que les forêts de la Nouvelle-Écosse se situent déjà à un niveau inférieur du niveau garantissant une récolte durable à long terme ou ne sont pas loin d'un tel niveau. Il faut aussi que nos forêts continuent à remplir leurs autres fonctions très utiles, comme la conservation de l'eau, l'offre d'un habitat pour la faune, les activités

de loisir et la production de bois de charpente et de pâte à papier. On risque aussi d'y avoir recours pour produire de la biomasse à l'avenir. Même si les terres forestières n'étaient pas déjà une composante productive de notre environnement, le coût du défrichage de grandes superficies pour l'agriculture pourrait être trop élevé, en raison du coût élevé de l'utilisation des machines, de la chaux et des engrais nécessaires pour rendre viable l'exploitation agricole. On estime que le coût de la transformation de forêts en terres agricoles productives se situe entre 4 000 et 5 000 dollars par hectare, selon la quantité de roches et de souches à enlever. L'assèchement fait monter le coût à environ 8 000 dollars par hectare⁶.

D'après les données du recensement canadien, la superficie de terres défrichées pour l'agriculture est en diminution constante depuis au moins 1901. Il existe essentiellement trois sources de pressions contribuant à réduire notre réserve de terres agricoles : la promotion immobilière,

l'abandon des terres et (facteur moins évident) la perte de qualité des terres.

La promotion immobilière

On a prêté une grande attention au cours des dernières années aux terres agricoles de bonne qualité et aux terres ayant un bon potentiel agricole qui ont été perdues en raison de la construction d'habitation ou d'autres formes de promotion immobilière en ville ou dans les banlieues. De fait, entre 1951 et 2001, le Canada a perdu 16 100 km² de terres — superficie quasiment équivalente à trois fois celle de l'Île-du-Prince-Édouard — qui ont été récupérées pour des constructions dans les régions urbaines et rurales, des infrastructures de transport ou des systèmes d'utilité publique^{7,8}. La Nouvelle-Écosse a, à certains égards, eu de la chance, dans la mesure où une bonne partie du développement urbain s'est fait dans des terres relevant de la région d'Halifax-Dartmouth, qui n'est en règle générale pas idéale pour l'exploitation agricole. Comparez cette situation à celle de

Toronto et de la région urbaine environnante, qui est composée en grande partie de terres de catégorie 1.

La promotion immobilière réduit notre réserve de terres agricoles de deux façons : occupation physique des terres et effets sur les terres adjacentes. La construction d'une maison avec une cour ne requiert pas, par elle-même, une grande superficie, mais si ce motif se reproduit indéfiniment dans des lotissements et qu'on y ajoute les rues et les autres services nécessaires, cela a un impact substantiel. Les terres agricoles sont également menacées par les constructions immobilières éparpillées un peu partout dans la campagne. Lorsqu'on construit une maison ici et là, cela ne consomme pas une grande superficie, mais cela a tendance à restreindre les activités sur de grandes superficies de terres agricoles adjacentes. Les nouveaux arrivants dans les régions rurales ont du mal à tolérer le bruit des machines agricoles ou du bétail tôt le matin ou tard le soir, l'odeur du fumier frais appliqué sur les terres ou encore

l'utilisation de divers produits chimiques ou pesticides dans l'agriculture. Cela a pour effet de mettre en « quarantaine » des terres d'une superficie bien plus élevée que la seule superficie occupée par la maison et son terrain. Les textes de loi sur le droit à l'exploitation agricole sont censés protéger les fermiers du harcèlement de leurs voisins dans de telles circonstances, mais une fois que le nombre de demeures non agricoles atteint un certain niveau critique et commence à peser sur le plan politique, il y a le risque que de nouveaux textes de loi annulent ces dispositions protégeant la capacité qu'ont les fermiers de continuer d'exploiter ces terres. Il y a toujours un plus grand nombre de propriétaires fonciers que de fermiers et ce qui compte pour les politiciens, ce sont les nombres.

L'abandon des terres

La promotion immobilière dans les terres agricoles est un problème grave, mais l'abandon des terres représente également une grande menace pour notre réserve

de terres agricoles. Les anciennes terres agricoles retournent régulièrement à l'état de forêts depuis un siècle. Certaines de ces terres n'auraient sans doute jamais dû être défrichées, mais d'autres sont envahies par les broussailles en raison du manque de rentabilité dans une bonne partie du secteur agricole depuis plusieurs années⁹. Parmi les raisons invoquées, on compte les progrès technologiques, l'ouverture des échanges internationaux et la baisse de la concurrence sur le marché intérieur de la vente au détail de produits alimentaires et de la transformation des aliments, entre autres. Les progrès importants dans la machinerie et la génétique des plantes et des animaux et l'augmentation de la consommation d'énergie par arpent de terre sous la forme de carburants relativement peu chers, d'engrais, de pesticides et d'herbicides ont contribué à faire du Canada un exportateur de céréales, de porc et de bœuf, entre autres marchandises. Nous produisons une quantité plus importante de ces produits que nous pouvons en consommer nous-mêmes.

Cette stratégie fonctionne bien lorsque les marchés à l'exportation sont ouverts et sont prêts à payer le prix pour obtenir nos produits, mais lorsque ce n'est pas le cas, les produits s'entassent dans les régions qui les produisent, les prix agricoles tombent en chute libre et les fermiers sont obligés d'abandonner leur exploitation. La crise de la vache folle d'il y a quelques années a presque détruit l'industrie du bœuf en Nouvelle-Écosse et au Canada, suite à l'arrêt des exportations. L'impact de la valeur élevée du dollar canadien et les craintes du public concernant la « grippe porcine » ont de fait éliminé l'industrie porcine en Nouvelle-Écosse et gravement affecté l'industrie porcine au Canada.

L'un des autres facteurs contribuant au problème de la rentabilité est celui de la concurrence excessive que représentent pour les fermiers néo-écossais les produits importés. L'ouverture des échanges internationaux a permis au Canada d'exporter ses excédents, mais l'inverse est également

vrai. Les pays où le coût de la production et de la main-d'œuvre est plus faible ont bénéficié du coût relativement faible du transport (jusqu'à il y a peu) et sont parvenus à pénétrer dans nos marchés intérieurs. Les marchandises néo-écossaises ne sont pas toutes en mesure de faire face à cette concurrence. Du moment que le prix et la qualité des produits le leur permettent, les chaînes d'épicerie peuvent se procurer ces aliments importés de toute la planète, qui bénéficient souvent de larges subventions des gouvernements des pays où ils sont produits. Les exploitations agricoles locales, en particulier quand elles sont de petite taille, sont souvent incapables d'assurer une production suffisamment grande pour pouvoir vendre leurs produits dans des marchés plus éloignés et parfois plus rentables. De fait, certaines chaînes de détaillants du Canada n'acceptent les aliments produits localement que si leur volume est suffisant pour approvisionner tous leurs magasins dans la région. Il convient de noter, cependant, que plusieurs exploitations agricoles de la

Nouvelle-Écosse sont parvenues à s'agrandir pour répondre aux exigences de ces distributeurs.

La situation est essentiellement la suivante : les chaînes de détaillants peuvent s'approvisionner partout dans le monde, tandis que de nombreux fermiers de la région ne peuvent vendre leurs produits qu'à une poignée de chaînes nationales, qui ne s'empressent pas particulièrement de découvrir qui pourra payer au fermier le prix le plus élevé. Ceci ne veut pas dire qu'il faut nécessairement reprocher aux chaînes de détaillants leur comportement. Les actionnaires de ces groupes exigent qu'ils dégagent des bénéfices aussi élevés que le marché le permet. La baisse de la concurrence entre groupes au cours des dernières années a fait augmenter l'influence sur le marché des détaillants qui restent en activité dans l'alimentation et la capacité qu'ils ont d'empocher une plus grande proportion de l'argent engendré par la vente de leurs produits. Les fermiers peuvent

certes vendre leurs produits directement au grand public afin d'obtenir un meilleur prix et le nombre de fermiers néo-écossais qui connaissent la réussite avec une telle approche est en augmentation. Mais il faut reconnaître que la vente de produits est un travail différent de celui de l'exploitation agricole, qui exige ses propres compétences et son propre investissement en temps afin de découvrir des possibilités de vente directe et de maintenir de telles filières.

L'appauvrissement des terres

La perte de qualité et de productivité des terres est un autre facteur important de perte de terres agricoles, qui n'est pas aussi visible pour le grand public. Cette perte de qualité peut être due à l'érosion et au tassement des sols, mais aussi au fait qu'on n'assure pas le réapprovisionnement des sols en nutriments après avoir extraits ces nutriments pour cultiver des aliments et des fibres. Le fait de cultiver les mêmes terres à long terme appauvrit le sol en nutriments qui sont vitaux et, si l'on ne s'efforce pas

de réapprovisionner la terre à l'aide de nutriments en provenance des villes ou en puisant des nutriments dans d'autres sources pour les répandre sur la terre, la capacité productive des terres agricoles va connaître le déclin. Les terres de la Nouvelle-Écosse s'appauvrissent de plus en plus depuis 10 ans, parce que de nombreux fermiers tentent de maintenir leurs revenus en réduisant leurs dépenses en chaux ou en engrais. Autrement dit, les fermiers sont en train d'« emprunter » à la banque que constitue la terre, sans rembourser ces emprunts en temps voulu. Les experts pensent que l'un des nutriments vitaux de la terre, le phosphore, connaît une pénurie à l'échelle planétaire et que les réserves minières d'engrais se limitent tout au plus à quelques décennies. Ceci soulève la question de la viabilité à long terme d'un système agricole axé sur l'exportation, puisque, dans un tel système, les nutriments qui sont essentiels à la survie de l'industrie sont exportés avec les produits alimentaires qu'ils ont servi à produire et ne retourneront jamais dans la terre de laquelle ils sont sortis.

Mais on pourrait faire la même critique dans notre pays ou dans notre province, car les nutriments qui partent en direction des villes reviennent rarement dans les terres des campagnes, en raison de la réaction de dégoût que provoque les activités de récupération de ces nutriments et des inquiétudes du grand public concernant les contaminations et les maladies.

Ce sont là quelques-unes des forces qui poussent les fermiers à cesser leur production et à laisser les broussailles repousser sur leurs terres ou à vendre ces terres à des promoteurs immobiliers. Les consommateurs diront que le système actuel garantit un approvisionnement fiable de produits alimentaires peu dispendieux. Alors, pour eux, la question est de savoir pourquoi essayer de réparer un système qui fonctionne bien en ce qui les concerne¹⁰. Et c'est vrai que la population canadienne est, dans le monde, l'une de celles qui paient le montant le plus faible pour leur alimentation en pourcentage du revenu disponible¹¹. Ce

revenu disponible supplémentaire débouche sur des dépenses plus élevées dans divers autres domaines, comme l'électronique, l'automobile, le logement, etc. Ceux qui bénéficient de ce transfert de richesses ne vont probablement pas s'empresse de faire adopter des changements qui feraient diminuer le revenu disponible pour ces produits — et c'est là une situation qui nous concerne quasiment tous.

Et alors?

Est-ce que nous devrions essayer de produire des aliments localement sachant que ces aliments sont disponibles ailleurs et à un prix moindre? Peut-être que non, du moment que nous avons les garanties suivantes:

- Nous sommes sûrs que le coût du transport des produits des autres régions agricoles ne va jamais augmenter brutalement.
- Les autres grandes régions agricoles ne connaîtront pas la sécheresse, la maladie ou la guerre, qui réduiraient ou interrompraient l'approvisionnement.
- Les autres grandes régions agricoles ne se font pas racheter leur production et leurs terres agricoles ne sont pas vendues à des pays qui manquent de terres agricoles, mais qui ont les fonds nécessaires pour nous devancer dans la chasse aux ressources.
- L'augmentation du prix de l'énergie ne risque pas de faire augmenter la

superficie de terres agricoles dont nous aurons besoin pour produire la même quantité d'aliments.

- L'augmentation du coût de l'énergie n'exige pas que nous réservions une certaine proportion des terres agricoles à la production de biomasse.

Questions

Veuillez maintenant examiner les questions suivantes en gardant les observations ci-dessus à l'esprit:

- Y a-t-il un problème en matière de terres agricoles en Nouvelle-Écosse?
- Est-ce que nous devrions faire quelque chose?
- Qu'est-ce que nous devrions faire?
- Si ce que nous devrions faire exige des dépenses publiques, est-ce que nous sommes prêts à engager de telles dépenses?
- Si les terres agricoles de bonne qualité sont quelque chose qui a de la valeur pour tous les Néo-Écossais, est-ce que

leur préservation devrait relever de la responsabilité de nos administrations municipales ou du gouvernement provincial?

La section qui suit examine quelques-uns des outils, des politiques et des solutions juridiques en vue de régler le problème de l'utilisation des terres agricoles.

Options pour la protection des terres agricoles¹²

Situation actuelle en matière de politiques publiques

Selon la Loi de 1867 sur l'Amérique du Nord britannique, c'est aux provinces que revient le pouvoir de réglementer l'utilisation des terres, car les droits de propriété reviennent à la Couronne. D'un point de vue purement technique, les propriétaires fonciers ne possèdent pas leurs terres. Ils en sont des « locataires très privilégiés ». Ceci est à opposer à la situation aux États-Unis,

où les droits de propriété font partie de la constitution même du pays.

Les administrations municipales se sont vu accorder le pouvoir de planifier l'utilisation des terres en Nouvelle-Écosse, sous réserve de la protection des intérêts de la province. La province a adopté cinq déclarations d'intérêt provincial (DIP) en 1999. L'une de ces déclarations concerne la protection des terres agricoles. Son but est de « protéger les terres agricoles pour le développement viable et durable de l'agriculture et de l'industrie alimentaire »¹³. Les municipalités, lorsqu'elles adoptent ou modifient leur plan municipal, doivent suivre les DIP établies par le gouvernement provincial. Dans le cas de la DIP sur l'agriculture, les documents de planification doivent faire l'objet d'une étude provinciale si les terres affectées sont des terres agricoles ou des terres ayant un potentiel agricole (terres de catégorie 2, 3 ou 4).

Pour ce qui est de la protection des terres

agricoles, les lacunes de la DIP sont que les municipalités n'ont pas toutes des plans susceptibles de déclencher une étude provinciale — comme, par exemple, un plan municipal ne portant que sur la protection d'une source d'approvisionnement en eau ou la localisation d'éoliennes. De même, certains plans municipaux ne s'appliquent pas à la municipalité dans son ensemble. Cela signifie que les DIP ne couvrent pas toutes les régions de la province où se trouvent des terres agricoles de bonne qualité.

La Nouvelle-Écosse a une autre politique incitant à maintenir les exploitations agricoles, qui est une exonération fiscale. Les terres agricoles en Nouvelle-Écosse sont exonérées de taxes foncières, du moment qu'elles restent utilisées pour une production agricole. La province rembourse aux municipalités le revenu fiscal perdu en raison de cette exonération. Si le terrain agricole est converti à d'autres usages, alors il fait l'objet d'une imposition à 20

pour cent de la valeur de l'évaluation de la propriété.

Dans certains cas, les municipalités ont élaboré des politiques de protection des terres agricoles. Ainsi, les municipalités de Kings, d'East Hants, de West Hants et de certaines parties du comté d'Halifax ont établi des zones agricoles dans lesquelles l'intention est d'utiliser les terres pour l'agriculture et les autres formes d'exploitation sont limitées.

Options en matière de politiques publiques

Les gouvernements disposent de diverses options en matière de politique publique pour influencer l'utilisation des terres agricoles. Ces politiques correspondent à divers paliers d'intervention du gouvernement, allant d'une approche libérale dans laquelle les décisions concernant l'utilisation des terres sont faites par les propriétaires fonciers eux-mêmes dans les conditions d'un marché

libre jusqu'à une approche basée sur des restrictions concernant l'utilisation des terres imposées par la Couronne. Chaque option dans la gamme de choix s'étalant entre ces deux extrêmes a ses propres caractéristiques en ce qui concerne le coût pour les contribuables, son caractère acceptable sur le plan politique et son efficacité pour ce qui est de protéger les terres contre l'exploitation à des fins non agricoles. À titre d'exemple, même si les décisions de l'économie de marché ne présentent pas de coût direct pour le gouvernement, elles risquent de provoquer la perte de superficies importantes de terres pour la production agricole pour plusieurs générations. D'un autre côté, si le gouvernement adoptait des mesures de réglementation stricte en vue de préserver la disponibilité des terres à des fins agricoles, ces mesures pourraient avoir un coût prohibitif et bénéficier d'un faible soutien de la part du grand public.

Voici des exemples d'options en matière de

politiques publiques utilisées dans d'autres régions du monde pour protéger les terres agricoles de la promotion immobilière:

Agriculture rentable

La situation idéale est que l'agriculture soit l'utilisation la plus rentable des terres sans nécessiter d'aide gouvernementale. La situation est moins idéale lorsque la rentabilité de l'agriculture dépend de politiques gouvernementales.

Avantages

- Dans l'idéal, coût nul pour le gouvernement. (L'agriculture est profitable par elle-même.)
- Pas de décisions de politique publique pour le gouvernement.
- Efficacité de la protection des terres agricoles.

Inconvénients

- Coût important pour le gouvernement si l'agriculture n'est rentable que grâce à des politiques gouvernementales.
- Même si l'agriculture est rentable, elle

ne parviendra pas nécessairement à faire le poids face aux offres des secteurs non agricoles.

Servitude de conservation (SC) – Vente ou don des droits d'exploitation

Telle ou telle parcelle de terre peut avoir plusieurs valeurs potentielles, selon son utilisation. Par exemple, la terre peut avoir une valeur agricole, mais aussi une valeur pour la construction de lotissements ou l'exploitation commerciale. La servitude de conservation est un accord juridique qui reconnaît que la terre peut avoir un potentiel d'exploitation et permet le don ou l'achat de la valeur d'exploitation non agricole par un groupe de conservation. On peut également échanger les droits d'exploitation contre de l'argent du gouvernement ou un crédit d'impôt. Une fois que les droits d'exploitation non agricole sont vendus, la terre ne peut plus être utilisée qu'à des fins agricoles. Le processus est semblable à celui dont se sert Canards Illimités pour

préserver les terres humides.

Avantages

- Le dispositif peut représenter un coût négligeable ou nul pour le gouvernement si les droits d'exploitation font l'objet d'un don du propriétaire foncier ou sont achetés par La terre est protégée contre les autres formes d'exploitation.
- Les décisions sont prises à titre volontaire.

Inconvénients

- Si c'est le gouvernement qui acquiert les droits, cela peut représenter un coût important pour les contribuables.
- Si le gouvernement n'est pas concerné, l'efficacité de la protection des terres agricoles peut être variable, car elle dépend dans une large mesure de l'existence d'un groupe privé, comme Canards Illimités, qui est prêt à acquérir les droits et capable de le faire.

Transfert des crédits d'aménagement (TCA)

Cette stratégie est semblable aux servitudes de conservation en ce que l'on élimine les droits d'exploitation à des fins non agricoles d'une parcelle de terre. Dans un TCA, un promoteur ou le gouvernement achète les droits au fermier. En échange, le promoteur a le droit de construire un plus grand nombre de maisons, de logements, d'appartements, etc. — c'est ce qu'on appelle une « prime à la densité » — sur une autre parcelle dont il est le propriétaire. Par exemple, on peut autoriser un promoteur immobilier à construire un bloc d'appartements au lieu d'habitations unifamiliales sur un autre terrain.

Avantages

- Coût nul pour le gouvernement si le TCA se fait dans le secteur privé.
- Transactions effectuées à titre volontaire. On n'enfreint pas les droits de propriété des propriétaires privés.
- Les constructions plus denses réduisent la pression sur les terres agricoles et permettent d'offrir les services municipaux de façon plus efficace.

Inconvénients

- Si c'est le gouvernement qui acquiert les droits d'exploitation, cela peut représenter un coût important pour les contribuables.
- L'efficacité de la protection des terres agricoles peut être variable, parce que sa réussite dépend en partie du dynamisme du marché immobilier et de la demande de nouvelles constructions.
- Cette approche est un outil de politique publique assez compliqué.

Outils de politique fiscale

Le traitement fiscal préférentiel est un outil courant déjà utilisé en Nouvelle-Écosse avec l'exonération fiscale pour les terres agricoles évoquée plus haut. D'autres régions ont imposé des règles fiscales spécifiques concernant le transfert ou la vente de ressources agricoles, afin d'inciter les gens à poursuivre l'exploitation agricole des terres. L'état du Vermont fait augmenter les impôts sur les gains en capital (impôts sur l'augmentation de la valeur des propriétés au fil du temps) pour les terres détenues pendant moins de six ans. Ceci a pour but de réduire la spéculation foncière, de maintenir le coût des terres à un niveau bas et de réduire les subdivisions. Les droits de succession au Connecticut sont réduits pour les terres agricoles si l'exploitation agricole est maintenue pendant dix ans.

Avantages

- Offre de mesures financières incitant à poursuivre l'exploitation agricole.

Inconvénients

- Perte effective ou apparente de recettes fiscales pour le gouvernement.
- Aucune garantie que les terres seront exploitées à des fins agricoles au-delà des échéances fixées.

Arrêtés de compensation

La ville de Davis, en Californie, permet aux promoteurs d'acheter des terres agricoles pour les exploiter à d'autres fins, mais exige d'eux que, pour chaque arpent de terres agricoles converti, ils achètent deux arpents supplémentaires de terres agricoles. Ces terres supplémentaires sont protégées par des servitudes de conservation. On exige également que les terres protégées soient adjacentes aux terres exploitées à d'autres fins.

Avantages

- Coût faible ou nul pour le gouvernement car les transactions se font dans le secteur privé.
- Préservation des droits de propriété.

- L'exigence qui veut que les terres protégées soient adjacentes permet de créer une frontière bien définie entre les zones urbaines et les zones rurales. (L'exploitation des terres ne se fait pas à l'emporte-pièce.)
- Protection réussie d'un pourcentage important de terres agricoles.

Inconvénients

- Possibilité d'augmentation de la valeur des terres et de la valeur des servitudes de conservation et obstacle au développement non agricole dans des régions données.

Zonage des terres agricoles

Il s'agit d'un outil de politique publique courant qui limite l'utilisation des terres à des fins non agricoles grâce à des règlements.

Avantages

- Le coût pour le gouvernement est principalement d'ordre administratif.

- Bonne protection des terres agricoles du moment que les règles de zonage restent strictes.

Inconvénients

- Impact sur la capacité qu'a le propriétaire d'utiliser ses terres privées comme il le souhaite.
- Obstacle au développement non agricole dans ces régions.
- Pressions politiques visant à changer/éliminer les zones, qui sapent la capacité de protéger les terres agricoles.

Zones de sécurité

Il s'agit de zones de terres agricoles où le « droit à l'exploitation agricole » est reconnu ou renforcé. Ces zones peuvent offrir une protection contre l'exploitation à des fins non agricoles et sont souvent définies volontairement par un groupe de fermiers détenant des terres en quantité suffisante.

Avantages

- Aucune infraction aux droits de propriété.
- Protection des agriculteurs contre les plaintes liées à la pollution, au bruit, etc.
- Coût faible ou nul.

Inconvénients

- Efficacité douteuse pour ce qui est de protéger les terres agricoles à long terme.

Acquisition par le gouvernement de terres agricoles

L'acquisition de terres agricoles permet au gouvernement de s'assurer que les terres restent dans l'industrie agricole. Le gouvernement peut mettre ces terres à la disposition des fermiers dans le cadre de baux de location ou en leur appliquant des servitudes de conservation qui éliminent les options d'exploitation à des fins non agricoles au moment de la revente.

Avantages

- Les terres agricoles sont mises à l'abri des pressions du marché immobilier.
- Les terres peuvent être revendues ou louées aux fermiers à un bas prix.
- Les propriétaires fonciers sont compensés pour la valeur de leurs terres.

Inconvénients

- Coût élevé pour le gouvernement.
- La compensation aux propriétaires fonciers peut susciter des disputes.

Les options de politiques publiques décrites ci-dessus ont été utilisées sous diverses formes et dans diverses combinaisons dans de nombreuses régions du monde. Cette liste n'est pas exhaustive mais fournit une présentation rapide de certains des outils disponibles.

Notes de fin

- 1 Division des comptes et de la statistique de l'environnement de Statistique Canada et *Inventaire des terres du Canada* du gouvernement du Canada.
- 2 Division de l'agriculture de Statistique Canada, Truro (N.-É.), 2010.
- 3 (181 915 ha / 938 183 personnes), *Estimations démographiques trimestrielles*, Statistique Canada, juillet–septembre 2009.
- 4 $((200 \text{ pi} \times 85 \text{ pi} / 43560 \text{ pi}^2/\text{arpent})) / 2,47 \text{ ha}/\text{arpent} = 0,158 \text{ ha}$; $(0,76 \text{ ha} / 0,158 \text{ ha}) = 4,81$ pistes de hockey de la LNH.
- 5 S. Robinson, D. van Proosdij¹ et H. Kolstee, « Changes In Dykeland Practices In Agricultural Salt Marshes In Cobequid Bay, Bay Of Fundy », *BoFEP Conference Proceedings*, 2004, p. 1.
- 6 L. LeBlanc, LP Consulting Ltd, 2010 (communication personnelle).
- 7 N. Hoffman, G. Filoso et M. Scholfield, *Bulletin d'analyse, régions rurales et petites villes du Canada*, Statistique Canada, vol 6, n° 1, janvier 2005, p. 9, tableau 2.
- 8 $(16\,100 \text{ km}^2 / 5\,660 \text{ km}^2 \hat{\text{Î}}\text{-P.-É.}) = 2,84 \hat{\text{Î}}\text{-P.-É.}$
- 9 J. Scott et R. Colman, *The GPI Soils And Agriculture Accounts, Economic Viability Of Farms And Farm Communities In Nova Scotia And Prince Edward Island—An Update*, GPI Atlantic, 2008, p. ii et iii.
- 10 Statistique Canada, Tableau 380-0024 et tabulation particulière pour AAC.
- 11 Base de données de l'OCDE, Comptes nationaux – Tableaux détaillés, vol. 2, 1970–2003, informations détaillées sur les agrégats.
- 12 Cette section est tirée de M. Devanney et M. Maynard, *A Review of Initiatives Intended to Conserve Agricultural Land*, Ministère de l'Agriculture de la Nouvelle-Écosse, Province de la Nouvelle-Écosse, 2008.
- 13 Statement of Provincial Interest Regarding Agricultural Land, *Municipal Government Act*, 1998, c. 18, Sch. B.

Appendix D – Public Meeting Presentation - English



Is Nova Scotia Running Out of Agricultural Land?

Agriculture in Nova Scotia

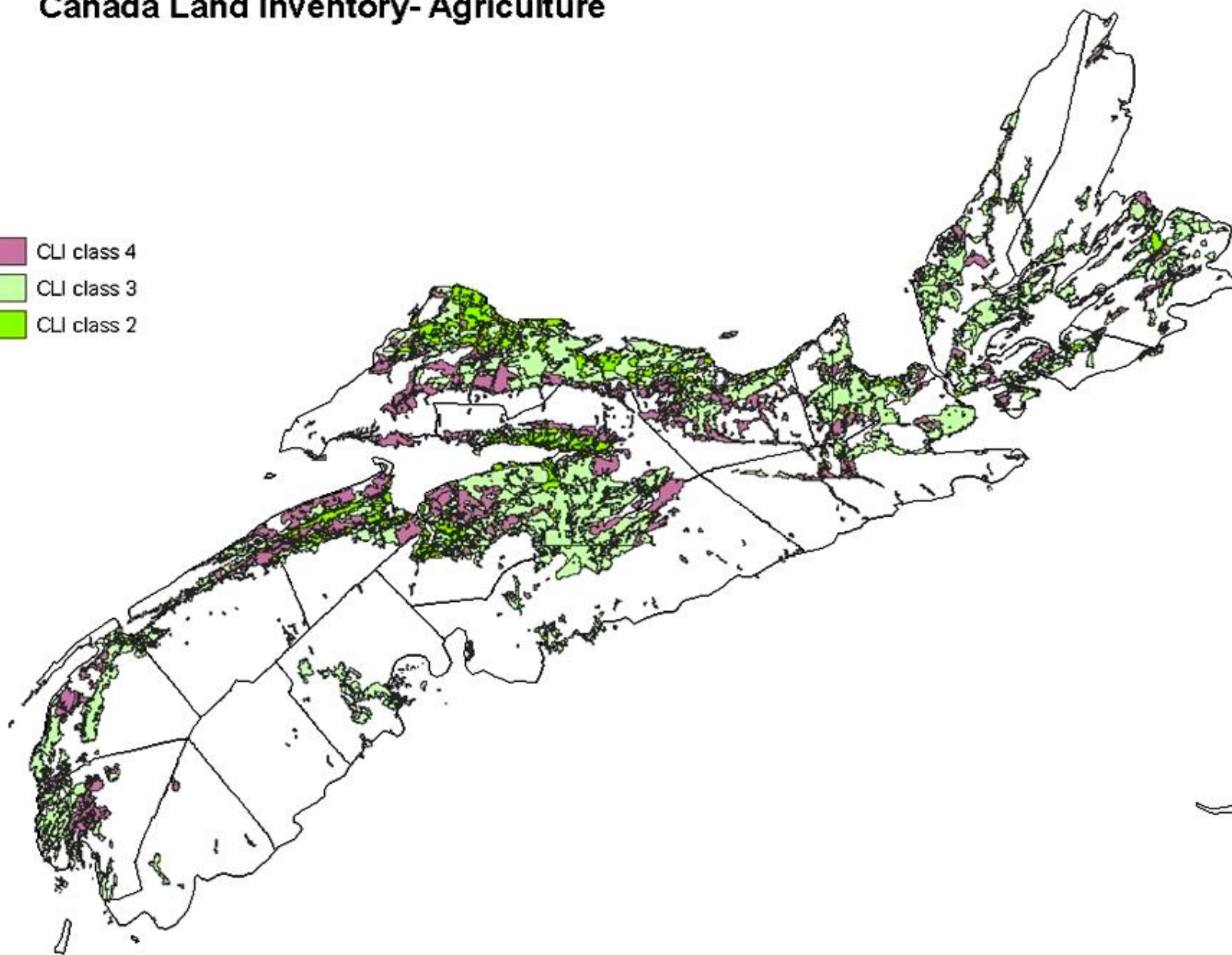
- Diversified production
- Output of agricultural industry \$462 million (2008)
- Directly employs 6,400 – over 80% full-time
- Food processing employs further 5,400
- One of the anchor industries for rural economy

State of the Land Resource

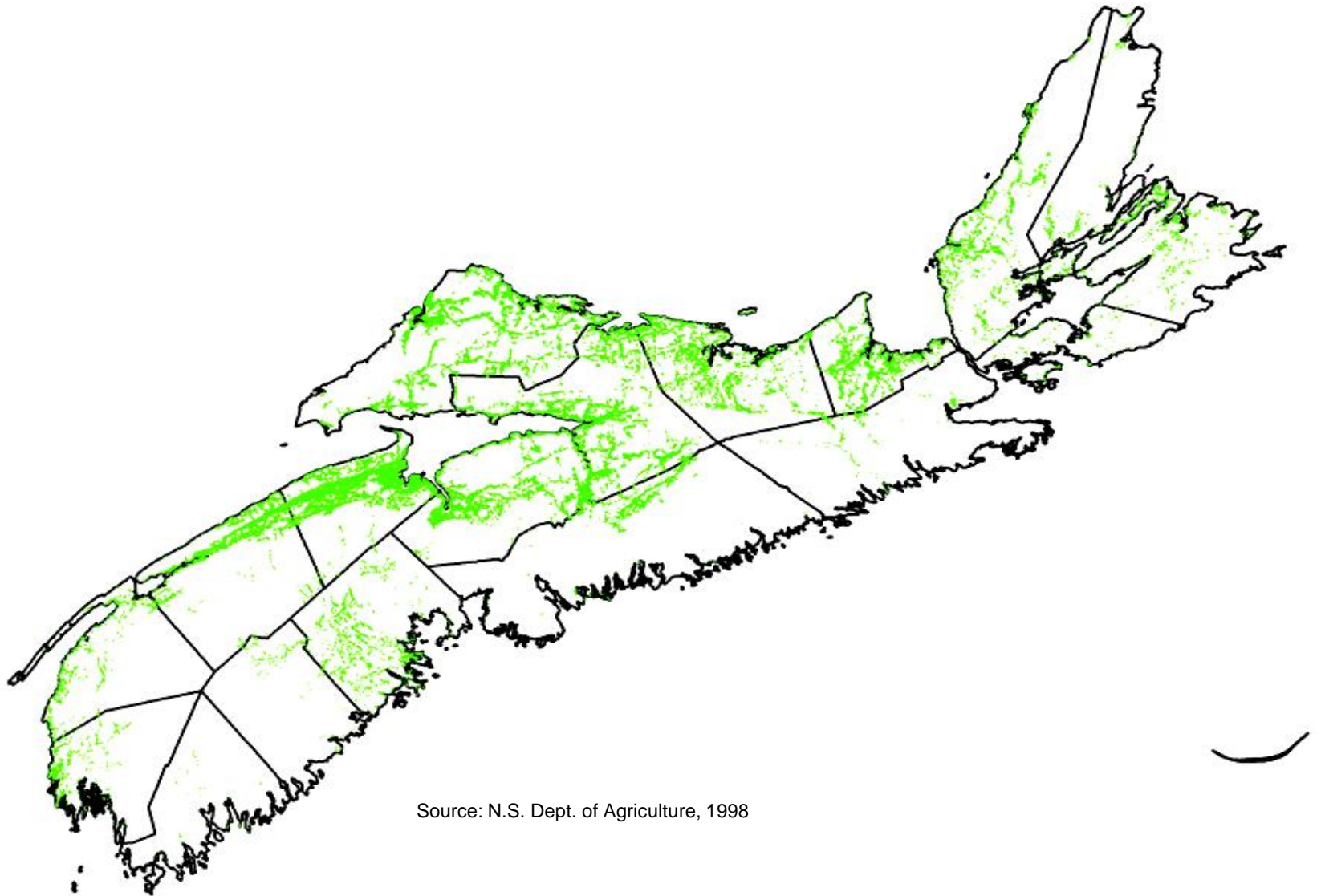
- 5.5 million hectares in Nova Scotia
- 1.62 million hectares of Classes 2, 3, and 4 = land considered of agricultural value
- Equals 29% of land area
- Nova Scotia has no Class 1 land

Canada Land Inventory- Agriculture

- CLI class 4
- CLI class 3
- CLI class 2



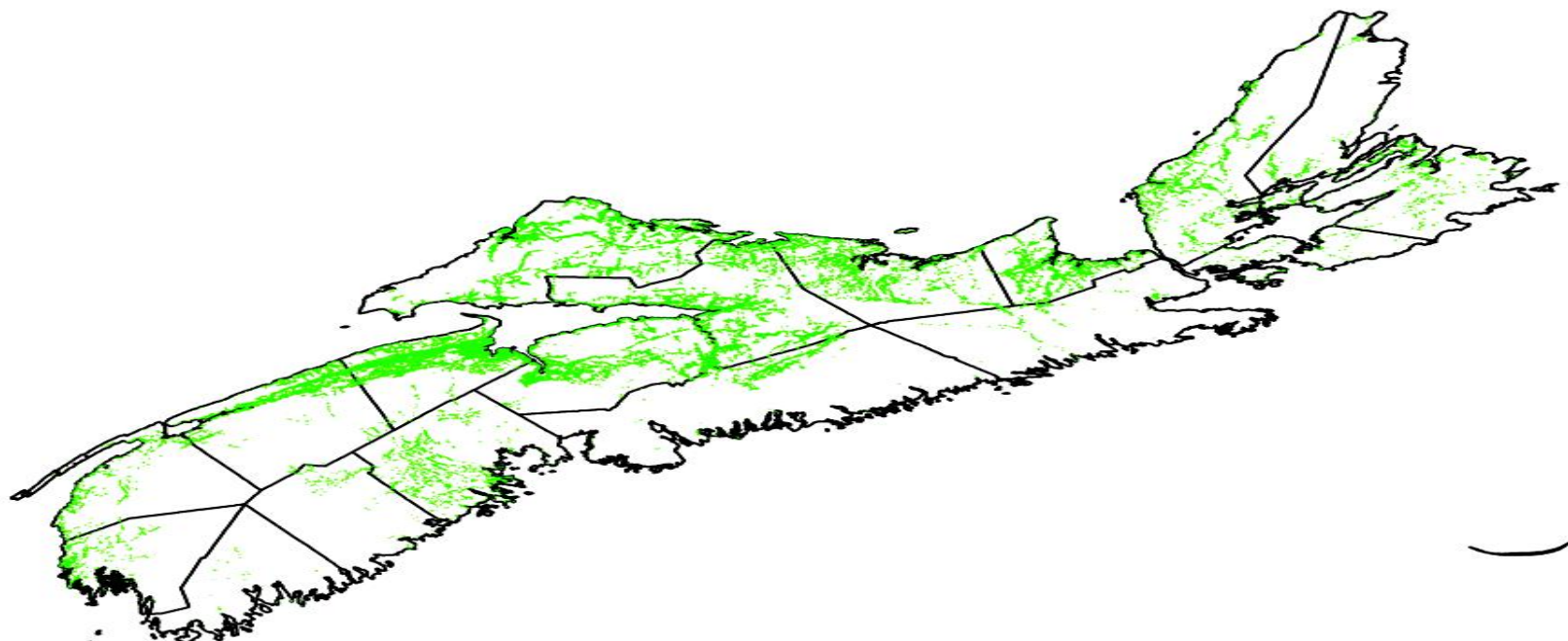
Agricultural Land Identification Program (ALIP)



Source: N.S. Dept. of Agriculture, 1998

Canada Land Inventory- Agriculture

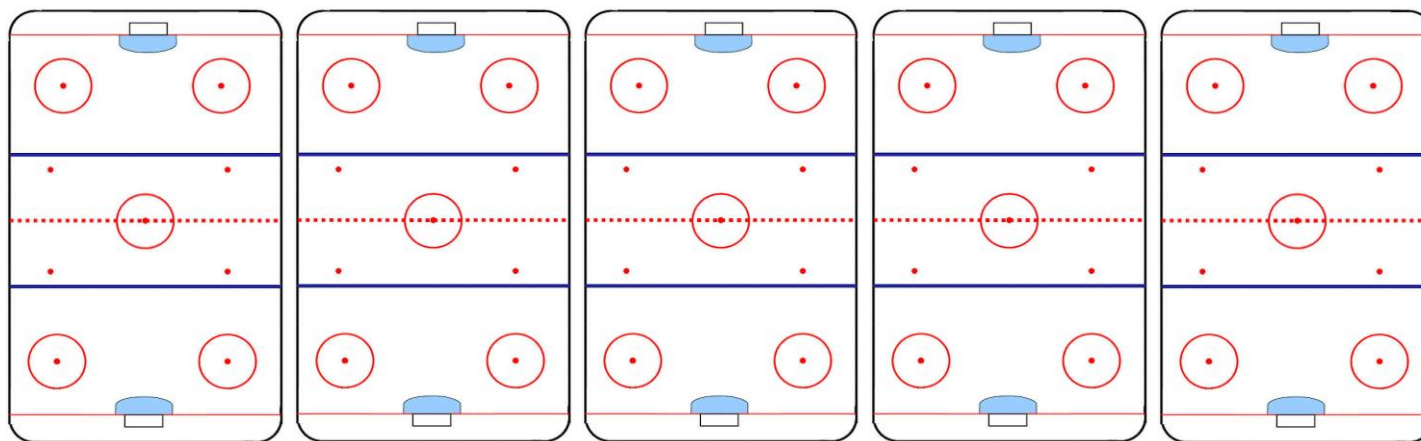
- CLI class 4
- CLI class 3
- CLI class 2



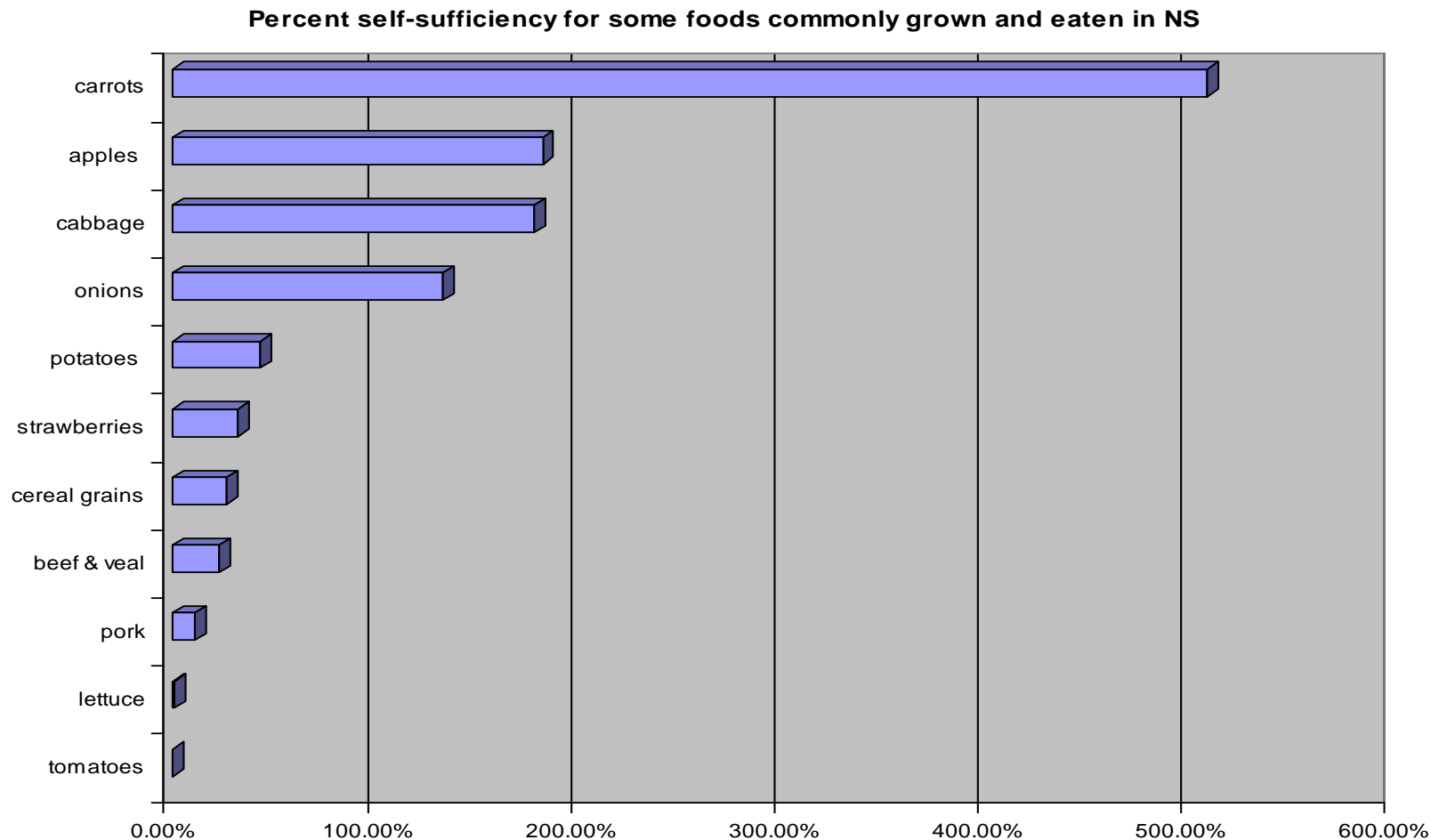
So What's the Problem?

- Very little of this land is in production – about 0.182 million hectares
- That is 3.3% of our land area
- 11.2% of our agricultural land area
- This works out to 0.19 hectares per Nova Scotian

Or about 5 Hockey Rinks Worth of Land Area for a Family of Four



Current Level of Self Sufficiency for a Few Commodities

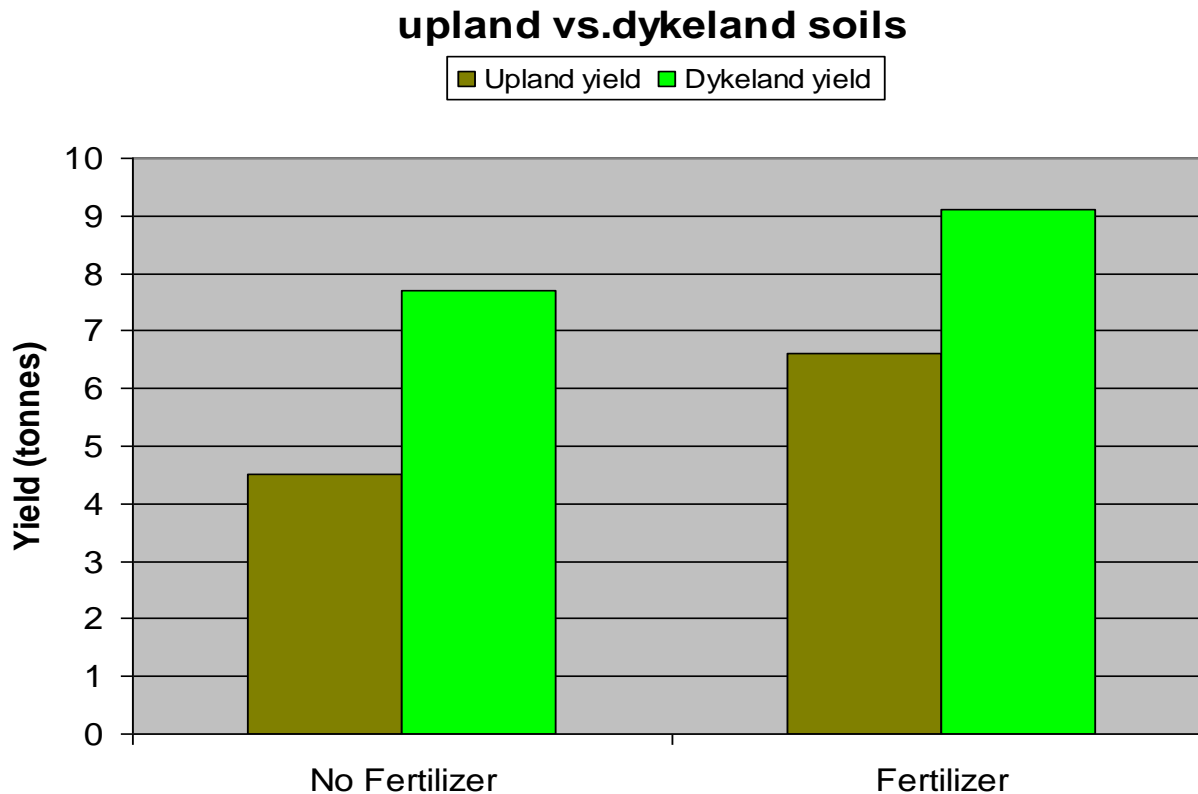


Source: Statistics Canada, Agricultural Division, Truro, 2010

Dyke Land Dangers

- Dyke lands make up almost 10% of our active agricultural lands
- Are the most fertile lands in province
- Could we lose them?
 - Strong hurricane
 - Rising sea levels
 - Sinking lands

All Soils Are Not Equal

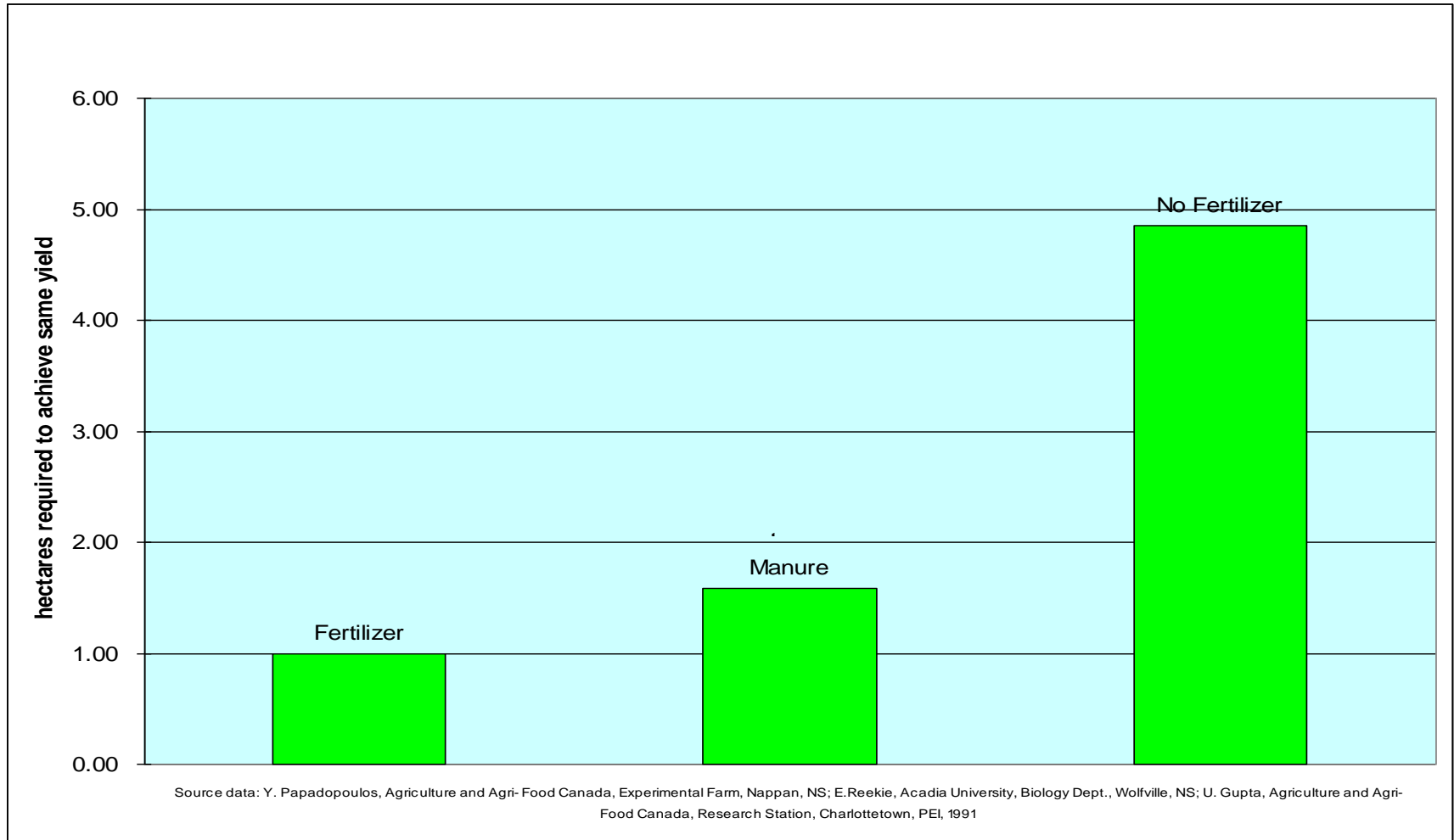


Source: J. Wells, " Long Term Manure Application Impacts on Forage Yield, Nutrient Utilization and Soil Nutrient Status," Dalhousie University, Halifax, Nova Scotia, & Nova Scotia Agricultural College Truro, Nova Scotia (2000)

Modern Agricultural Techniques

- Improved productivity through
 - Breeding (both plant and animal)
 - Adoption of new technology
 - Fertilizers
- Small amounts of land can produce huge amounts of food and fibre
- But – what if things change? Such as energy costs (fertilizer, fuel, transportation)

Fertilizer and Manure Reduce Land Requirements



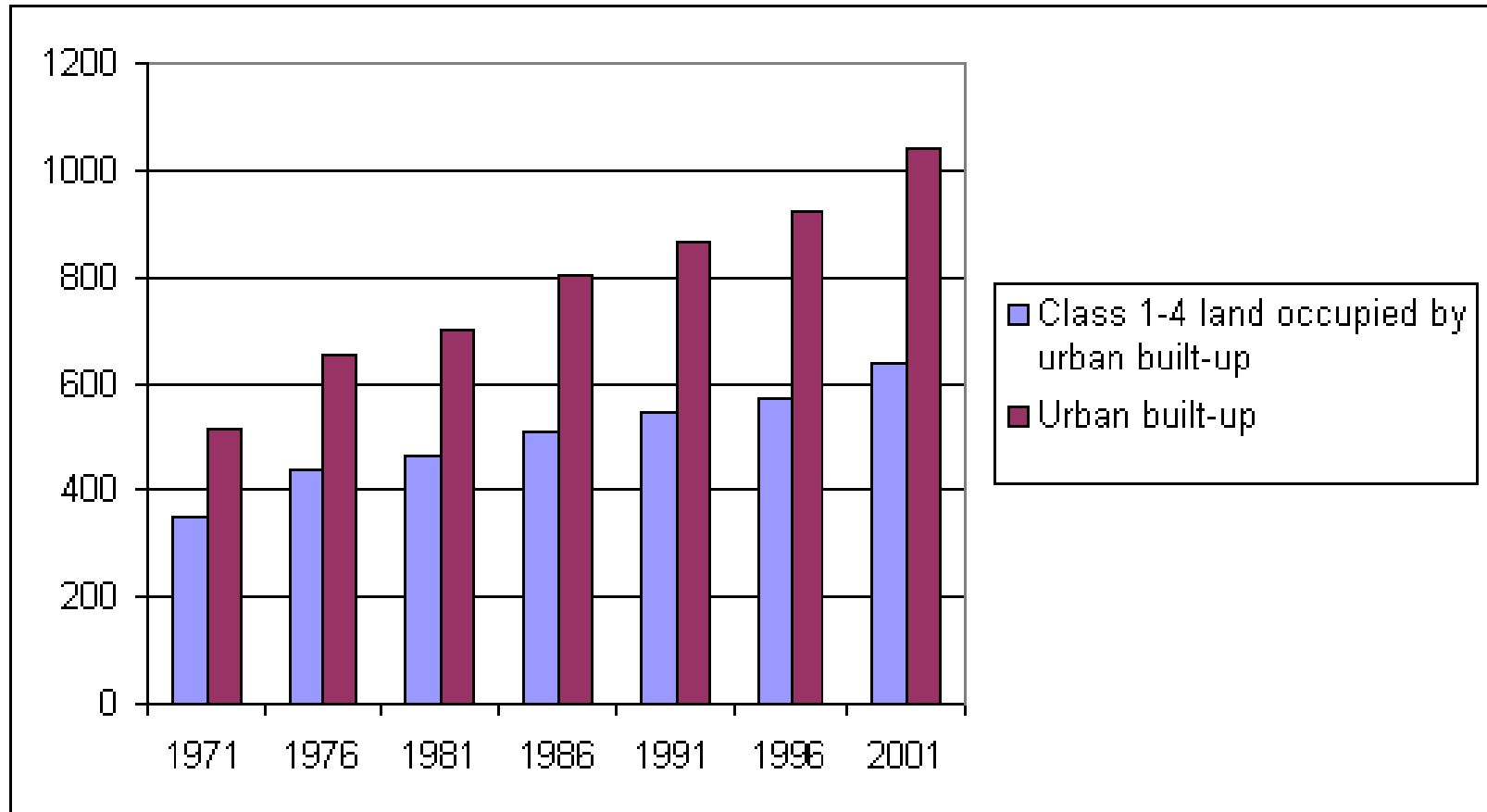
How Are We Losing Agricultural Land?

- **Development** – residential, commercial, infrastructure (e.g.: roads)
- **Abandonment** – stop using land for agricultural production
- **Depletion** – loss of land productivity

Development

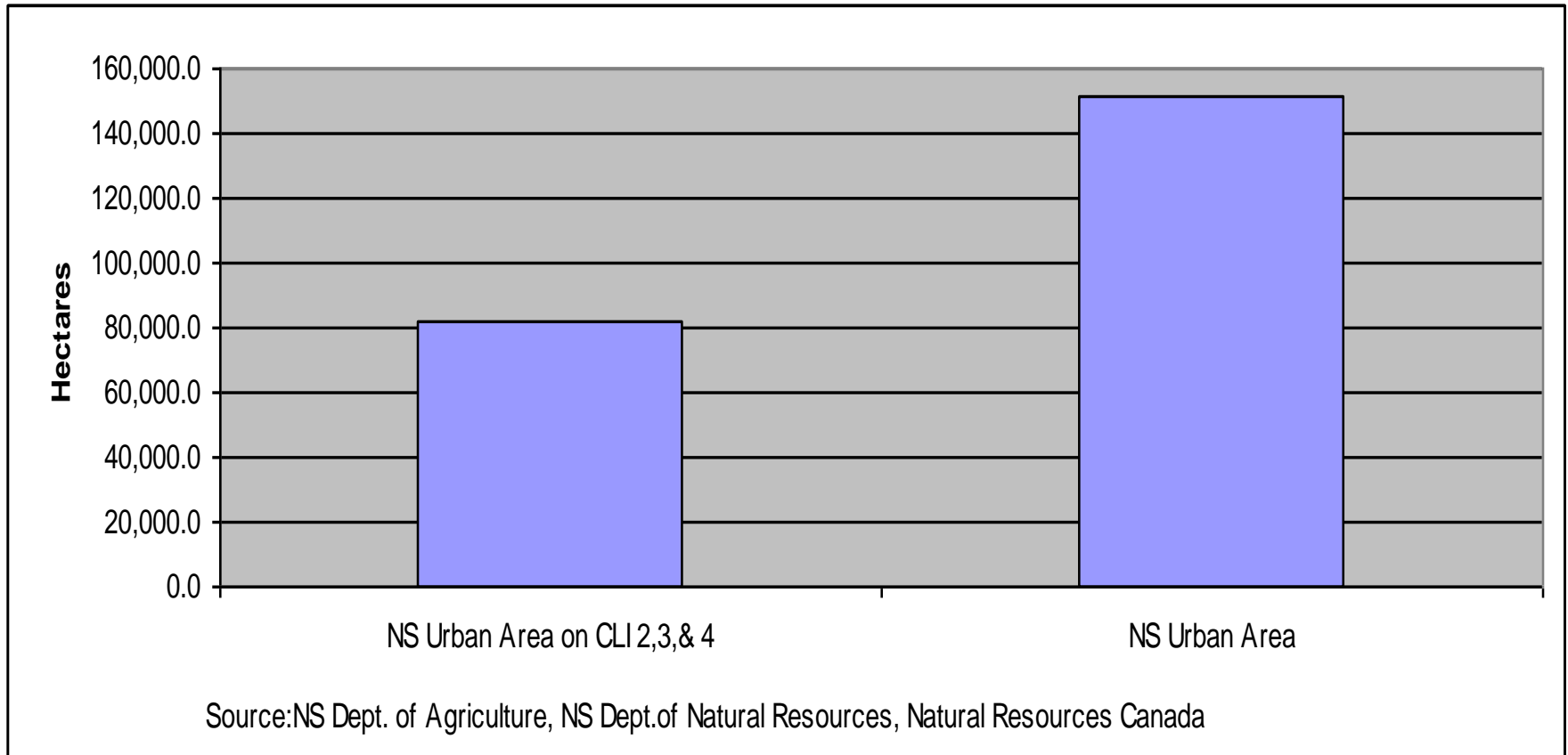
- Physical occupancy of land
- Restraint of farm activities
 - Reduced farmed area
 - Change to lower value crops
 - Inefficient use of resources (e.g.: manure)

Square Kilometers Lost to Development ^{ALRC} *in Nova Scotia 1971-2001*



Source: Statistics Canada, Special Tabulation (2010)

Since Development Started?



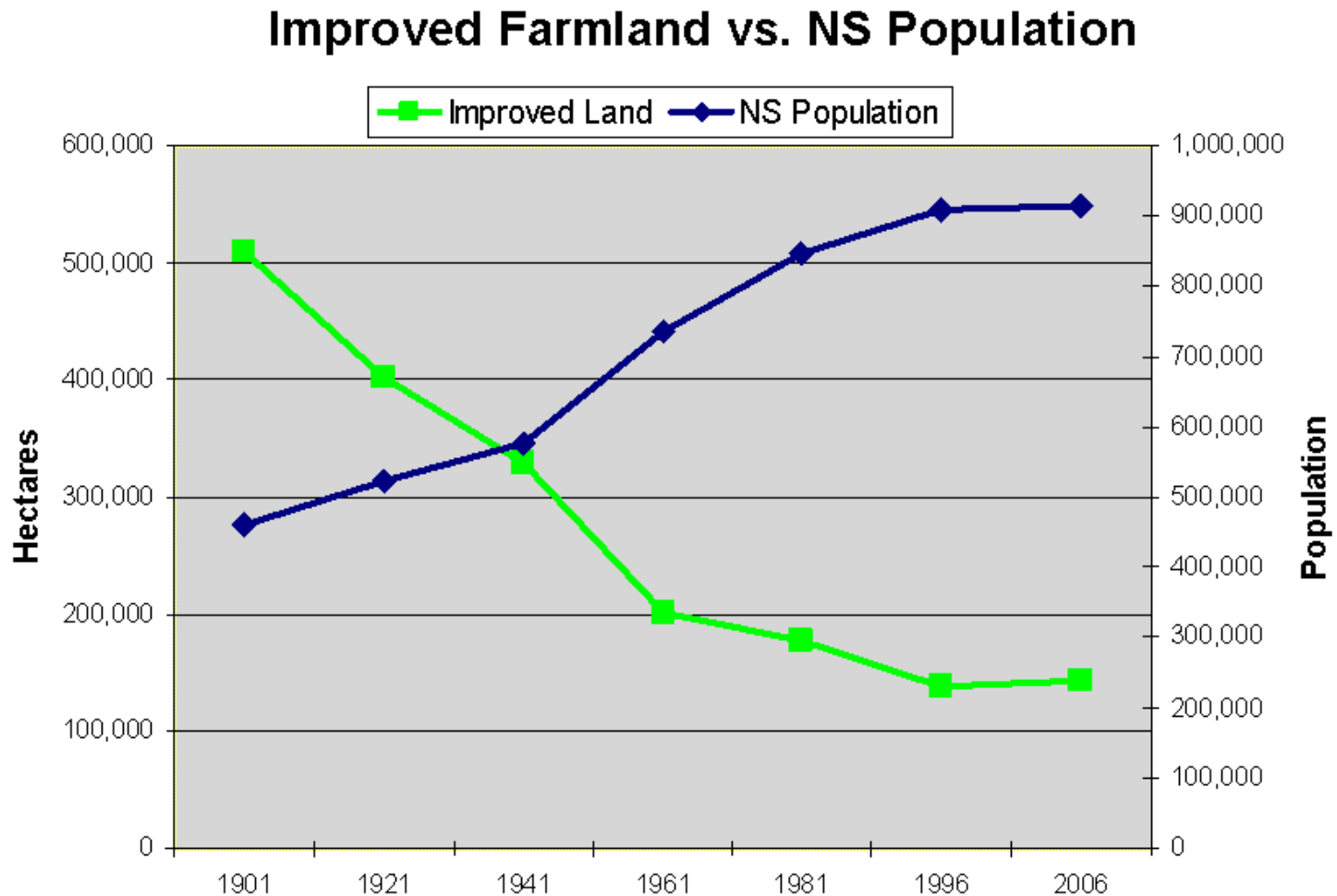
Abandonment

Why do farmers stop farming their land?

- High investment; low returns
- Hard to find labour
- Cheap, subsidized imports push price down
- Trade barriers harm export markets
- Consolidated food processing and retail sectors
=> low prices

And What Happens Then?

How Did It Used To Be?

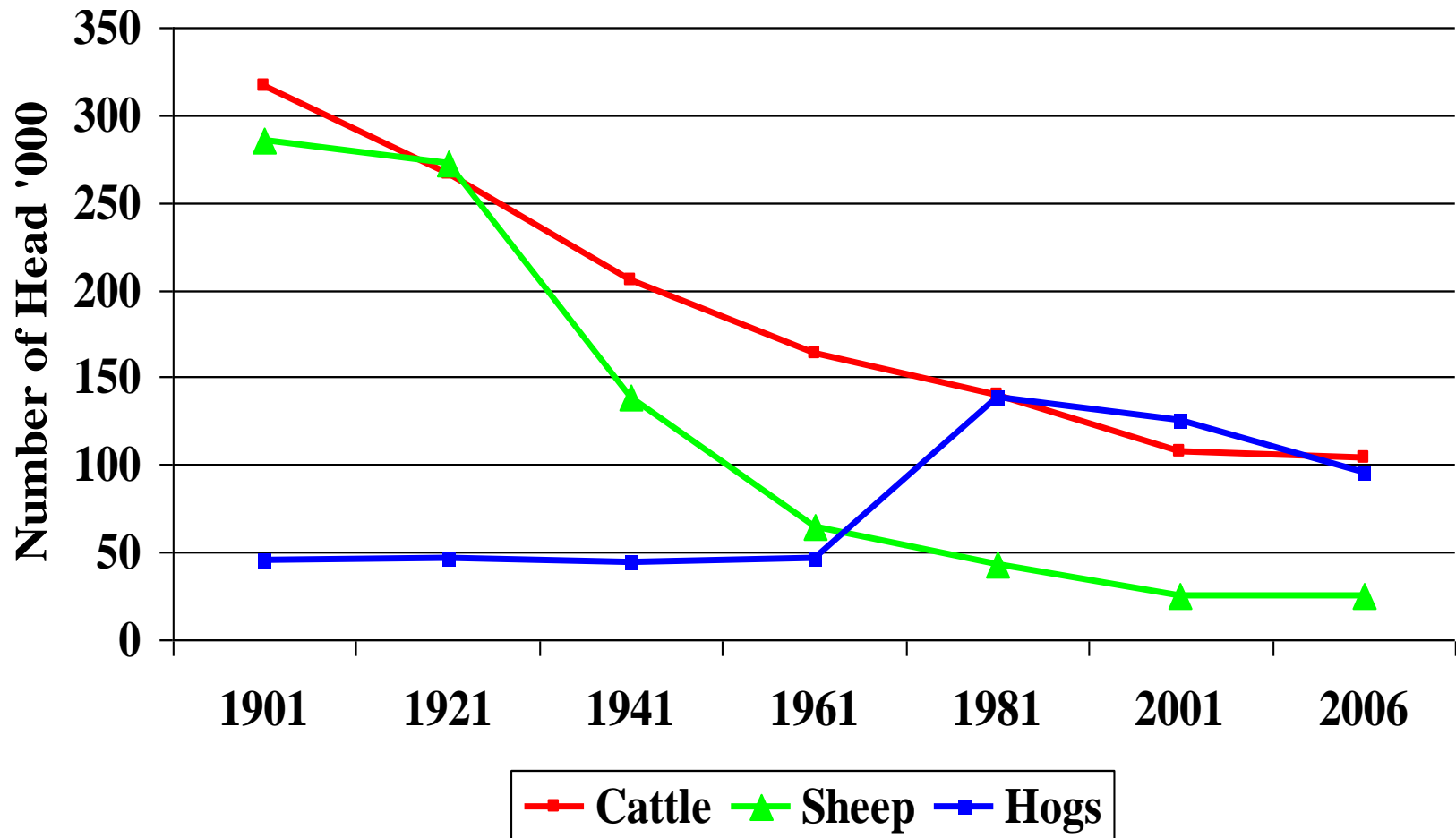


Source: Statistics Canada, Census of Agriculture, Censuses of Population, 1901 - 2006

In 1901 That Was About 28 Hockey Rinks per Family of Four



Significant Declines in Livestock Production from 1901



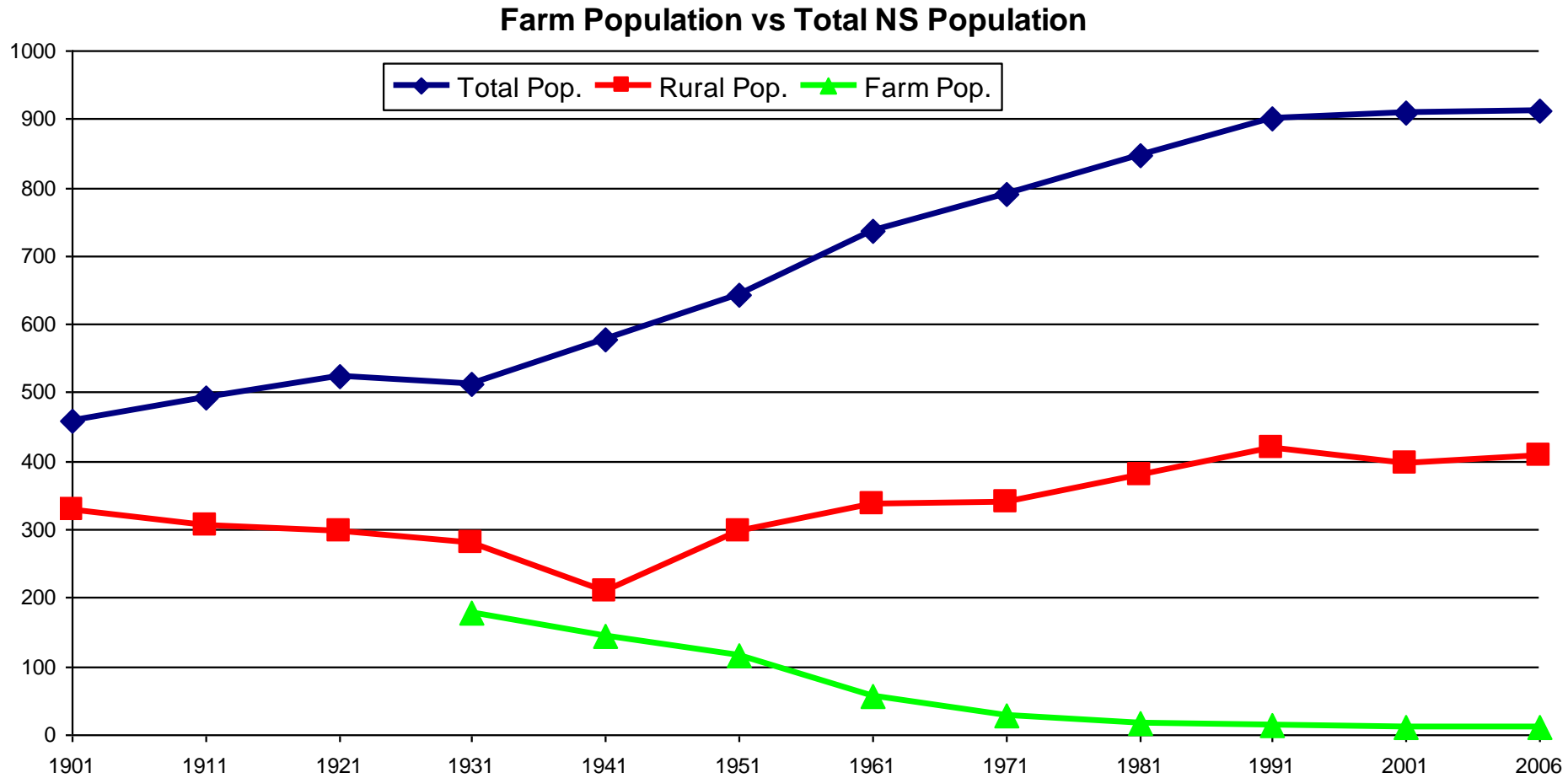
Source: Statistics Canada, Census of Agriculture

Significant Declines in Crop Production from 1901



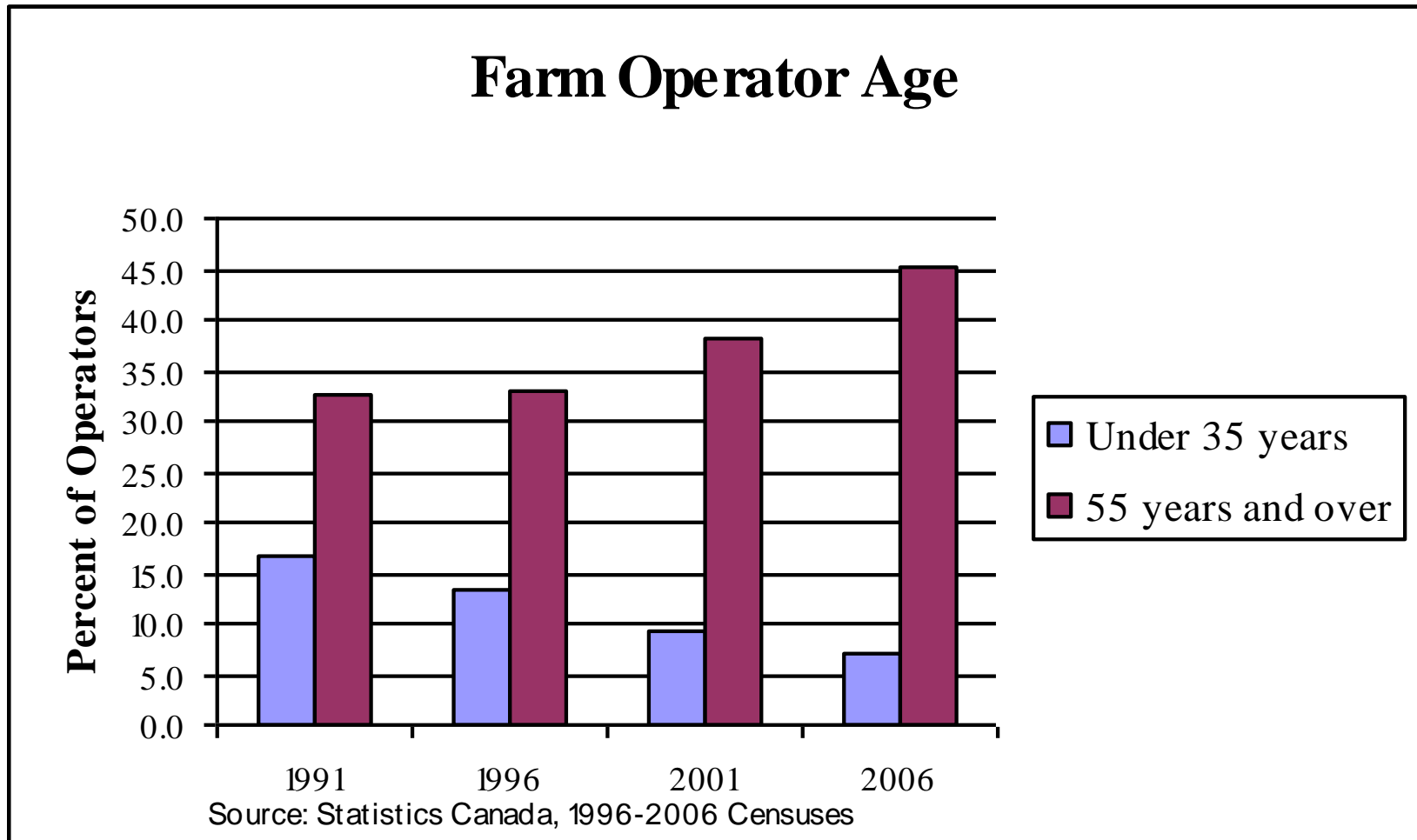
Source: Statistics Canada, Census of Agriculture

Fewer Farmers



Source: Canada. Statistics Canada. Censuses of Population, 1901 - 2006

Older Farmers



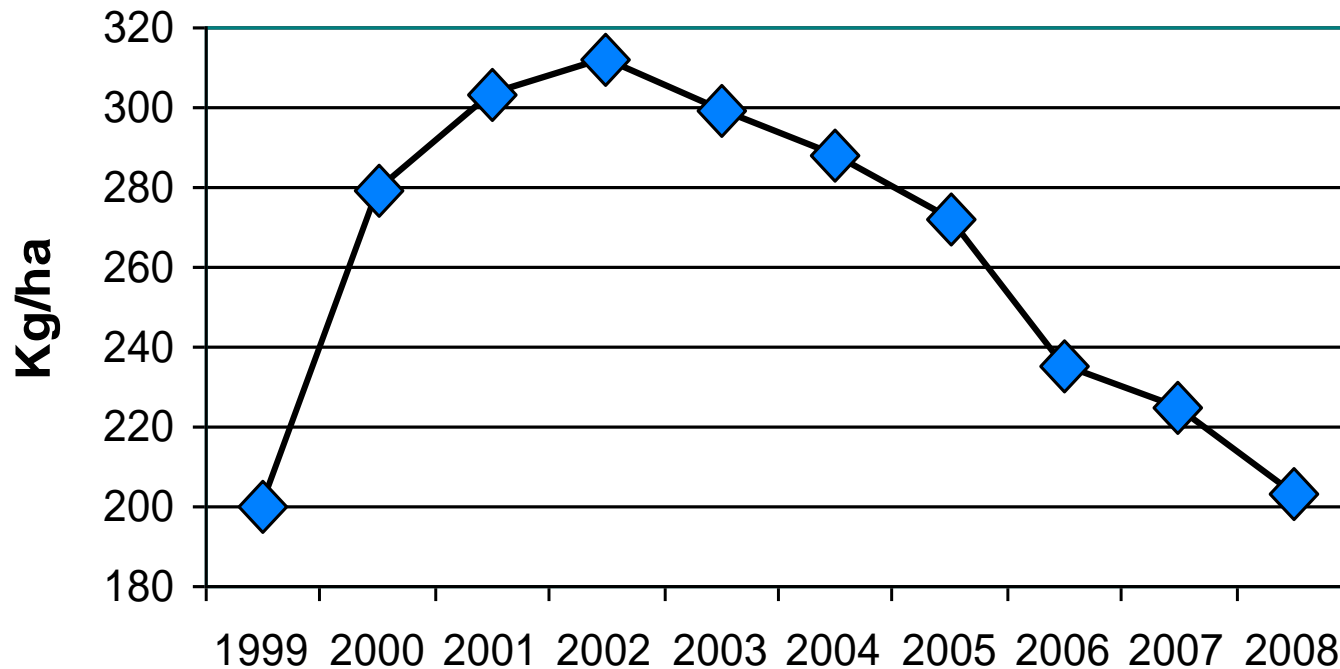
What's Enough Land? A “Back of the Envelope” Estimate:

- If land in 1901 was closer to self sufficiency – a reasonable assumption
- Would need almost 1 million hectares to feed present population a 1901 diet at 1901 levels of productivity
- That's around 800,000 additional hectares to be self sufficient
- Cost to recover land = \$3.2 to 6.4 billion
- Actually would be less nowadays because of improved productivity – but still a huge investment

Depletion

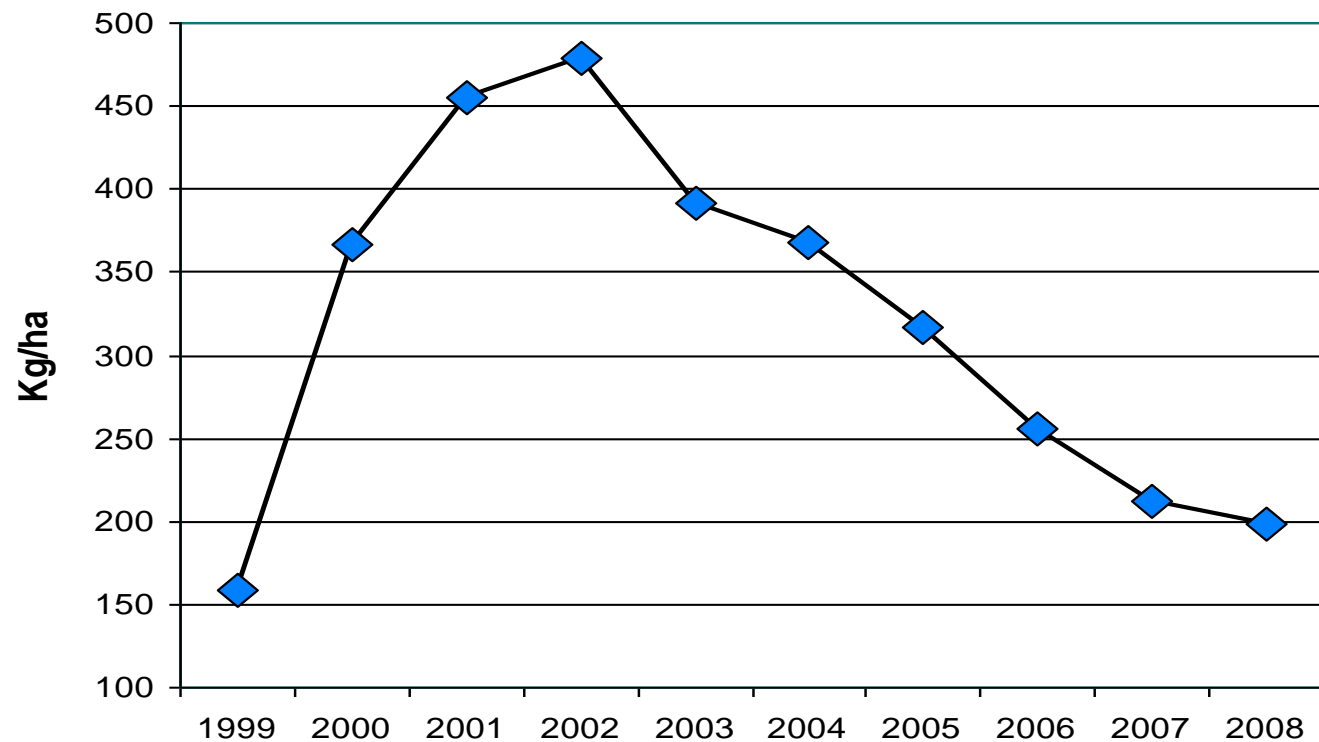
- Productivity loss through
 - Soil erosion
 - Soil compaction
 - Decreasing fertility
- Largely driven by economics
 - Decreasing prices
 - Increasing costs (e.g.: energy)

Nova Scotia Median Potash Levels



Source: NSDA Laboratory Services, developed by LP Consulting for NS Nutrient Management Planning Phase 2 (2006)

Nova Scotia Median Phosphate Levels



Source: NSDA Laboratory Services, developed by LP Consulting for NS Nutrient Management Planning Phase 2 (2006)

So What?

Should we try to produce food here, if it's cheaper, and available, elsewhere? Maybe not, as long as:

- Transportation costs from other agricultural regions would never rise sharply;
- Other major agricultural areas wouldn't experience drought, disease, or warfare;
- Other major agricultural areas didn't have their production bought out, or lands sold to countries short of land themselves;
- Rising energy costs did not increase our land requirements to produce the same amount of food;
- Increased energy costs did not require agricultural land for biomass production

What Tools Are Used To Protect Agricultural Land?

- Free Market Solutions (profit)
- Regulated Market Solutions (production controls)
- Compensation for Development Rights
- Tax incentives
- Zoning Legislation
- Government Purchase of Farmland
- The discussion paper has a more in depth description of the available tools with the pros and cons

What Tools Are Currently in Use In Nova Scotia?

- Tax incentives—agricultural land is exempted from property tax but 20% penalty on sale price if sold for other uses
- Statements of Provincial Interest—municipal plans or amendments which affect Class 2-4 lands must be reviewed by the Province
- Agricultural zoning, notably in Kings and E. Hants

So Why Are We Here?

To Get Your Input To These Questions:

- *Is there an agricultural land issue in Nova Scotia?*
- *Should we do something about it?*
- *What should we do about it?*
- *If this involves public expenditures, are we willing to pay for it?*
- *If good agricultural lands are considered of value to all Nova Scotians, should their preservation be the responsibility of our local municipalities or the provincial government?*

Appendix E – Public Meeting Presentation - French



Les réserves de terres agricoles de la Nouvelle-Écosse sont-elles en train de s'épuiser?

L'agriculture en Nouvelle-Écosse

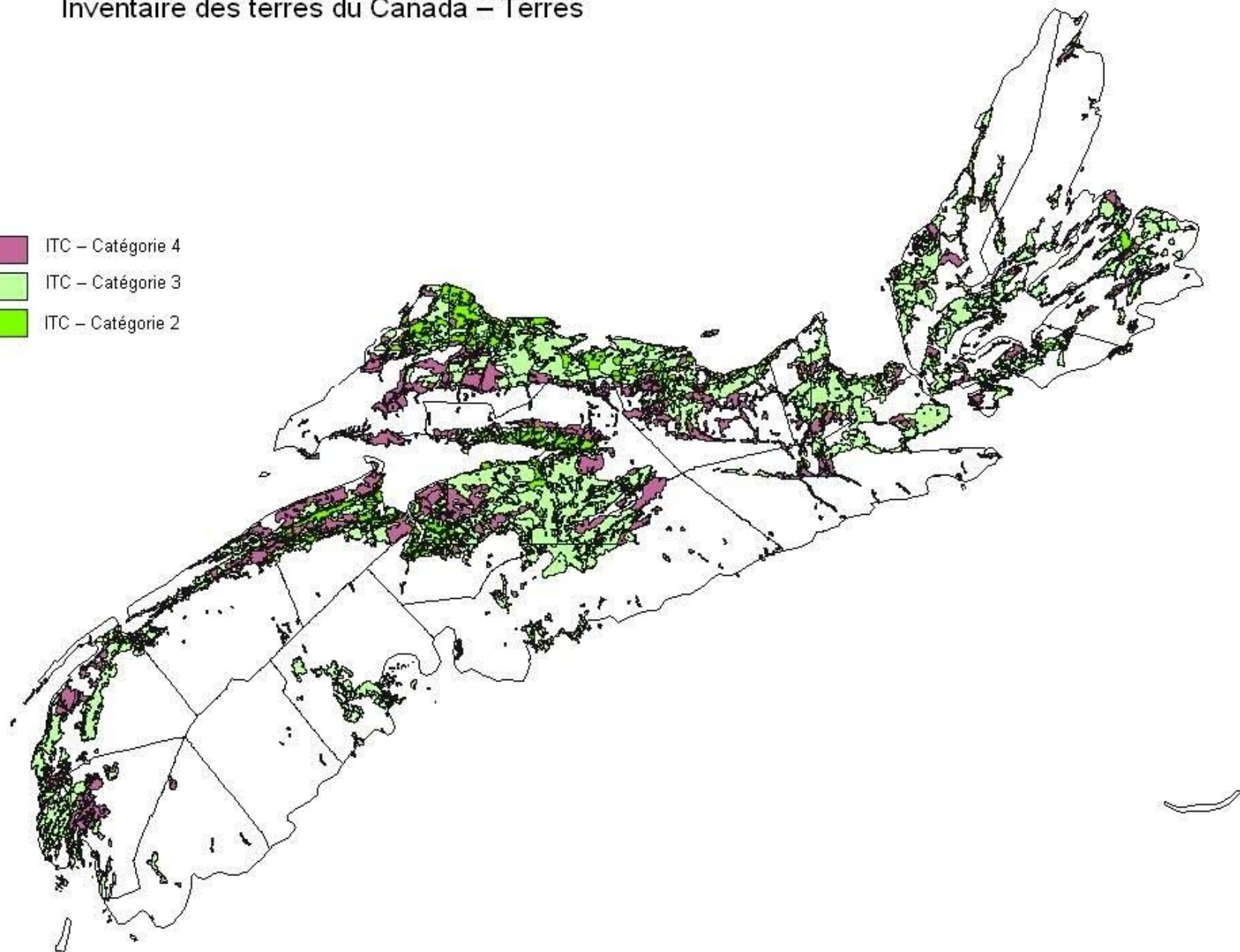
- Production diversifiée
- Production de l'industrie agricole : 462 millions \$ (2008)
- Emplois directs : 6 400 — 80 % à temps plein
- Transformation des aliments : 5 400 emplois supplémentaires
- Une des industries phares de l'économie rurale

Les terres agricoles – État de la ressource

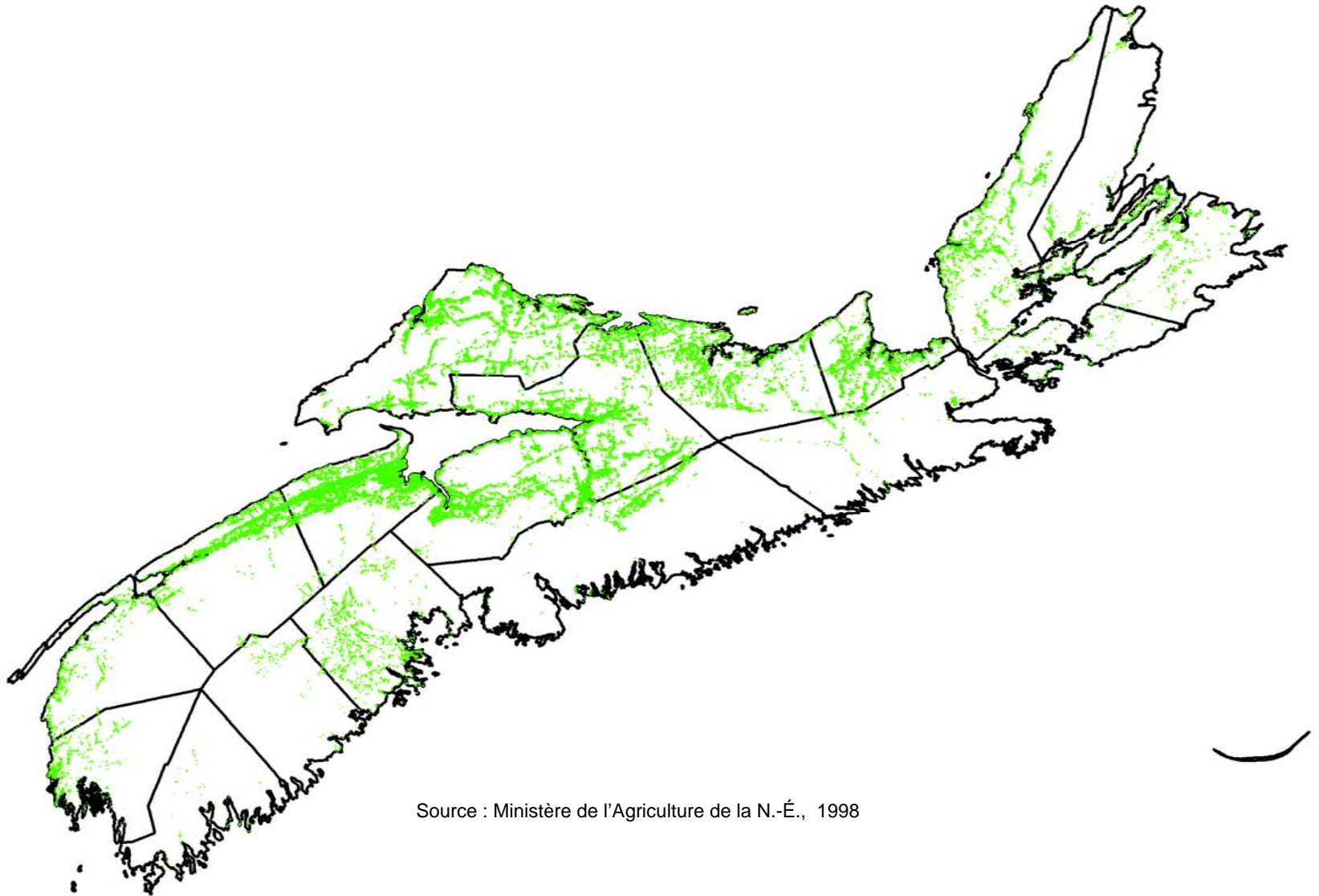
- 5,5 millions d'hectares en Nouvelle-Écosse
- 1,62 million d'hectares de terres de catégories 2, 3 et 4 = terres considérées de valeur agricole
- Équivaut à 29 % de la superficie de la province
- Pas de terres de catégorie 1 en Nouvelle-Écosse

Inventaire des terres du Canada – Terres

- ITC – Catégorie 4
- ITC – Catégorie 3
- ITC – Catégorie 2



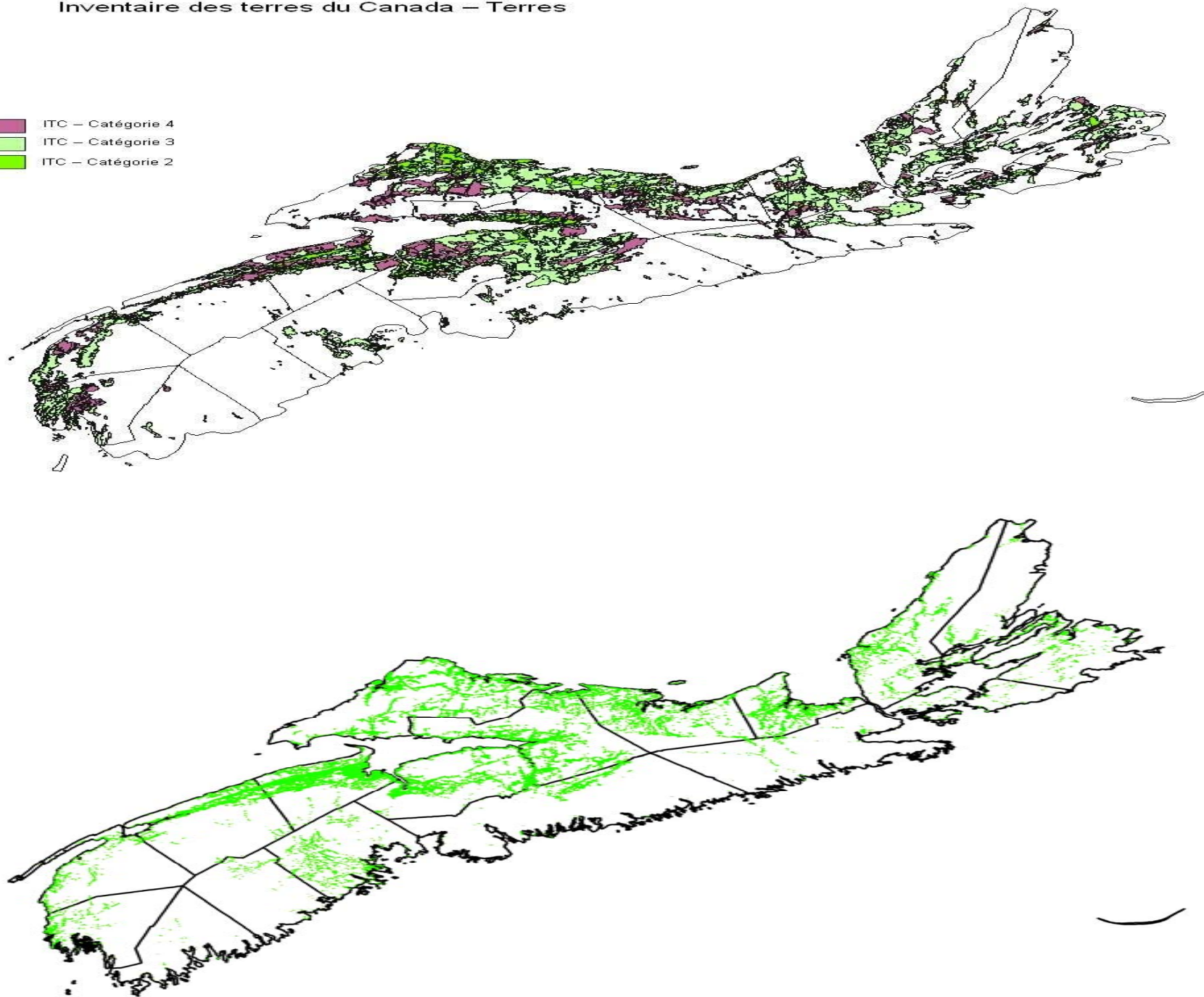
Programme de localisation des terres agricoles (PLTA)



Source : Ministère de l'Agriculture de la N.-É., 1998

Inventaire des terres du Canada – Terres

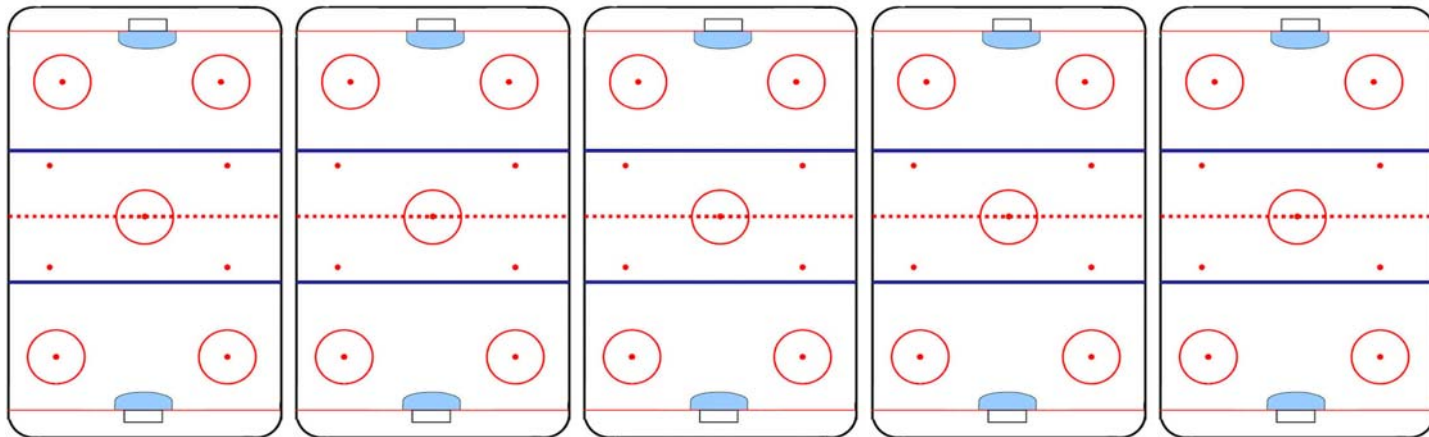
- ITC – Catégorie 4
- ITC – Catégorie 3
- ITC – Catégorie 2



Quel est donc le problème?

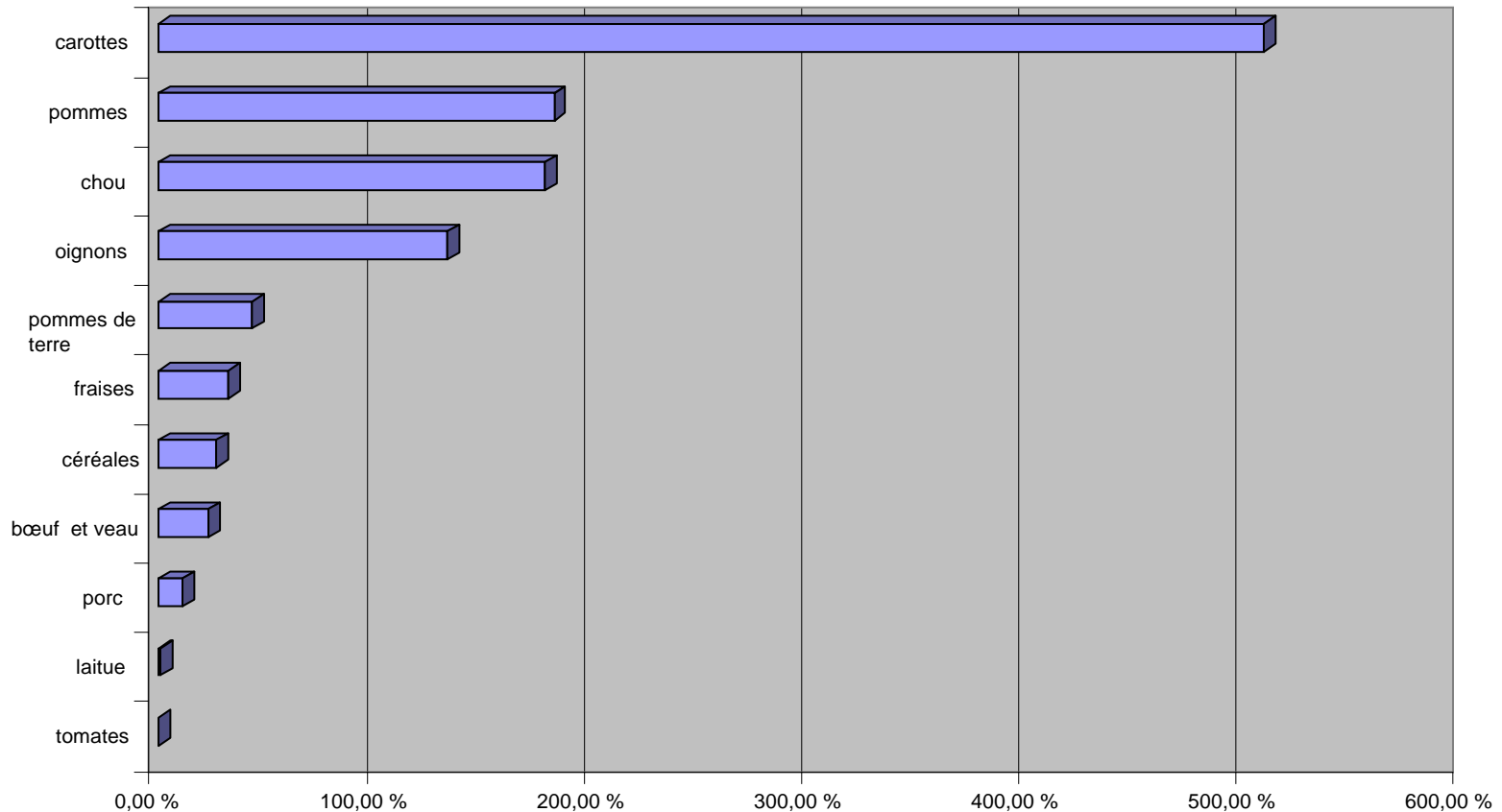
- Au niveau national, la demande pour des terres agricoles fiables (catégories 1 à 3) a commencé à dépasser l'offre dans les années 1990; plus de 70 % dans les trois provinces des Prairies, qui sont souvent en période de sécheresse
- En Nouvelle-Écosse, une très petite proportion de terres de catégories 2 à 4 est utilisée pour la production agricole – environ 182 000 hectares
- 3,3 % de la superficie de la province
- 11,2 % de la superficie de nos terres agricoles
- Cela représente 0,19 hectare par Néo-Écossais

*Ou un terrain à peu près équivalent à
5 patinoires pour une famille de quatre personnes*



Degré actuel d'autosuffisance liée à quelques produits alimentaires

Pourcentage d'autosuffisance pour certains produits cultivés/animaux élevés et consommés couramment en N.-É.



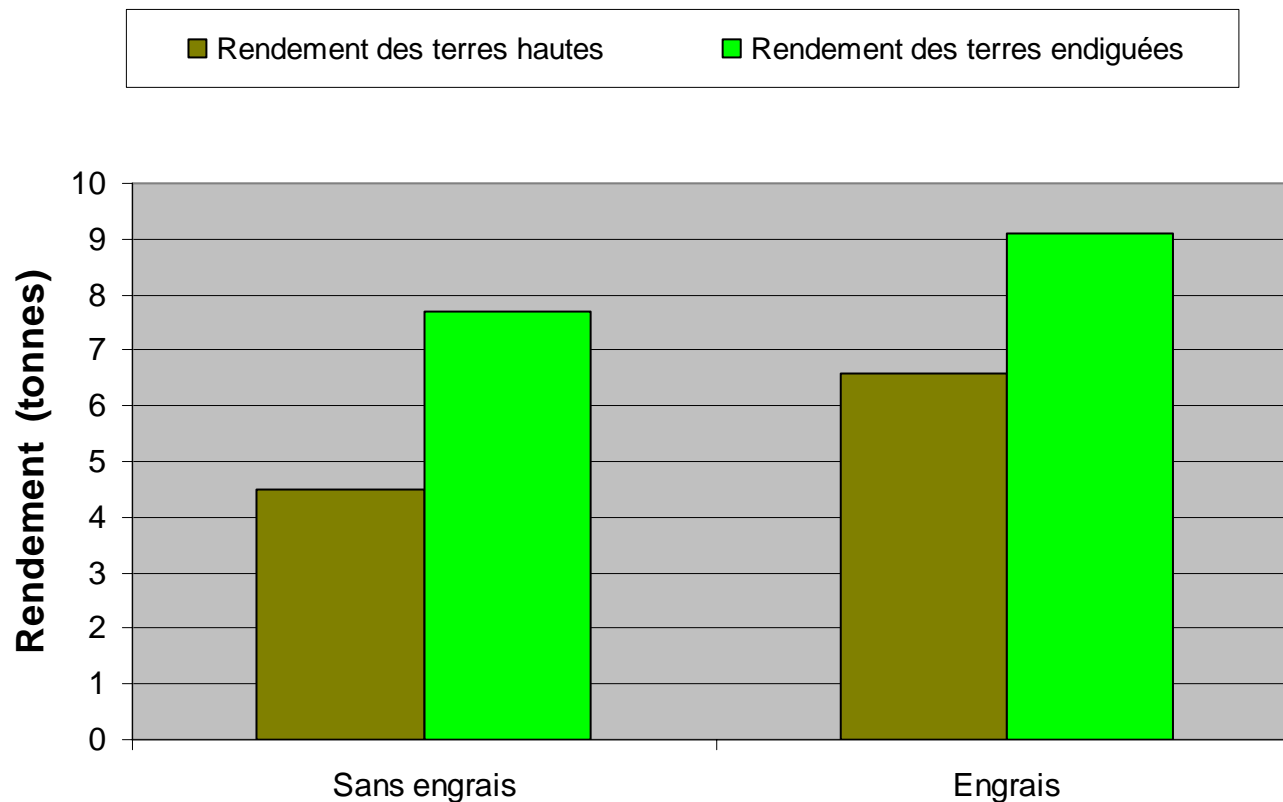
Source : Statistique Canada, Division de l'agriculture, Truro, 2010

Dangers liés aux terres endiguées

- Représentent près de 10 % de nos terres agricoles en production
- Les terres les plus fertiles de la province
- Pourrions-nous les perdre?
 - Ouragan dévastateur
 - Augmentation du niveau de la mer
 - Affaissement des terres

Tous les sols ne sont pas pareils

Sols des terres hautes vs sols des terres endiguées

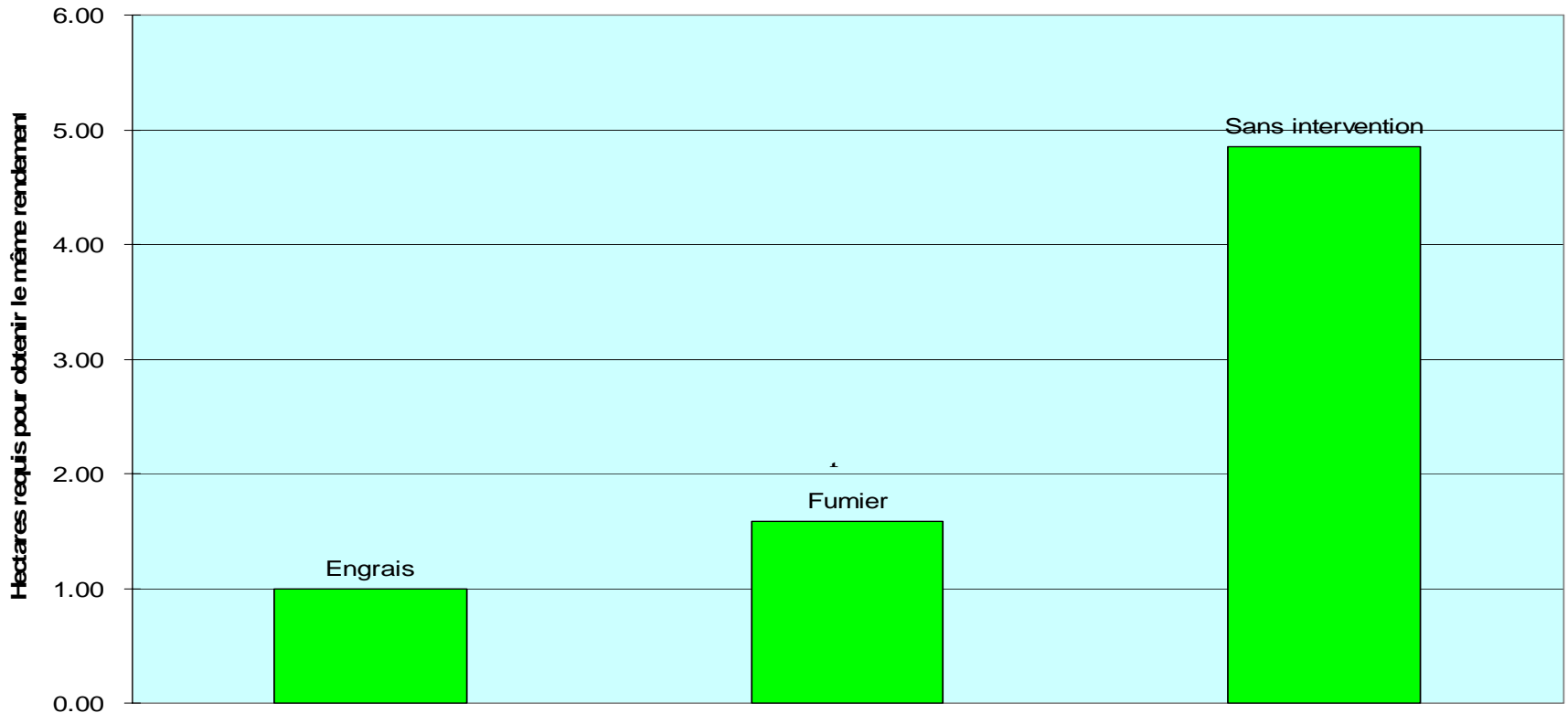


Source: J. Wells, « Long Term Manure Application Impacts on Forage Yield, Nutrient Utilization and Soil Nutrient Status », Université Dalhousie, Halifax, Nouvelle-Écosse, et Collège d'agriculture de la Nouvelle-Écosse, Truro, Nouvelle-Écosse, (2009)

Techniques agricoles modernes

- Amélioration de la productivité grâce
 - à la reproduction des animaux et à l'élaboration de nouvelles plantes
 - à l'adoption de nouvelles technologies
 - aux engrais
- Quantité limitée de terres pouvant produire de grandes quantités d'aliments et de fibres
- Mais qu'advient-il si les choses changent, comme le prix de l'énergie (engrais, carburant, transport)?

Les engrais et le fumier réduisent le besoin en terres



Source des données : Y. Papadopoulos, Agriculture et Agroalimentaire Canada, Ferme expérimentale, Nappan, N.-É.; E. Reekie, Université Acadia, Dép. de biologie, Wolfville, N.-É.; U. Gupta, Agriculture et Agroalimentaire Canada, Station de recherche, Charlottetown, Î.-P.-É., 1991

Comment perdons-nous des terres agricoles?

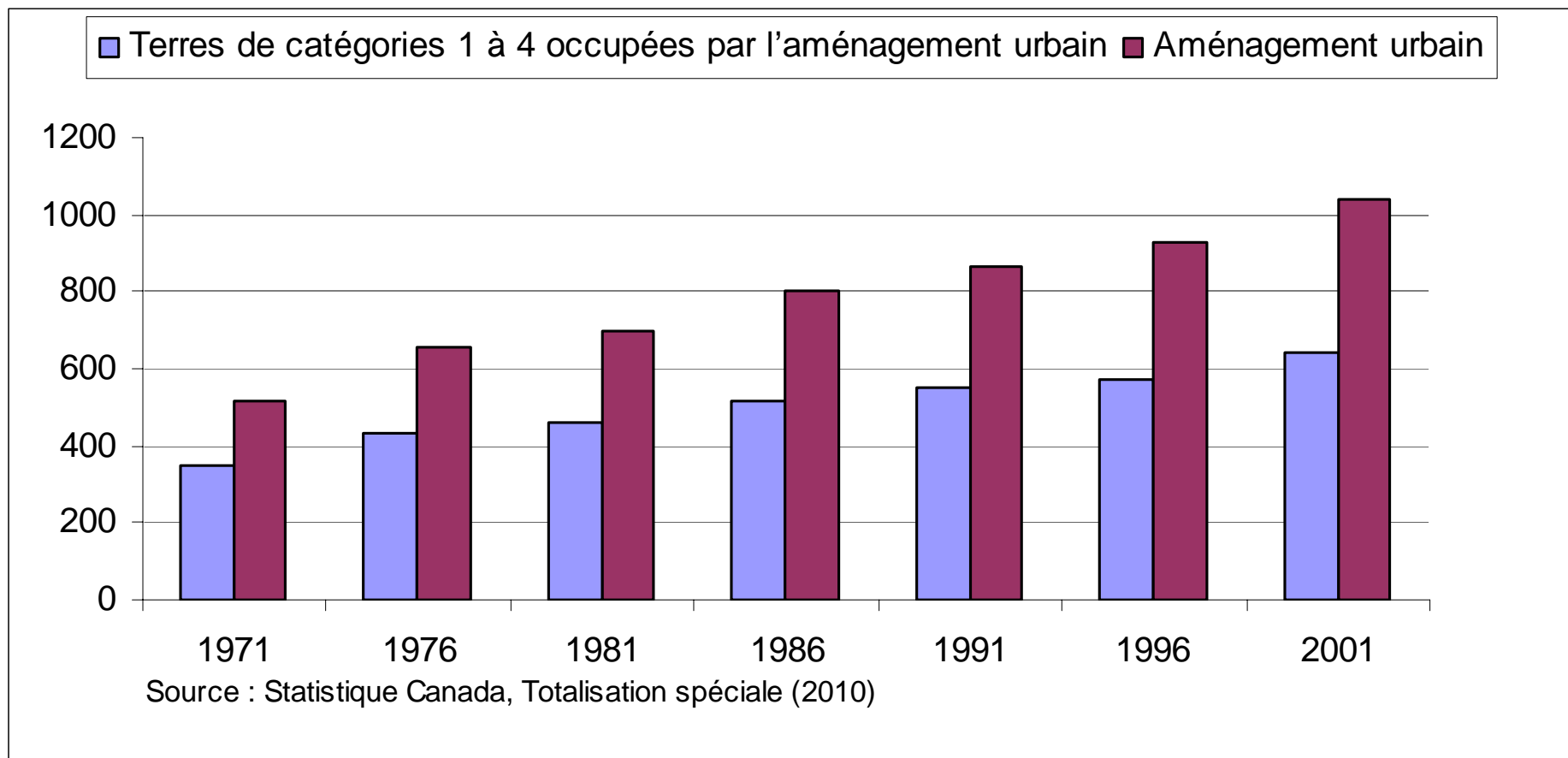
- **Promotion immobilière** – résidentielle, commerciale; infrastructures (p. ex., les routes)
- **Abandon des terres** – on arrête d'utiliser les terres pour la production agricole
- **Appauvrissement des terres** – perte de la productivité des terres

Promotion immobilière

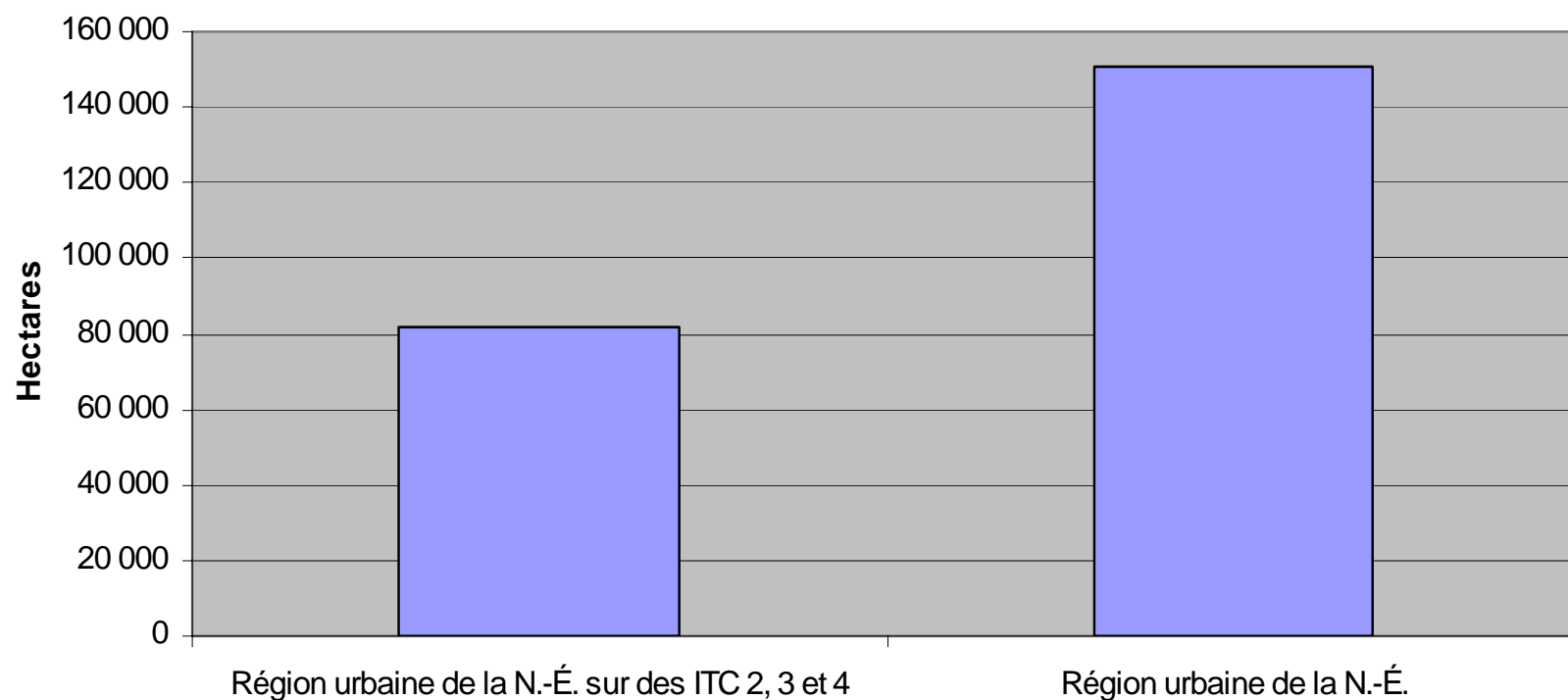
- Occupation physique des terres
- Limite des activités agricoles
 - Réduction de l'étendue cultivée
 - Passage à des cultures de moindre valeur
 - Utilisation inefficace des ressources (p. ex. : le fumier)

Kilomètres carrés perdus au profit de la promotion immobilière en N.-É. 1971-2001

CETA



Depuis le début du développement?



Source : Ministère de l'Agriculture de la N.-É., ministère des Ressources naturelles de la N.-É., Ressources naturelles Canada

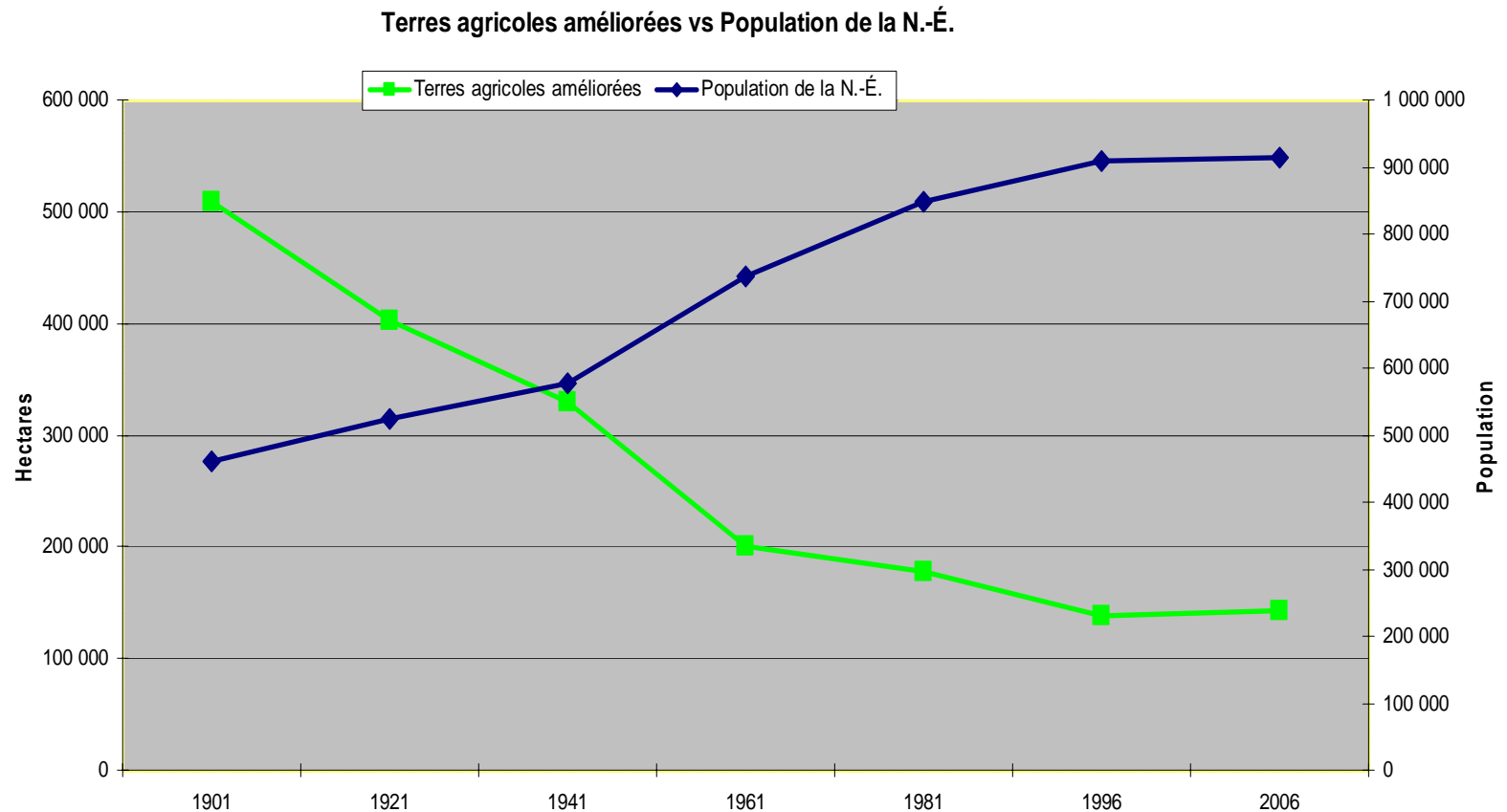
Abandon des terres

Pourquoi les agriculteurs arrêtent-ils de cultiver leur terre?

- Investissement élevé, rendements faibles
- Main-d'œuvre difficile à trouver
- Affaiblissement des prix à cause des importations bon marché et subventionnées
- Les obstacles au commerce nuisent aux marchés d'exportation
- Consolidation des secteurs du détail et de la transformation des aliments => prix à la baisse

Et qu'est-ce qui se produit ensuite?

Comment c'était auparavant?

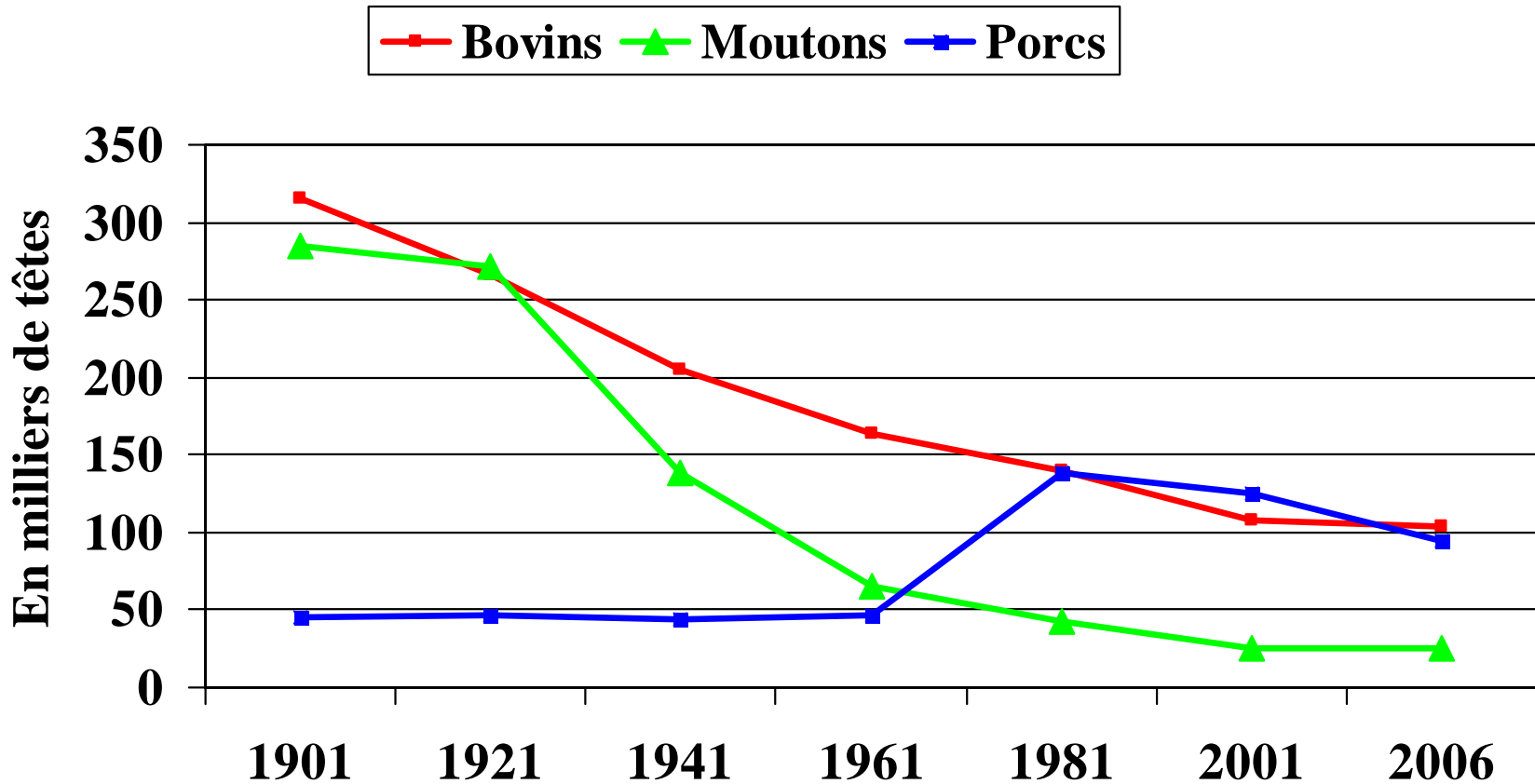


Source : Statistique Canada, Recensement de l'agriculture, Recensements des populations, 1901 - 2006

***En 1901, cela représentait environ
28 patinoires par famille de quatre***

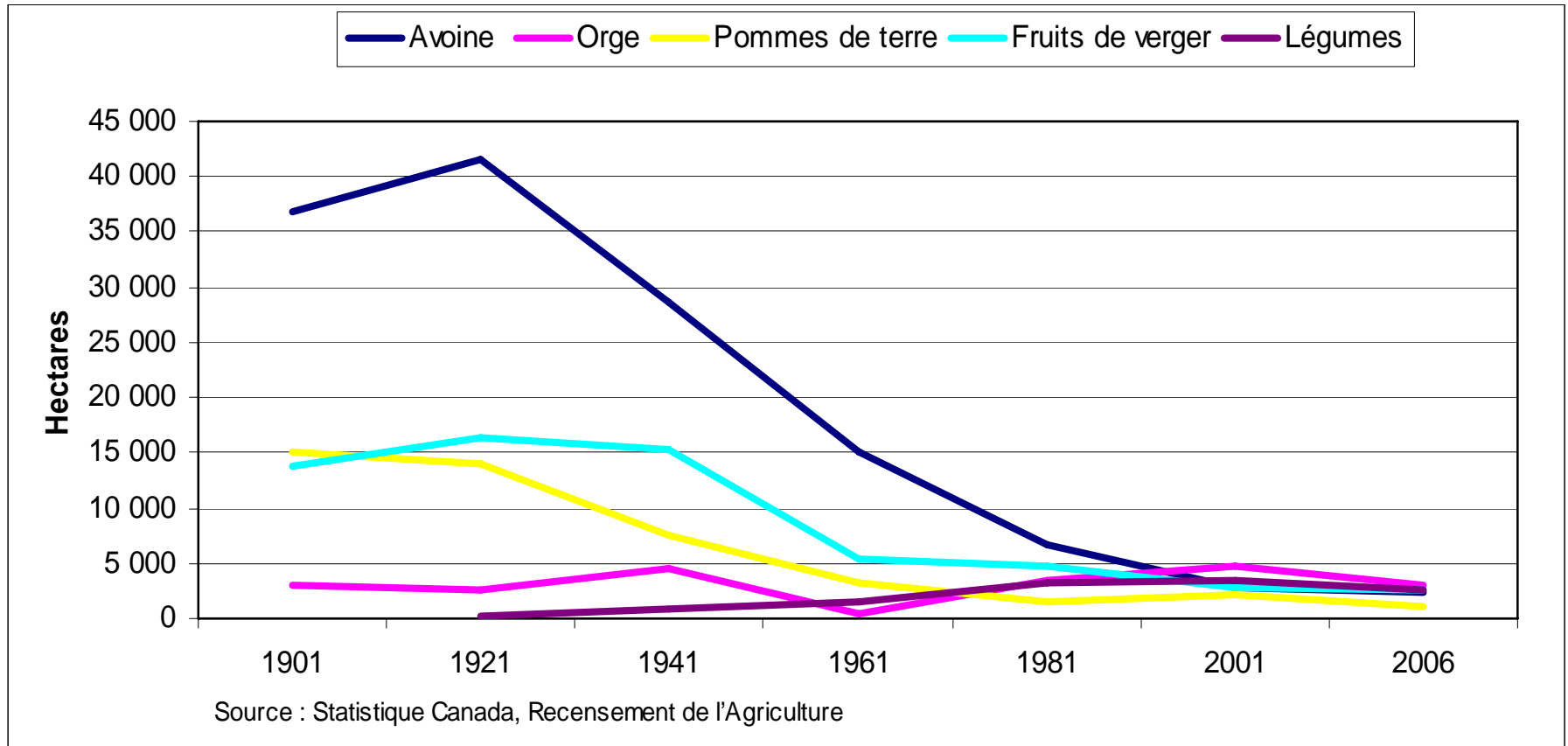


Importantes baisses de l'élevage depuis 1901

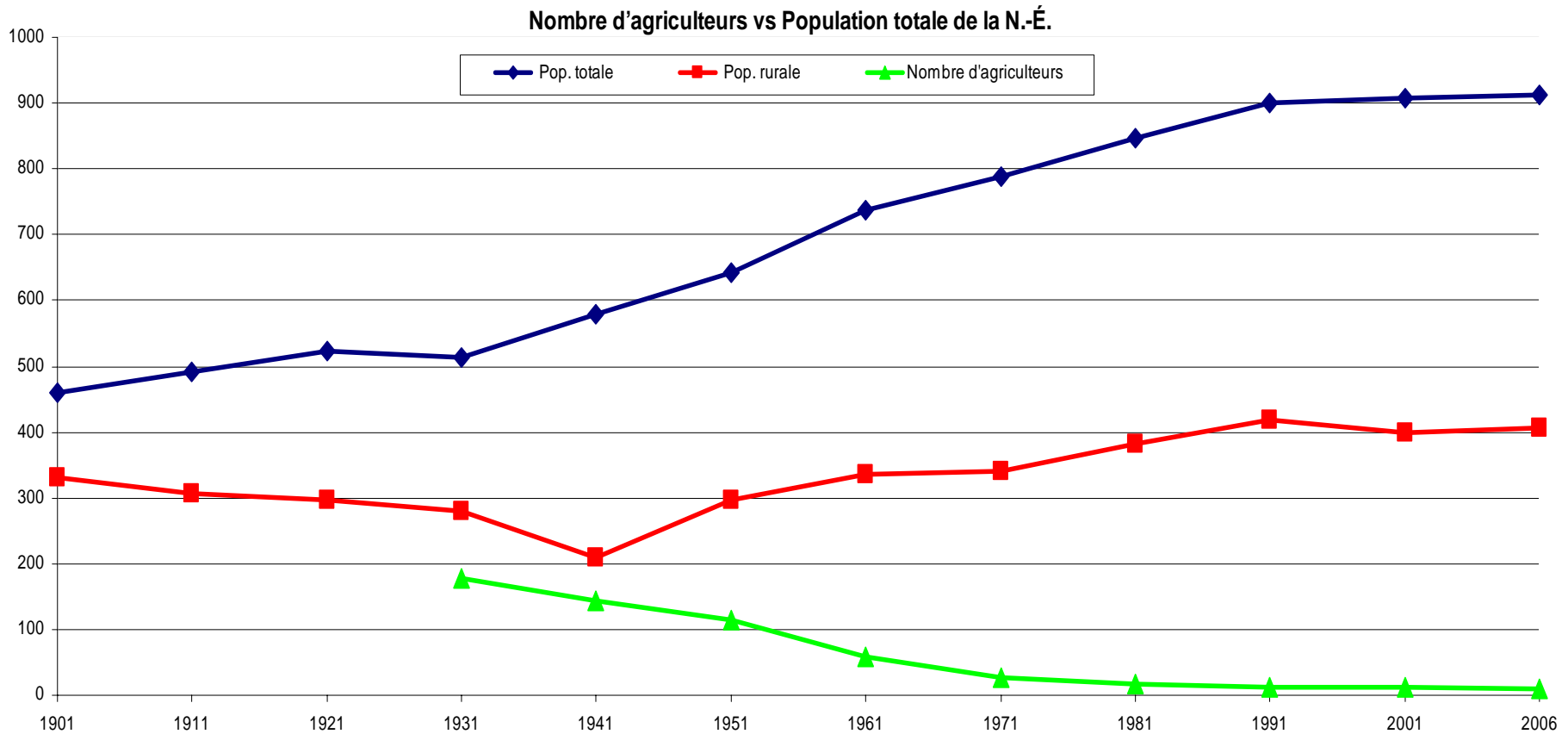


Source : Statistique Canada, Recensement de l'Agriculture

Importantes baisses des cultures agricoles depuis 1901



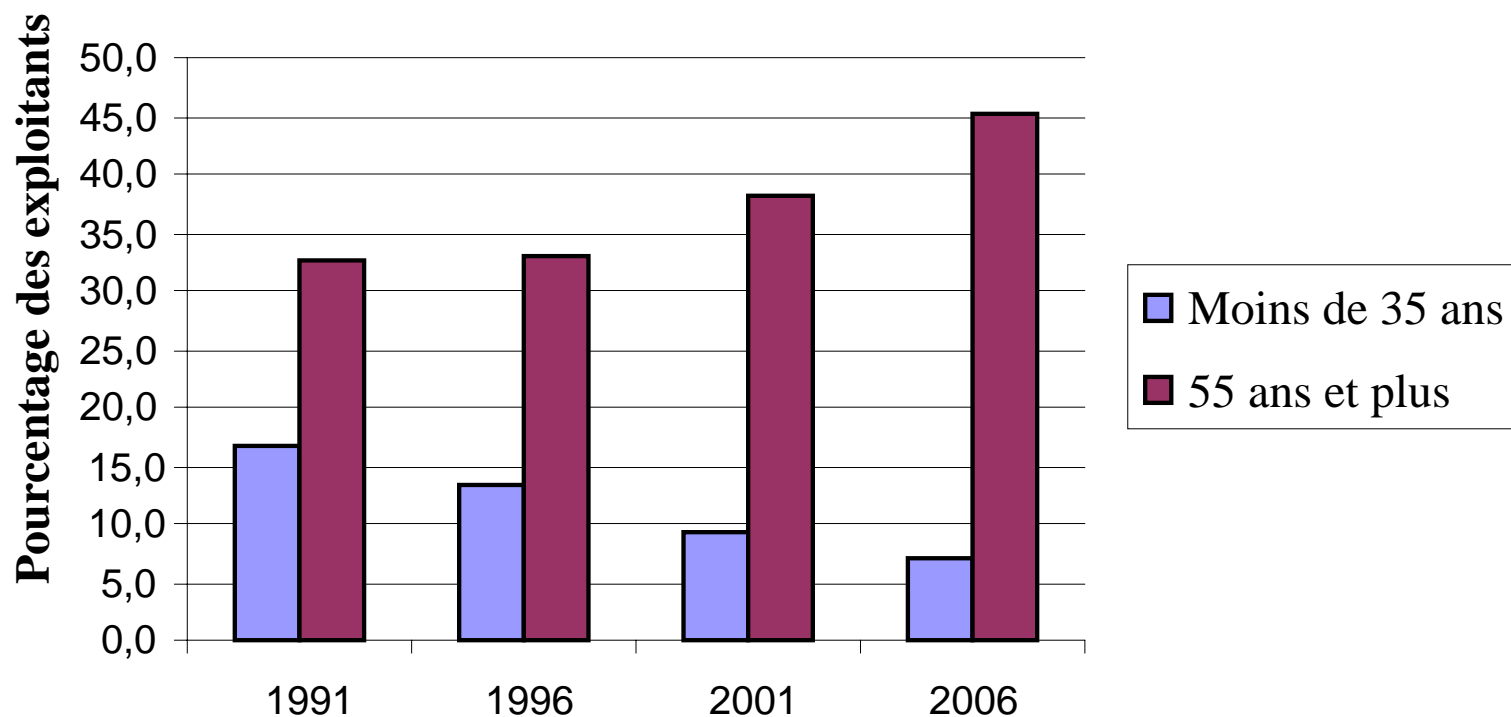
Moins d'agriculteurs



Source : Canada. Statistique Canada, Recensements de la population 1901-2006

Agriculteurs âgés

Âge des exploitants agricoles



Source : Statistique Canada, Recensements 1996-2006

Combien de terres seraient suffisantes?

- Si les terres en 1901 étaient plus près de l'autosuffisance – voilà une supposition raisonnable
- Il faudrait près d'un million d'hectares pour permettre à la population actuelle de consommer selon un régime équivalent à celui de 1901 aux niveaux de productivité de 1901
- C'est environ 800 000 hectares de plus pour être autosuffisants
- Coût de la récupération des terres = 3,2 à 6,4 milliards de dollars
- Ce serait moins étant donné l'amélioration de la productivité – mais quand même un investissement considérable

Appauvrissement des terres

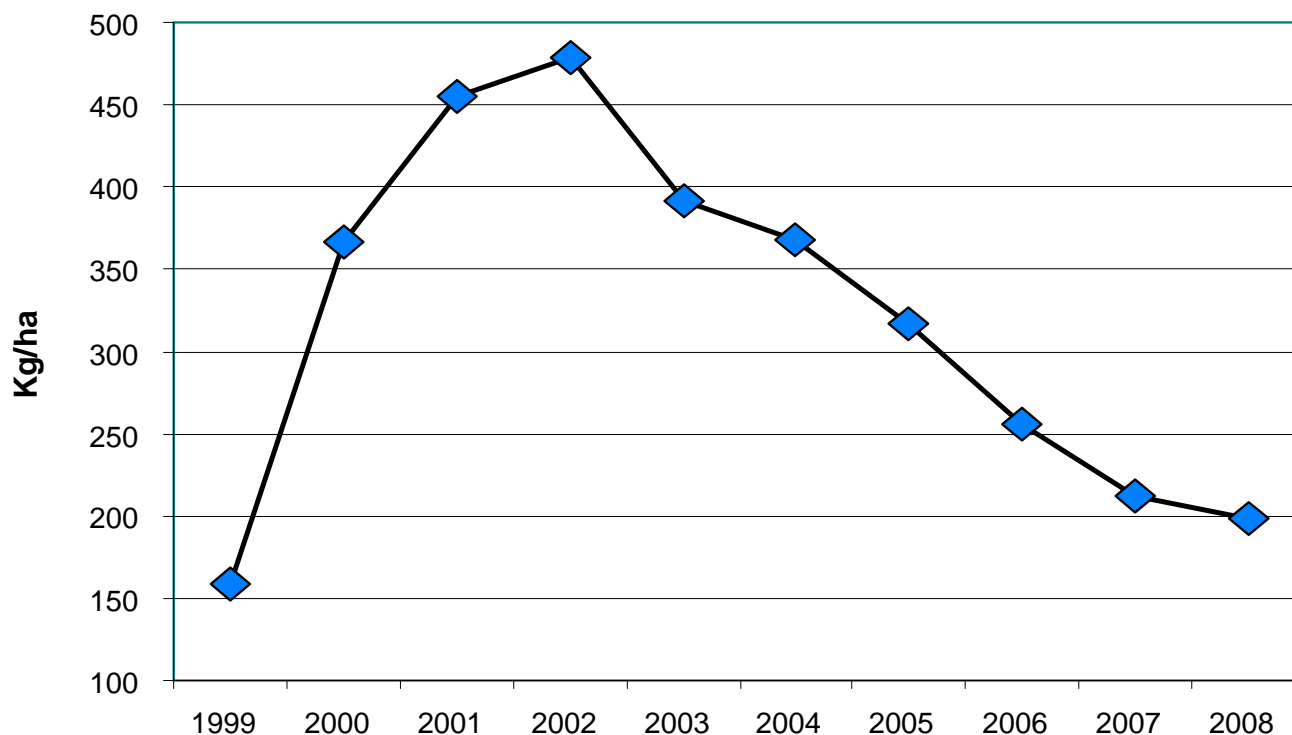
- Perte de la productivité par
 - L'érosion des sols
 - Le tassement des sols
 - La réduction de la fertilité
- Causé surtout par des facteurs économiques
 - Baisse des prix
 - Augmentation des coûts (p. ex. : l'énergie)

Niveaux médians de potasse en Nouvelle-Écosse



Source : Service des laboratoires du MANE, élaboré par LP Consulting pour la phase 2 de la planification de la gestion des nutriments en N.-É. (2006)

Niveaux médians de phosphate en Nouvelle-Écosse



Source : Service des laboratoires du MANE, élaboré par LP Consulting pour la phase 2 de la planification de la gestion des nutriments en N.-É. (2006)

Et alors?

Devrions-nous tenter de produire des aliments ici s'ils sont moins cher et disponibles ailleurs? Peut-être que non, tant que :

- Le coût du transport en provenance d'autres régions agricoles n'augmenteront jamais de manière dramatique
- Les autres grandes régions agricoles ne connaîtront pas la sécheresse, la maladie ou la guerre
- Les autres grandes régions agricoles ne verront pas leur production achetée ou leurs terres vendues à des pays qui manquent eux-mêmes de terres
- L'augmentation des coûts de l'énergie n'accroîtra pas notre besoin en terres agricoles pour produire la même quantité de nourriture
- Les coûts élevés de l'énergie ne forceront pas l'utilisation de terres agricoles pour produire de la biomasse

Quels outils servent à protéger les terres agricoles?

- **Solutions liées à l'économie de marché (profit)**
- **Solutions liées à la réglementation du marché (limites de la production)**
- **Indemnisation pour les droits d'exploitation**
- **Incitatifs fiscaux**
- **Réglementation sur le zonage**
- **Achat de terres agricoles par le gouvernement**
- **Le document de travail contient une description plus détaillée des outils disponibles et de leurs avantages et inconvénients**

Quels outils utilise-t-on

- Incitatif fiscal – les terres agricoles sont exemptées de l'impôt foncier mais il y a une pénalité de 20 % sur le prix de vente si les terres sont vendues pour d'autres usages
- Déclarations d'intérêt provincial – les plans municipaux ou leurs modifications qui visent des terres de catégories 2 à 4 doivent être examinés par la province
- Zonage agricole, notamment dans Kings et Hants Est

Pourquoi sommes-nous ici?

Pour connaître vos réponses aux questions suivantes

- *Y a-t-il un problème de terres agricoles en Nouvelle-Écosse?*
- *Devrions-nous faire quelque chose à ce sujet?*
- *Que devrions-nous faire à ce sujet? Soyez spécifique si vous favorisez une solution particulière.*
- *S'il faut dépenser des fonds publics, sommes-nous prêts à le faire?*
- *Si nous considérons que de bonnes terres agricoles sont utiles à tous les Néo-Écossais, est-ce que leur préservation devrait être la responsabilité des municipalités ou du gouvernement provincial?*

Appendix F – Agricultural Profiles

Province of Nova Scotia

Annapolis County

Antigonish County

Cape Breton County

Colchester County

Cumberland County

Digby County

Guysborough County

Halifax County

Hants County

Inverness County

Kings County

Lunenburg County

Pictou County

Queens County

Richmond County

Shelburne County

Victoria County

Yarmouth County

NOVA SCOTIA



PROFILE of AGRICULTURAL LAND RESOURCES

Introduction

This report presents an overview of agricultural land resources in Nova Scotia. The following sections describe how much arable land assets the province and its counties have, where the land is located and how it is being used. The report also provides an estimate of how much arable land has been lost to urban development as well as farmland that is threatened by property fragmentation and encroachment.

Data and limitations

This report relies on three primary data sets:

The Canadian Land Inventory (CLI), produced in 1960s to early 1980s provides land capability classifications for agriculture among other rural land uses. While this information is old and at a large geographic scale 1:250,000, the information is useful in providing guidance regarding the province's agricultural land resources. The main limitation to these data are distortions in certain areas of the province (mainly in southwestern Nova Scotia and Cape Breton). Where these distortions result in the CLI data not fitting with the other data sources used in this report, errors will occur. For most of the main agricultural regions of the province, the CLI data seem to fit with the other data sources well.

The Forestry Inventory Geographic Information System of the Nova Scotia Department of Natural Resources (DNR) maintains a spatial dataset which displays and categorizes the land cover of Nova Scotia. These maps were used to determine the location and size of: urban areas, agriculture and wild blueberry land. The land classifications were interpreted from air photos and satellite imagery acquired between 1997 and 2006. Data are not collected on a county basis and so counties contain data based on images from multiple years. For this reason, exact comparisons between counties cannot be made.

In 1998, the Nova Scotia Department of Agriculture completed the, Agricultural Land Identification Project (ALIP). This project used a combination of the DNR forest coverage files mentioned above and ground confirmation (truthing) to determine active and inactive agricultural lands in the province. While very

useful, this information is now dated. An updated version of this report with new ALIP data would be significantly more accurate for 2010.

Property and civic address data for the province of Nova Scotia were also used in this analysis.

Methodology

The datasets described above were imported into ESRI's ArcMap GIS software to arrive at the calculations in this report. The main analysis tools used were the spatial area calculator to determine hectares, and the clip function to determine how much of one land type (e.g. agriculture) occurred on a second land type (e.g. CLI 2).

The CLI data were reprojected from coordinate system NAD 1927 UTM Zone 20N to NAD 1983 UTM Zone 20N. This is the closest coordinate system available to shift the data to more accurately fit with the other sources of geographic data used in this report.

The ALIP data were manually shifted in ArcMap as it was determined that the original projection was not accurate. This small shift helped to fit the ALIP data with the other data used in this report.

Overview of land resources

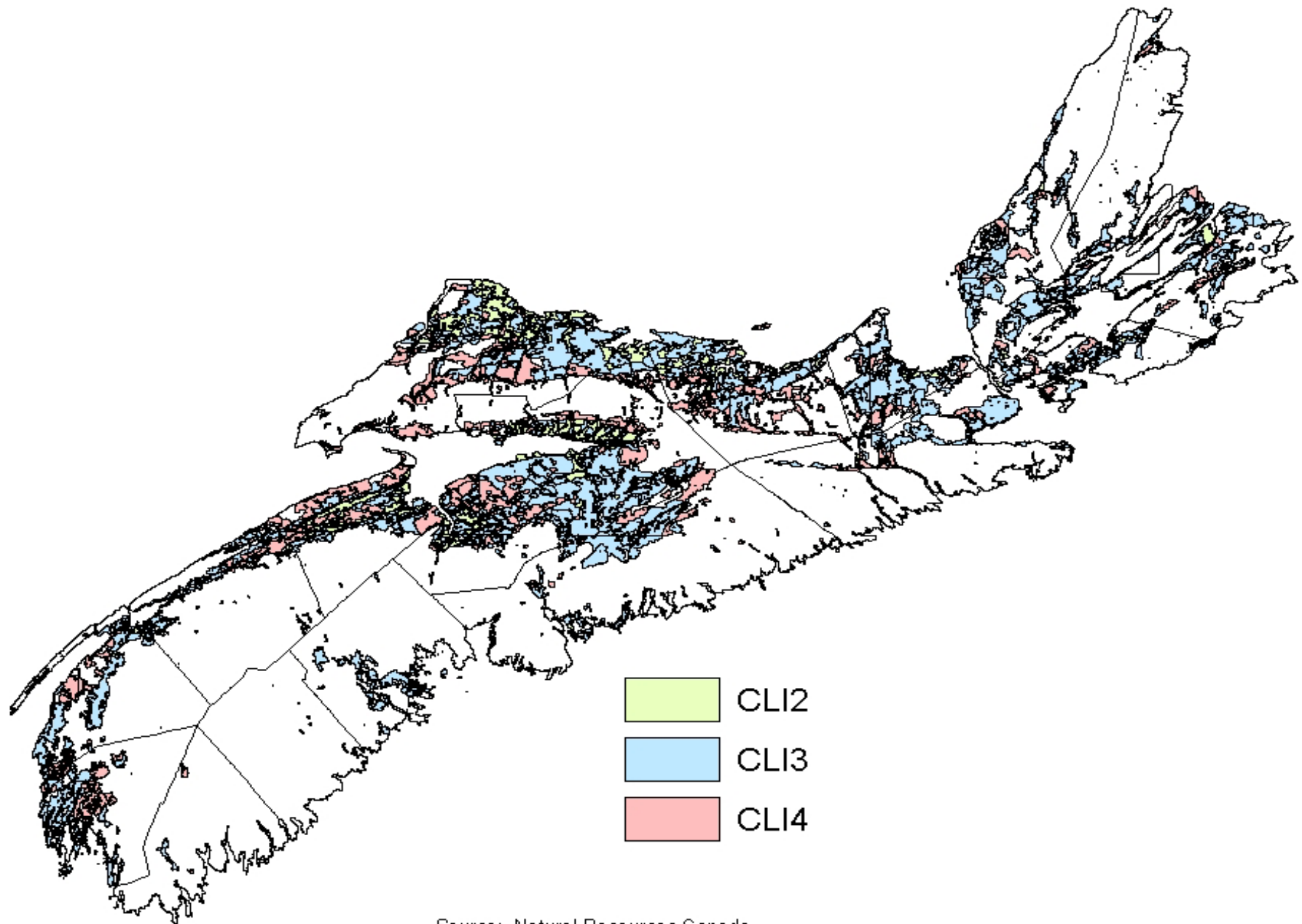
Lands most suitable for agricultural production (Canadian Land Inventory (CLI) classes 2,3 and 4ⁱ) cover slightly less than 30 percent of Nova Scotia's land area (see Table 1). The province's best arable land (CLI2) accounts for 3 percent of the land area, while CLI3 and CLI4 cover 18 and 8 percent, respectively. This land is not necessarily used for agriculture and may instead be used for urban development, for other economic uses or forested/natural state.

Table 1. Agricultural land resources- Nova Scotia		
	Hectares	Percent of provincial land area
CLI 2,3,4 TOTAL	1,573,160	28.7
CLI 2	164,933	3.1
CLI 3	990,062	18.1
CLI 4	418,166	7.6
Agricultural land (ALIP)*	235,965	4.3
Agricultural land (DNR)**	229,004	4.2
Blueberry land (DNR)**	16,508	0.3
* As indicated by the NSDA Agricultural Land Identification Project. ** Based on forest coverage files from NS Natural Resources (blueberry land is low-bush/ wild) Source: Nova Scotia Department of Agriculture, Natural Resources Canada,		

Approximately 230,000 hectares are used for agriculture as indicated by the ALIP project in 1998, amounting to 4.3 percent of the province's area (Figure 1b). A further 16,500 hectares are estimated to be in wild blueberry production.

Land with suitability for agricultural production is concentrated in the Annapolis Valley, throughout most of Hants County, and along the Northumberland Strait. There are also significant concentrations in Digby and Yarmouth counties, in southern Inverness and around the Cape Breton Regional Municipality.

Figure 1a. Agricultural land resources in Nova Scotia



Source: Natural Resources Canada

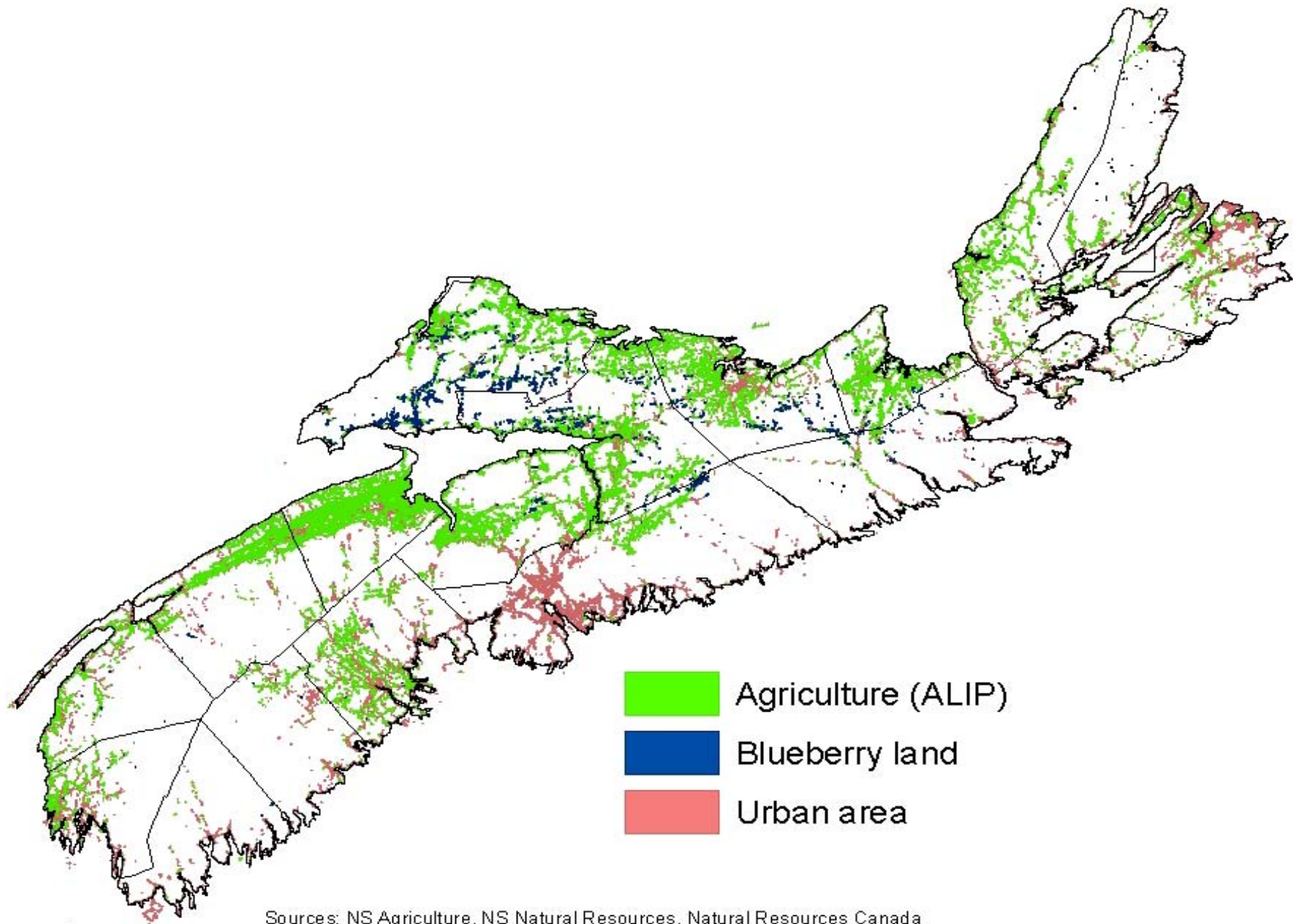
Cumberland County has the most CLI 2,3,4 soils in Nova Scotia with 232,379 hectares (14.8 percent of provincial total), followed by Hants (188,497 ha, 12 percent) and Colchester (181,843 ha, 11.6 percent). Shelburne and Queens counties have the least amount of arable land, each with less than 1 percent of the provincial total. Kings, while being the most important county in terms of agricultural output, is actually the sixth county in terms of arable land area at 107,850 hectares (6.9 percent).

Cumberland is also endowed with the largest area of highest rated soils for agriculture (CLI2) in the province with 50,235 hectares (30.5 percent of the provincial CLI2 total). Colchester has the second largest area of these lands with 33,684 hectares (20.4 percent) followed by Kings (20,438 ha, 12.4 percent). Yarmouth, Lunenburg, Shelburne and Queens have no CLI2 land.

Hants has the most CLI3 land with 125,362 hectares (12.7 percent of provincial CLI3 total). Cumberland also has the largest area of CLI4 land (74,931 ha, 17.9 percent).

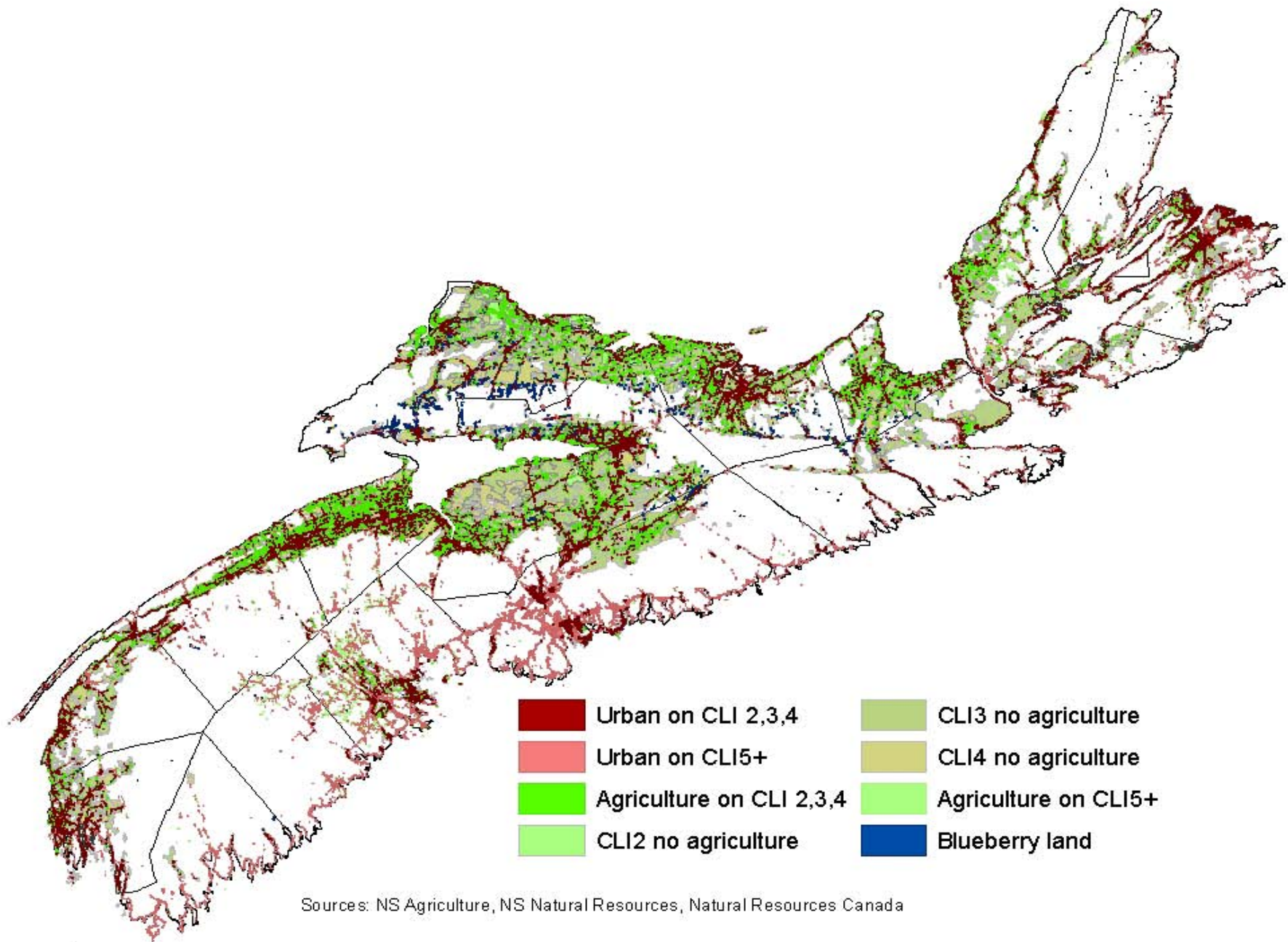
Hants County has the highest arable land as a percentage of county area with CLI2,3,4 lands accounting for 61.9 percent of the county's land. Antigonish is essentially the same at 61.7 percent. Cumberland (54.2 percent), Pictou (50.8 percent), Kings (50.6 percent) and Colchester (50.3 percent) all have over half of their land as CLI 2, 3 or 4. Lunenburg (9.4 percent), Shelburne (1.9 percent) and Queens (0.2 percent) all have less than 10 percent arable lands.

Figure 1b. Agriculture and urban land development in Nova Scotia



Sources: NS Agriculture, NS Natural Resources, Natural Resources Canada

Figure 1c. Agricultural land resources and development (overlay)

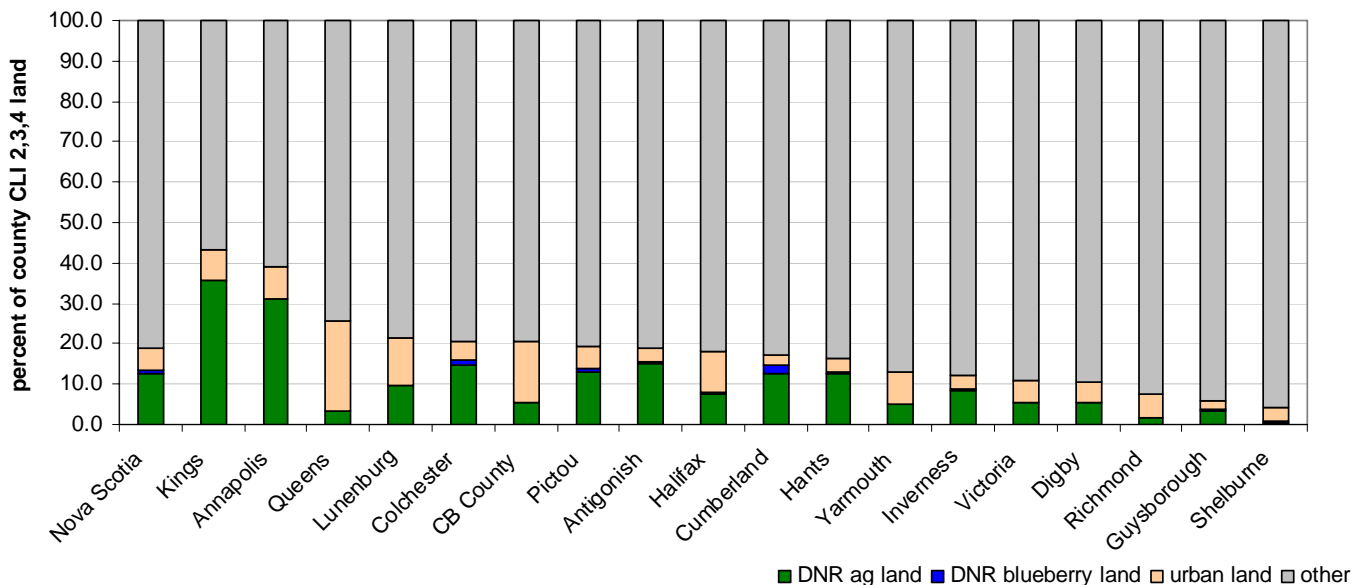


Usage of CLI 2, 3, 4 soils

Approximately 13 percent of land most suitable for agricultural production (CLI classes 2, 3 and 4) are used for agriculture in Nova Scotia. Slightly less than 1 percent of this land is also used for wild blueberry production. Urban development takes up 5.4 percent of CLI 2,3,4 and the remaining 81 percent is in some other use (natural forest or other natural state, cultivated forest, etc).

Kings County makes the most use of its arable land for agricultural production (Figure 2). Over one-third (36 percent) of CLI 2,3,4 land in Kings is in farming. Annapolis County also utilizes a significant portion of its arable land for farming (31 percent). Beyond Kings and Annapolis, utilization rates for arable lands drop off significantly (Antigonish is third highest at 15 percent). This is a result of (1) other counties having relatively large endowments of arable land and/or (2) low utilization of CLI land for agriculture.

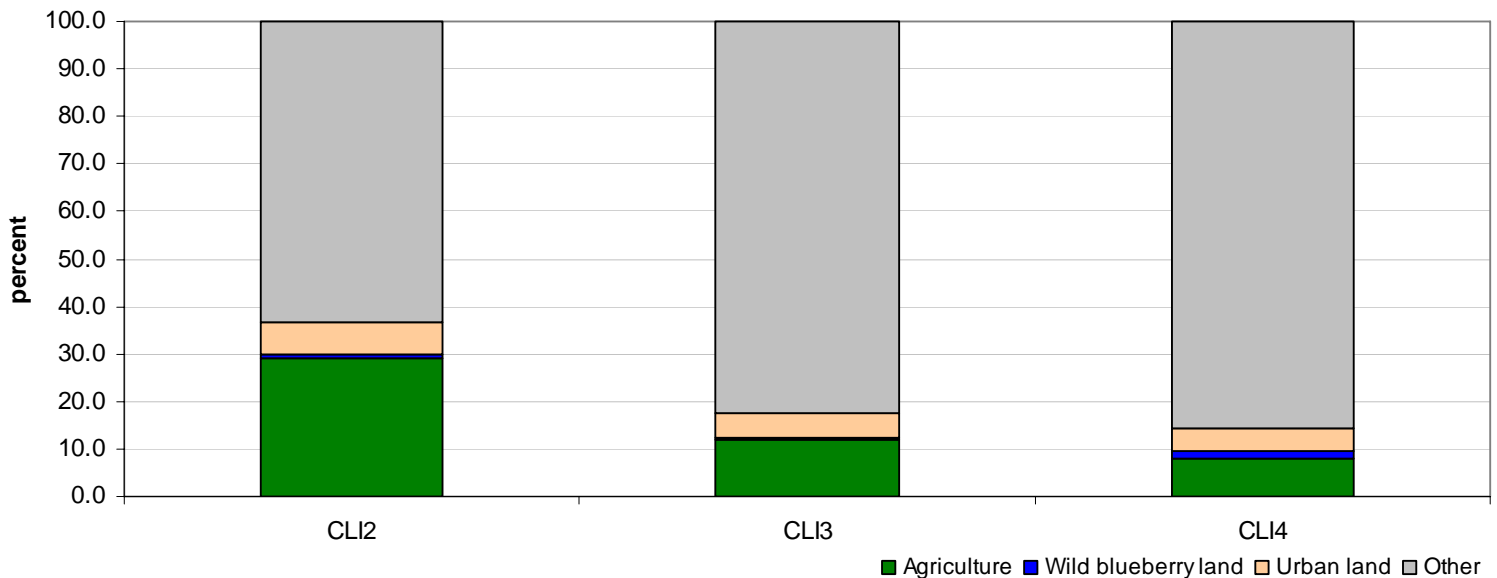
Figure 2. Utilization of soils suitable for agriculture



Cumberland County uses 2.4 percent of arable land for wild blueberry production, the highest in the province.

Utilization of arable land for farming goes up as land quality improves (see Figure 2b). Provincially, 29 percent of the best land for agriculture, CLI2, is used for farming. Approximately 12 percent of CLI3 and 8 percent of CLI4 land is used in farming. Urban development takes up 6.9 percent of CLI2 land, 5.4 percent of CLI3 and 4.6 percent of CLI4.

Figure 2b- Utilization of soils suitable for agriculture- Nova Scotia (breakdown)



Kings County utilizes 62 percent of its CLI2 land, the highest in Nova Scotia. Kings is somewhat different than the provincial average in terms of urban use of arable land. While urban utilization increases along with soil quality provincially, in Kings urban land takes up 7.6 percent of CLI2, 6.5 percent of CLI3, and 8.7 percent of CLI4. Urban land, relatively speaking, is using up relatively less prime arable land in Kings in favour of the lower classes of soil. This alludes to the importance of agriculture to the economy of Kings and the land use bylaws in place there.

Composition of agricultural land

Looking at the land base from a slightly different perspective (the composition of lands in agriculture, Figure/Table 3) it is apparent that agriculture in Nova Scotia is generally taking place on good agricultural soils. Half of agricultural land is on class 3 soils, while 21 percent is on class 2 soils and 14 percent are on class 4. Only 13 percent of agriculture in Nova Scotia takes place on poorer than CLI 4 land.

Wild blueberry production is highly concentrated in CLI 4 land and poorer. Provincially, 45 percent of wild blueberry production takes place on CLI4 land and 34 percent on CLI5 or poorer. Less than 5 percent of wild blueberry production takes place on CLI2 and 16 percent is located on CLI3 land.

Figure 3. Composition of agricultural land

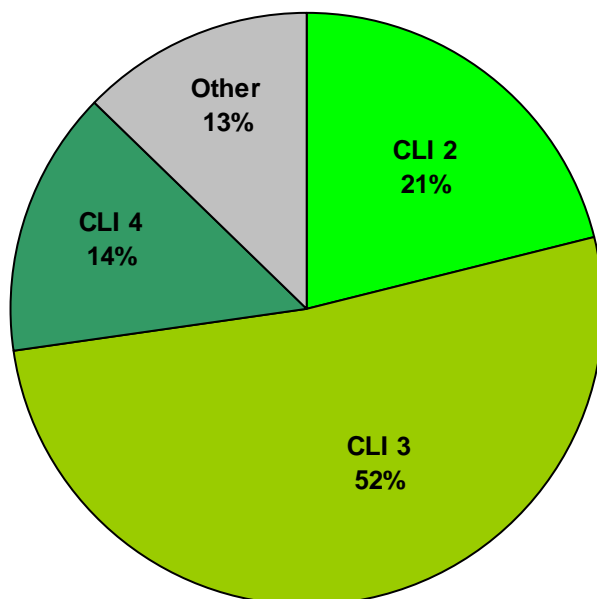


Table 3. Composition of agricultural land- Nova Scotia

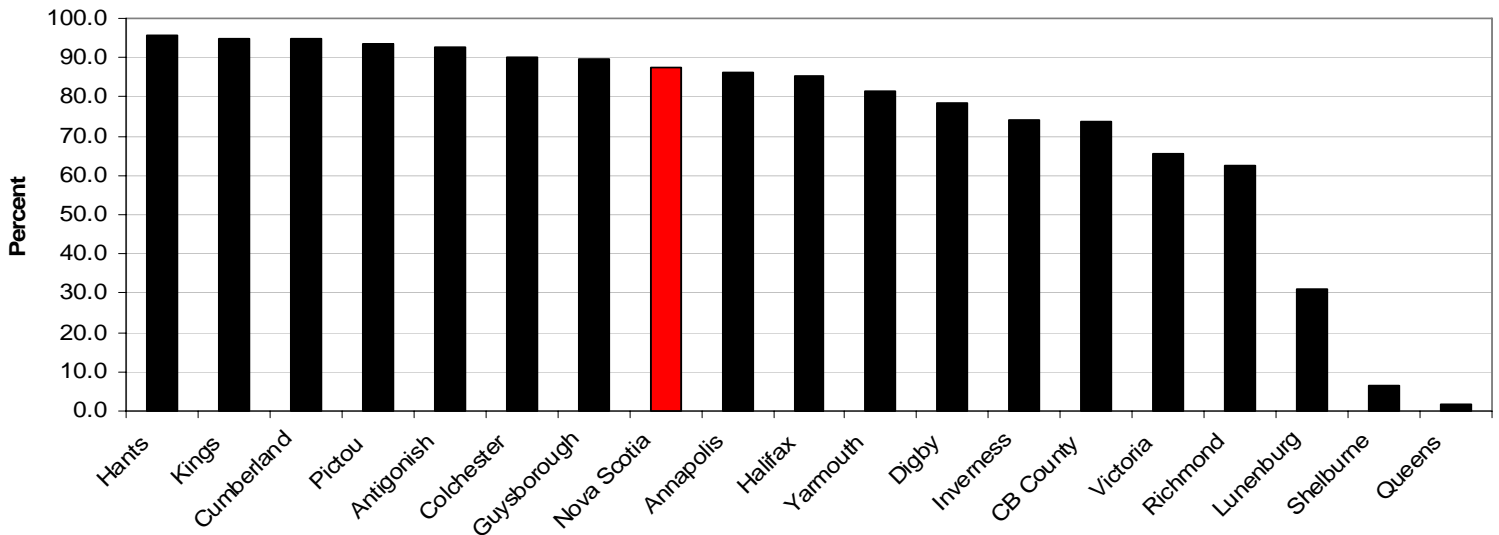
	Agricultural land (ALIP) *	Agricultural land (DNR)**	Blueberry land (DNR)**
	Percent		
CLI 2	20.5	21.1	4.7
CLI 3	49.4	51.8	16.4
CLI 4	16.3	14.5	44.5
Other	13.8	12.7	34.4

* As indicated by the NSDA Agricultural Land Identification Project.
 ** Based on forest coverage files from NS Natural Resources (blueberry land is low-bush/ wild)
 Source: Nova Scotia Department of Agriculture, Natural Resources Canada,
 Nova Scotia Department of Natural Resources.

Hants, Kings, Cumberland, Pictou, Antigonish, Colchester and Guysborough all have 90 percent or more of agriculture occurring on CLI 2,3 or 4 land (Figure 4). Seven counties have less than 75 percent of agriculture on the best arable land.

Cumberland has the highest percentage of agriculture taking place on CLI2 soil (36 percent). Colchester (33 percent), Kings (31 percent), Hants (24 percent) and Pictou (20 percent) all have 20 percent or more of agriculture located on the best agricultural land.

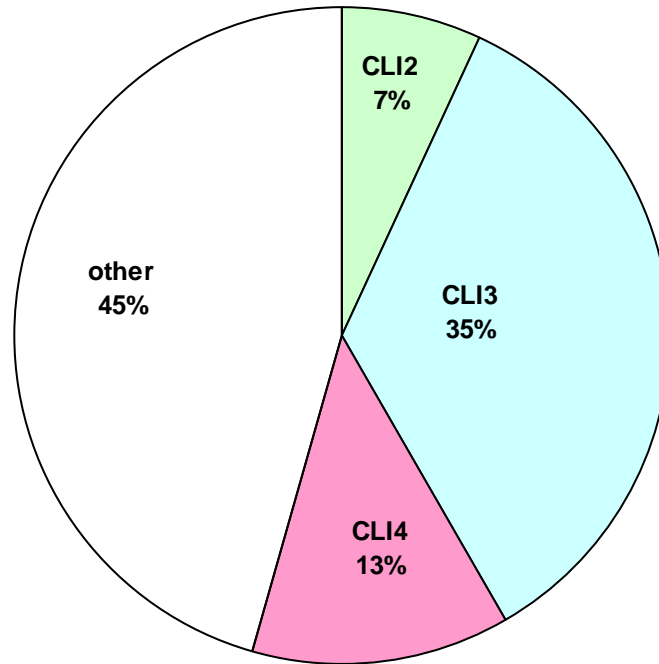
Figure 4. Percentage of agriculture occurring on CLI 2,3,4 land by county



Urban use and property fragmentation of the agricultural land base

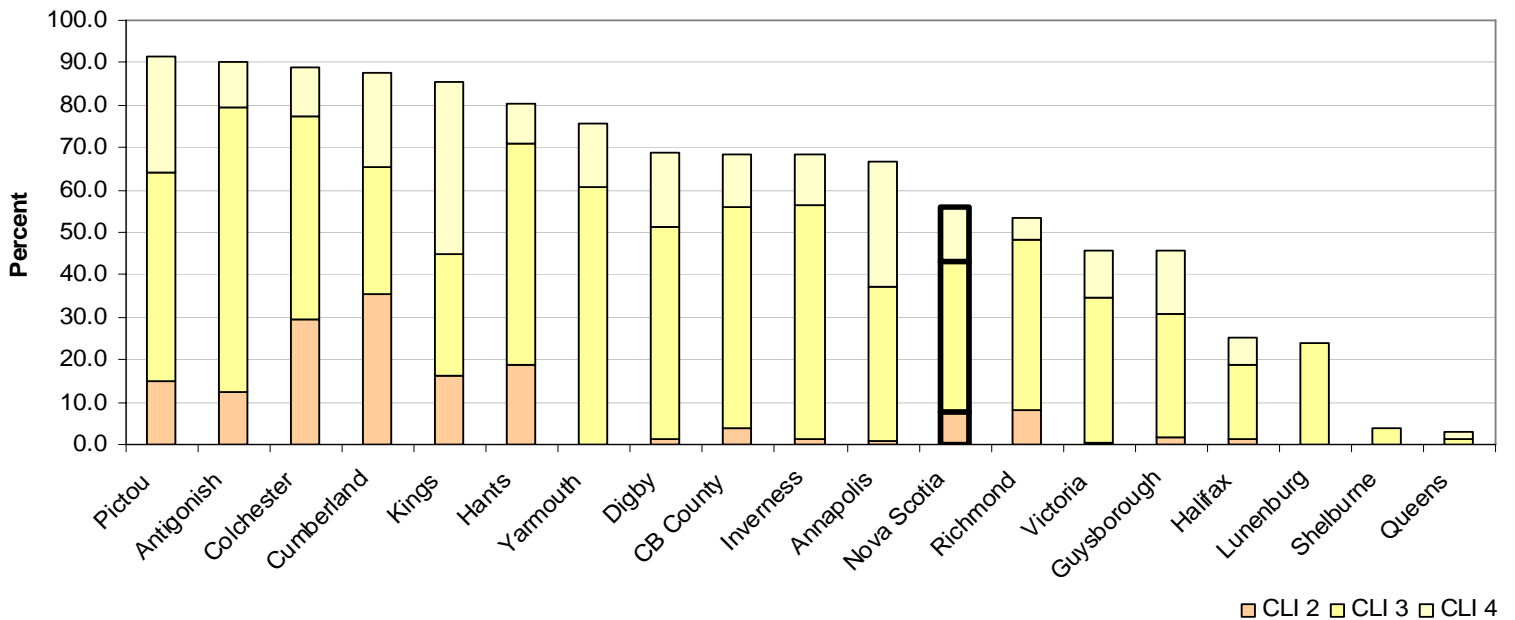
As shown in Figure 5, a significant portion of urban areas in Nova Scotia are located on land that originally had good potential for agriculture, although 45 percent of urban areas are also located on land with poor agricultural potential. Approximately 7 percent of urban development is located on Nova Scotia's best arable land, 35 percent is on CLI 3 land and 13 percent on CLI4.

Figure 3. Composition of urban land- Nova Scotia



As shown in Figure 5b, Pictou County has over 91 percent of its urban development on CLI 4 soil or better. The Nova Scotia average is dragged down substantially due to the fact that Halifax, Nova Scotia's largest urban area, is largely located on poorer than CLI 4 land.

Figure 5b. Composition of urban areas by county



Some lands currently in agriculture may be relatively easily removed for other forms of development. A contributing factor is lot size. Nova Scotia has approximately 19,000 properties of less than two hectares in size that are centered in ALIP lands. This amounts to just under 11,500 hectares of ALIP land.

Kings County has 3,020 properties and 1,883 hectares of properties less than 2 hectares in area on ALIP land, the most of any county. This amounts to just under 5 percent of Kings ALIP lands. Percentage wise, Digby has by far the most fragmented farmland with 20 percent (837 ha) of ALIP lands being on properties of less than 2 hectares. Neighboring Yarmouth County is second at 9 percent (325 ha).

In total, Nova Scotia has a total of 46,000 small (< 2 ha) properties either on, or adjacent to, ALIP farmland. These properties total approximately 30,000 hectares. Once again, Kings has the largest number of these properties with 7,206, but Digby has the highest ratio between small properties and ALIP land, followed again by Yarmouth. Shelburne and Lunenburg also have a large number of small size properties adjacent to ALIP lands relative to the size of land being farmed. Cumberland agriculture is the least threatened, relatively speaking, but does have the third largest number of these properties bordering on ALIP land.

An attempt was made to estimate the amount of farm land lost to urban development. A land cover file based on satellite and fly-over images from the NS Department of Natural Resources was compared to the original ALIP file from 1998 to determine which farm lands had become designated as urban as of the date of the DNR images.

Approximately 3,500 hectares (1.5 percent) of ALIP lands in Nova Scotia have been lost to urban development since 1998 based on this methodology. Colchester has lost the most land to urban development (819 ha) followed by Cumberland (597 ha) and Kings (400 ha). Shelburne, Queens and Victoria counties have all lost less than 25 hectares of farmland. In relative terms, Digby has lost the highest percentage of farmland (6.1 percent), followed by Shelburne (3.7 percent) and Colchester (2.5 percent).

While physical occupancy of land by non farm development or land with the potential for non-farm development can be used to estimate potential loss of land to the sector, the effect of development on adjacent agricultural lands is probably of greater significance in terms of area affected. In order to estimate the area of farmland that is at risk due to the proximity of development, a 300 ft (91.44m) buffer was drawn around the property line of each small (<2ha) property and the amount of ALIP farmland falling under this zone was calculated (Figure 6).

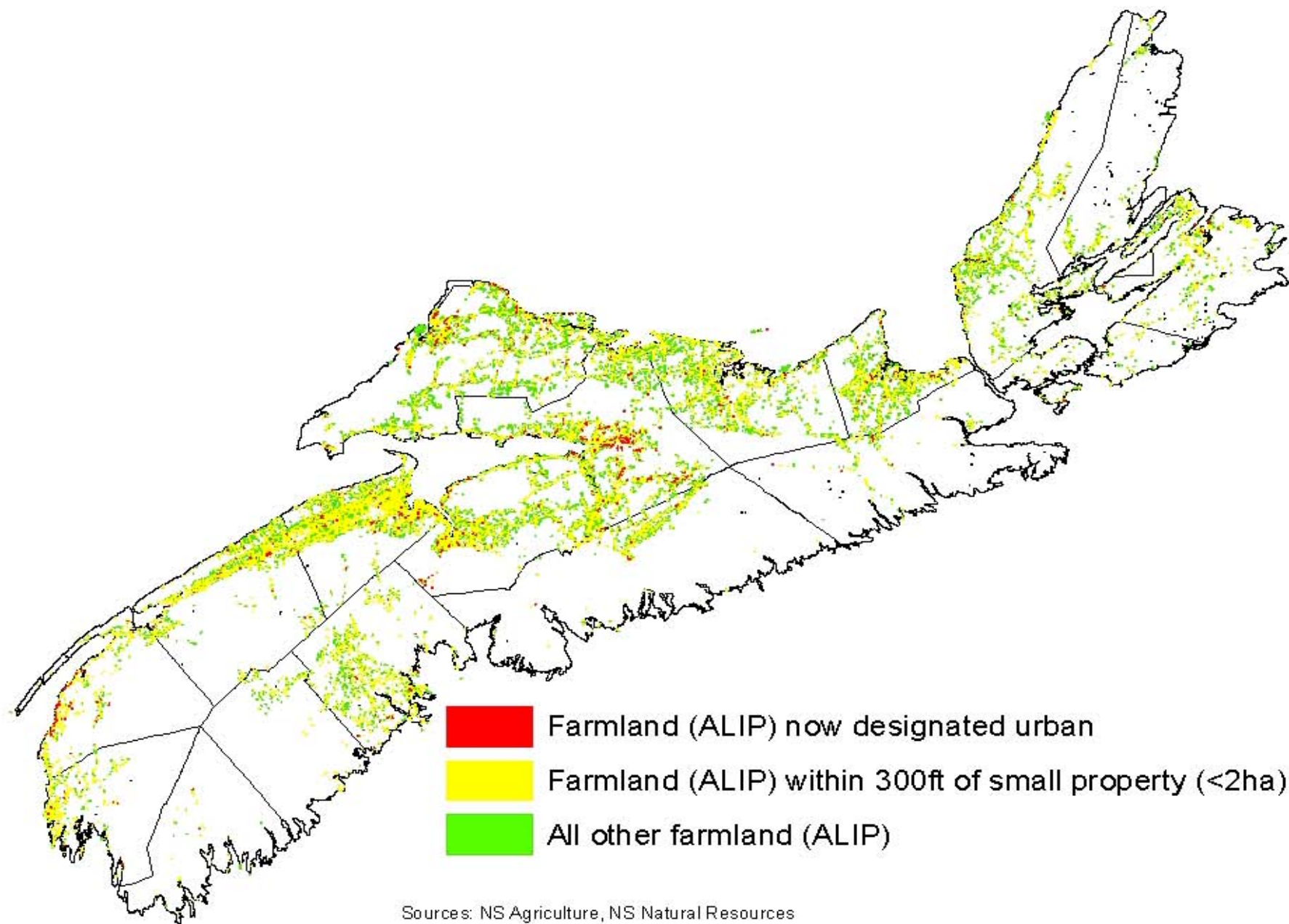
The 300 foot buffer was chosen in order to give an estimate of how much agricultural land is close enough to other forms of development that nuisance or

development conflicts could occur. There are a number of recommended setback distances, from various jurisdictions, and for a wide number of agricultural uses. The 300 foot setback was used by Kings County as a setback distance between livestock barns and residential dwellings, and was recommended by the county's Agricultural Working Group to increase to 600ft (in the case of siting new non-farm dwellings) in 2007 (Municipality of Kings, 2007).

Nova Scotia has about 30 percent of its farmland (as designated by ALIP) within 300 feet of the boundary of properties that are small enough to either currently be developed, or to be relatively easily developed. Of the roughly 70,000 hectares of agriculture in this class, approximately 70 percent are within 300 feet of a small property with a civic address. This indicates that a significant portion of agriculture in Nova Scotia faces the issues that are associated with urban encroachment on farmland

Again, Digby County has the highest percentage of its farmland at risk at 60 percent, followed by Yarmouth (46 percent). Kings has the largest area of farmland at risk (11,920 hectares, 30 percent). Cumberland agriculture is the least threatened in percentage terms (22 percent), while Shelburne has the smallest area of farmland falling into this category (123 hectares).

Figure 6. Lost or threatened farmland



Sources: NS Agriculture, NS Natural Resources

Next steps

This overview of agricultural land resources can be used to gain a better understanding of the geography and use of arable land and farming in the province. The data used in this report are not perfect, and the accuracy and usefulness of this information could be greatly improved with updated and more precise information. Nonetheless, the findings reported here should be useful in guiding future work regarding agricultural land use in Nova Scotia.

ⁱ Nova Scotia does not have any CLI class 1 soil. Class 2 to 4 soils have moderate to severe limitations that restrict the range of crops or require special conservation practices or both. Class 5 soils and below have very severe limitations for agriculture.

Sources

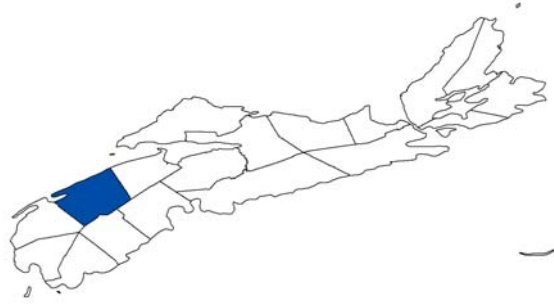
Municipality of the County of Kings. 2007. Agricultural Working Group- Final Report.

Natural Resources Canada. Canada Land Inventory. Available from: <http://geogratis.cgdi.gc.ca/CLI/frames.html>. Accessed [25 January 2010].

Nova Scotia Department of Agriculture. Agricultural Land Identification Project (ALIP).

Nova Scotia Department of Natural Resources. Forest Inventory - Geographic Information Systems. Available from: www.gov.ns.ca/natr/forestry/gis/forest-inventory.asp. Accessed [25 January 2010].

ANNAPOLIS COUNTY



PROFILE of AGRICULTURAL LAND RESOURCES

Overview of county land resources

Land most suitable for agricultural production (Canadian Land Inventory (CLI) classes 2,3 and 4ⁱ) covers approximately 15 percent of Annapolis County (see Table 1). Annapolis has 0.4 percent of the province's CLI 2 soils, 3 percent of CLI 3 and 4 percent of CLI 4.

Annapolis has approximately 17,000 hectares in agricultural production. This amounts to approximately 7 percent of Nova Scotia land in agriculture. Farming in Annapolis uses about 5 percent of the county land area.

Table 1. Agricultural land statistics- Annapolis County

	Hectares	Percent of provincial total	Percent of county land area
CLI 2,3,4 TOTAL	47,082	3.0	14.8
CLI 2	629	0.4	0.2
CLI 3	28,560	2.9	9.0
CLI 4	17,893	4.3	5.6
Agricultural land (ALIP)*	16,134	6.8	5.1
Agricultural land (DNR)**	16,978	7.4	5.4
Blueberry land (DNR)**	61	0.4	0.02
<p>* As indicated by the NSDA Agricultural Land Identification Project. ** Based on forest coverage files from NS Natural Resources (blueberry land is low-bush/ wild) Source: Nova Scotia Department of Agriculture, Natural Resources Canada, Nova Scotia Department of Natural Resources.</p>			

Annapolis also has 61 hectares of wild blueberry production. This amounts to 0.4 percent of the Nova Scotia total.

Figure 1a. Agricultural lands in Annapolis County

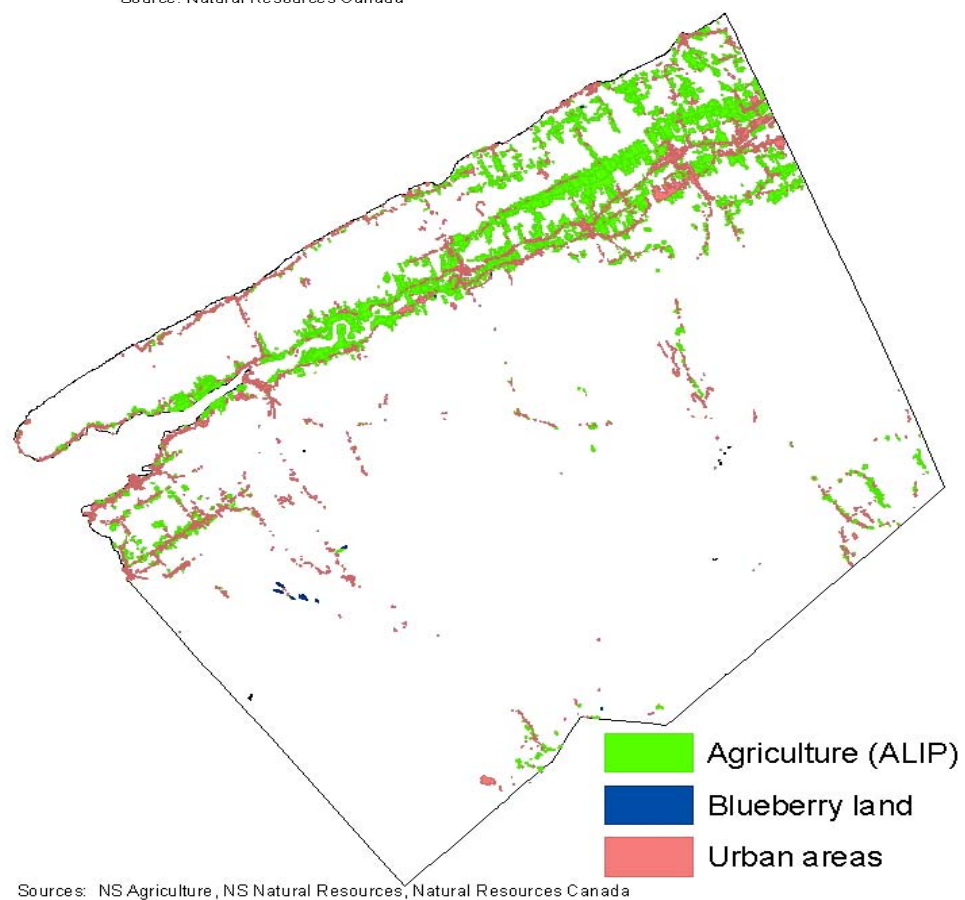
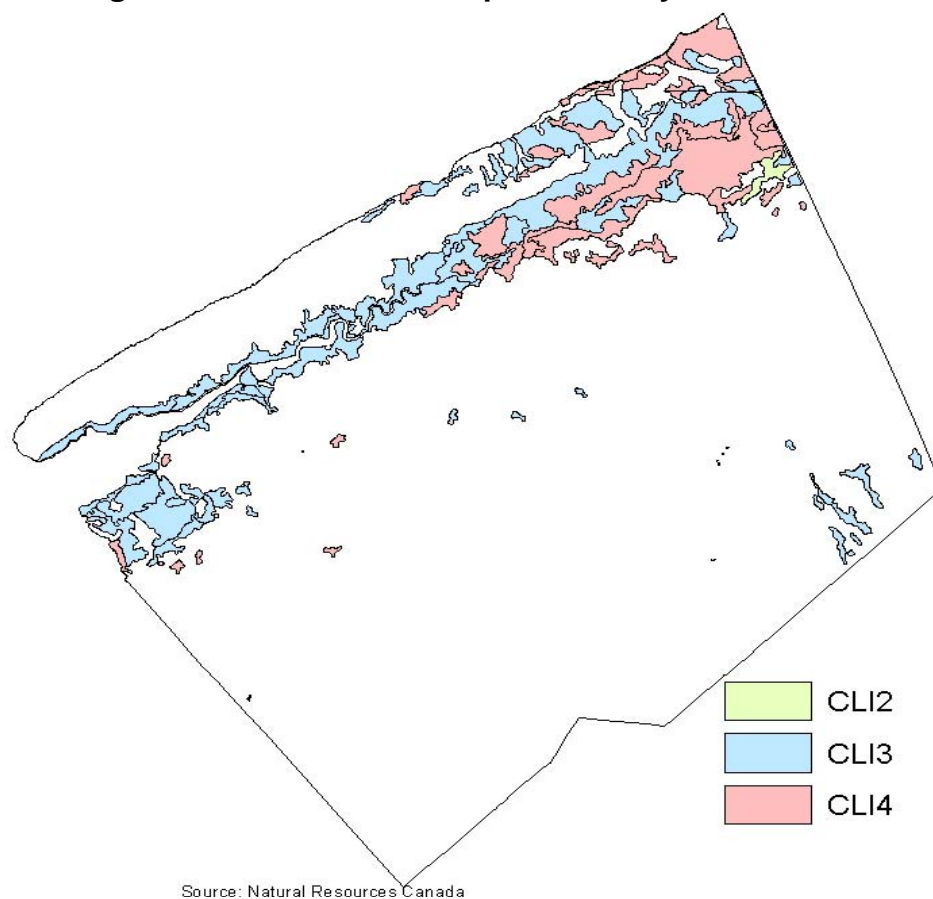
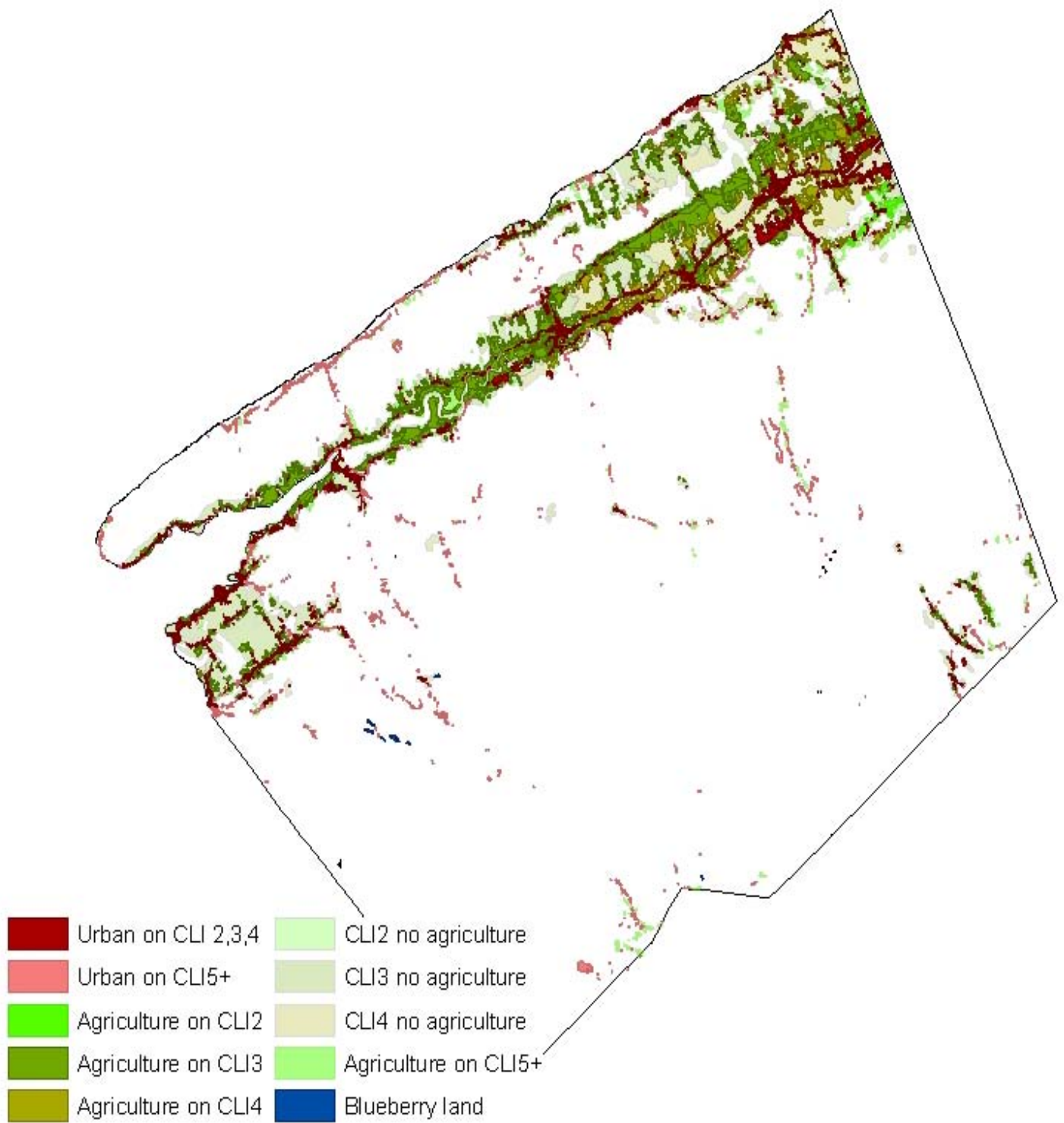


Figure 1b. Agricultural lands in Annapolis County (overlay)

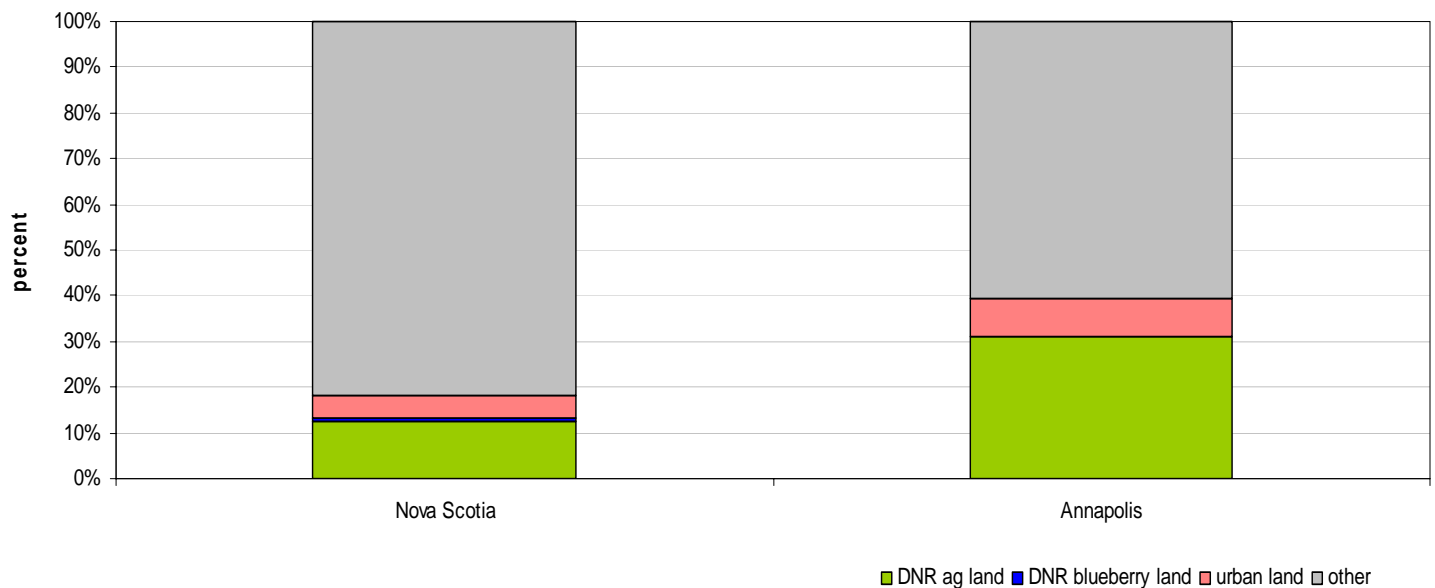


Sources: NS Agriculture, NS Natural Resources, Natural Resources Canada

Usage of arable land and composition of farmed land

Land most suitable for agricultural production (CLI classes 2, 3 and 4) are used for agriculture in Annapolis County at a significantly higher rate than the provincial average (see Figure 2 and Table 2). About 31 percent of suitable agricultural land is used for agricultural production in Annapolis compared with 13 percent provincially. This places Annapolis 2nd behind only Kings among the 18 counties in terms of utilization of arable land for farming.

Figure 2. Utilization of soils suitable for agriculture- Annapolis vs Nova Scotia



Premium agricultural land (CLI 2) is relatively highly utilized for farming in Annapolis with approximately 41 percent in agriculture (2nd out of 18 counties). This is higher than the Nova Scotia average of 29 percent of CLI 2 lands used for agriculture.

Annapolis has about 8 percent of its good agricultural soils under urban development (the 5th highest in Nova Scotia). This is higher than the provincial average of 5.4 percent.

Table 2. Use of agricultural soils (CLI classes 2,3,4) in Annapolis County and Nova Scotia								
	CLI 2		CLI 3		CLI 4		TOTAL CLI 2,3,4	
	Annapolis	Nova Scotia	Annapolis	Nova Scotia	Annapolis	Nova Scotia	Annapolis	Nova Scotia
	Percent							
Agricultural land (DNR)*	40.8	29.3	35.5	12.0	23.8	7.9	31.1	12.7
Blueberry land (DNR)*	0.0	0.5	0.0	0.3	0.0	1.8	0.0	0.7
Urban area	7.2	6.9	7.3	5.4	9.5	4.6	8.1	5.4
Other	52.0	63.3	57.2	82.3	66.7	85.7	60.8	81.2
* Based on forest coverage files from NS Natural Resources (blueberry land is low-bush/ wild) Source: Nova Scotia Department of Agriculture. Natural Resources Canada. Nova Scotia Department of Natural Resources.								

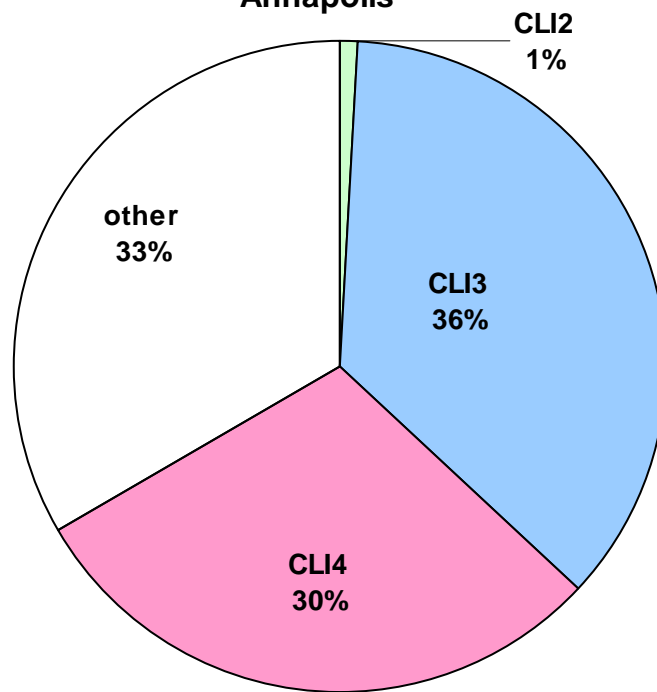
Looking at the land base from a slightly different perspective (the composition of lands used for agriculture, Table 3) it is apparent that Annapolis County agriculture is generally taking place on good agricultural soils, at a rate similar to the provincial average, but with less farming taking place on class 2 land due to the relatively small area of this land in the county. Approximately 60 percent of Annapolis agriculture is on class 3 land with a further 25 percent on class 4. Approximately 14 percent of Annapolis agriculture is on poorer than class 4 soils.

Table 3. Composition of lands in agriculture- Annapolis County						
	Agricultural land (ALIP)*		Agricultural land (DNR)**		Blueberry land (DNR)**	
	Annapolis	Nova Scotia	Annapolis	Nova Scotia	Annapolis	Nova Scotia
	Percent					
CLI 2	1.7	20.5	1.5	21.1	0.0	4.7
CLI 3	59.3	49.4	59.7	51.8	3.8	16.4
CLI 4	25.2	16.3	25.1	14.5	6.4	44.5
Other	13.9	13.8	13.7	12.7	89.9	34.4
* As indicated by the NSDA Agricultural Land Identification Project. ** Based on forest coverage files from NS Natural Resources (blueberry land is low-bush/ wild) Source: Nova Scotia Department of Agriculture, Natural Resources Canada, Nova Scotia Department of Natural Resources.						

Urban use and property fragmentation of the agricultural land base

As shown in Figure 3, about two-thirds of urban development in Annapolis is on land with good capability for agriculture. Only 1 percent of urban development occurs on class 2 soil, while 36 percent is on class 3 and 30 percent on class 4 land. The main areas of urban development on arable land include the land around South Farmington/Middleton/Nictaux, as well as Bridgetown, Cornwallis and the Bear River area. The one-third of urban development on land rated CLI5 or poorer ranks Annapolis 9th out of 18 counties in terms of intensity of use of arable land for urban development.

**Figure 3. Composition of urban land-
Annapolis**



Some lands currently in agriculture may be relatively easily removed for other forms of development. A contributing factor is lot size. Annapolis County has 1,676 properties that are less than two hectares in size that are centered in ALIP lands (Table 4). These properties amount to 1,224 hectares, 1,033 of which are on ALIP.

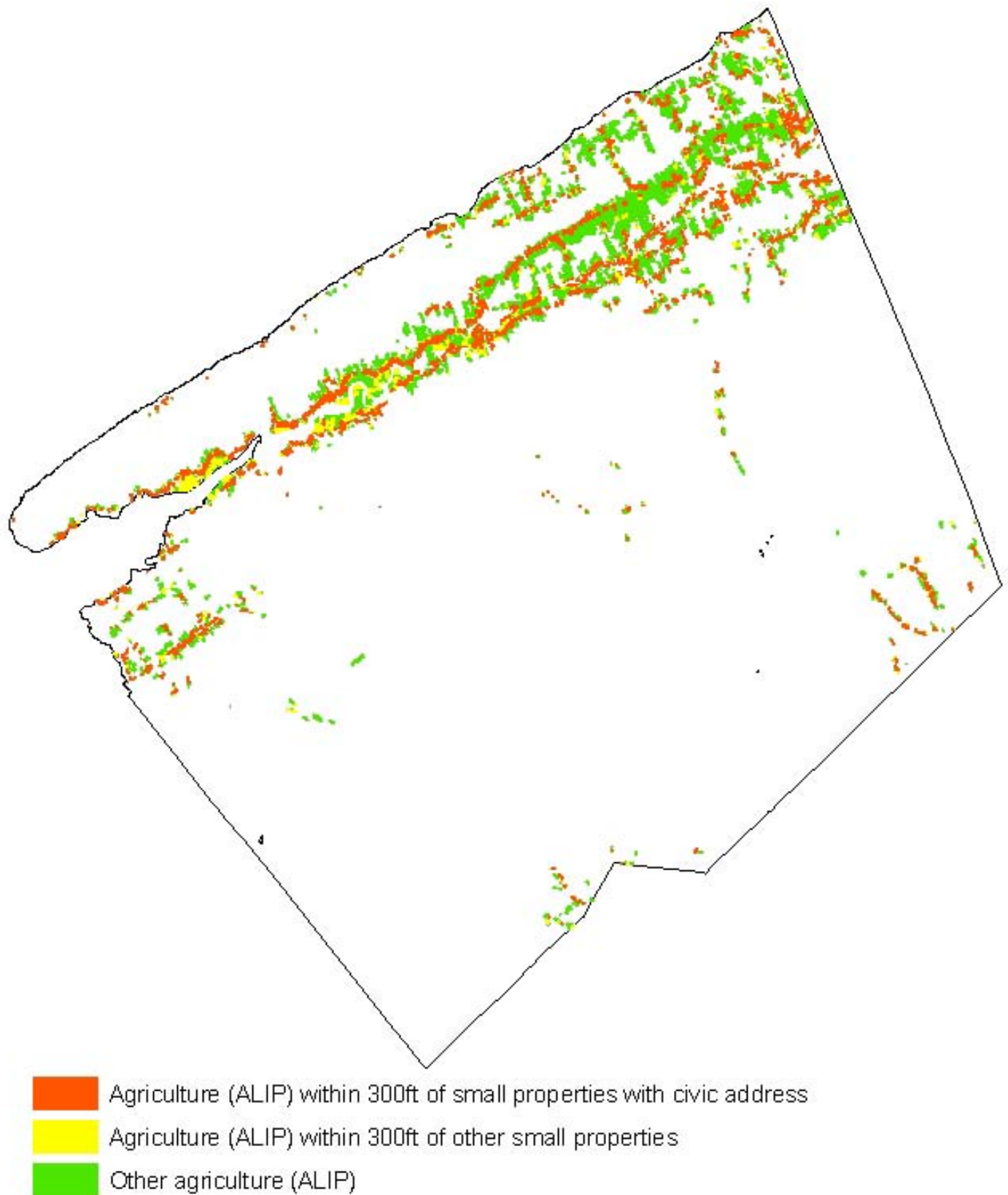
Table 4. Analysis of small properties (< 2ha) encroaching on farm land- Annapolis County, Nova Scotia						
	Vacant properties		Properties with civic address		TOTAL of small properties (< 2 ha)	
	# properties	Hectares	# properties	Hectares	# properties	Hectares
Centered in ALIP farmland	792	581	884	643	1,676	1,224
Area in farmland of properties centered in ALIP	792	510	884	523	1,676	1,033
Within 10 meters of ALIP farmland	1,374	952	1,867	1,257	3,241	2,209
Source: Provincial PID data, NSDA (ALIP data)						

A total of 3,241 properties less than two hectares in size are on or adjacent to ALIP lands, 58 percent of which have civic addresses (i.e. are not vacant). This amounts to 14 percent of the provincial total of these properties. Relative to the amount of farming in Annapolis, the county has the 9th highest rate of small developed properties that are adjacent to farmland.

Ultimately, approximately 265 hectares (1.6 percent) of ALIP lands in Annapolis have been lost to urban development since 1998. This places Annapolis 8th in terms of percentage farmland lost to development and 5th in terms of area of farmland lost.

While physical occupancy of land by non-farm development or land with the potential for non-farm development can be used to estimate potential loss of land to the sector, the effect of development on adjacent agricultural lands is probably of greater significance in terms of area affected. In order to estimate the area of farmland that is at risk due to the proximity of development, a 300 ft (91.44m) buffer was drawn around each small (<2ha) property and the amount of ALIP farmland falling under this zone was calculated (Figure 4). Annapolis has approximately 32 percent of its ALIP farmland falling under this category, the 7th highest in the province (5th highest in absolute terms). Approximately 22 percent of Annapolis farmland is within 300 feet of a small property with a civic address (i.e. likely developed property).

Figure 4. Agriculture (ALIP) within 300 feet of small properties (< 2ha)



Sources: NS Agriculture, SNSMR

ⁱ Nova Scotia does not have any CLI class 1 soil. Class 2 to 4 soils have moderate to severe limitations that restrict the range of crops or require special conservation practices or both. Class 5 soils and below have very severe limitations for agriculture.

Sources

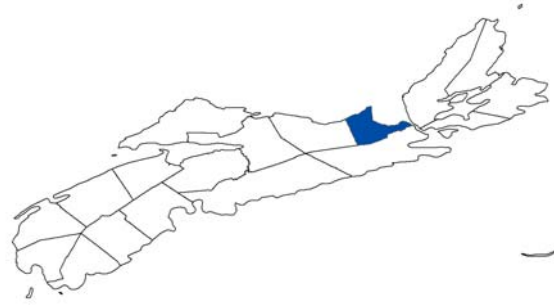
Natural Resources Canada. Canada Land Inventory. Available from: <http://geogratis.cgdi.gc.ca/CLI/frames.html>. Accessed [25 January 2010].

Nova Scotia Department of Agriculture. Agricultural Land Identification Project (ALIP).

Nova Scotia Department of Natural Resources. Forest Inventory - Geographic Information Systems. Available from: www.gov.ns.ca/natr/forestry/gis/forest-inventory.asp. Accessed [25 January 2010].

SNSMR (Service Nova Scotia and Municipal Relations). 2009. NS Civic Address File and property polygons.

ANTIGONISH COUNTY



PROFILE of AGRICULTURAL LAND RESOURCES

Overview of county land resources

Land most suitable for agricultural production (Canadian Land Inventory (CLI) classes 2,3 and 4ⁱ) covers almost two-thirds of Antigonish County (see Table 1). Antigonish has 4 percent of the province's CLI 2 soils, 7 percent of CLI 3 and 4 percent of CLI 4.

Antigonish has approximately 14,500 hectares in agricultural production. This amounts to over 6 percent of Nova Scotia land in agriculture. Farming in Antigonish uses about 10 percent of the county land area.

Table 1. Agricultural land statistics- Antigonish County

	Hectares	Percent of provincial total	Percent of county land area
CLI 2,3,4 TOTAL	89,499	5.7	61.7
CLI 2	6,875	4.2	4.7
CLI 3	65,597	6.6	45.2
CLI 4	17,027	4.1	11.7
Agricultural land (ALIP)*	13,924	5.9	9.6
Agricultural land (DNR)**	14,542	6.4	10.0
Blueberry land (DNR)**	534	3.2	0.4
<p>* As indicated by the NSDA Agricultural Land Identification Project. ** Based on forest coverage files from NS Natural Resources (blueberry land is low-bush/ wild) Source: Nova Scotia Department of Agriculture, Natural Resources Canada, Nova Scotia Department of Natural Resources.</p>			

Antigonish also has 534 hectares of wild blueberry production. This amounts to 3 percent of the Nova Scotia total.

Figure 1a. Agricultural lands in Antigonish County

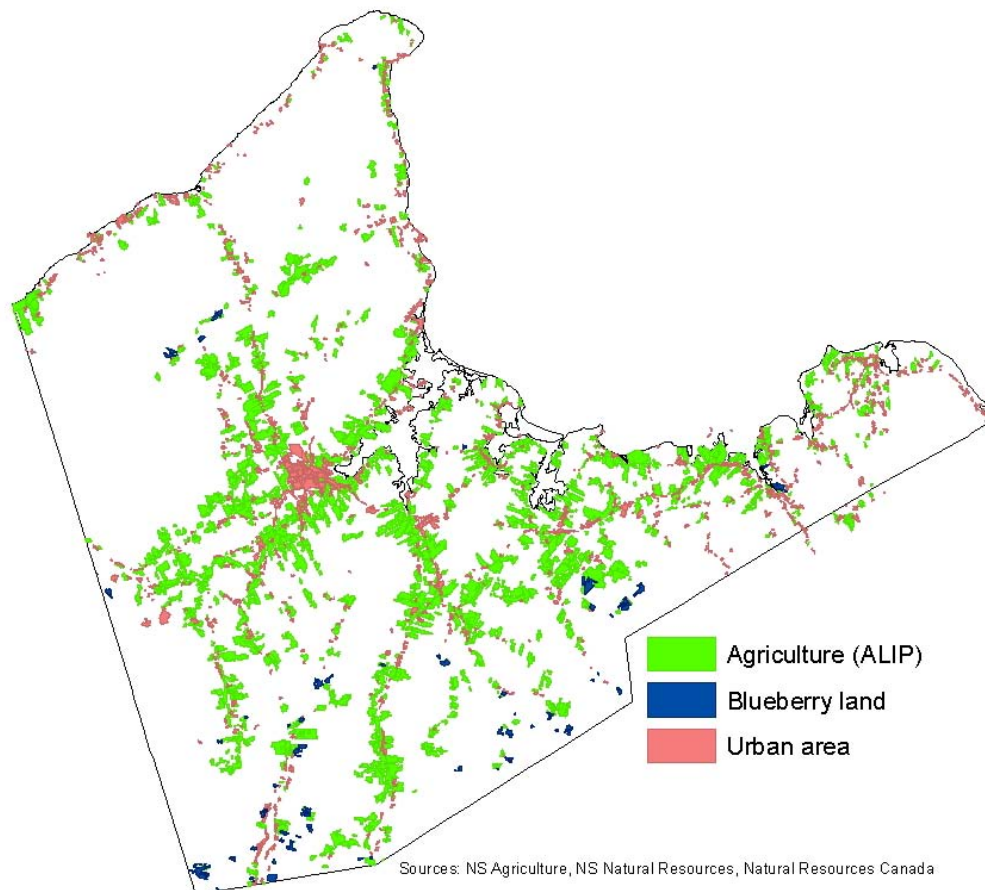
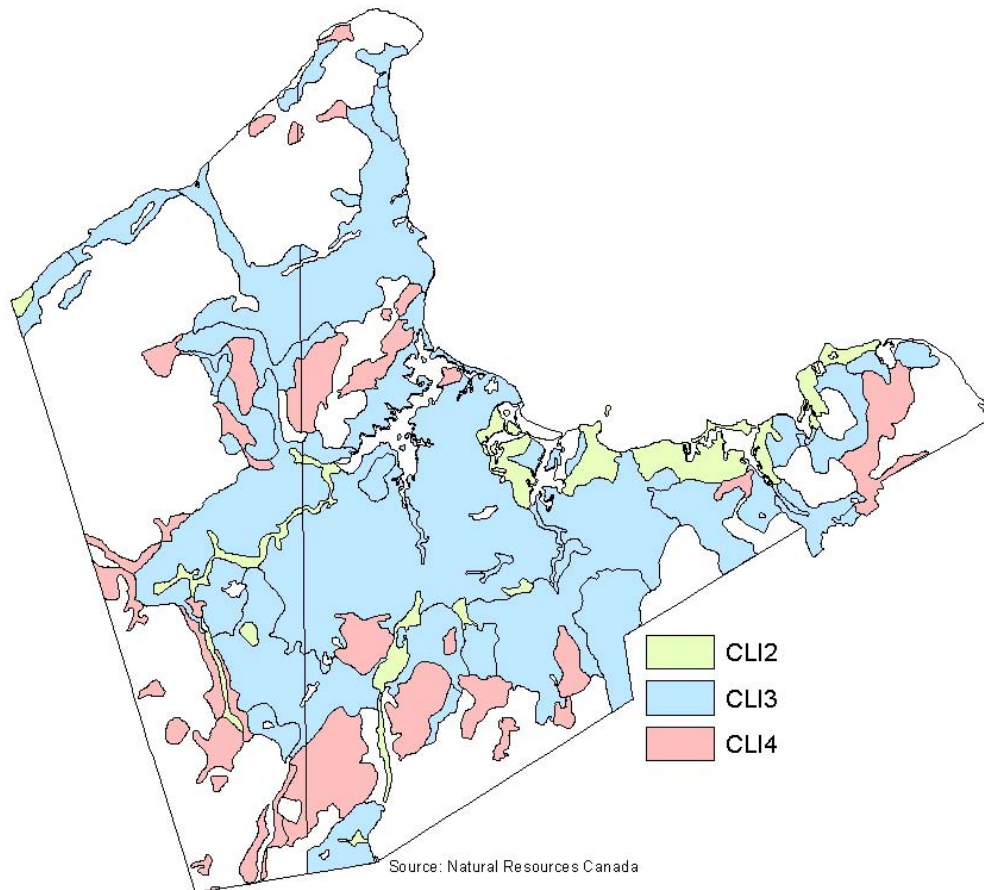
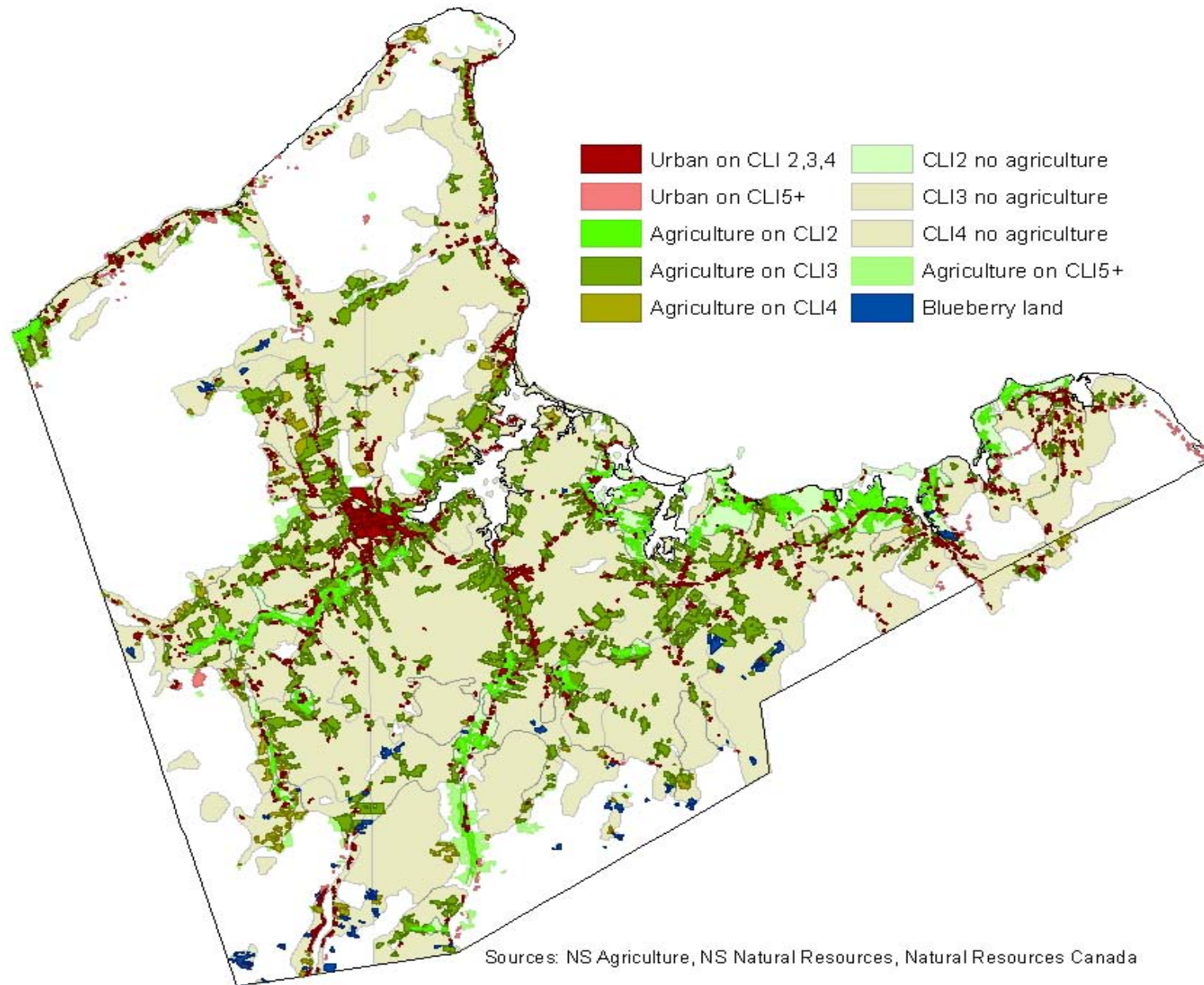


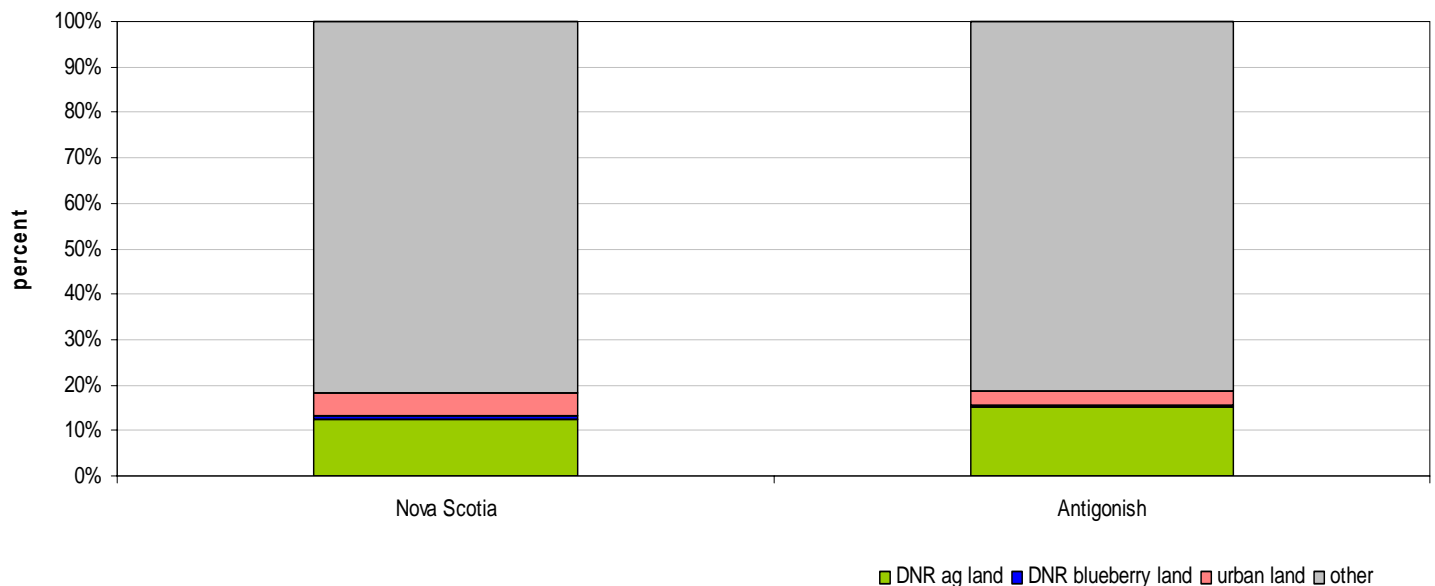
Figure 1b. Agricultural lands in Antigonish County (overlay)



Usage of arable land and composition of farmed land

Land most suitable for agricultural production (CLI classes 2, 3 and 4) are used for agriculture in Antigonish County at a rate slightly higher than the provincial average (see Figure 2 and Table 2). About 15 percent of suitable agricultural land is used for agricultural production in Antigonish compared with 13 percent provincially. This places Antigonish 3rd among the 18 counties in terms of utilization of arable land for farming.

Figure 2. Utilization of soils suitable for agriculture- Antigonish vs Nova Scotia



Premium agricultural land (CLI 2) is moderately utilized for farming in Antigonish with approximately 31 percent in agriculture (3rd out of 14 counties with class 2 land). This is slightly higher than the Nova Scotia average of 29 percent of CLI 2 lands used for agriculture.

Antigonish has about 3 percent of its good agricultural soils under urban development ranking Antigonish 16th. This compares to the provincial average of 5.4 percent. The relatively low urban encroachment on good agricultural soil can be attributed in large part to the large endowment of arable land in the county.

Table 2. Use of agricultural soils (CLI classes 2,3,4) in Antigonish County and Nova Scotia

	CLI 2		CLI 3		CLI 4		TOTAL CLI 2,3,4	
	Antigonish	Nova Scotia	Antigonish	Nova Scotia	Antigonish	Nova Scotia	Antigonish	Nova Scotia
	Percent							
Agricultural land (DNR)*	32.3	29.3	15.1	12.0	7.8	7.9	15.1	12.7
Blueberry land (DNR)*	0.2	0.5	0.4	0.3	0.9	1.8	0.5	0.7
Urban area	5.7	6.9	3.3	5.4	2.0	4.6	3.2	5.4
Other	61.8	63.3	81.2	82.3	89.3	85.7	81.3	81.2

* Based on forest coverage files from NS Natural Resources (blueberry land is low-bush/ wild)
Source: Nova Scotia Department of Agriculture.
Natural Resources Canada.
Nova Scotia Department of Natural Resources.

Looking at the land base from a slightly different perspective (the composition of lands in agriculture, Table 3) it is apparent that Antigonish County agriculture is generally taking place on good agricultural soils, and at a higher percentage than the provincial average. Approximately 15 percent of agricultural land is on class 2 soils, while 68 percent is on class 3 soils and 9 percent on class 4. Less than 8 percent of Antigonish agriculture is on poorer than class 4 soils.

Table 3. Composition of lands in agriculture- Antigonish County

	Agricultural land (ALIP)*		Agricultural land (DNR)**		Blueberry land (DNR)**	
	Antigonish	Nova Scotia	Antigonish	Nova Scotia	Antigonish	Nova Scotia
	Percent					
CLI 2	15.4	20.5	15.3	21.1	2.6	4.7
CLI 3	68.2	49.4	68.2	51.8	45.4	16.4
CLI 4	8.8	16.3	9.2	14.5	29.9	44.5
Other	7.6	13.8	7.4	12.7	22.2	34.4

* As indicated by the NSDA Agricultural Land Identification Project.

** Based on forest coverage files from NS Natural Resources (blueberry land is low-bush/ wild)

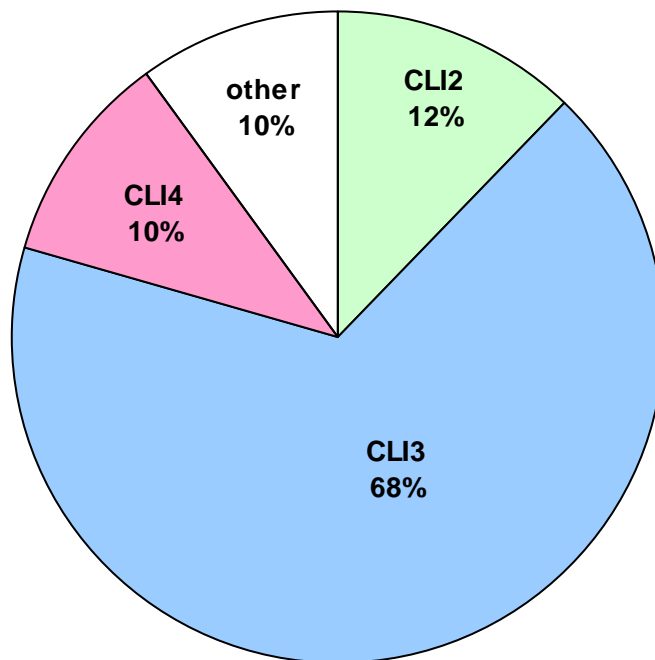
Source: Nova Scotia Department of Agriculture, Natural Resources Canada,
Nova Scotia Department of Natural Resources.

Urban use and property fragmentation of the agricultural land base

As shown in Figure 3, the majority of urban development in Antigonish is on good agricultural soils. Only 10 percent of urban land in Antigonish is on poorer than CLI4 soil; second lowest behind only Pictou County. The majority of urban development on arable land is in the Antigonish (town) area as well as near the Northumberland shore.

Over two-thirds of urban development in Antigonish has been on class 3 land, while a further 12 percent is on class 2 and 10 percent on class 4. As indicated in Table 2, the proportion of urban land encroachment on CLI soils is higher on higher quality land, consistent with the provincial average.

**Figure 3. Composition of urban land-
Antigonish**



Some lands currently in agriculture may be relatively easily removed for other forms of development. A contributing factor is lot size. Antigonish County has 990 properties that are less than two hectares in size that are centered in ALIP lands (Table 4). These properties amount to 790 hectares, 645 of which are on ALIP.

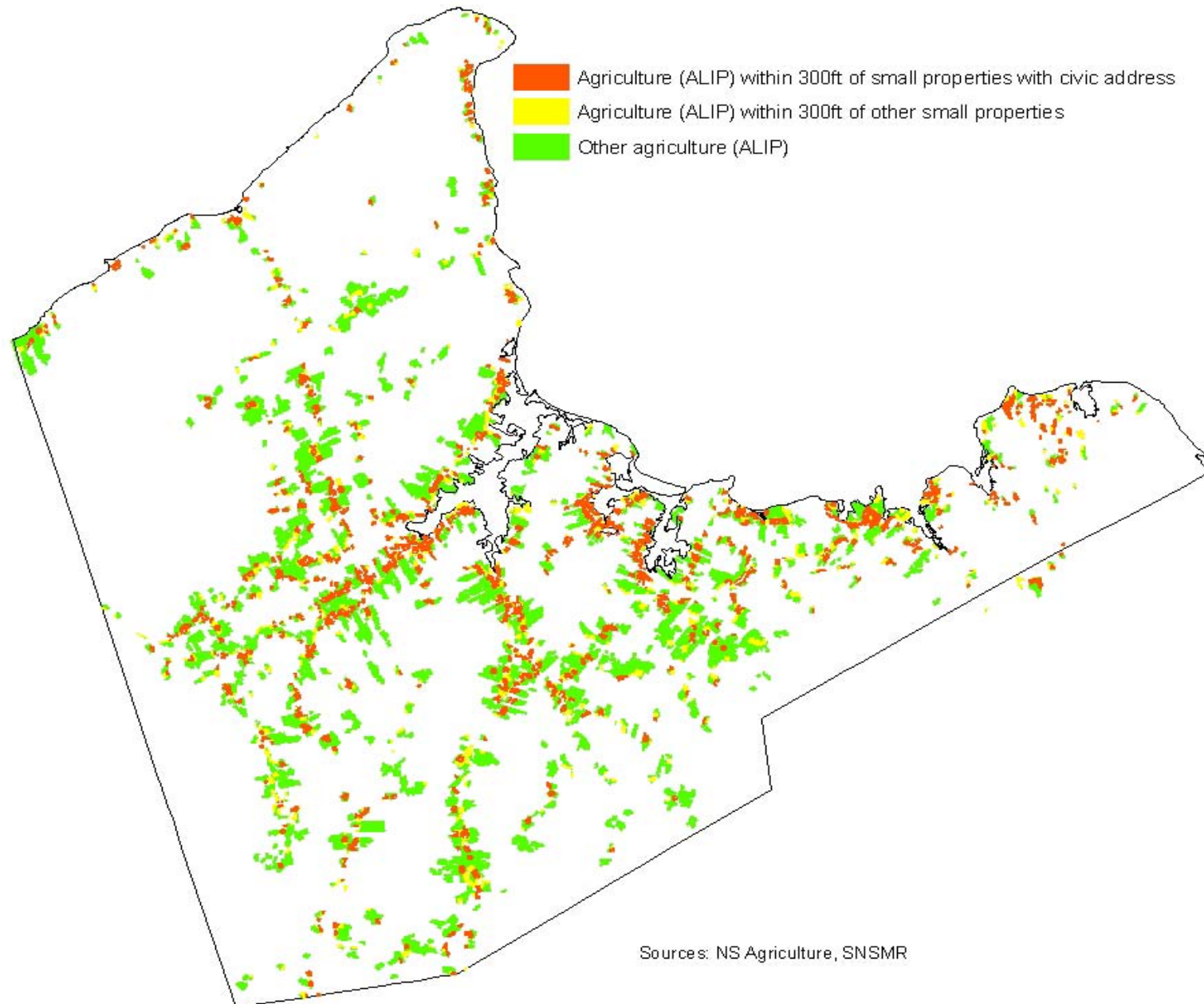
Table 4. Analysis of small properties (< 2ha) encroaching on farm land- Antigonish County, Nova Scotia						
	Vacant properties		Properties with civic address		TOTAL of small properties (< 2 ha)	
	# properties	Hectares	# properties	Hectares	# properties	Hectares
Centered in ALIP farmland	508	379	482	412	990	790
Area in farmland of properties centered in ALIP	508	310	482	335	990	645
Within 10 meters of ALIP farmland	1,111	795	1,513	1,048	2,624	1,844
Source: Provincial PID data, NSDA (ALIP data)						

A total of 2,624 properties less than two hectares in size are on or adjacent to ALIP lands, 58 percent of which have civic addresses (i.e. are not vacant). This amounts to 11 percent of the provincial total of these properties. Relative to the amount of farming in Antigonish, the county is tied with Pictou with the 6th highest rate of small developed properties that are adjacent to farmland.

Ultimately, approximately 121 hectares (0.9 percent) of ALIP lands in Antigonish have been lost to urban development since 1998. This places Antigonish 8th in terms of percentage farmland lost to development and 10th in terms of area of farmland lost.

While physical occupancy of land by non farm development or land with the potential for non-farm development can be used to estimate potential loss of land to the sector, the effect of development on adjacent agricultural lands is probably of greater significance in terms of area affected. In order to estimate the area of farm land that is at risk due to the proximity of development, a 300 ft (91.44m) buffer was drawn around each small (<2ha) property and the amount of ALIP farm land falling under this zone was calculated (Figure 4). Antigonish has approximately 28 percent of its ALIP farmland falling under this category, the 7th lowest in the province (the 7th highest in absolute terms). Approximately 19 percent of Antigonish farmland is within 300 feet of a small property with a civic address (i.e. likely developed property).

Figure 4. Agriculture (ALIP) within 300 feet of small properties (< 2ha)



ⁱ Nova Scotia does not have any CLI class 1 soil. Class 2 to 4 soils have moderate to severe limitations that restrict the range of crops or require special conservation practices or both. Class 5 soils and below have very severe limitations for agriculture.

Sources

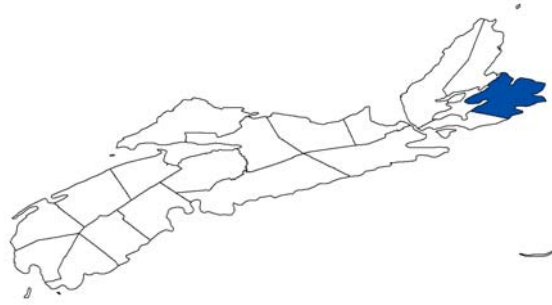
Natural Resources Canada. Canada Land Inventory. Available from: <http://geogratis.cgdi.gc.ca/CLI/frames.html>. Accessed [25 January 2010].

Nova Scotia Department of Agriculture. Agricultural Land Identification Project (ALIP).

Nova Scotia Department of Natural Resources. Forest Inventory - Geographic Information Systems. Available from: www.gov.ns.ca/natr/forestry/gis/forest-inventory.asp. Accessed [25 January 2010].

SNSMR (Service Nova Scotia and Municipal Relations). 2009. NS Civic Address File and property polygons.

CAPE BRETON COUNTY



PROFILE of AGRICULTURAL LAND RESOURCES

Overview of county land resources

Land most suitable for agricultural production (Canadian Land Inventory (CLI) classes 2,3 and 4ⁱ) covers slightly less than one-third of Cape Breton County (see Table 1). Cape Breton has 2 percent of the province's CLI 2 soils, 6 percent of CLI 3 and 4 percent of CLI 4.

Cape Breton has approximately 5,600 hectares in agricultural production. This amounts to 2.5 percent of Nova Scotia land in agriculture. Farming in Cape Breton uses about 2 percent of the county land area.

Table 1. Agricultural land statistics- Cape Breton County

	Hectares	Percent of provincial total	Percent of county land area
CLI 2,3,4 TOTAL	78,220	5.0	32.0
CLI 2	3,589	2.2	1.5
CLI 3	59,983	6.1	24.5
CLI 4	14,647	3.5	6.0
Agricultural land (ALIP)*	5,584	2.4	2.3
Agricultural land (DNR)**	5,635	2.5	2.3
Blueberry land (DNR)**	108	0.7	0.04
<p>* As indicated by the NSDA Agricultural Land Identification Project. ** Based on forest coverage files from NS Natural Resources (blueberry land is low-bush/ wild) Source: Nova Scotia Department of Agriculture, Natural Resources Canada, Nova Scotia Department of Natural Resources.</p>			

Cape Breton also produces over 100 hectares of wild blueberries. This amounts to just under 1 percent of the Nova Scotia total.

Figure 1a. Agricultural lands in Cape Breton County

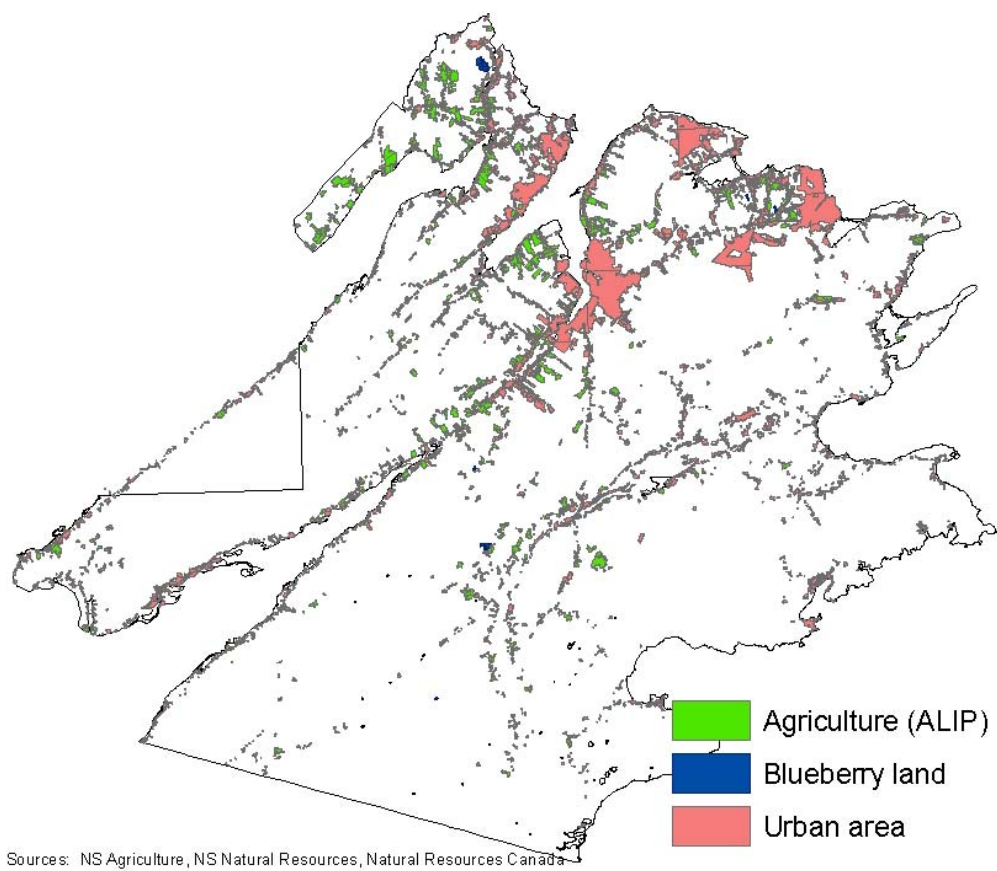
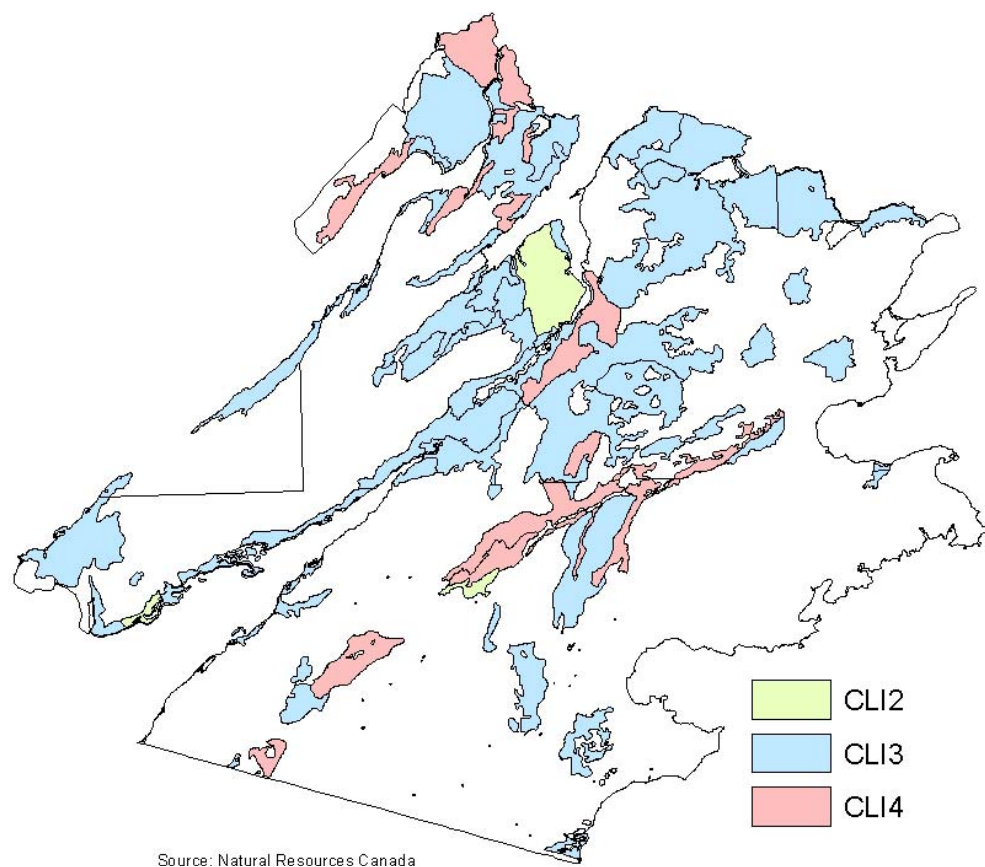
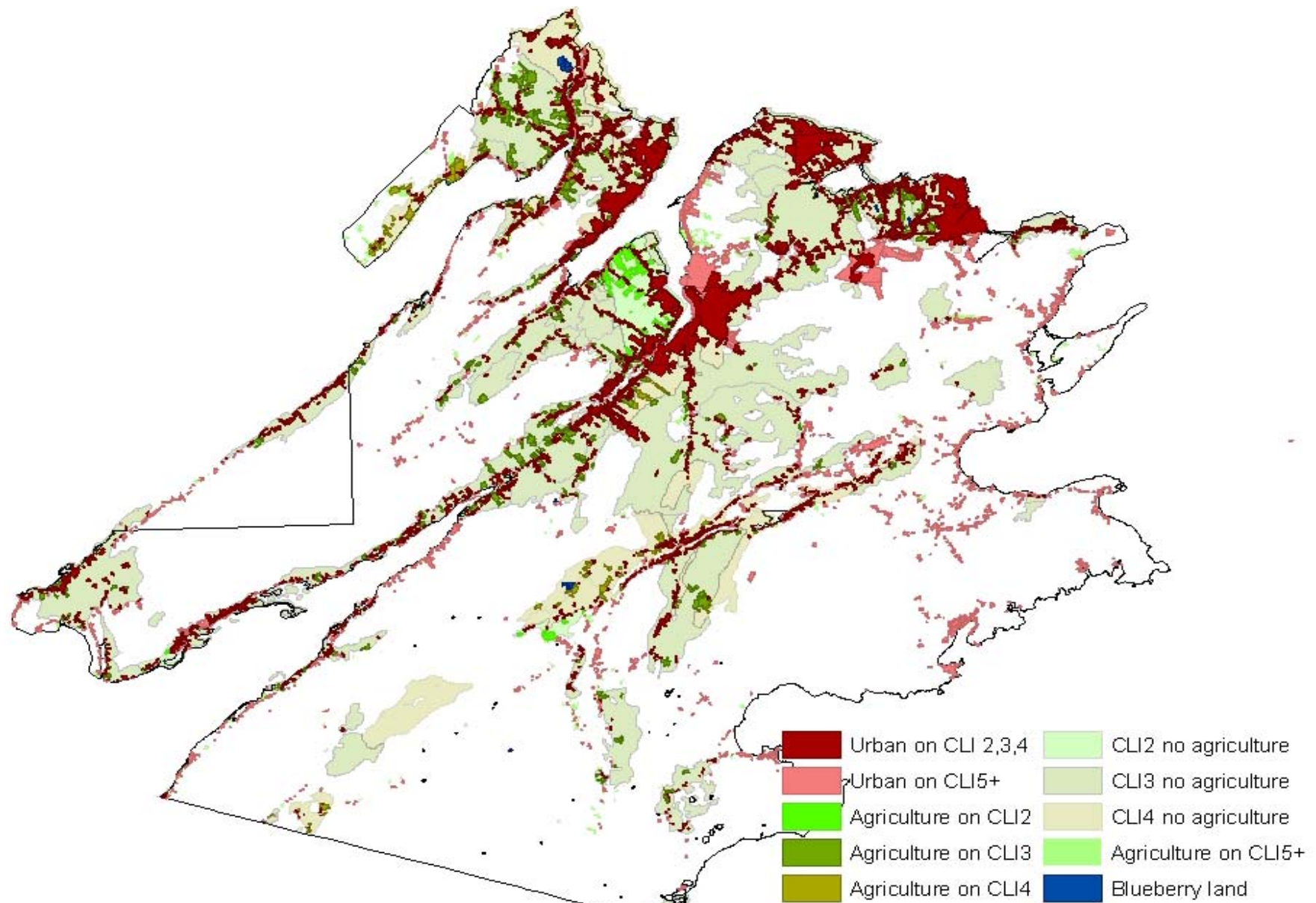


Figure 1b. Agricultural lands in Cape Breton County (overlay)

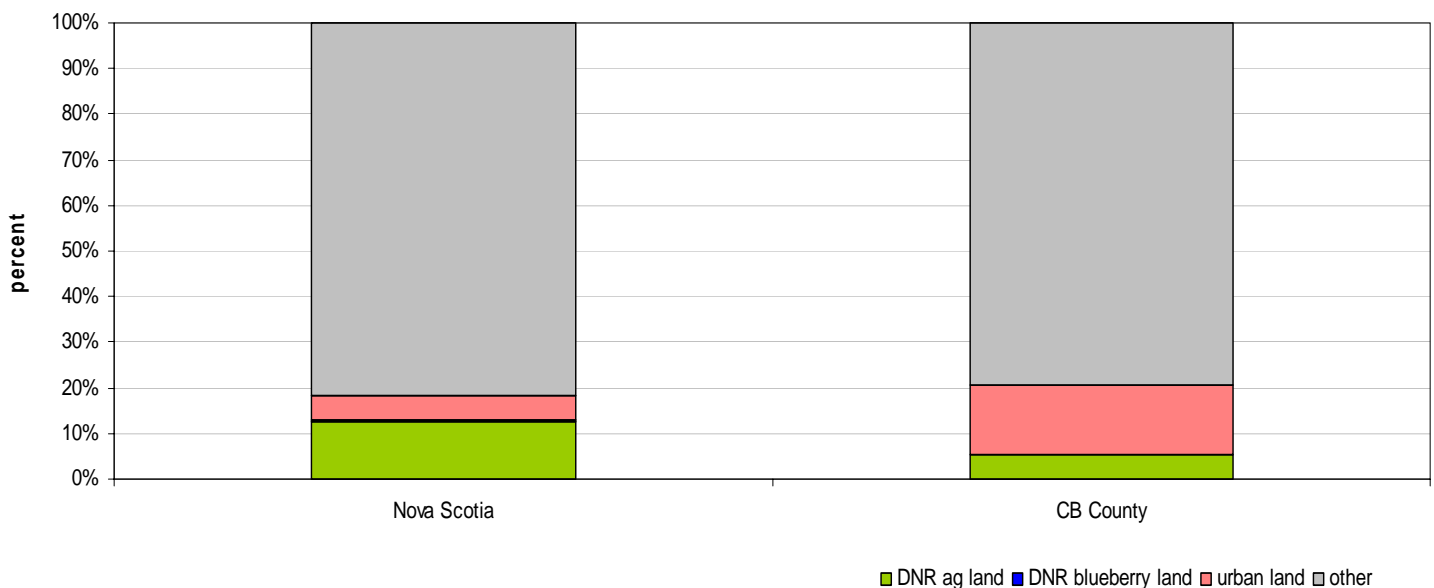


Sources: NS Agriculture, NS Natural Resources, Natural Resources Canada

Usage of arable land and composition of farmed land

Land most suitable for agricultural production (CLI classes 2, 3 and 4) are used for agriculture in Cape Breton County at a rate significantly lower than the provincial average (see Figure 2 and Table 2). About 5 percent of suitable agricultural land is used for agricultural production in Cape Breton compared with 13 percent provincially. This places Cape Breton 13th among the 18 counties in terms of utilization of arable land for farming.

Figure 2. Utilization of soils suitable for agriculture- Cape Breton vs Nova Scotia



Premium agricultural land (CLI 2) is not highly utilized for farming in Cape Breton with approximately 14 percent in agriculture (12th out of 14 counties with CLI 2 land). This is lower than the Nova Scotia average of 29 percent of CLI 2 lands used for agriculture.

The 19 percent of CLI2 developed as urban areas is the highest in Nova Scotia. In total, Cape Breton has about 15 percent of its good agricultural soils under urban development ranking Cape Breton 2nd behind Queens County. This is significantly higher than the provincial average of 5.4 percent.

Table 2. Use of agricultural soils (CLI classes 2,3,4) in Cape Breton County and Nova Scotia								
	CLI 2		CLI 3		CLI 4		TOTAL CLI 2,3,4	
	Cape Breton	Nova Scotia	Cape Breton	Nova Scotia	Cape Breton	Nova Scotia	Cape Breton	Nova Scotia
	Percent							
Agricultural land (DNR)*	14.1	29.3	4.8	12.0	5.3	7.9	5.3	12.7
Blueberry land (DNR)*	0.0	0.5	0.0	0.3	0.6	1.8	0.1	0.7
Urban area	19.1	6.9	15.0	5.4	14.4	4.6	15.1	5.4
Other	66.8	63.3	80.2	82.3	79.6	85.7	79.5	81.2
* Based on forest coverage files from NS Natural Resources (blueberry land is low-bush/ wild) Source: Nova Scotia Department of Agriculture. Natural Resources Canada. Nova Scotia Department of Natural Resources.								

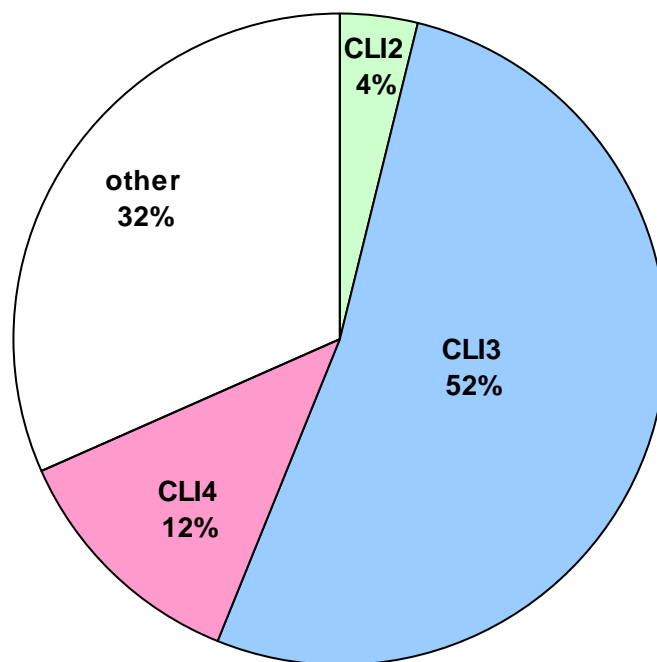
Looking at the land base from a slightly different perspective (the composition of land in agriculture, Table 3) it is apparent that Cape Breton County agriculture is generally taking place on good agricultural soils, although at a significantly lower percentage than the provincial average. Over half of farmed agricultural land is on class 3 soils, while 9 percent is on class 2 soils and 14 percent on class 4. Over one-quarter of Cape Breton agriculture is on poorer than class 4 soils.

Table 3. Composition of lands in agriculture- Cape Breton						
	Agricultural land (ALIP)*		Agricultural land (DNR)**		Blueberry land (DNR)**	
	Cape Breton	Nova Scotia	Cape Breton	Nova Scotia	Cape Breton	Nova Scotia
	Percent					
CLI 2	8.7	20.5	9.0	21.1	0.0	4.7
CLI 3	50.6	49.4	50.7	51.8	13.2	16.4
CLI 4	14.3	16.3	13.9	14.5	81.2	44.5
Other	26.3	13.8	26.4	12.7	5.6	34.4
* As indicated by the NSDA Agricultural Land Identification Project. ** Based on forest coverage files from NS Natural Resources (blueberry land is low-bush/ wild) Source: Nova Scotia Department of Agriculture, Natural Resources Canada, Nova Scotia Department of Natural Resources.						

Urban use and property fragmentation of the agricultural land base

As shown in Figure 3, approximately two-thirds of urban development in Cape Breton County is on good agricultural soils. Most of this development is in the Sydney-Sydney Mines-New Waterford-Glace Bay urban areas. As indicated in Table 2, the proportion of urban land encroachment on CLI soils is higher on higher quality land, consistent with the provincial average.

Figure 3. Composition of urban land- Cape Breton County



Some lands currently in agriculture may be relatively easily removed for other forms of development. A contributing factor is lot size. Cape Breton County has 699 properties that are less than two hectares in size that are centered in ALIP lands (Table 4). These properties amount to 466 hectares, 366 of which are on ALIP.

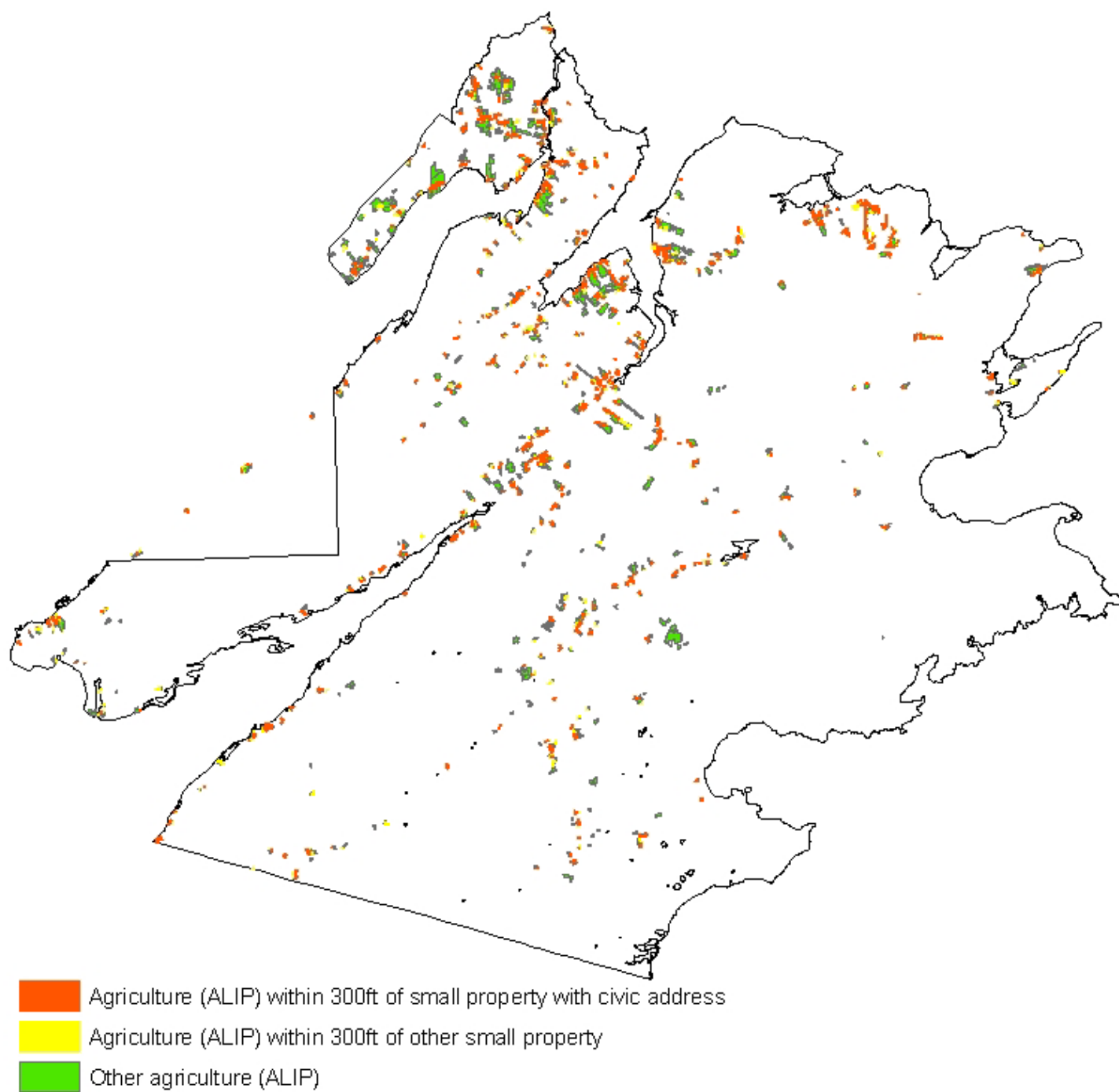
Table 4. Analysis of small properties (< 2ha) encroaching on farm land- Cape Breton County, Nova Scotia						
	Vacant properties		Properties with civic address		TOTAL of small properties (< 2 ha)	
	# properties	Hectares	# properties	Hectares	# properties	Hectares
Centered in ALIP farmland	349	205	350	261	699	466
Area in farmland of properties centered in ALIP	349	165	350	201	699	366
Within 10 meters of ALIP farmland	700	409	1,052	608	1,752	1,018
Source: Provincial PID data, NSDA (ALIP data)						

A total of 1,752 properties less than two hectares in size are on or adjacent to ALIP lands, 60 percent of which have civic addresses (i.e. are not vacant). This amounts to 6 percent of the provincial total of these properties. Relative to the amount of farming in Cape Breton County, the county has the 5th highest rate of small developed properties that are adjacent to farmland.

Ultimately, approximately 135 hectares (2.4 percent) of ALIP lands in Cape Breton have been lost to urban development since 1998. This places Cape Breton 4th in terms of percentage farmland lost to development and 9th in terms of area of farmland lost.

While physical occupancy of land by non farm development or land with the potential for non-farm development can be used to estimate potential loss of land to the sector, the effect of development on adjacent agricultural lands is probably of greater significance in terms of area affected. In order to estimate the area of farm land that is at risk due to the proximity of development, a 300 ft (91.44m) buffer was drawn around each small (<2ha) property and the amount of ALIP farm land falling under this zone was calculated (Figure 4). Cape Breton County has approximately 34 percent of its ALIP farmland falling under this category, the 6th highest in the province (7th lowest in absolute terms). Approximately 27 percent of Cape Breton County farmland is within 300 feet of a small property with a civic address (i.e. likely developed property).

Figure 4. Agriculture (ALIP) within 300 feet of small properties (< 2ha)



Sources: NS Agriculture, SNSMR

ⁱ Nova Scotia does not have any CLI class 1 soil. Class 2 to 4 soils have moderate to severe limitations that restrict the range of crops or require special conservation practices or both. Class 5 soils and below have very severe limitations for agriculture.

Sources

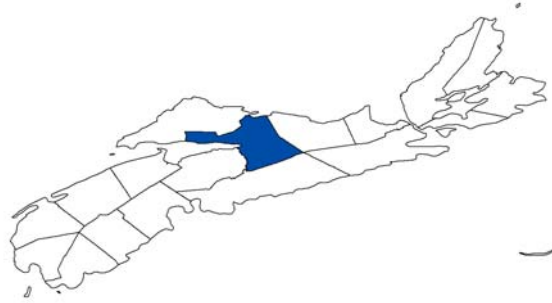
Natural Resources Canada. Canada Land Inventory. Available from: <http://geogratis.cgdi.gc.ca/CLI/frames.html>. Accessed [25 January 2010].

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COLCHESTER COUNTY



PROFILE of AGRICULTURAL LAND RESOURCES

Overview of county land resources

Land most suitable for agricultural production (Canadian Land Inventory (CLI) classes 2,3 and 4ⁱ) covers half of Colchester County (see Table 1). Colchester has 20 percent of the province's CLI 2 soils, 10 percent of CLI 3 and 12 percent of CLI 4.

Colchester has approximately 30,000 hectares in agricultural production. This amounts to 13 percent of Nova Scotia land in agriculture. Farming in Colchester uses about 8 percent of the county land area.

Table 1. Agricultural land statistics- Colchester County

	Hectares	Percent of provincial total	Percent of county land area
CLI 2,3,4 TOTAL	181,843	11.6	50.3
CLI 2	33,684	20.4	9.3
CLI 3	99,242	10.0	27.5
CLI 4	48,917	11.7	13.5
Agricultural land (ALIP)*	33,025	14.0	9.1
Agricultural land (DNR)**	30,108	13.2	8.3
Blueberry land (DNR)**	3,128	19.0	0.9
<p>* As indicated by the NSDA Agricultural Land Identification Project. ** Based on forest coverage files from NS Natural Resources (blueberry land is low-bush/ wild) Source: Nova Scotia Department of Agriculture, Natural Resources Canada, Nova Scotia Department of Natural Resources.</p>			

Colchester also has 3,100 hectares of wild blueberry production. This amounts to 19 percent of the Nova Scotia total, making Colchester second to only Cumberland County in wild blueberry production.

Figure 1a. Agricultural lands in Colchester County

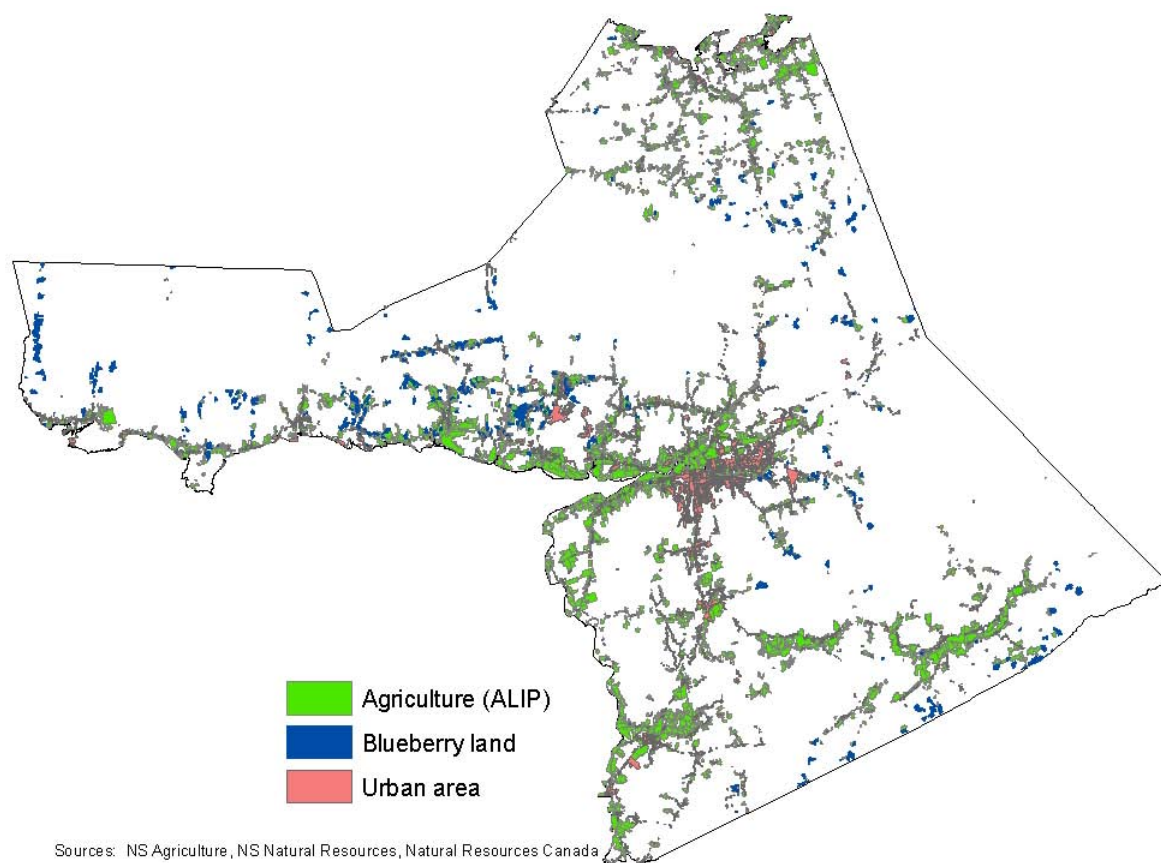
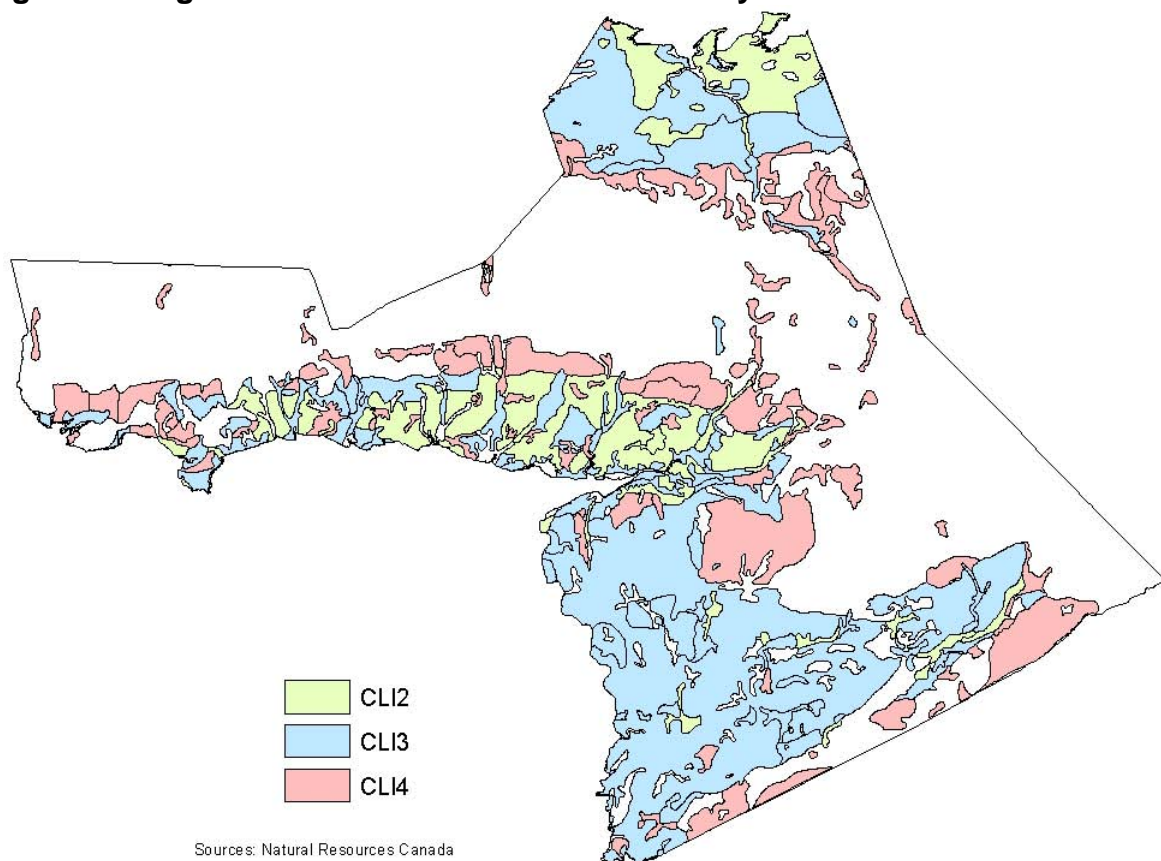
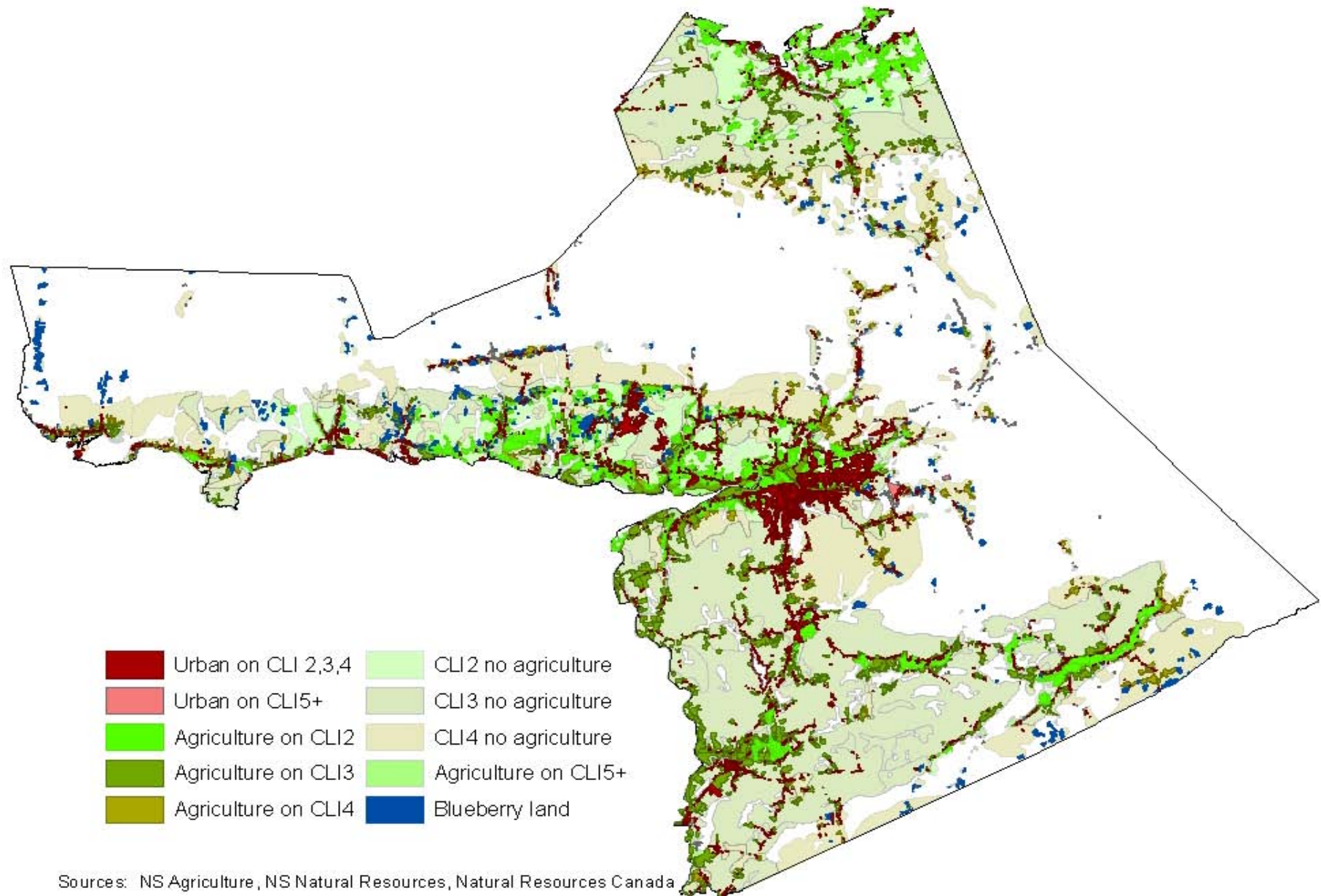


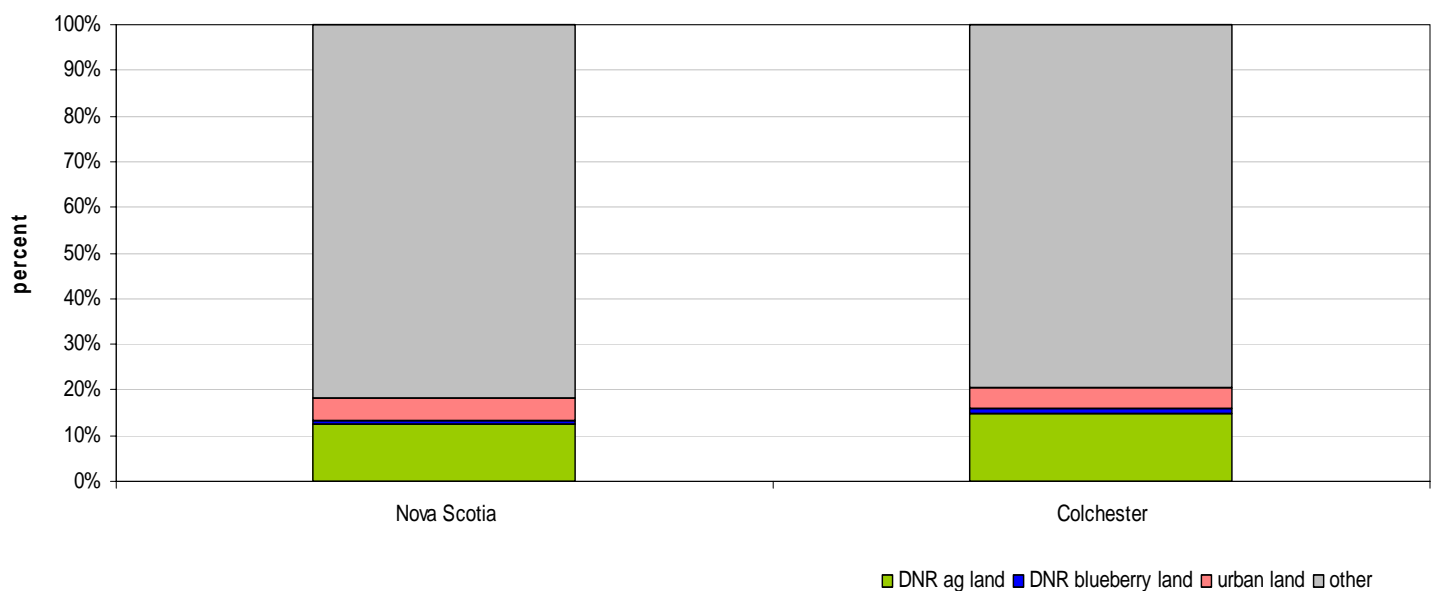
Figure 1b. Agricultural lands in Colchester County (overlay)



Usage of arable land and composition of farmed land

Land most suitable for agricultural production (CLI classes 2, 3 and 4) are used for agriculture in Colchester County at a rate slightly higher than the provincial average (see Figure 2 and Table 2). About 15 percent of suitable agricultural land is used for agricultural production in Colchester compared with 13 percent provincially. This places Colchester 4th among the 18 counties in terms of utilization of arable land for farming.

Figure 2. Utilization of soils suitable for agriculture- Colchester vs Nova Scotia



Premium agricultural land (CLI 2) is moderately utilized for farming in Colchester with approximately 29 percent in agriculture (6th out of 14 counties with CLI 2 land). This is identical to the Nova Scotia average of 29 percent of CLI 2 lands used for agriculture.

Colchester has about 5 percent of its good agricultural soils under urban development ranking Colchester 12th. This compares to the provincial average of 5.4 percent. The relatively low urban encroachment on good agricultural soil can be attributed in large part to the large endowment of arable land in the county.

Table 2. Use of agricultural soils (CLI classes 2,3,4) in Colchester County and Nova Scotia

	CLI 2		CLI 3		CLI 4		TOTAL CLI 2,3,4	
	Colchester	Nova Scotia	Colchester	Nova Scotia	Colchester	Nova Scotia	Colchester	Nova Scotia
	Percent							
Agricultural land (DNR)*	29.1	29.3	13.6	12.0	7.7	7.9	14.9	12.7
Blueberry land (DNR)*	1.4	0.5	0.6	0.3	2.3	1.8	1.2	0.7
Urban area	8.3	6.9	4.5	5.4	2.2	4.6	4.6	5.4
Other	61.2	63.3	81.4	82.3	87.7	85.7	79.3	81.2

* Based on forest coverage files from NS Natural Resources (blueberry land is low-bush/ wild)
Source: Nova Scotia Department of Agriculture.
Natural Resources Canada.
Nova Scotia Department of Natural Resources.

Looking at the land base from a slightly different perspective (the composition of lands in agriculture, Table 3) it is apparent that Colchester County agriculture is generally taking place on good agricultural soils, and at a slightly higher percentage than the provincial average. One-third of agricultural land is on class 2 soils, while 45 percent is on class 3 soils and 13 percent on class 4. Approximately 10 percent of Colchester agriculture is on less than class 4 soils.

Table 3. Composition of lands in agriculture- Colchester County

	Agricultural land (ALIP)*		Agricultural land (DNR)**		Blueberry land (DNR)**	
	Colchester	Nova Scotia	Colchester	Nova Scotia	Colchester	Nova Scotia
	Percent					
CLI 2	30.8	20.5	32.6	21.1	15.0	4.7
CLI 3	42.6	49.4	44.7	51.8	17.7	16.4
CLI 4	14.7	16.3	12.6	14.5	36.6	44.5
Other	11.9	13.8	10.1	12.7	30.7	34.4

* As indicated by the NSDA Agricultural Land Identification Project.

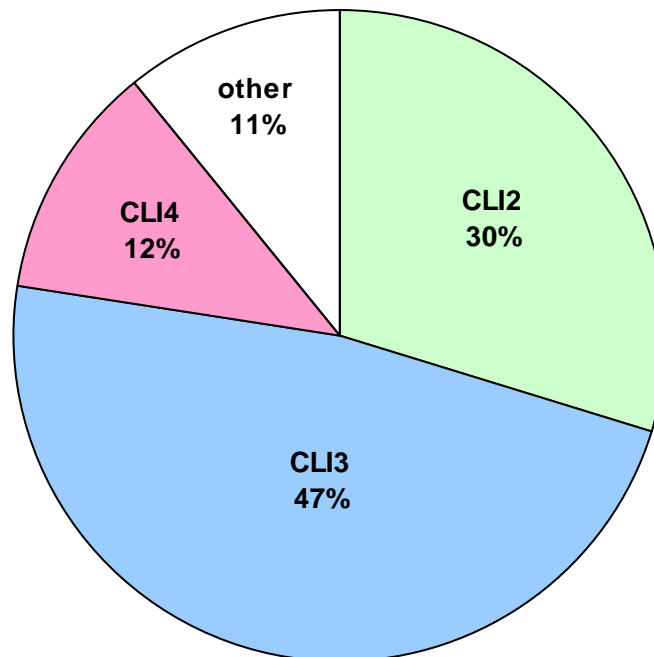
** Based on forest coverage files from NS Natural Resources (blueberry land is low-bush/ wild)

Source: Nova Scotia Department of Agriculture, Natural Resources Canada,
Nova Scotia Department of Natural Resources.

Urban use and property fragmentation of the agricultural land base

As shown in Figure 3, the majority of urban development in Colchester is on good agricultural soils. Only 11 percent of urban land in Colchester is on poorer than CLI4 soil; the third lowest percentage in the province. Almost half of urban development in Colchester has been on class 3 land, while a further 30 percent is on class 2. As indicated in Table 2, the proportion of urban land encroachment on CLI soils is higher on higher quality land, consistent with the provincial average.

**Figure 3. Composition of urban land-
Colchester**



Some lands currently in agriculture may be relatively easily removed for other forms of development. A contributing factor is lot size. Colchester County has 2,646 properties that are less than two hectares in size that are centered in ALIP lands (Table 4). These properties amount to 1,832 hectares, 1,602 of which are on ALIP.

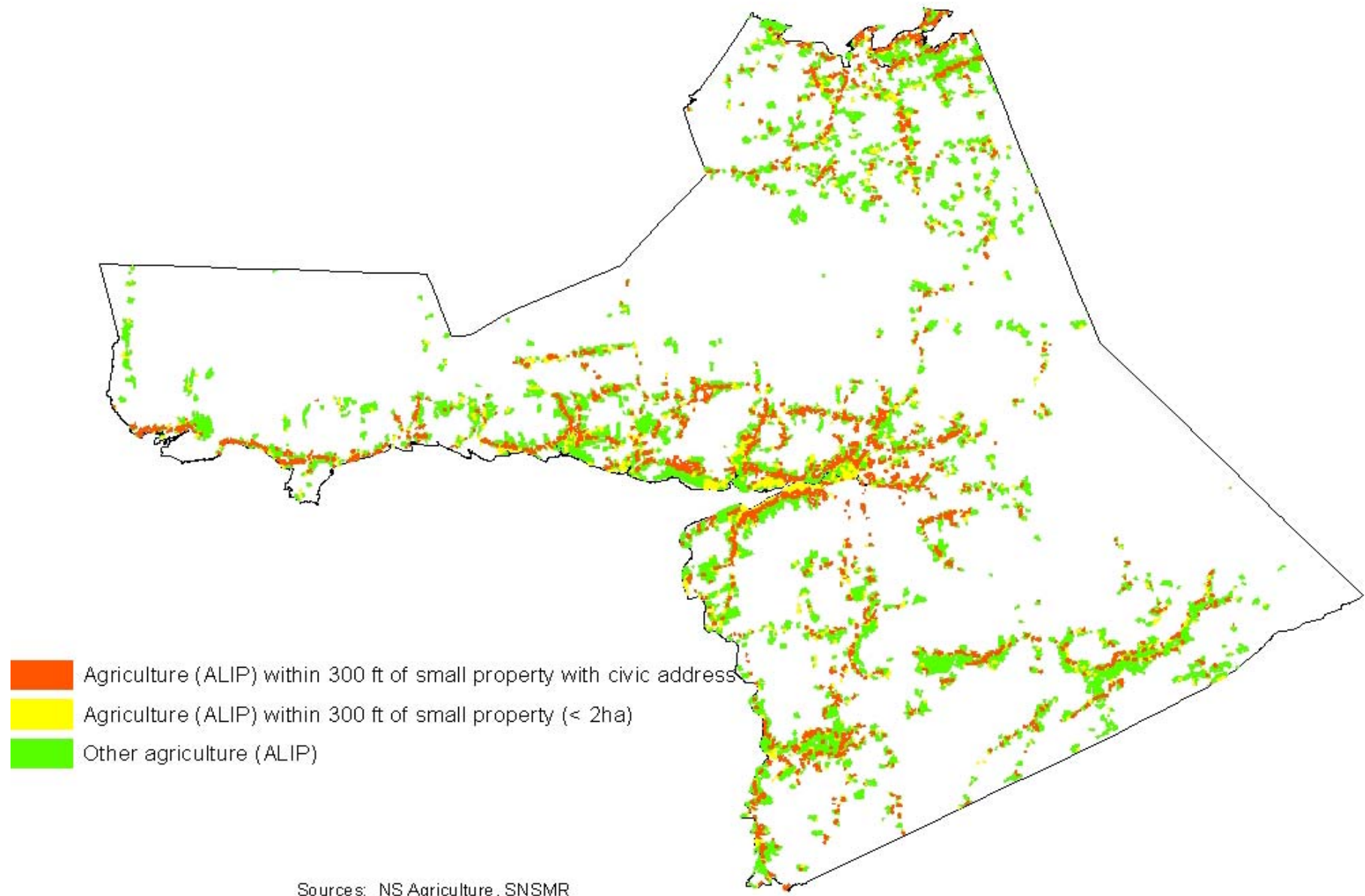
Table 4. Analysis of small properties (< 2ha) encroaching on farm land- Colchester County, Nova Scotia						
	Vacant properties		Properties with civic address		TOTAL of small properties (< 2 ha)	
	# properties	Hectares	# properties	Hectares	# properties	Hectares
Centered in ALIP farmland	1,393	994	1,253	838	2,646	1,832
Area in farmland of properties centered in ALIP	1,393	893	1,252	709	2,645	1,602
Within 10 meters of ALIP farmland	2,588	1,641	4,140	2,195	6,728	3,853
Source: Provincial PID data, NSDA (ALIP data)						

A total of 6,728 properties less than two hectares in size are on or adjacent to ALIP lands, 62 percent of which have civic addresses (i.e. are not vacant). This amounts to 24 percent of the provincial total of these properties. Relative to the amount of farming in Colchester, the county has the 12th highest rate of small developed properties that are adjacent to farmland (2nd in absolute terms).

Ultimately, approximately 819 hectares (2.5 percent) of ALIP lands in Colchester have been lost to urban development since 1998. This places Colchester 3rd in terms of percentage farmland lost to development and 1st in terms of area of farmland lost.

While physical occupancy of land by non-farm development or land with the potential for non-farm development can be used to estimate potential loss of land to the sector, the effect of development on adjacent agricultural lands is probably of greater significance in terms of area affected. In order to estimate the area of farmland that is at risk due to the proximity of development, a 300 ft (91.44m) buffer was drawn around each small (<2ha) property and the amount of ALIP farmland falling under this zone was calculated (Figure 4). Colchester has approximately 29 percent of its ALIP farmland falling under this category, tied for the 9th highest in the province (2nd highest in absolute terms). Approximately 19 percent of Colchester farmland is within 300 feet of a small property with a civic address (i.e. likely developed property).

Figure 4. Agriculture (ALIP) within 300 feet of small properties (< 2ha)



ⁱ Nova Scotia does not have any CLI class 1 soil. Class 2 to 4 soils have moderate to severe limitations that restrict the range of crops or require special conservation practices or both. Class 5 soils and below have very severe limitations for agriculture.

Sources

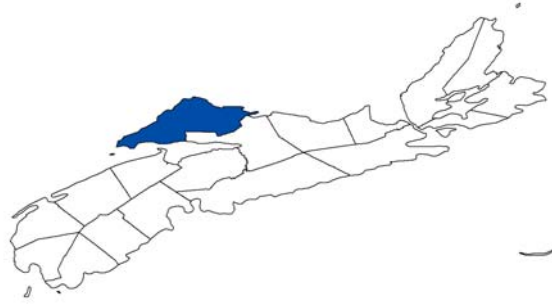
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SNSMR (Service Nova Scotia and Municipal Relations). 2009. NS Civic Address File and property polygons.

CUMBERLAND COUNTY



PROFILE of AGRICULTURAL LAND RESOURCES

Overview of county land resources

Land most suitable for agricultural production (Canadian Land Inventory (CLI) classes 2,3 and 4ⁱ) covers over half of Cumberland County (see Table 1). Cumberland has 30 percent of the province's CLI 2 soils, 11 percent of CLI 3 and 18 percent of CLI 4. Cumberland has the largest area of arable land of any county in Nova Scotia.

Cumberland has approximately 30,500 hectares in agricultural production. This amounts to over 13 percent of Nova Scotia land in agriculture. Farming in Cumberland uses about 7 percent of the county land area.

Table 1. Agricultural land statistics- Cumberland County

	Hectares	Percent of provincial total	Percent of county land area
CLI 2,3,4 TOTAL	232,379	14.8	54.2
CLI 2	50,235	30.5	11.7
CLI 3	107,213	10.8	25.0
CLI 4	74,931	17.9	17.5
Agricultural land (ALIP)*	38,775	16.4	9.1
Agricultural land (DNR)**	30,528	13.3	7.1
Blueberry land (DNR)**	8,933	54.1	2.1
<p>* As indicated by the NSDA Agricultural Land Identification Project. ** Based on forest coverage files from NS Natural Resources (blueberry land is low-bush/ wild) Source: Nova Scotia Department of Agriculture, Natural Resources Canada, Nova Scotia Department of Natural Resources.</p>			

Cumberland also has 8,900 hectares of wild blueberry production. This amounts to over half of the Nova Scotia total, making Cumberland the largest producer of wild blueberries of the 18 Nova Scotia counties.

Figure 1a. Agricultural lands in Cumberland County

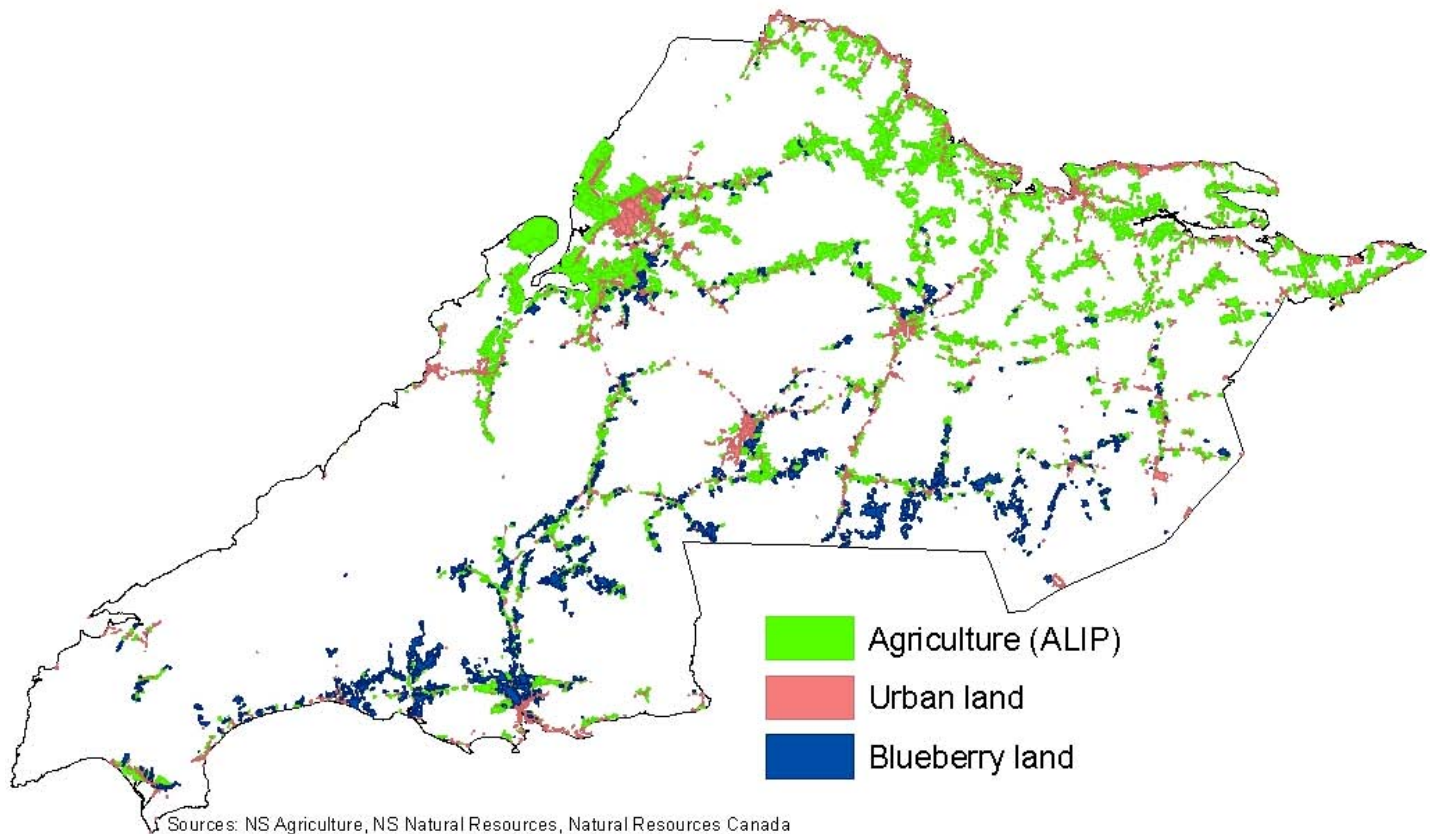
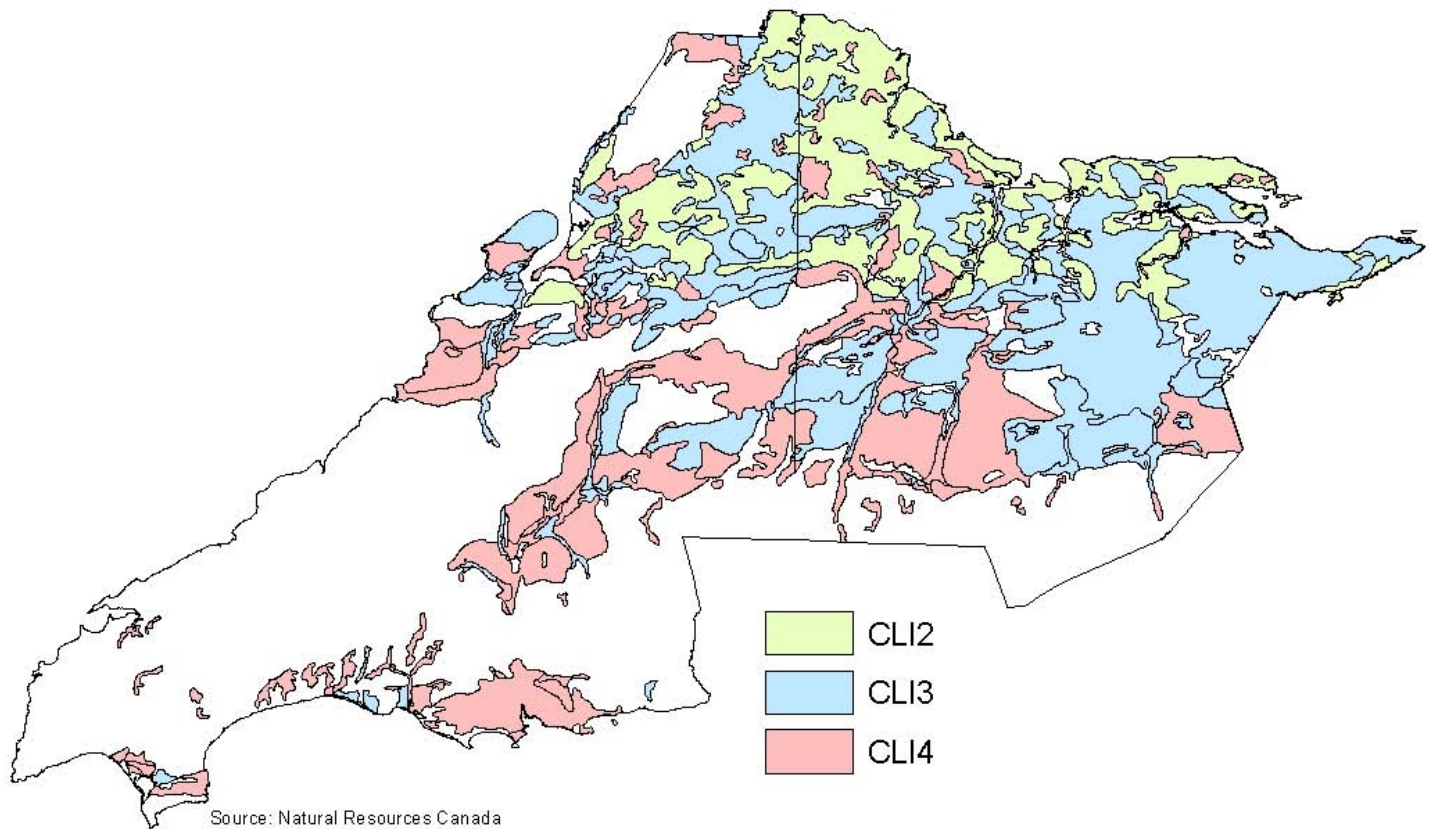
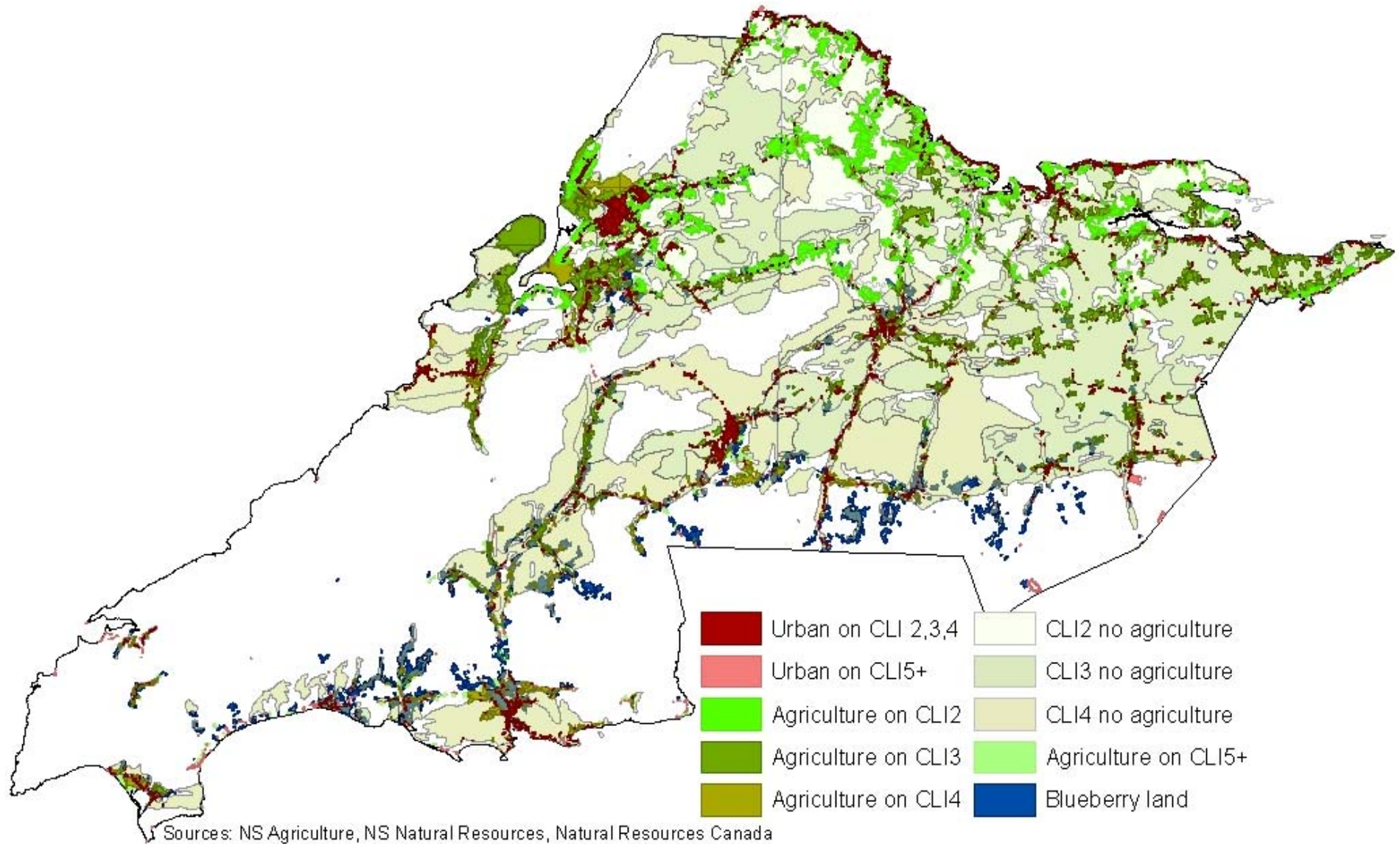


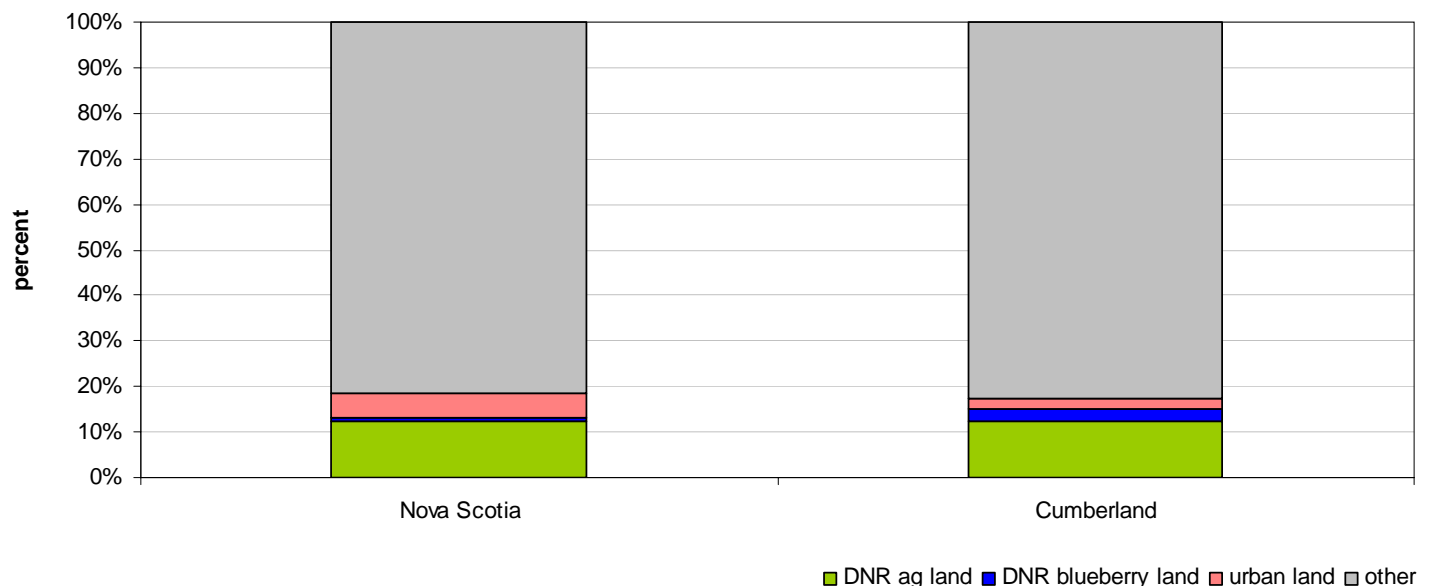
Figure 1b. Agricultural lands in Cumberland County (overlay)



Usage of arable land and composition of farmed land

Land most suitable for agricultural production (CLI classes 2, 3 and 4) is used for agriculture in Cumberland County at a rate near the provincial average, although Cumberland uses this land for significantly more blueberry production than is the case in other counties (see Figure 2 and Table 2). About 12 percent of suitable agricultural land is used for non-blueberry agricultural production in Cumberland compared with 13 percent provincially. Including wild blueberries, Cumberland uses 15 percent of its arable land for agriculture. This places Cumberland 5th (7th without blueberries) among the 18 counties in terms of utilization of arable land for farming.

Figure 2. Utilization of soils suitable for agriculture- Cumberland vs Nova Scotia



Premium agricultural land (CLI 2) is not highly utilized for farming in Cumberland with approximately 22 percent in agriculture (7th out of 14 counties with class 2 land). This is significantly lower than the Nova Scotia average of 29 percent of CLI 2 lands used for agriculture.

Cumberland has about 2 percent of its good agricultural soils under urban development; the second lowest of any county behind Guysborough. The provincial average is 5.4 percent. The low percentage encroachment of urban development on arable land is mostly due to the large amount of class 2,3,4 land in the county.

Table 2. Use of agricultural soils (CLI classes 2,3,4) in Cumberland County and Nova Scotia								
	CLI 2		CLI 3		CLI 4		TOTAL CLI 2,3,4	
	Cumberland	Nova Scotia	Cumberland	Nova Scotia	Cumberland	Nova Scotia	Cumberland	Nova Scotia
	Percent							
Agricultural land (DNR)*	22.0	29.3	12.6	12.0	5.9	7.9	12.4	12.7
Blueberry land (DNR)*	0.6	0.5	1.4	0.3	5.2	1.8	2.4	0.7
Urban area	4.4	6.9	1.8	5.4	1.9	4.6	2.4	5.4
Other	73.1	63.3	84.3	82.3	87.1	85.7	82.8	81.2
* Based on forest coverage files from NS Natural Resources (blueberry land is low-bush/ wild) Source: Nova Scotia Department of Agriculture. Natural Resources Canada. Nova Scotia Department of Natural Resources.								

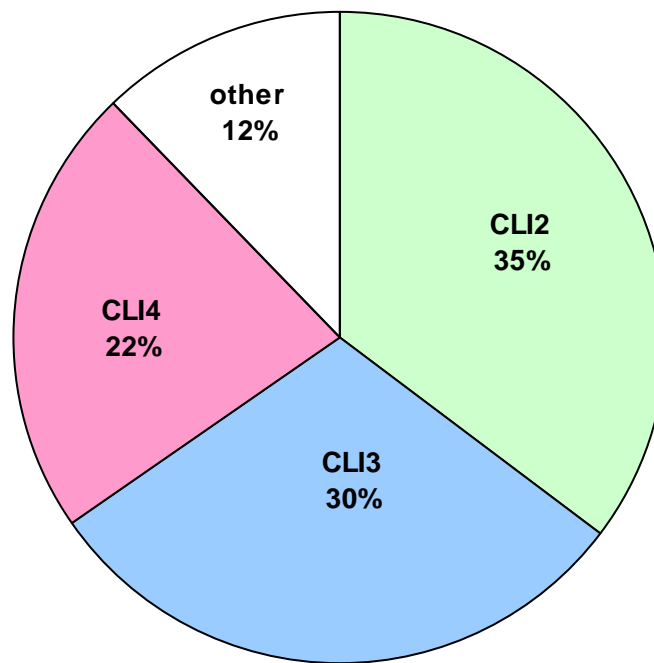
Looking at the land base from a different perspective (the composition of lands used for agriculture, Table 3) it is apparent that Cumberland County agriculture is generally taking place on good agricultural soils, and at a higher percentage than the provincial average. Over one-third of agricultural land is on class 2 soils, while 44 percent is on class 3 soils and 15 percent on class 4. Approximately 5 percent of Cumberland agriculture is on less than class 4 soils. The ALIP numbers (which include blueberries) are significantly higher than the DNR agriculture numbers due to the large area of blueberry production in Cumberland.

Table 3. Composition of lands in agriculture- Cumberland County						
	Agricultural land (ALIP)*		Agricultural land (DNR)**		Blueberry land (DNR)**	
	Cumberland	Nova Scotia	Cumberland	Nova Scotia	Cumberland	Nova Scotia
	Percent					
CLI 2	29.7	20.5	36.1	21.1	3.2	4.7
CLI 3	37.6	49.4	44.1	51.8	16.6	16.4
CLI 4	20.2	16.3	14.5	14.5	43.2	44.5
Other	12.5	13.8	5.3	12.7	37.0	34.4
* As indicated by the NSDA Agricultural Land Identification Project. ** Based on forest coverage files from NS Natural Resources (blueberry land is low-bush/ wild) Source: Nova Scotia Department of Agriculture, Natural Resources Canada, Nova Scotia Department of Natural Resources.						

Urban use and property fragmentation of the agricultural land base

As shown in Figure 3, the majority of urban development in Cumberland is on good agricultural soils. Only 12 percent of urban land in Cumberland is on poorer than CLI4 soil; the fourth lowest percentage in the province. Over one-third of urban development in Cumberland has been on class 2 land (the highest of any county), while a further 30 percent is on class 3 and 22 percent on class 4 land. As indicated in Table 2, the proportion of urban land encroachment on CLI soils is highest for CLI2 land and drops off on lower quality land, consistent with the provincial average.

**Figure 3. Composition of urban land-
Cumberland**



Some lands currently in agriculture may be relatively easily removed for other forms of development. A contributing factor is lot size. Cumberland County has 1,906 properties that are less than two hectares in size that are centered in ALIP lands (Table 4). These properties amount to 1,463 hectares, 1,231 of which are on ALIP.

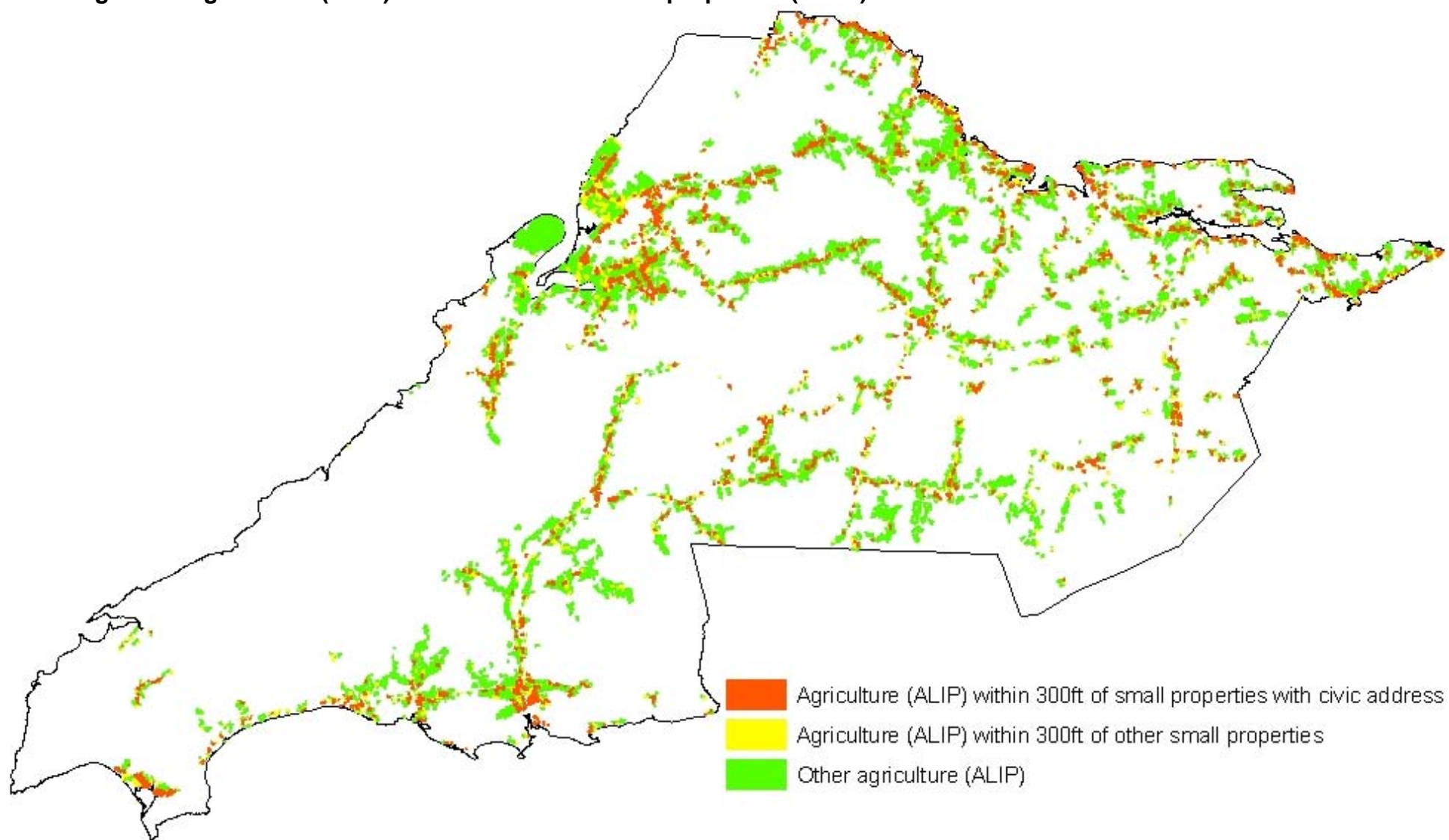
Table 4. Analysis of small properties (< 2ha) encroaching on farm land- Cumberland County, Nova Scotia						
	Vacant properties		Properties with civic address		TOTAL of small properties (< 2 ha)	
	# properties	Hectares	# properties	Hectares	# properties	Hectares
Centered in ALIP farmland	964	741	942	722	1,906	1,463
Area in farmland of properties centered in ALIP	966	631	942	600	1,908	1,231
Within 10 meters of ALIP farmland	1,993	1,342	3,029	1,814	5,022	3,155
Source: Provincial PID data, NSDA (ALIP data)						

A total of 5,022 properties less than two hectares in size are on or adjacent to ALIP lands, 60 percent of which have civic addresses (i.e. are not vacant). This amounts to 20 percent of the provincial total of these properties. Relative to the amount of farming in Cumberland, the county has the lowest rate of small developed properties that are adjacent to farmland of any county in Nova Scotia.

Ultimately, approximately 597 hectares (1.5 percent) of ALIP lands in Cumberland have been lost to urban development since 1998. This places Cumberland 9th in terms of percentage farmland lost to development and 2nd in terms of area of farmland lost.

While physical occupancy of land by non-farm development or land with the potential for non-farm development can be used to estimate potential loss of land to the sector, the effect of development on adjacent agricultural lands is probably of greater significance in terms of area affected. In order to estimate the area of farmland that is at risk due to the proximity of development, a 300 ft (91.44m) buffer was drawn around each small (<2ha) property and the amount of ALIP farmland falling under this zone was calculated (Figure 4). Cumberland has approximately 22 percent of its ALIP farmland falling under this category, the lowest in the province (3rd highest in absolute terms). Approximately 14 percent of Cumberland farmland is within 300 feet of a small property with a civic address (i.e. likely developed property).

Figure 4. Agriculture (ALIP) within 300 feet of small properties (< 2ha)



Sources: NS Agriculture, SNSMR

ⁱ Nova Scotia does not have any CLI class 1 soil. Class 2 to 4 soils have moderate to severe limitations that restrict the range of crops or require special conservation practices or both. Class 5 soils and below have very severe limitations for agriculture.

Sources

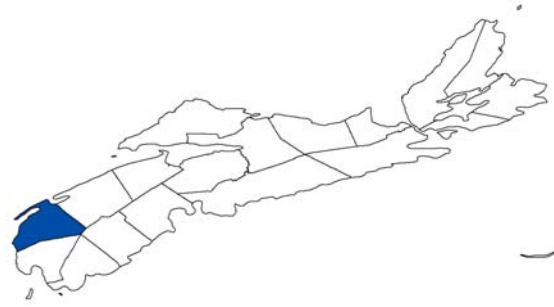
Natural Resources Canada. Canada Land Inventory. Available from: <http://geogratis.cgdi.gc.ca/CLI/frames.html>. Accessed [25 January 2010].

Nova Scotia Department of Agriculture. Agricultural Land Identification Project (ALIP).

Nova Scotia Department of Natural Resources. Forest Inventory - Geographic Information Systems. Available from: www.gov.ns.ca/natr/forestry/gis/forest-inventory.asp. Accessed [25 January 2010].

SNSMR (Service Nova Scotia and Municipal Relations). 2009. NS Civic Address File and property polygons.

DIGBY COUNTY



PROFILE of AGRICULTURAL LAND RESOURCES

Overview of county land resources

Land most suitable for agricultural production (Canadian Land Inventory (CLI) classes 2,3 and 4ⁱ) covers over one-quarter of Digby County (see Table 1). Digby has less than 1 percent of the province's CLI 2 soils, 5 percent of CLI 3 and 5 percent of CLI 4.

Digby has approximately 4,500 hectares in agricultural production. This amounts to about 2 percent of Nova Scotia land in agriculture. Farming in Digby uses less than 2 percent of the county land area.

Table 1. Agricultural land statistics- Digby County

	Hectares	Percent of provincial total	Percent of county land area
CLI 2,3,4 TOTAL	68,756	4.4	27.5
CLI 2	1,282	0.5	0.8
CLI 3	47,899	4.8	19.2
CLI 4	19,574	4.7	7.8
Agricultural land (ALIP)*	4,205	1.8	1.7
Agricultural land (DNR)**	4,807	2.1	1.9
Blueberry land (DNR)**	44.6	0.3	0.02
<p>* As indicated by the NSDA Agricultural Land Identification Project. ** Based on forest coverage files from NS Natural Resources (blueberry land is low-bush/ wild) Source: Nova Scotia Department of Agriculture, Natural Resources Canada, Nova Scotia Department of Natural Resources.</p>			

Figure 1a. Agricultural lands in Digby County

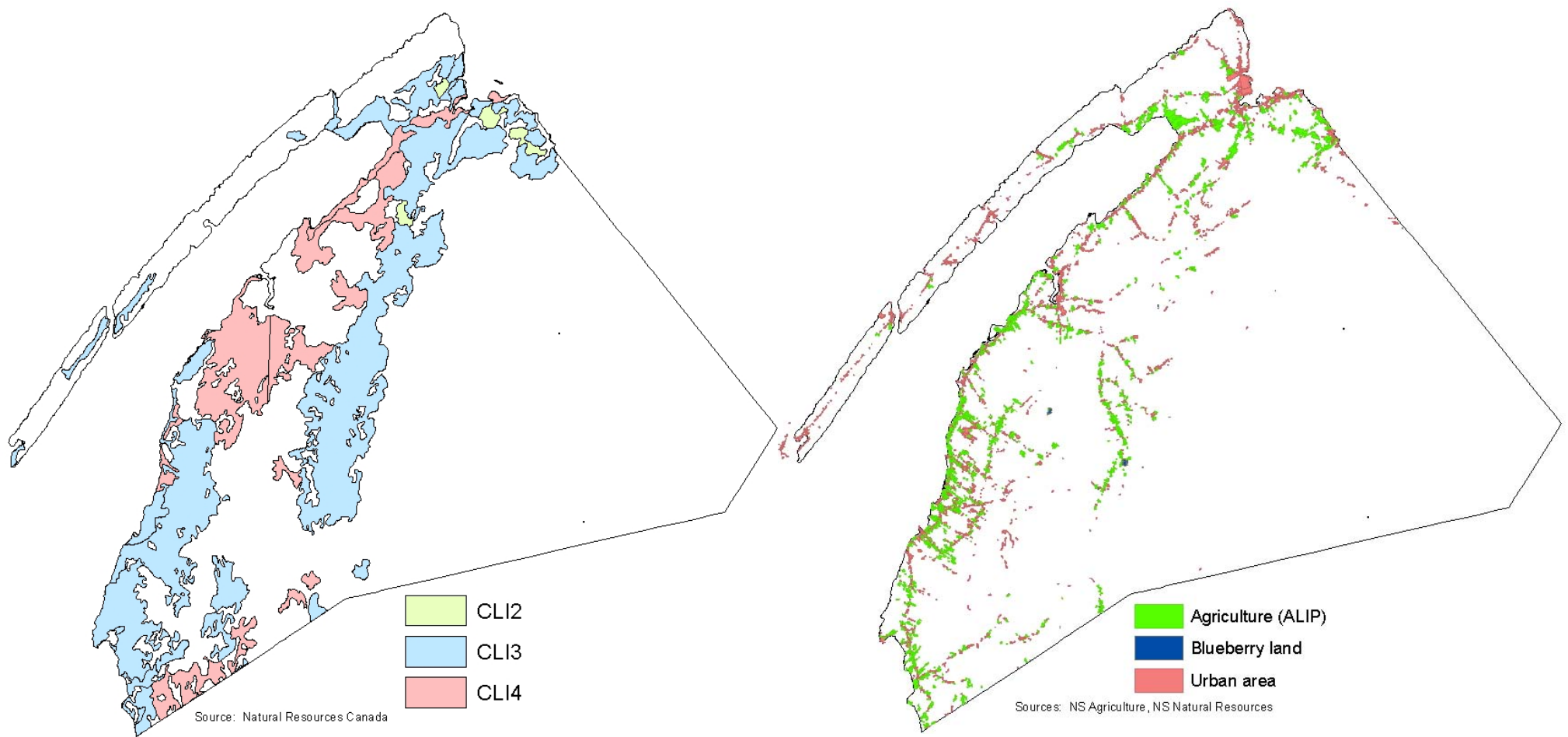
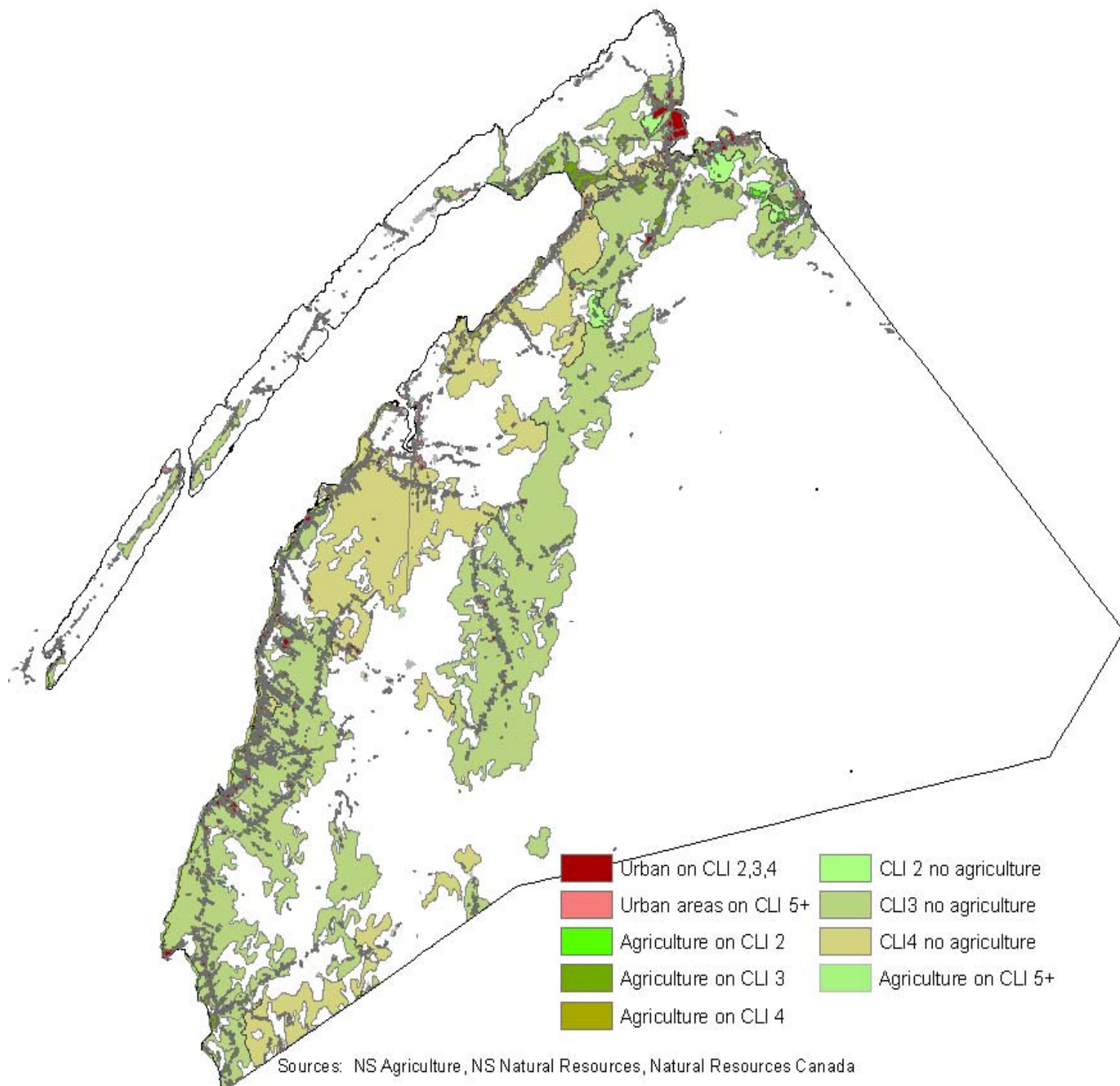


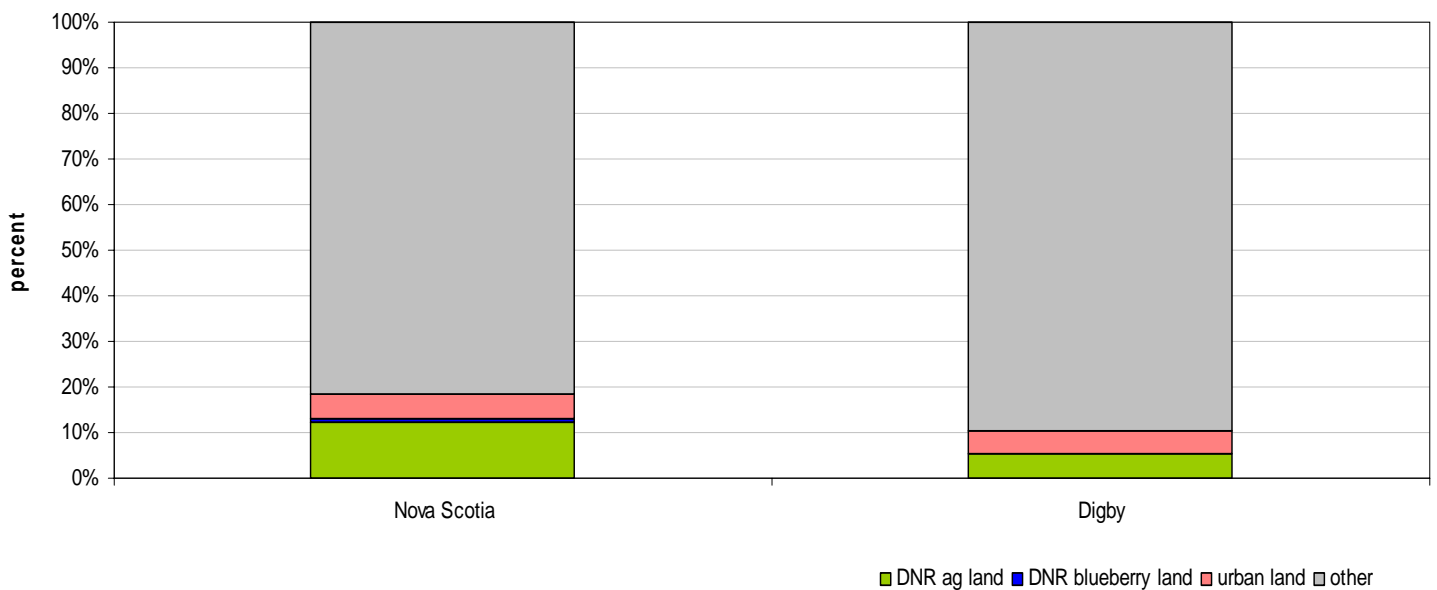
Figure 1b. Agricultural lands in Digby County (overlay)



Usage of arable land and composition of farmed land

Land most suitable for agricultural production (CLI classes 2, 3 and 4) are used for agriculture in Digby County at a lesser rate than the provincial average (see Figure 2 and Table 2). About 6 percent of suitable agricultural land is used for agricultural production in Digby compared with 13 percent provincially. This places Digby 11th among the 18 counties in terms of utilization of arable land for farming.

Figure 2. Utilization of soils suitable for agriculture- Digby vs Nova Scotia



Premium agricultural land (CLI 2) is not highly utilized in Digby with approximately 15 percent in agriculture (10th out of 14 counties with CLI 2 land). Provincially 29 percent of CLI 2 lands are in agriculture.

Digby has about 5 percent of its good agricultural soils under urban development ranking Digby 11th. This compares to the provincial average of 5.4 percent ranking.

Table 2. Use of agricultural soils (CLI classes 2,3,4) in Digby County and Nova Scotia								
	CLI 2		CLI 3		CLI 4		TOTAL CLI 2,3,4	
	Digby	Nova Scotia	Digby	Nova Scotia	Digby	Nova Scotia	Digby	Nova Scotia
	Percent							
Agricultural land (DNR)*	14.8	29.3	5.7	12.0	4.5	7.9	5.5	12.7
Blueberry land (DNR)*	0.0	0.5	0.1	0.3	0.0	1.8	0.0	0.7
Urban area	5.1	6.9	5.1	5.4	4.4	4.6	4.9	5.4
Other	80.1	63.3	89.2	82.3	91.1	85.7	89.5	81.2
* Based on forest coverage files from NS Natural Resources (blueberry land is low-bush/ wild) Source: Nova Scotia Department of Agriculture. Natural Resources Canada. Nova Scotia Department of Natural Resources.								

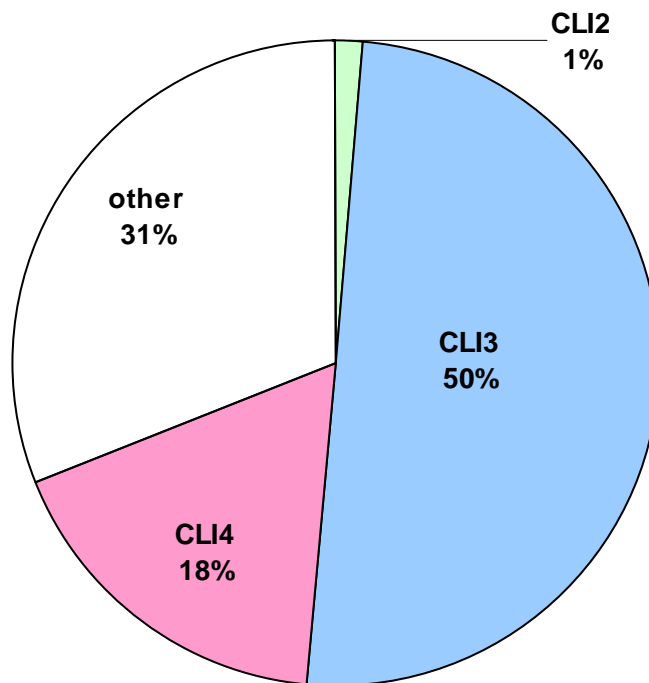
Looking at the land base from a slightly different perspective (the composition of land used for agriculture, Table 3) it is apparent that Digby County agriculture is generally taking place on good agricultural soils, although less so than the provincial average. Over half of agricultural land is on class 3 soils, while 4 percent is on class 2 soils and 18 percent on class 4. Just over one-fifth of Digby's agriculture is on poorer than class 4 soils.

Table 3. Composition of lands in agriculture- Digby County						
	Agricultural land (ALIP)*		Agricultural land (DNR)**		Blueberry land (DNR)**	
	Digby	Nova Scotia	Digby	Nova Scotia	Digby	Nova Scotia
	Percent					
CLI 2	4.3	20.5	4.0	21.1	0.0	4.7
CLI 3	62.0	49.4	56.3	51.8	59.2	16.4
CLI 4	18.9	16.3	18.3	14.5	0.0	44.5
Other	14.8	13.8	21.4	12.7	40.8	34.4
* As indicated by the NSDA Agricultural Land Identification Project. ** Based on forest coverage files from NS Natural Resources (blueberry land is low-bush/ wild) Source: Nova Scotia Department of Agriculture, Natural Resources Canada, Nova Scotia Department of Natural Resources.						

Urban use and property fragmentation of the agricultural land base

As shown in Figure 3, the majority of urban development in Digby is on good agricultural soils, while 31 percent of urban development occurs on soils that are of poorer quality than class 4. As indicated in Table 2, the proportion of urban land encroachment on CLI soils is higher on higher quality land, although this is less pronounced than for Nova Scotia as a whole.

Figure 3. Composition of urban land- Digby



Some lands currently in agriculture may be relatively easily removed for other forms of development. A contributing factor is lot size. Digby County has 1,359 properties that are less than two hectares in size that are centered in ALIP lands (Table 4). These properties amount to 1,068 hectares, 837 of which are on ALIP.

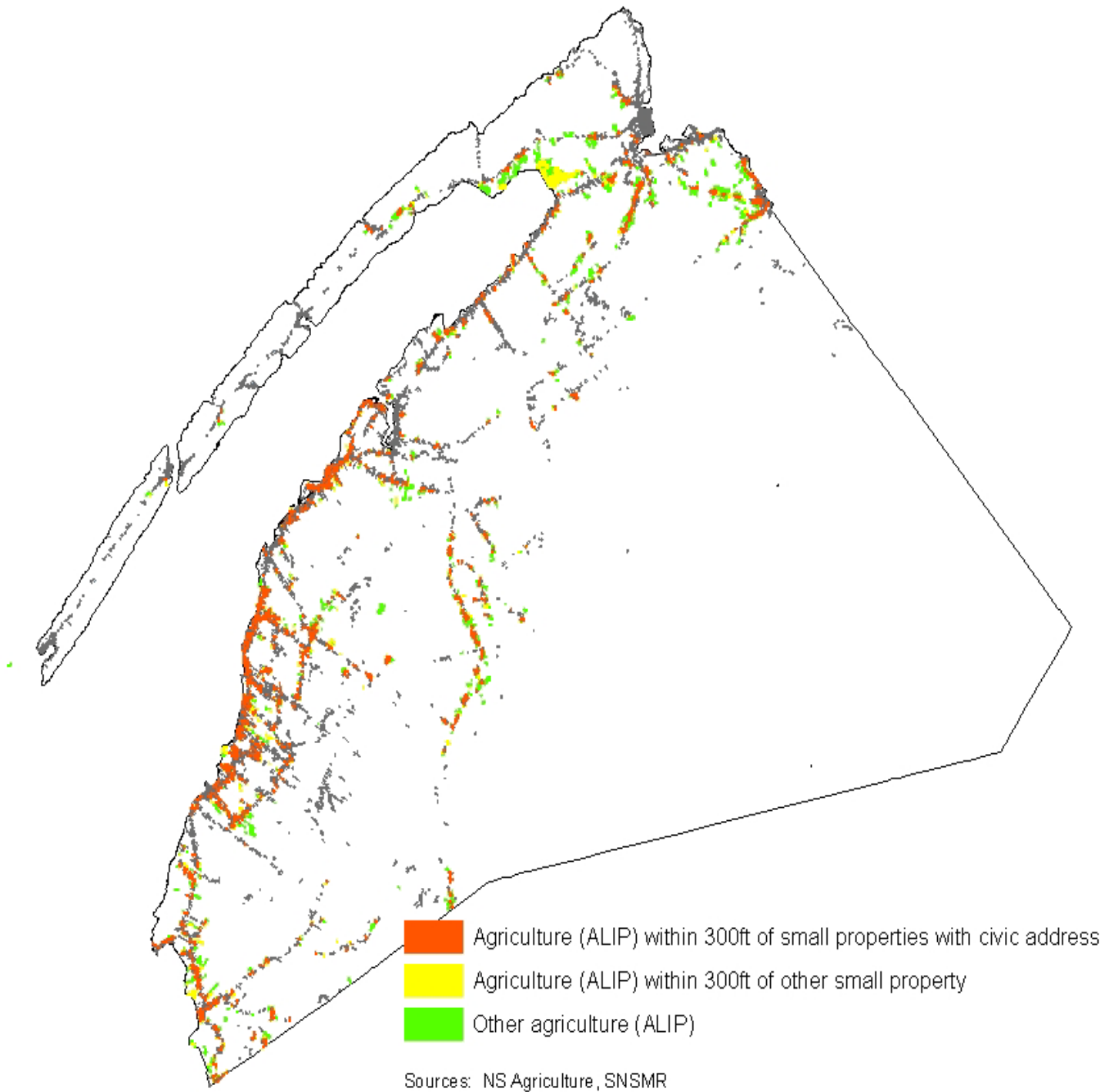
Table 4. Analysis of small properties (< 2ha) encroaching on farm land- Digby County, Nova Scotia						
	Vacant properties		Properties with civic address		TOTAL of small properties (< 2 ha)	
	# properties	Hectares	# properties	Hectares	# properties	Hectares
Centered in ALIP farmland	692	505	667	563	1,359	1,068
Area in farmland of properties centered in ALIP	692	424	667	413	1,359	837
Within 10 meters of ALIP farmland	1,389	1,014	1,724	1,216	3,113	2,230
Source: Provincial PID data, NSDA (ALIP data)						

A total of 3,113 properties of less than two hectares in size are on or adjacent to ALIP lands, 55 percent of which have civic addresses (i.e. are not vacant). This amounts to 14 percent of the provincial total of these properties. Relative to the amount of farming in Digby, the county has the highest rate of small developed properties that are adjacent to farmland.

Ultimately, approximately 256 hectares (6.1 percent) of ALIP lands in Digby have been lost to urban development since 1998. This places Digby 1st in terms of percentage of farmland lost to development and 6th in terms of area of farmland lost.

While physical occupancy of land by non-farm development or land with the potential for non-farm development can be used to estimate potential loss of land to the sector, the effect of development on adjacent agricultural lands is probably of greater significance in terms of area affected. In order to estimate the area of farmland that is at risk due to the proximity of development, a 300 ft (91.44m) buffer was drawn around each small (<2ha) property and the amount of ALIP farmland falling under this zone was calculated (Figure 4). Digby has approximately 60 percent of its ALIP farmland falling under this category, the highest in the province (9th in absolute terms). Approximately 45 percent of Digby farmland is within 300 feet of a small property with a civic address (i.e. likely developed property), also the highest in the province.

Figure 4. Agriculture (ALIP) within 300 feet of small properties (< 2ha)



ⁱ Nova Scotia does not have any CLI class 1 soil. Class 2 to 4 soils have moderate to severe limitations that restrict the range of crops or require special conservation practices or both. Class 5 soils and below have very severe limitations for agriculture.

Sources

Natural Resources Canada. Canada Land Inventory. Available from: <http://geogratis.cgdi.gc.ca/CLI/frames.html>. Accessed [25 January 2010].

Nova Scotia Department of Agriculture. Agricultural Land Identification Project (ALIP).

Nova Scotia Department of Natural Resources. Forest Inventory - Geographic Information Systems. Available from: www.gov.ns.ca/natr/forestry/gis/forest-inventory.asp. Accessed [25 January 2010].

SNSMR (Service Nova Scotia and Municipal Relations). 2009. NS Civic Address File and property polygons.

GUYSBOROUGH COUNTY



PROFILE of AGRICULTURAL LAND RESOURCES

Overview of county land resources

Land most suitable for agricultural production (Canadian Land Inventory (CLI) classes 2,3 and 4ⁱ) covers approximately 16 percent of Guysborough County (see Table 1). Guysborough has less than 1 percent of the province's CLI 2 soils, 5 percent of CLI 3 and 4 percent of CLI 4.

Guysborough has approximately 2,300 hectares in agricultural production. This amounts to 1 percent of Nova Scotia land in agriculture. Farming in Guysborough uses less than 1 percent of the county land area.

Table 1. Agricultural land statistics- Guysborough County

	Hectares	Percent of provincial total	Percent of county land area
CLI 2,3,4 TOTAL	64,945	4.1	16.1
CLI 2	1,217	0.7	0.3
CLI 3	49,000	5.0	12.2
CLI 4	14,729	3.5	3.7
Agricultural land (ALIP)*	1,779	0.8	0.4
Agricultural land (DNR)**	2,331	1.0	0.6
Blueberry land (DNR)**	454	2.8	0.1

* As indicated by the NSDA Agricultural Land Identification Project.

** Based on forest coverage files from NS Natural Resources (blueberry land is low-bush/ wild)

Source: Nova Scotia Department of Agriculture, Natural Resources Canada, Nova Scotia Department of Natural Resources.

Guysborough also produces over 450 hectares of wild blueberries. This amounts to 3 percent of the Nova Scotia total.

Figure 1a. Agricultural lands in Guysborough County

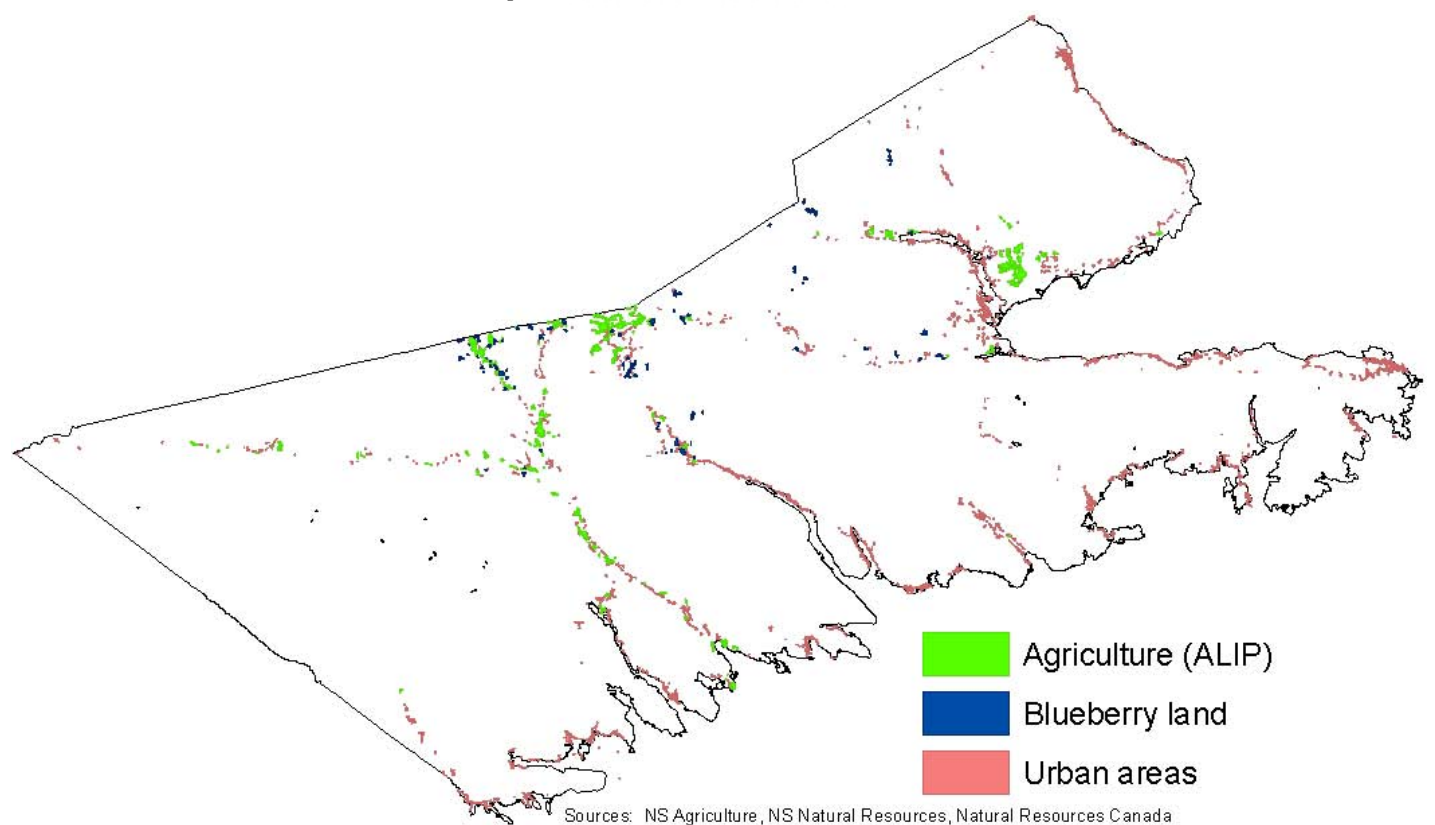
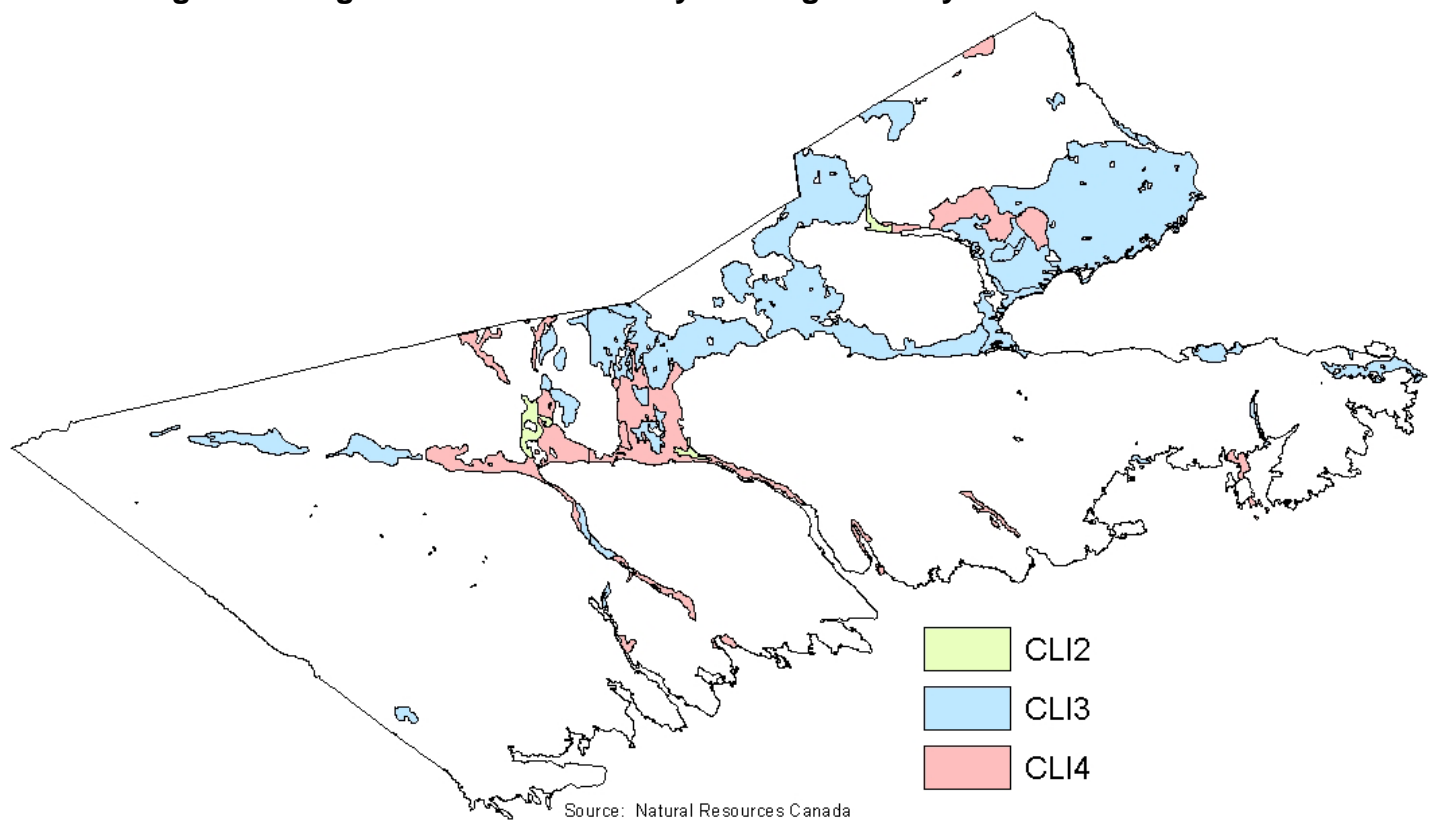
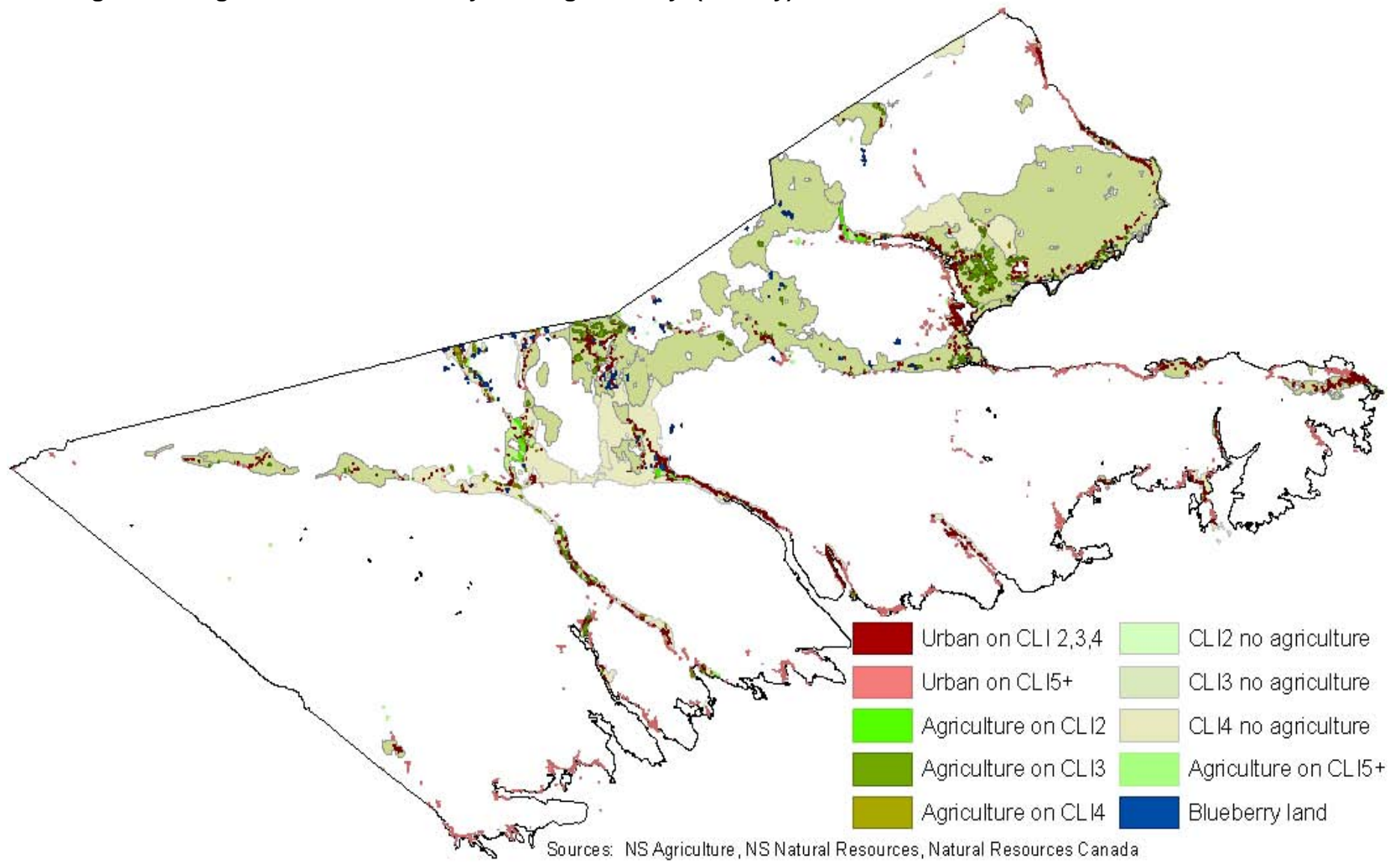


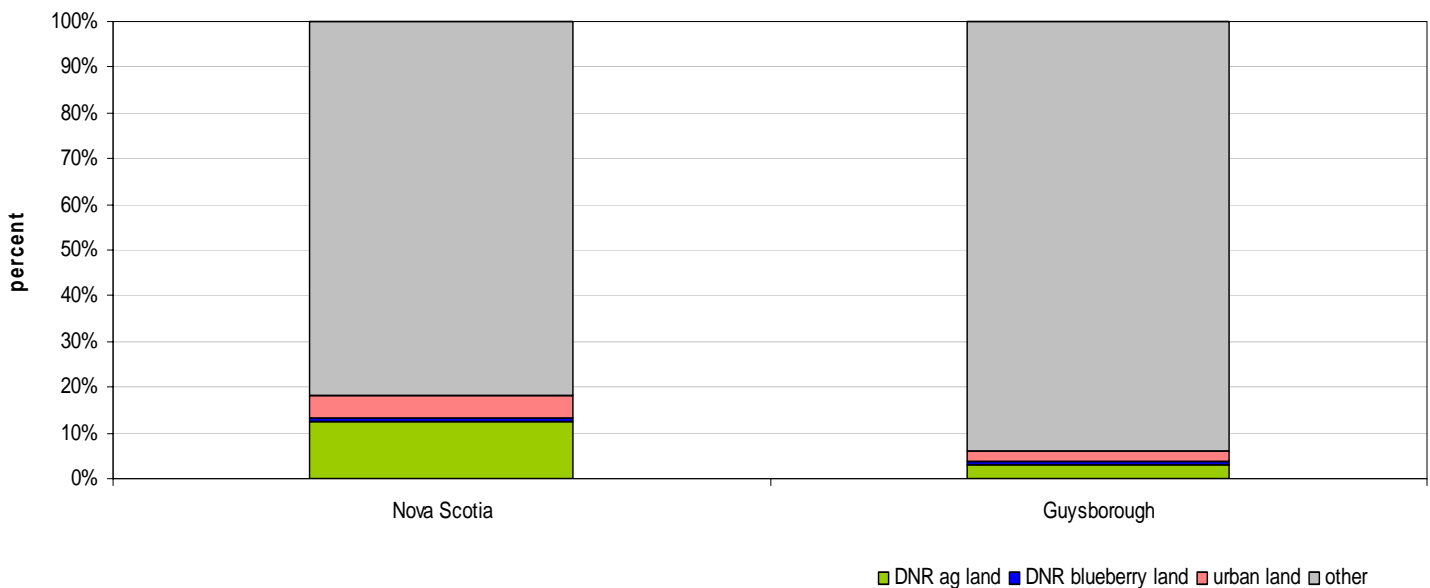
Figure 1b. Agricultural lands in Guysborough County (overlay)



Usage of arable land and composition of farmed land

Land most suitable for agricultural production (CLI classes 2, 3 and 4) are used for agriculture in Guysborough County at a rate significantly lower than the provincial average (see Figure 2 and Table 2). About 3 percent of suitable agricultural land is used for agricultural production in Guysborough compared with 13 percent provincially. This places Guysborough 16th among the 18 counties in terms of utilization of arable land for farming.

Figure 2. Utilization of soils suitable for agriculture- Guysborough vs Nova Scotia



Premium agricultural land (CLI 2) is not highly utilized for farming in Guysborough with approximately 16 percent in agriculture (9th out of 14 counties with class 2 land). This is lower than the Nova Scotia average of 29 percent of CLI 2 lands used for agriculture.

Guysborough has about 2 percent of its good agricultural soils under urban development, making the county the least intensive user of arable land for urban development. The provincial average is 5.4 percent

Table 2. Use of agricultural soils (CLI classes 2,3,4) in Guysborough Co. and NS								
	CLI 2		CLI 3		CLI 4		TOTAL CLI 2,3,4	
	Guys Co.	Nova Scotia	Guys Co.	Nova Scotia	Guys Co.	Nova Scotia	Guys Co.	Nova Scotia
	Percent							
Agricultural land (DNR)*	15.6	29.3	3.0	12.0	2.9	7.9	3.2	12.7
Blueberry land (DNR)*	0.2	0.5	0.3	0.3	0.8	1.8	0.4	0.7
Urban area	4.1	6.9	1.9	5.4	3.4	4.6	2.3	5.4
Other	80.1	63.3	94.8	82.3	92.9	85.7	94.1	81.2
* Based on forest coverage files from NS Natural Resources (blueberry land is low-bush/ wild) Source: Nova Scotia Department of Agriculture. Natural Resources Canada. Nova Scotia Department of Natural Resources.								

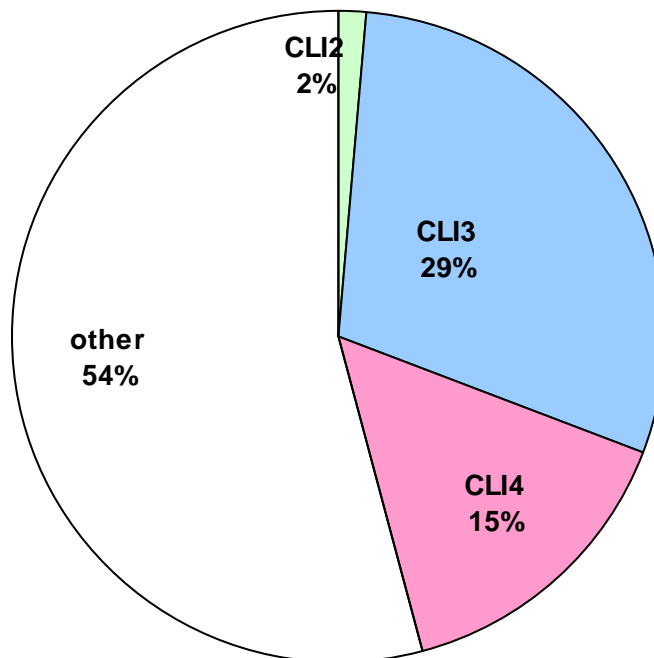
Looking at the land base from a slightly different perspective (the composition of lands in agriculture, Table 3) it is apparent that Guysborough County agriculture is generally taking place on good agricultural soils, and at a rate similar to the provincial average. Almost two-thirds of farmed agricultural land is on class 3 soils, while 8 percent is on class 2 soils and 19 percent on class 4. Approximately 10 percent of Guysborough agriculture is on poorer than class 4 soils.

Table 3. Composition of lands in agriculture- Guysborough						
	Agricultural land (ALIP)*		Agricultural land (DNR)**		Blueberry land (DNR)**	
	Guys Co.	Nova Scotia	Guys Co.	Nova Scotia	Guys Co.	Nova Scotia
	Percent					
CLI 2	5.9	20.5	8.2	21.1	0.5	4.7
CLI 3	52.2	49.4	62.8	51.8	29.3	16.4
CLI 4	26.7	16.3	18.6	14.5	26.0	44.5
Other	15.2	13.8	10.4	12.7	44.1	34.4
* As indicated by the NSDA Agricultural Land Identification Project. ** Based on forest coverage files from NS Natural Resources (blueberry land is low-bush/ wild) Source: Nova Scotia Department of Agriculture, Natural Resources Canada, Nova Scotia Department of Natural Resources.						

Urban use and property fragmentation of the agricultural land base

As shown in Figure 3, almost half of urban development in Guysborough County is on good agricultural soils. As indicated in Table 2, the proportion of urban land encroachment on CLI soils is highest on class 2 and 4 land and lowest on class 3 land. Provincially, the percentage of arable land taken by urban development is highest on the best soils (CLI2) and decreases on class 3 and class 4 land.

**Figure 3. Composition of urban land-
Guysborough**



Some lands currently in agriculture may be relatively easily removed for other forms of development. A contributing factor is lot size. Guysborough County has 130 properties that are less than two hectares in size that are centered in ALIP lands (Table 4). These properties amount to 83 hectares, 62 of which are on ALIP.

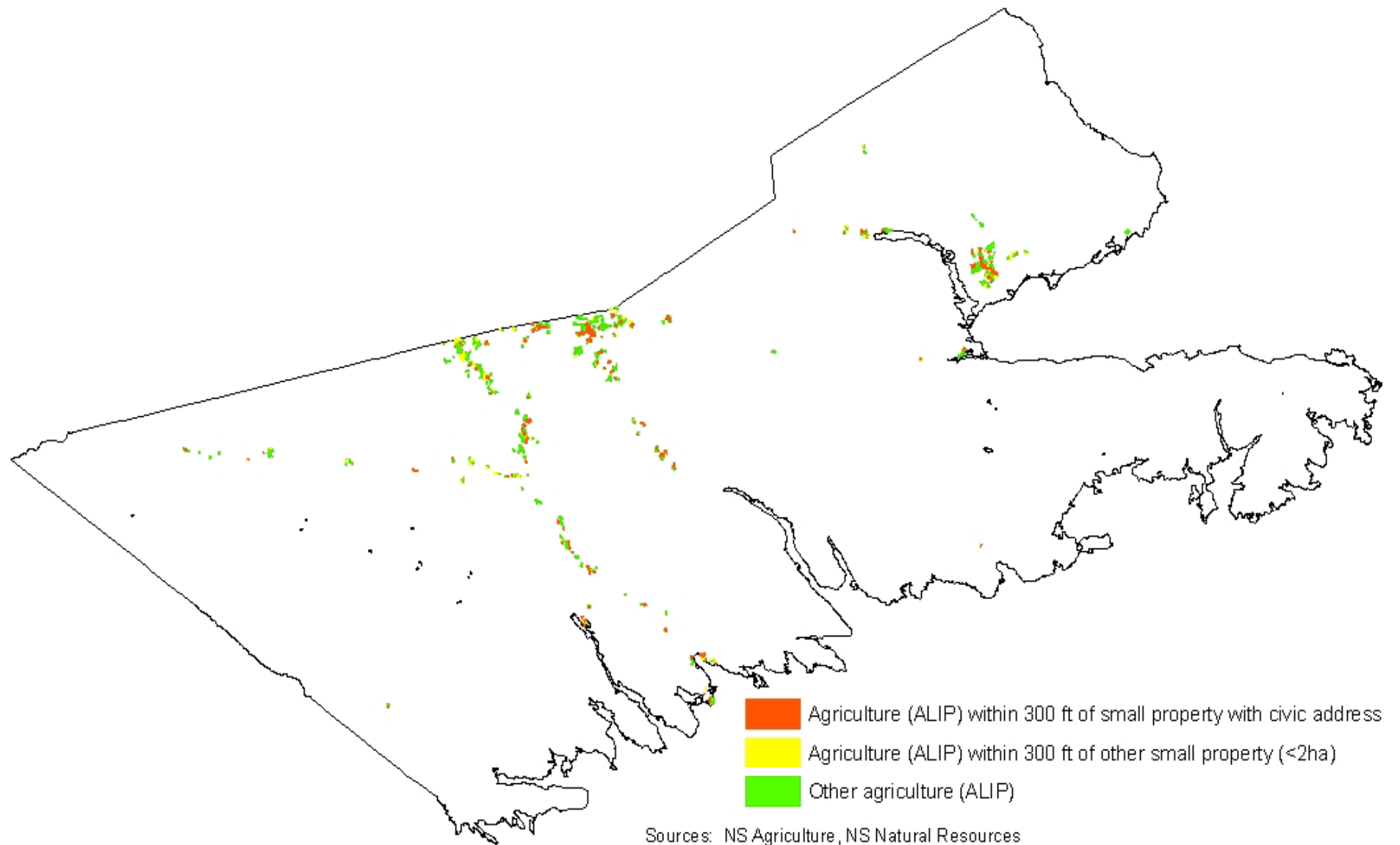
Table 4. Analysis of small properties (< 2ha) encroaching on farm land- Guysborough County, Nova Scotia						
	Vacant properties		Properties with civic address		TOTAL of small properties (< 2 ha)	
	# properties	Hectares	# properties	Hectares	# properties	Hectares
Centered in ALIP farmland	65	32	65	51	130	83
Area in farmland of properties centered in ALIP	65	23	65	39	130	62
Within 10 meters of ALIP farmland	143	85	138	104	281	189
Source: Provincial PID data, NSDA (ALIP data)						

A total of 281 properties less than two hectares in size are on or adjacent to ALIP lands, 49 percent of which have civic addresses (i.e. are not vacant). This amounts to 1 percent of the provincial total of these properties. Relative to the amount of farming in Guysborough, the county is tied with Pictou for the 14th highest rate of small developed properties that are adjacent to farmland.

Ultimately, approximately 35 hectares (2 percent) of ALIP lands in Guysborough have been lost to urban development since 1998. This places Guysborough tied for 6th with Lunenburg in terms of percentage farmland lost to development and 14th in terms of area of farmland lost.

While physical occupancy of land by non-farm development or land with the potential for non-farm development can be used to estimate potential loss of land to the sector, the effect of development on adjacent agricultural lands is probably of greater significance in terms of area affected. In order to estimate the area of farmland that is at risk due to the proximity of development, a 300 ft (91.44m) buffer was drawn around each small (<2ha) property and the amount of ALIP farmland falling under this zone was calculated (Figure 4). Guysborough has approximately 26 percent of its ALIP farmland falling under this category, the 5th lowest in the province (tied for 3rd lowest in absolute terms with Richmond). Approximately 17 percent of Guysborough farmland is within 300 feet of a small property with a civic address (i.e. likely developed property).

Figure 4. Agriculture (ALIP) within 300 feet of small properties (< 2ha)



ⁱ Nova Scotia does not have any CLI class 1 soil. Class 2 to 4 soils have moderate to severe limitations that restrict the range of crops or require special conservation practices or both. Class 5 soils and below have very severe limitations for agriculture.

Sources

Natural Resources Canada. Canada Land Inventory. Available from: <http://geogratis.cgdi.gc.ca/CLI/frames.html>. Accessed [25 January 2010].

Nova Scotia Department of Agriculture. Agricultural Land Identification Project (ALIP).

Nova Scotia Department of Natural Resources. Forest Inventory - Geographic Information Systems. Available from: www.gov.ns.ca/natr/forestry/gis/forest-inventory.asp. Accessed [25 January 2010].

SNSMR (Service Nova Scotia and Municipal Relations). 2009. NS Civic Address File and property polygons.

HALIFAX COUNTY



PROFILE of AGRICULTURAL LAND RESOURCES

Overview of county land resources

Land most suitable for agricultural production (Canadian Land Inventory (CLI) classes 2,3 and 4ⁱ) covers approximately 15 percent of Halifax County (see Table 1). Halifax has 2 percent of the province's CLI 2 soils, 6 percent of CLI 3 and 4 percent of CLI 4.

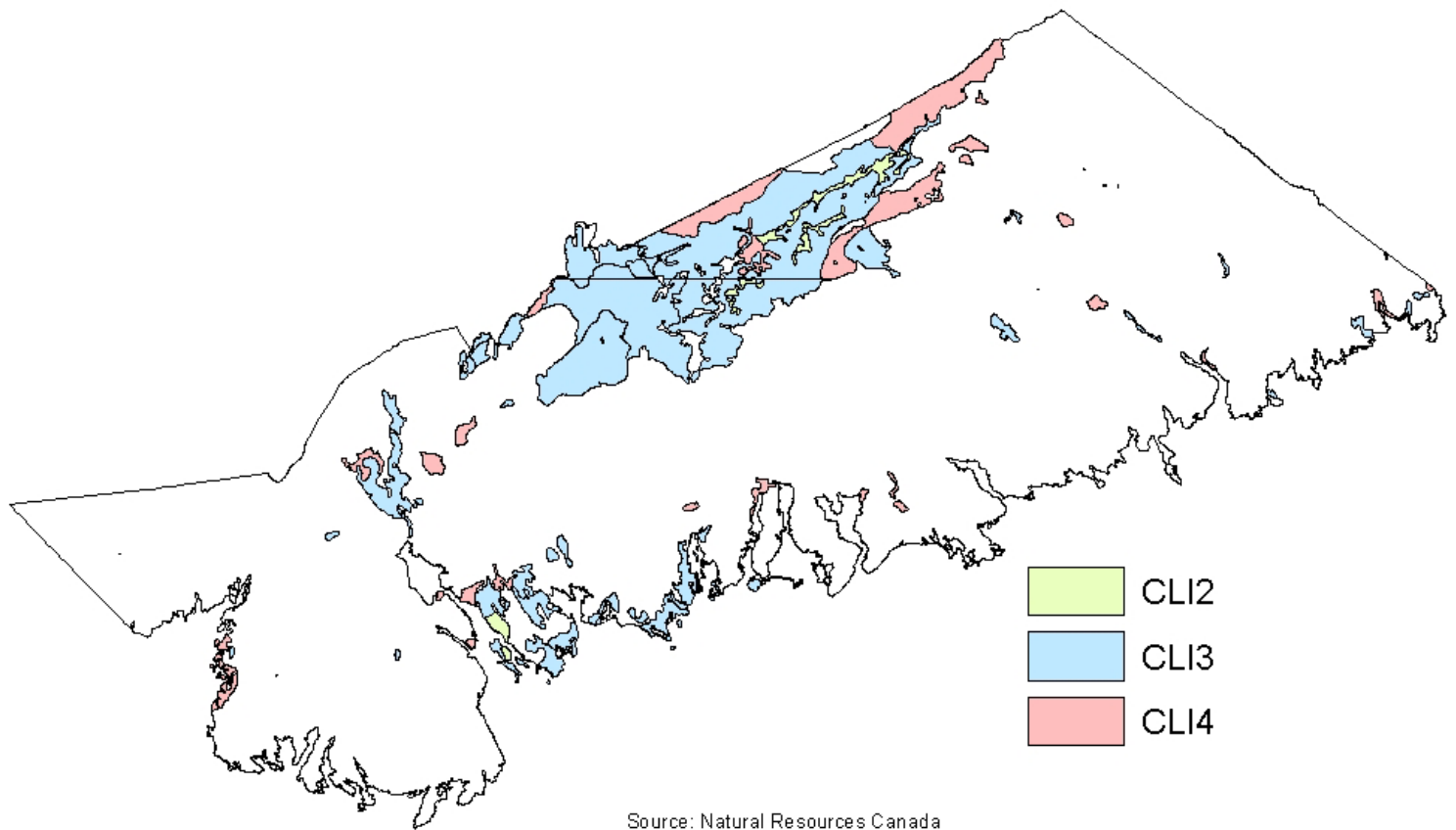
Halifax has approximately 7,500 hectares in agricultural production. This amounts to just over 3 percent of Nova Scotia land in agriculture. Farming in Halifax uses about 1.5 percent of the county land area.

Table 1. Agricultural land statistics- Halifax County

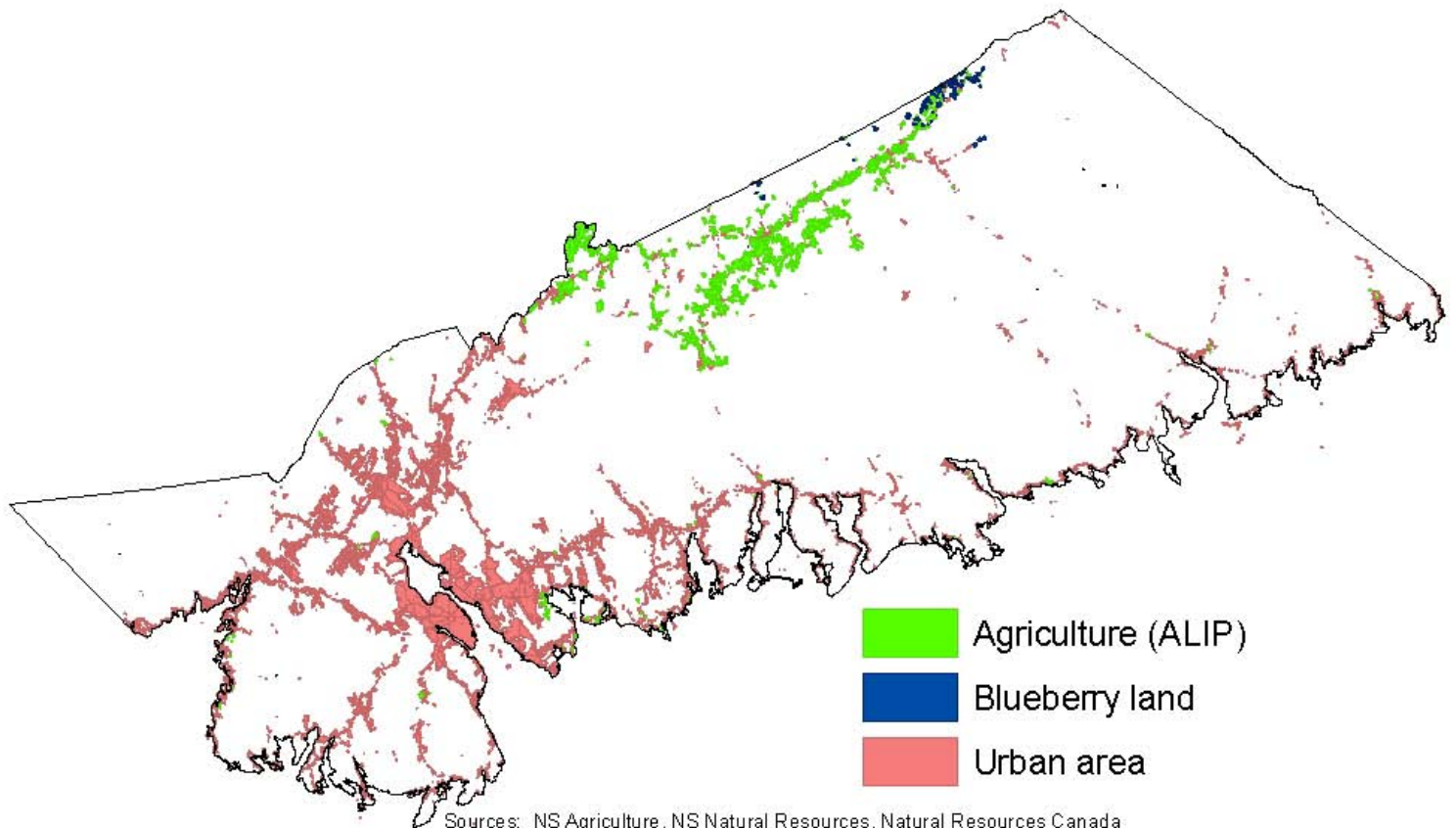
	Hectares	Percent of provincial total	Percent of county land area
CLI 2,3,4 TOTAL	83,941	5.3	15.4
CLI 2	3,093	1.9	0.6
CLI 3	63,149	6.4	11.6
CLI 4	17,699	4.2	3.3
Agricultural land (ALIP)*	7,676	3.3	1.4
Agricultural land (DNR)**	7,488	3.3	1.4
Blueberry land (DNR)**	538	3.3	0.1
<p>* As indicated by the NSDA Agricultural Land Identification Project. ** Based on forest coverage files from NS Natural Resources (blueberry land is low-bush/ wild) Source: Nova Scotia Department of Agriculture, Natural Resources Canada, Nova Scotia Department of Natural Resources.</p>			

Halifax also has 538 hectares of wild blueberry production. This amounts to 3 percent of the Nova Scotia total.

Figure 1a. Agricultural lands in Halifax County

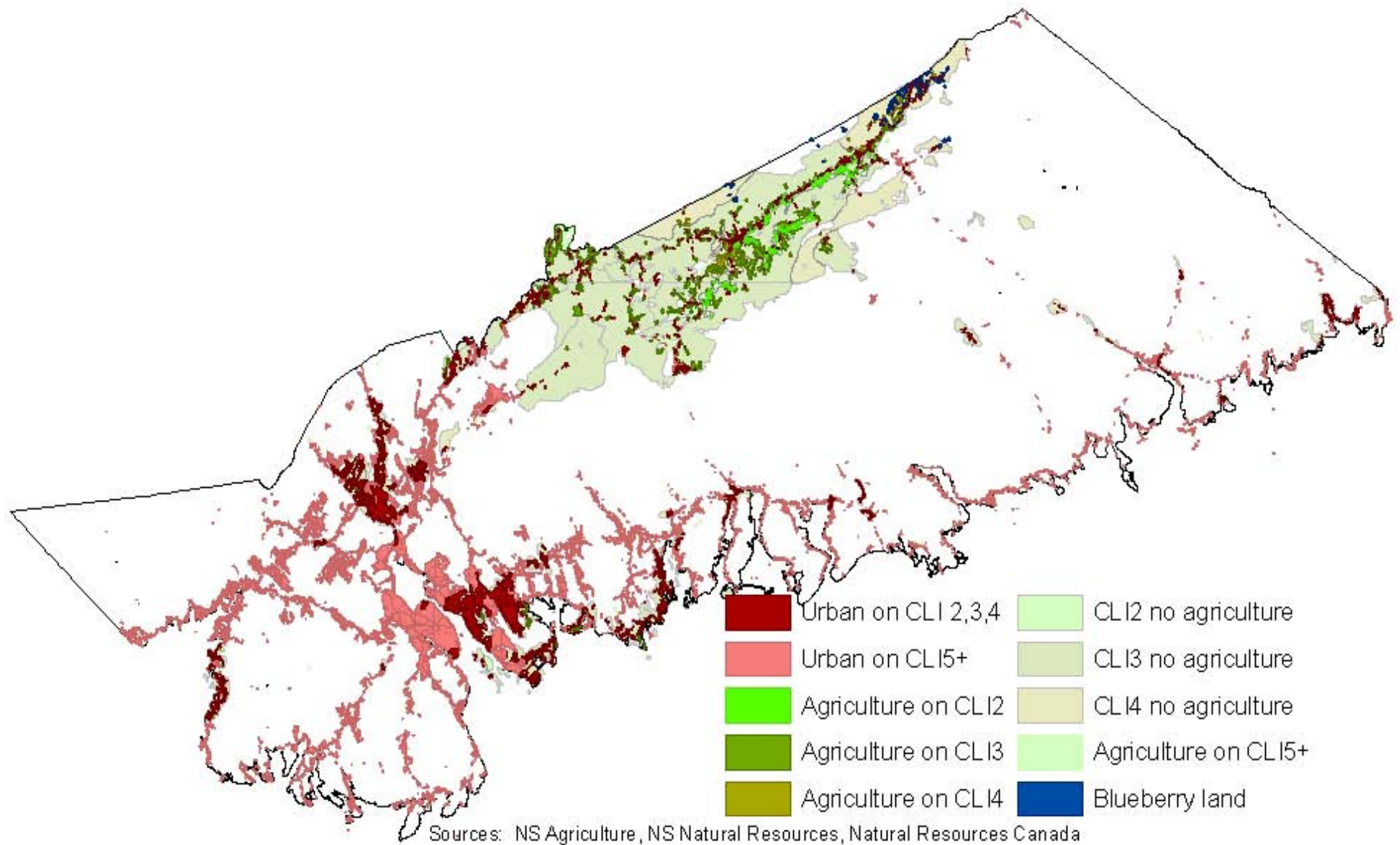


Source: Natural Resources Canada



Sources: NS Agriculture, NS Natural Resources, Natural Resources Canada

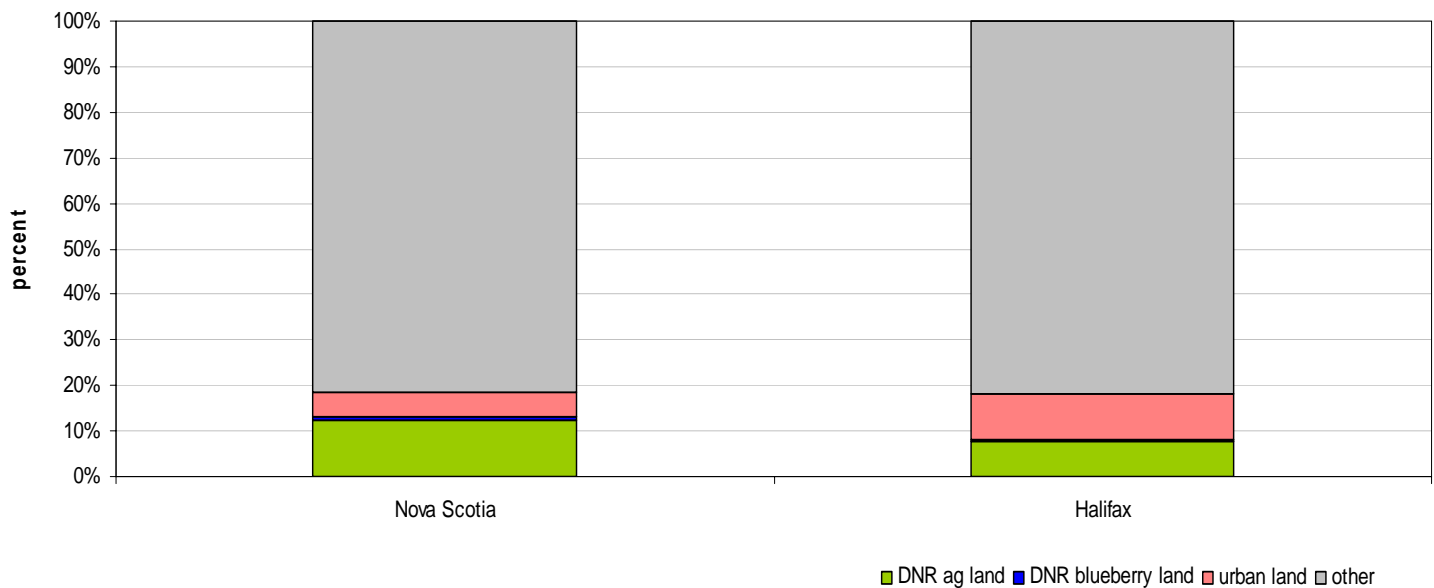
Figure 1b. Agricultural lands in Halifax County (overlay)



Usage of arable land and composition of farmed land

Land most suitable for agricultural production (CLI classes 2, 3 and 4) are used for agriculture in Halifax County at a lower rate than the provincial average (see Figure 2 and Table 2). About 8 percent of suitable agricultural land is used for agricultural production in Halifax compared with 13 percent provincially. This places Halifax 10th among the 18 counties in terms of utilization of arable land for farming.

Figure 2. Utilization of soils suitable for agriculture- Halifax vs Nova Scotia



Premium agricultural land (CLI 2) is moderately utilized for farming in Halifax with approximately 31 percent in agriculture (5th out of 18 counties). This is higher than the Nova Scotia average of 29 percent of CLI 2 lands used for agriculture.

Halifax has about 10 percent of its good agricultural soils under urban development ranking Halifax 3rd. This is significantly higher than the provincial average of 5.4 percent.

Table 2. Use of agricultural soils (CLI classes 2,3,4) in Halifax County and Nova Scotia								
	CLI 2		CLI 3		CLI 4		TOTAL CLI 2,3,4	
	Halifax	Nova Scotia	Halifax	Nova Scotia	Halifax	Nova Scotia	Halifax	Nova Scotia
	Percent							
Agricultural land (DNR)*	30.8	29.3	7.0	12.0	5.6	7.9	7.6	12.7
Blueberry land (DNR)*	0.0	0.5	0.0	0.3	2.6	1.8	0.6	0.7
Urban area	13.5	6.9	9.4	5.4	11.9	4.6	10.1	5.4
Other	55.7	63.3	83.6	82.3	79.9	85.7	81.8	81.2
* Based on forest coverage files from NS Natural Resources (blueberry land is low-bush/ wild) Source: Nova Scotia Department of Agriculture. Natural Resources Canada. Nova Scotia Department of Natural Resources.								

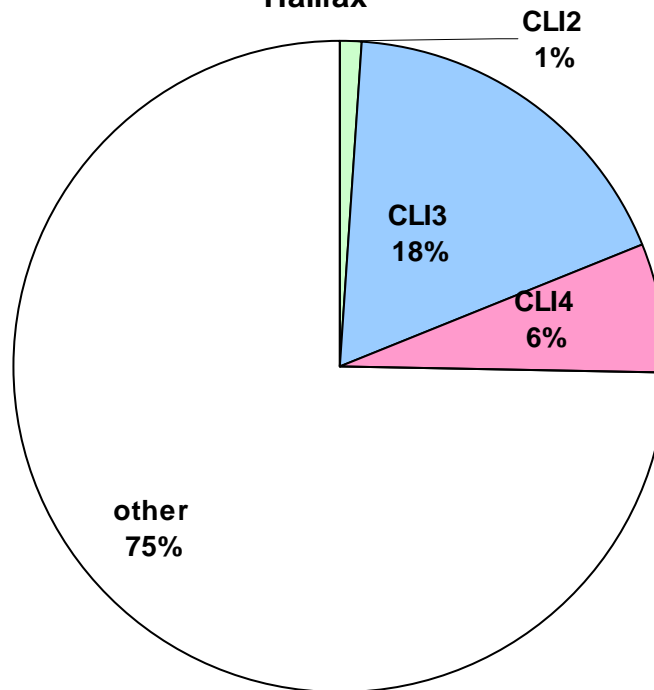
Looking at the land base from a slightly different perspective (the composition of lands in agriculture, Table 3) it is apparent that Halifax County agriculture is generally taking place on good agricultural soils, at a rate similar to the provincial average. Over half of agricultural land is on class 3 soils, while 13 percent is on class 2 soils and 13 percent on class 4. Approximately 15 percent of Halifax agriculture is on less than class 4 soils.

Table 3. Composition of lands in agriculture- Halifax County						
	Agricultural land (ALIP)*		Agricultural land (DNR)**		Blueberry land (DNR)**	
	Halifax	Nova Scotia	Halifax	Nova Scotia	Halifax	Nova Scotia
	Percent					
CLI 2	12.1	20.5	12.7	21.1	0.0	4.7
CLI 3	55.5	49.4	59.4	51.8	3.1	16.4
CLI 4	17.3	16.3	13.2	14.5	84.1	44.5
Other	15.1	13.8	14.6	12.7	12.8	34.4
* As indicated by the NSDA Agricultural Land Identification Project. ** Based on forest coverage files from NS Natural Resources (blueberry land is low-bush/ wild) Source: Nova Scotia Department of Agriculture, Natural Resources Canada, Nova Scotia Department of Natural Resources.						

Urban use and property fragmentation of the agricultural land base

As shown in Figure 3, the majority of urban development in Halifax is on land with poor capability for agriculture. This is largely due to the fact that much of the former City of Halifax and surrounding areas are situated on lower than CLI4 land. Only 1 percent of urban development occurs on class 2 soil, and 6 percent on CLI4 land. The majority of the urban areas taking up 18 percent of CLI3 land are in the Dartmouth, Bedford/Sackville and Musquodoboit Valley areas. Three-quarters of urban lands in Halifax are lands rated CLI5 or poorer, making Halifax the 4th least intensive user of arable land for urban development.

**Figure 3. Composition of urban land-
Halifax**



Some lands currently in agriculture may be relatively easily removed for other forms of development. A contributing factor is lot size. Halifax County has 487 properties that are less than two hectares in size that are centered in ALIP lands (Table 4). These properties amount to 330 hectares, 274 of which are on ALIP.

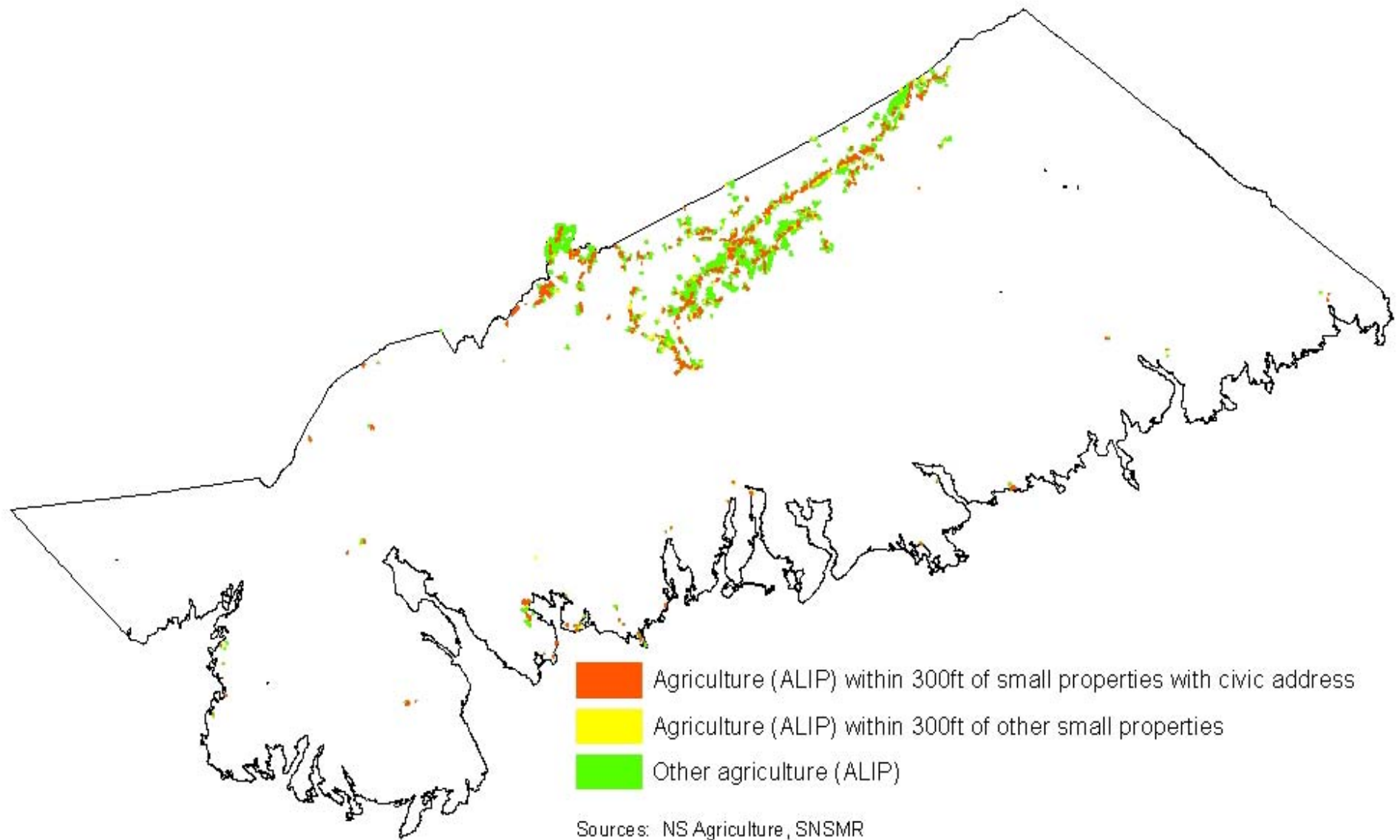
Table 4. Analysis of small properties (< 2ha) encroaching on farm land- Halifax County, Nova Scotia						
	Vacant properties		Properties with civic address		TOTAL of small properties (< 2 ha)	
	# properties	Hectares	# properties	Hectares	# properties	Hectares
Centered in ALIP farmland	198	116	289	214	487	330
Area in farmland of properties centered in ALIP	198	98	289	176	487	274
Within 10 meters of ALIP farmland	410	249	742	494	1,152	743
Source: Provincial PID data, NSDA (ALIP data)						

A total of 1,152 properties less than two hectares in size are on or adjacent to ALIP lands, 64 percent of which have civic addresses (i.e. are not vacant). This amounts to 5 percent of the provincial total of these properties. Relative to the amount of farming in Halifax, the county has the 13th highest rate of small developed properties that are adjacent to farmland.

Ultimately, approximately 91 hectares (1.2 percent) of ALIP lands in Halifax have been lost to urban development since 1998. This places Halifax tied for 10th with Hants in terms of percentage farmland lost to development and 12th in terms of area of farmland lost.

While physical occupancy of land by non-farm development or land with the potential for non-farm development can be used to estimate potential loss of land to the sector, the effect of development on adjacent agricultural lands is probably of greater significance in terms of area affected. In order to estimate the area of farmland that is at risk due to the proximity of development, a 300 ft (91.44m) buffer was drawn around each small (<2ha) property and the amount of ALIP farmland falling under this zone was calculated (Figure 4). Halifax has approximately 26 percent of its ALIP farmland falling under this category, the 4th lowest in the province (8th lowest in absolute terms). Approximately 19 percent of Halifax farmland is within 300 feet of a small property with a civic address (i.e. likely developed property).

Figure 4. Agriculture (ALIP) within 300 feet of small properties (< 2ha)



ⁱ Nova Scotia does not have any CLI class 1 soil. Class 2 to 4 soils have moderate to severe limitations that restrict the range of crops or require special conservation practices or both. Class 5 soils and below have very severe limitations for agriculture.

Sources

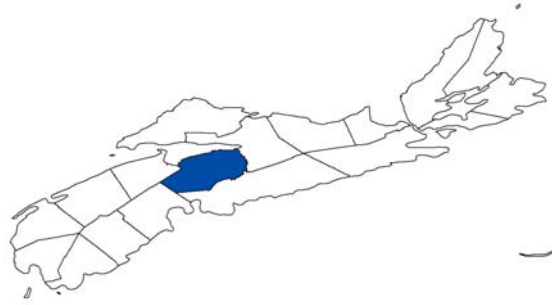
Natural Resources Canada. Canada Land Inventory. Available from: <http://geogratis.cgdi.gc.ca/CLI/frames.html>. Accessed [25 January 2010].

Nova Scotia Department of Agriculture. Agricultural Land Identification Project (ALIP).

Nova Scotia Department of Natural Resources. Forest Inventory - Geographic Information Systems. Available from: www.gov.ns.ca/natr/forestry/gis/forest-inventory.asp. Accessed [25 January 2010].

SNSMR (Service Nova Scotia and Municipal Relations). 2009. NS Civic Address File and property polygons.

HANTS COUNTY



PROFILE of AGRICULTURAL LAND RESOURCES

Overview of county land resources

Land most suitable for agricultural production (Canadian Land Inventory (CLI) classes 2,3 and 4ⁱ) covers almost two-thirds of Hants County (see Table 1). Hants has 12 percent of the province's CLI 2 soils, 13 percent of CLI 3 and 10 percent of CLI 4.

Hants has approximately 25,000 hectares in agricultural production. This amounts to over 10 percent of Nova Scotia land in agriculture. Farming in Hants uses about 8 percent of the county land area.

Table 1. Agricultural land statistics- Hants County

	Hectares	Percent of provincial total	Percent of county land area
CLI 2,3,4 TOTAL	188,497	12.0	62.0
CLI 2	19,630	11.9	6.5
CLI 3	125,362	12.7	41.2
CLI 4	43,506	10.4	14.3
Agricultural land (ALIP)*	24,795	10.5	8.2
Agricultural land (DNR)**	25,144	11.0	8.3
Blueberry land (DNR)**	420	2.5	0.1
<p>* As indicated by the NSDA Agricultural Land Identification Project. ** Based on forest coverage files from NS Natural Resources (blueberry land is low-bush/ wild) Source: Nova Scotia Department of Agriculture, Natural Resources Canada, Nova Scotia Department of Natural Resources.</p>			

Hants also has 420 hectares of wild blueberry production. This amounts to 2.5 percent of the Nova Scotia total.

Figure 1a. Agricultural lands in Hants County

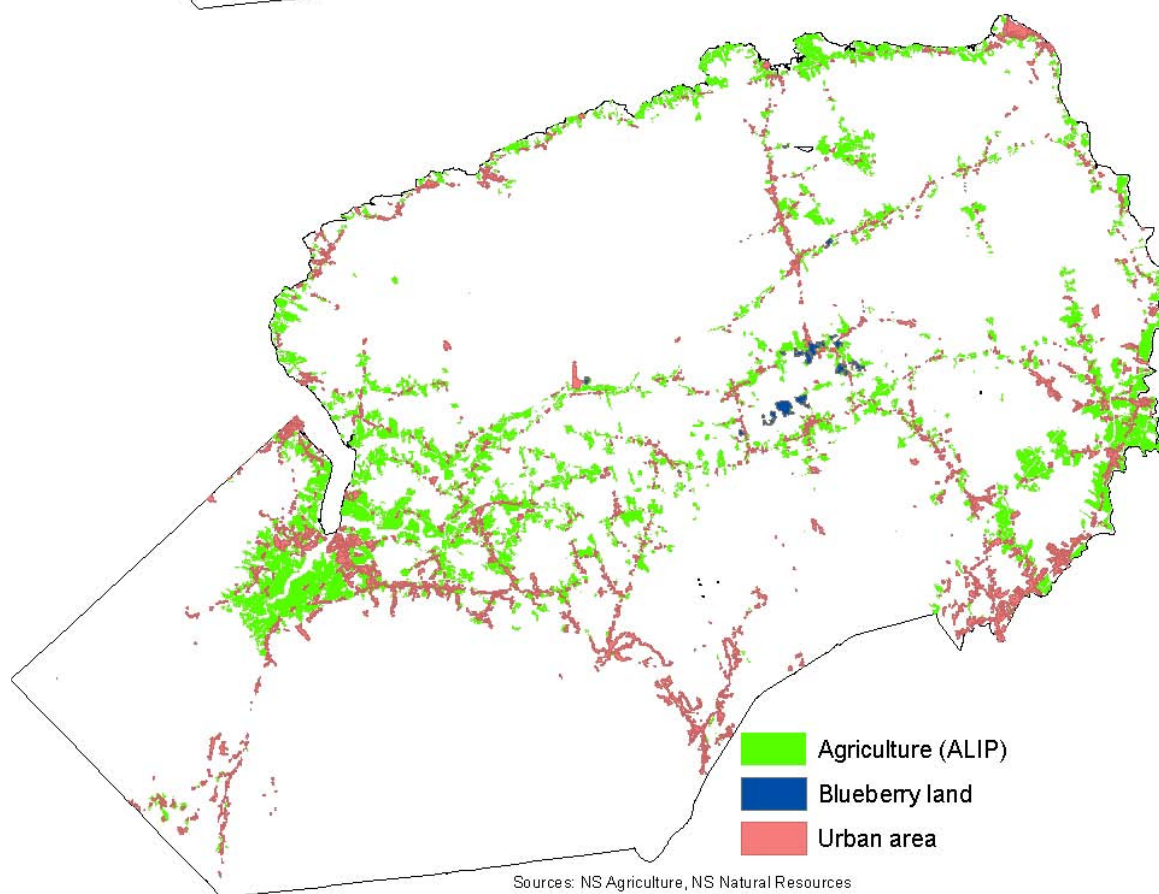
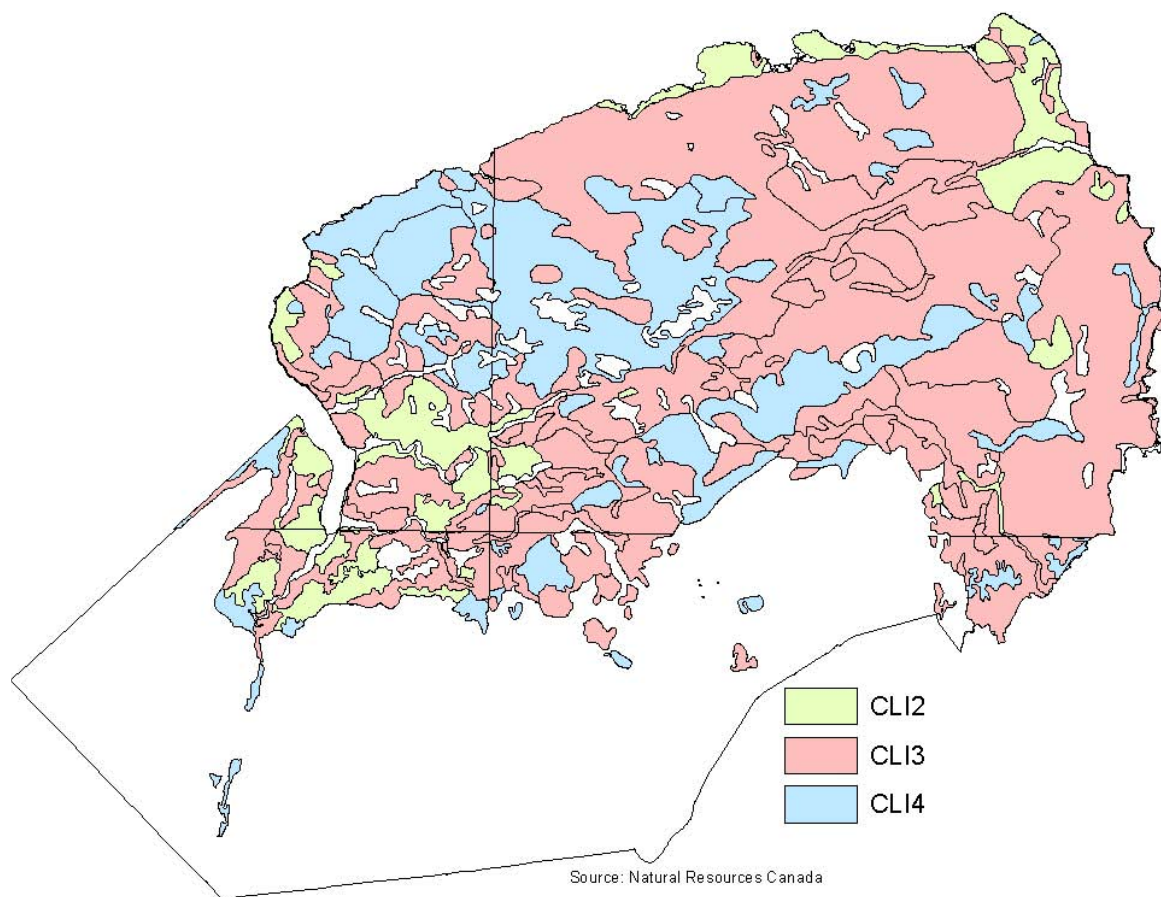
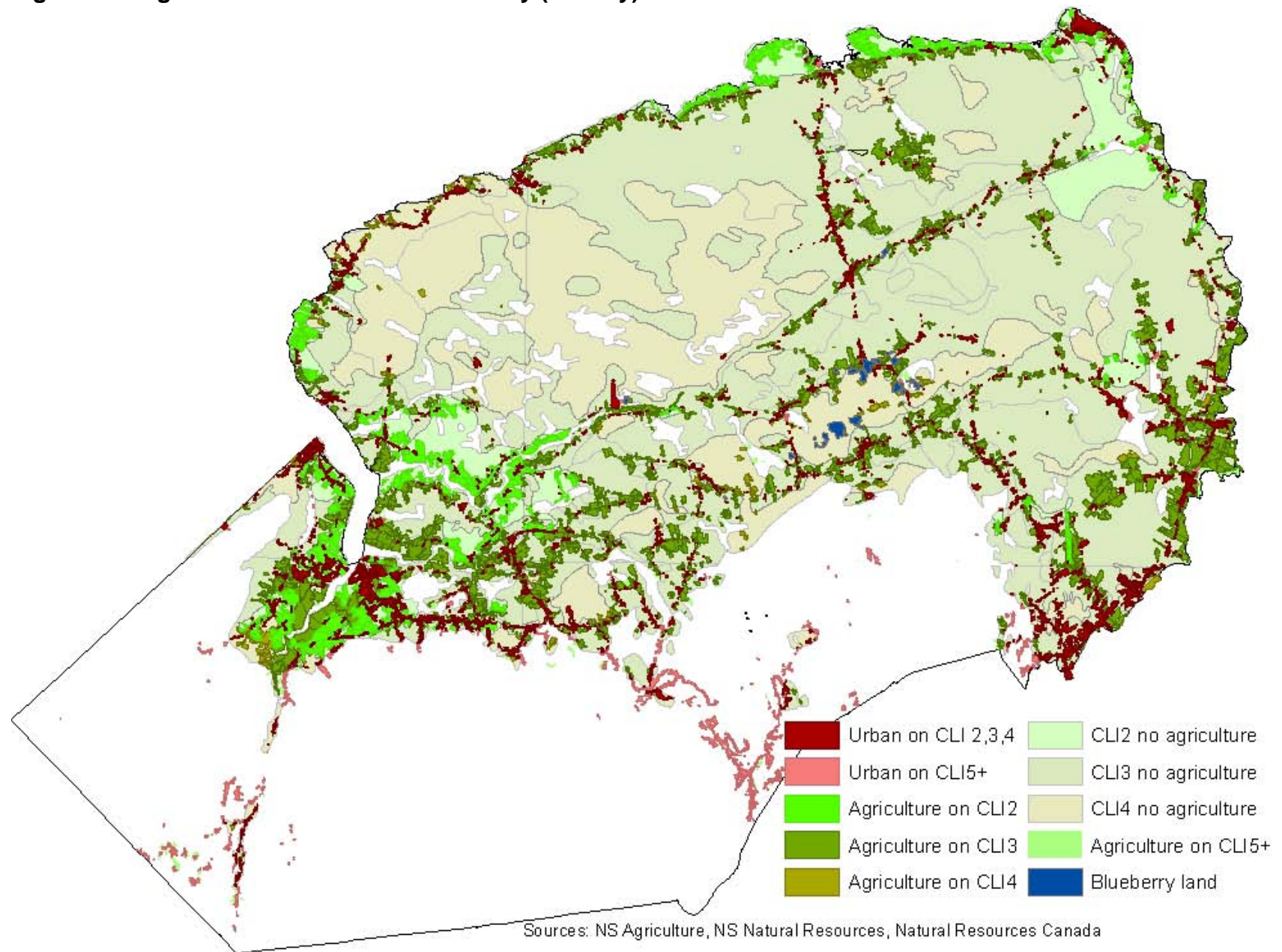


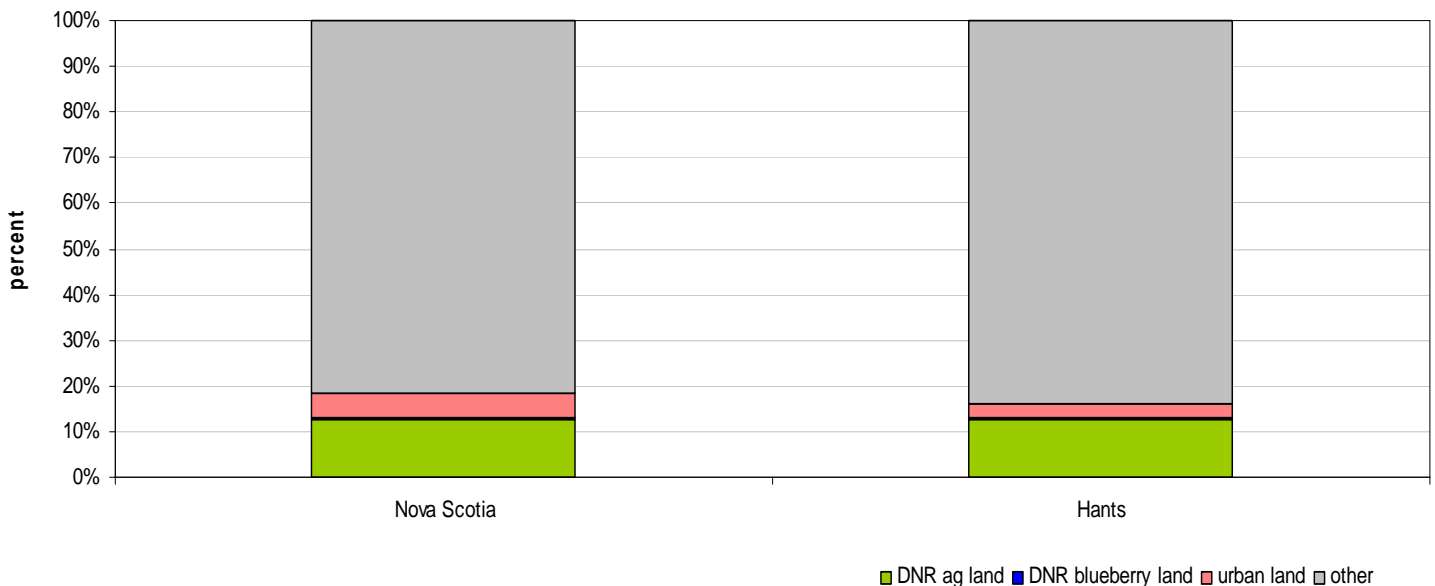
Figure 1b. Agricultural lands in Hants County (overlay)



Usage of arable land and composition of farmed land

Land most suitable for agricultural production (CLI classes 2, 3 and 4) are used for agriculture in Hants County at a rate nearly identical to the provincial average (see Figure 2 and Table 2). About 13 percent of suitable agricultural land is used for agricultural production in Hants compared with 13 percent provincially. This places Hants 6th among the 18 counties in terms of utilization of arable land for farming.

Figure 2. Utilization of soils suitable for agriculture- Hants vs Nova Scotia



Premium agricultural land (CLI 2) is moderately utilized in Hants with approximately 31 percent in agriculture (6th out of 18 counties). This is again consistent with the Nova Scotia average of 29 percent of CLI 2 lands used for agriculture.

Hants has about 3 percent of its good agricultural soils under urban development ranking Hants 15th. This compares to the provincial average of 5.4 percent. The relatively low urban encroachment on good agricultural soil can be attributed to both the large endowment of arable land in the county as well as Hants having some of the most stringent agricultural land protection policies in the province.

Table 2. Use of agricultural soils (CLI classes 2,3,4) in Hants County and Nova Scotia								
	CLI 2		CLI 3		CLI 4		TOTAL CLI 2,3,4	
	Hants	Nova Scotia	Hants	Nova Scotia	Hants	Nova Scotia	Hants	Nova Scotia
	Percent							
Agricultural land (DNR)*	30.9	29.3	13.2	12.0	3.1	7.9	12.7	12.7
Blueberry land (DNR)*	0.0	0.5	0.1	0.3	0.6	1.8	0.2	0.7
Urban area	7.5	6.9	3.2	5.4	1.7	4.6	3.3	5.4
Other	61.7	63.3	83.4	82.3	94.6	85.7	83.7	81.2
* Based on forest coverage files from NS Natural Resources (blueberry land is low-bush/ wild) Source: Nova Scotia Department of Agriculture. Natural Resources Canada. Nova Scotia Department of Natural Resources.								

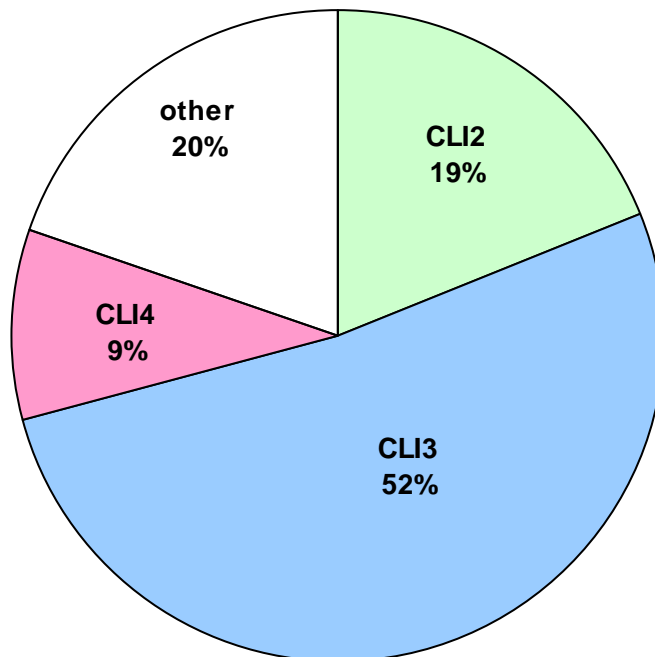
Looking at the land base from a slightly different perspective (the composition of lands in agriculture, Table 3) it is apparent that Hants County agriculture is generally taking place on good agricultural soils, and at a higher percentage than the provincial average. Two-thirds of agricultural land is on class 3 soils, while 24 percent is on class 2 soils and 6 percent on class 4. Only 5 percent of Hants agriculture is on less than class 4 soils.

Table 3. Composition of lands in agriculture- Hants County						
	Agricultural land (ALIP)*		Agricultural land (DNR)**		Blueberry land (DNR)**	
	Hants	Nova Scotia	Hants	Nova Scotia	Hants	Nova Scotia
	Percent					
CLI 2	23.6	20.5	24.1	21.1	0.0	4.7
CLI 3	65.1	49.4	66.1	51.8	30.0	16.4
CLI 4	6.0	16.3	5.4	14.5	61.0	44.5
Other	5.4	13.8	4.4	12.7	9.0	34.4
* As indicated by the NSDA Agricultural Land Identification Project. ** Based on forest coverage files from NS Natural Resources (blueberry land is low-bush/ wild) Source: Nova Scotia Department of Agriculture, Natural Resources Canada, Nova Scotia Department of Natural Resources.						

Urban use and property fragmentation of the agricultural land base

As shown in Figure 3, the majority of urban development in Hants is on good agricultural soils. One-fifth of urban land in Hants is on poorer than CLI4 soil; significant in that the majority of urban land in Hants is adjacent to its arable land. Hants has agricultural zoning in place as a municipal policy; the only county other than Kings with this type of agricultural protection policy. As indicated in Table 2, the proportion of urban land encroachment on CLI soils is higher on higher quality land, consistent with the provincial average.

Figure 3. Composition of urban land- Hants



Some lands currently in agriculture may be relatively easily removed for other forms of development. A contributing factor is lot size. Hants County has 1,566 properties that are less than two hectares in size that are centered in ALIP lands (Table 4). These properties amount to 1,237 hectares, 1,016 of which are on ALIP.

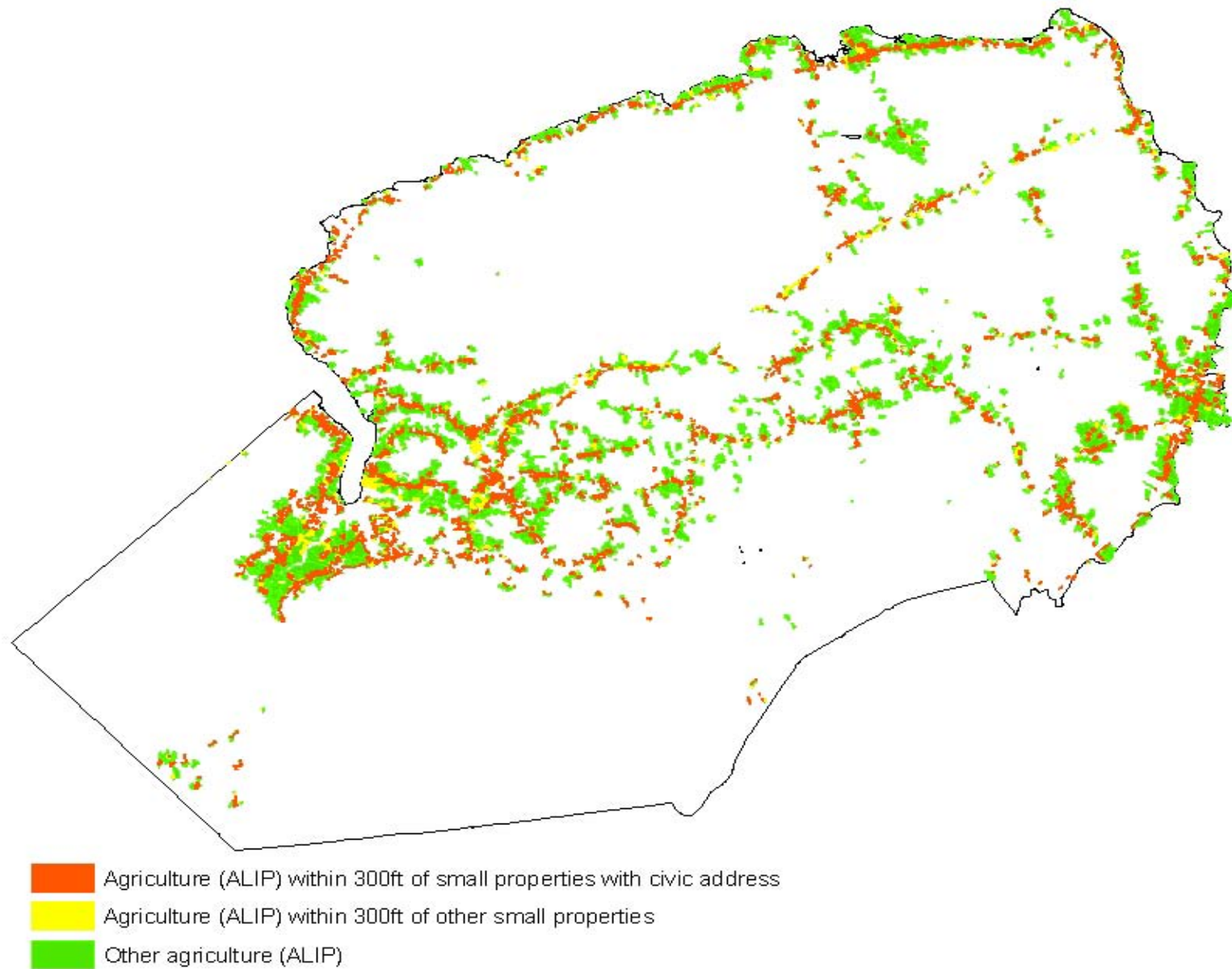
Table 4. Analysis of small properties (< 2ha) encroaching on farm land- Hants County, Nova Scotia						
	Vacant properties		Properties with civic address		TOTAL of small properties (< 2 ha)	
	# properties	Hectares	# properties	Hectares	# properties	Hectares
Centered in ALIP farmland	708	526	858	711	1,566	1,237
Area in farmland of properties centered in ALIP	707	447	858	568	1,565	1,016
Within 10 meters of ALIP farmland	1,438	990	3,222	2,028	4,660	3,019
Source: Provincial PID data, NSDA (ALIP data)						

A total of 4,660 properties less than two hectares in size are on or adjacent to ALIP lands, 69 percent of which have civic addresses (i.e. are not vacant). This amounts to 19 percent of the provincial total of these properties. Relative to the amount of farming in Hants, the county has the 7th highest rate of small developed properties that are adjacent to farmland (3rd in absolute terms).

Ultimately, approximately 294 hectares (1.2 percent) of ALIP lands in Hants have been lost to urban development since 1998. This places Hants tied for 10th with Halifax in terms of percentage farmland lost to development and 4th in terms of area of farmland lost.

While physical occupancy of land by non-farm development or land with the potential for non-farm development can be used to estimate potential loss of land to the sector, the effect of development on adjacent agricultural lands is probably of greater significance in terms of area affected. In order to estimate the area of farmland that is at risk due to the proximity of development, a 300 ft (91.44m) buffer was drawn around each small (<2ha) property and the amount of ALIP farmland falling under this zone was calculated (Figure 4). Hants has approximately 29 percent of its ALIP farmland falling under this category, tied for 9th in the province with Colchester (4th highest in absolute terms). Approximately 22 percent of Hants farmland is within 300 feet of a small property with a civic address (i.e. likely developed property).

Figure 4. Agriculture (ALIP) within 300 feet of small properties (<2ha)



Sources: NS Agriculture, SNSMR

ⁱ Nova Scotia does not have any CLI class 1 soil. Class 2 to 4 soils have moderate to severe limitations that restrict the range of crops or require special conservation practices or both. Class 5 soils and below have very severe limitations for agriculture.

Sources

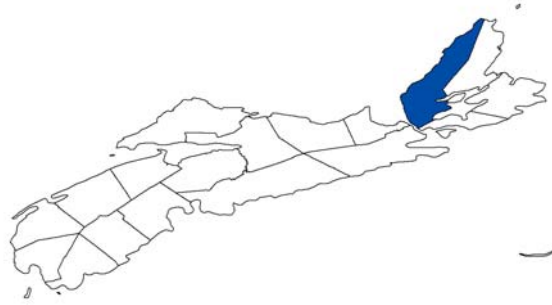
Natural Resources Canada. Canada Land Inventory. Available from: <http://geogratis.cgdi.gc.ca/CLI/frames.html>. Accessed [25 January 2010].

Nova Scotia Department of Agriculture. Agricultural Land Identification Project (ALIP).

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SNSMR (Service Nova Scotia and Municipal Relations). 2009. NS Civic Address File and property polygons.

INVERNESS COUNTY



PROFILE of AGRICULTURAL LAND RESOURCES

Overview of county land resources

Land most suitable for agricultural production (Canadian Land Inventory (CLI) classes 2,3 and 4ⁱ) covers approximately 30 percent of Inverness County (see Table 1). Inverness has less than 2 percent of the province's CLI 2 soils, 10 percent of CLI 3 and 4 percent of CLI 4.

Inverness has approximately 13,000 hectares in agricultural production. This amounts to 6 percent of Nova Scotia land in agriculture. Farming in Inverness uses 3 percent of the county land area.

Table 1. Agricultural land statistics- Inverness County

	Hectares	Percent of provincial total	Percent of county land area
CLI 2,3,4 TOTAL	113,907	7.2	30.0
CLI 2	2,469	1.5	0.7
CLI 3	95,857	9.7	25.1
CLI 4	15,581	3.7	4.1
Agricultural land (ALIP)*	12,488	5.3	3.3
Agricultural land (DNR)**	13,092	5.7	3.4
Blueberry land (DNR)**	170	1.0	0.04
<p>* As indicated by the NSDA Agricultural Land Identification Project. ** Based on forest coverage files from NS Natural Resources (blueberry land is low-bush/ wild) Source: Nova Scotia Department of Agriculture, Natural Resources Canada, Nova Scotia Department of Natural Resources.</p>			

Inverness also produces 170 hectares of wild blueberries. This amounts to 1 percent of the Nova Scotia total.

Figure 1a. Agricultural lands in Inverness County

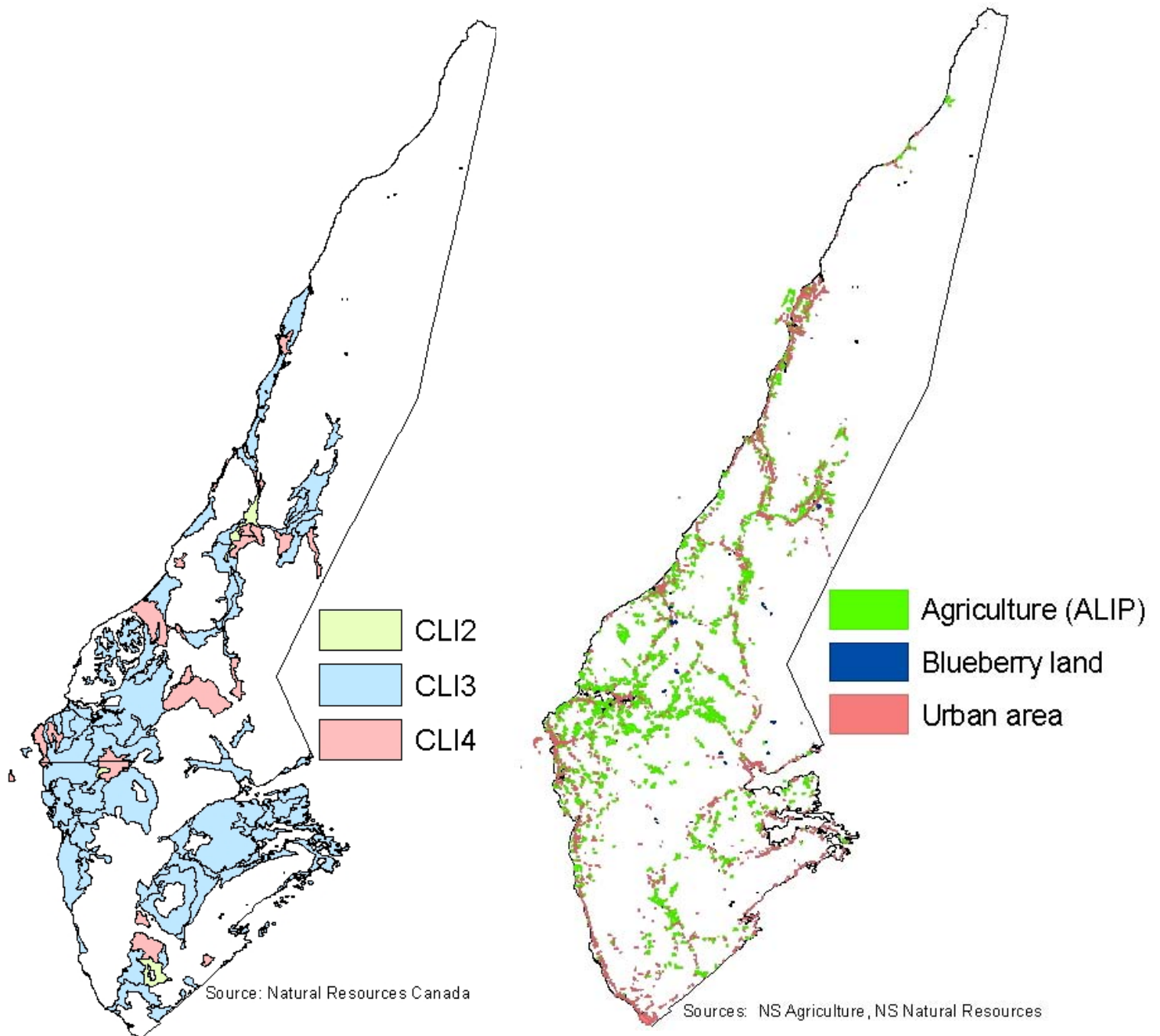
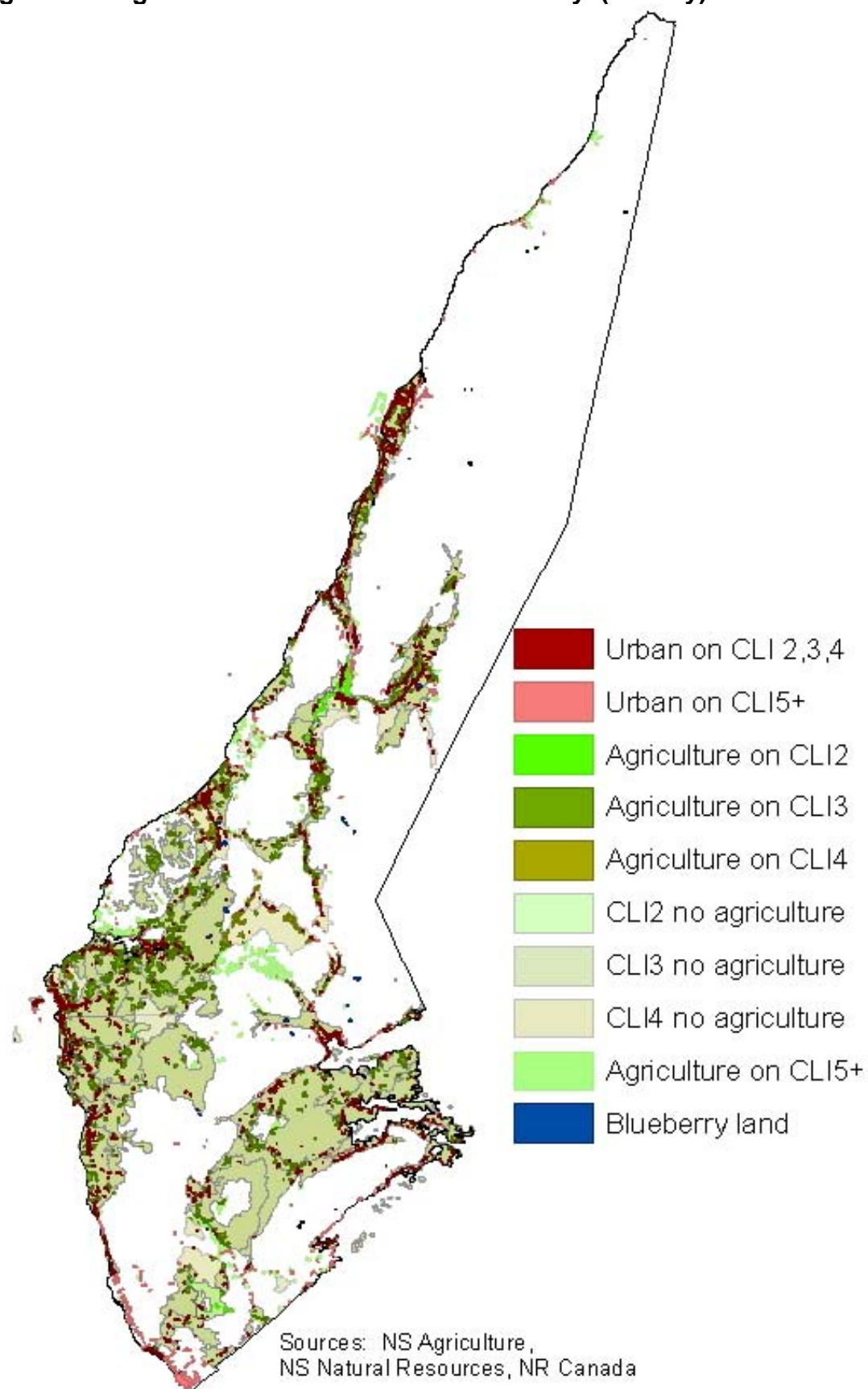


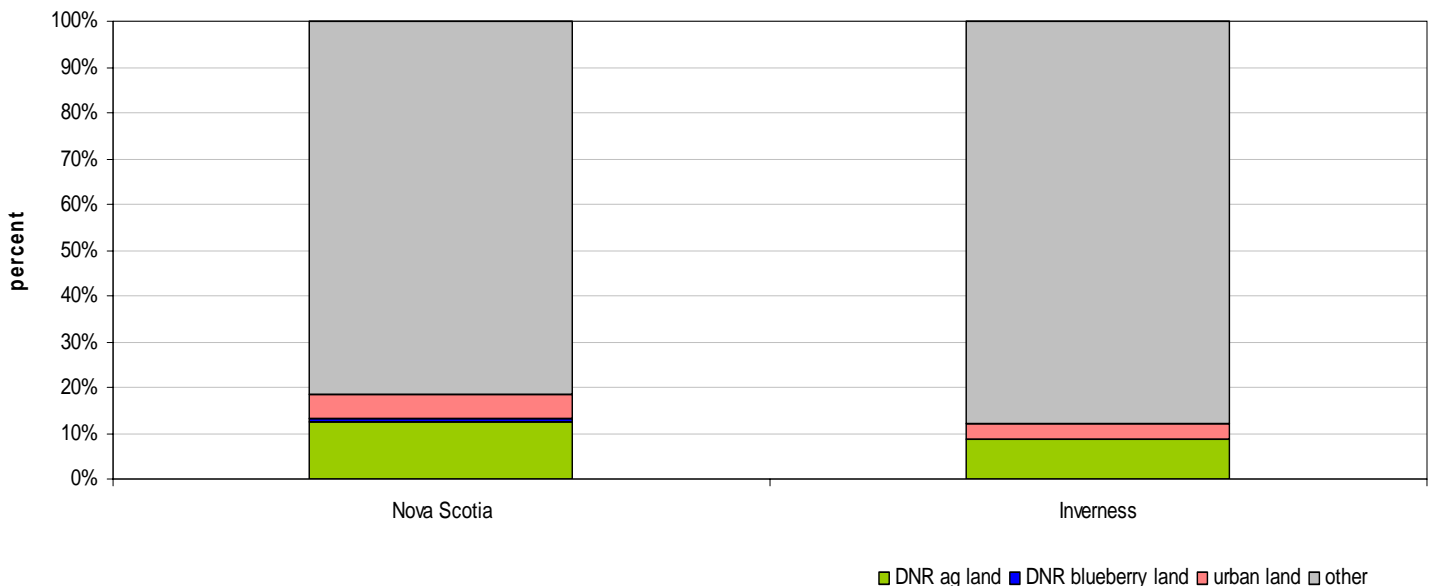
Figure 1b. Agricultural lands in Inverness County (overlay)



Usage of arable land and composition of farmed land

Land most suitable for agricultural production (CLI classes 2, 3 and 4) are used for agriculture in Inverness County at a rate lower than the provincial average (see Figure 2 and Table2). About 9 percent of suitable agricultural land is used for agricultural production in Inverness compared with 13 percent provincially. This places Inverness 9th among the 18 counties in terms of utilization of arable land for farming.

Figure 2. Utilization of soils suitable for agriculture- Inverness vs Nova Scotia



Premium agricultural land (CLI 2) is not highly utilized for farming in Inverness with approximately 14 percent in agriculture (11th out of 14 counties with class 2 land). This is lower than the Nova Scotia average of 29 percent of CLI 2 lands used for agriculture.

Inverness has about 4 percent of its good agricultural soils under urban development, ranking 13th. The provincial average is 5.4 percent

Table 2. Use of agricultural soils (CLI classes 2,3,4) in Inverness Co. and NS

	CLI 2		CLI 3		CLI 4		TOTAL CLI 2,3,4	
	Inverness	Nova Scotia	Inverness	Nova Scotia	Inverness	Nova Scotia	Inverness	Nova Scotia
	Percent							
Agricultural land (DNR)*	14.3	29.3	8.6	12.0	7.1	7.9	8.5	12.7
Blueberry land (DNR)*	0.0	0.5	0.1	0.3	0.2	1.8	0.1	0.7
Urban area	3.6	6.9	3.5	5.4	4.5	4.6	3.6	5.4
Other	82.1	63.3	87.8	82.3	88.2	85.7	87.8	81.2

* Based on forest coverage files from NS Natural Resources (blueberry land is low-bush/ wild)

Source: Nova Scotia Department of Agriculture.

Natural Resources Canada.

Nova Scotia Department of Natural Resources.

Looking at the land base from a slightly different perspective (the composition of lands in agriculture, Table 3) it is apparent that Inverness County agriculture is generally taking place on good agricultural soils, but at a significantly lower rate than the provincial average. Almost two-thirds of farmed agricultural land is on class 3 soils, while 3 percent is on class 2 soils and 8 percent on class 4. Approximately one-quarter of Inverness agriculture is on poorer than class 4 soils.

Table 3. Composition of lands in agriculture- Inverness

	Agricultural land (ALIP)*		Agricultural land (DNR)**		Blueberry land (DNR)**	
	Inverness	Nova Scotia	Inverness	Nova Scotia	Inverness	Nova Scotia
	Percent					
CLI 2	2.0	20.5	2.7	21.1	0.4	4.7
CLI 3	65.0	49.4	63.2	51.8	37.2	16.4
CLI 4	7.5	16.3	8.4	14.5	21.3	44.5
Other	25.5	13.8	25.7	12.7	41.1	34.4

* As indicated by the NSDA Agricultural Land Identification Project.

** Based on forest coverage files from NS Natural Resources (blueberry land is low-bush/ wild)

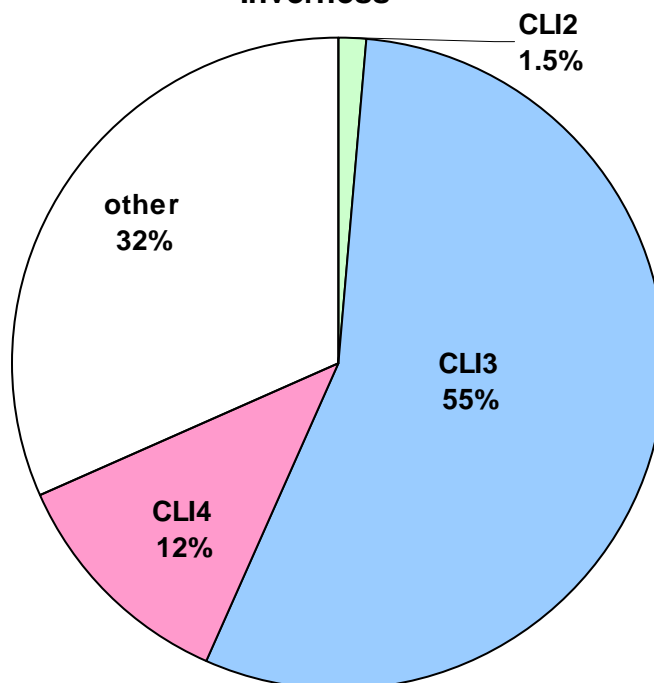
Source: Nova Scotia Department of Agriculture, Natural Resources Canada,

Nova Scotia Department of Natural Resources.

Urban use and property fragmentation of the agricultural land base

As shown in Figure 3, two-thirds of urban development in Inverness County is on good agricultural soils. As indicated in Table 2, the proportion of urban land encroachment on CLI soils is highest on class 4 soils, lower and essentially the same on class 2 and 3 land. This is opposite of the provincial trend where the best arable land (CLI2) has been taken for urban development at the highest rate, followed by class 3 and finally class 4.

**Figure 3. Composition of urban land-
Inverness**



Some lands currently in agriculture may be relatively easily removed for other forms of development. A contributing factor is lot size. Inverness County has 1,285 properties that are less than two hectares in size that are centered in ALIP lands (Table 4). These properties amount to 896 hectares, 736 of which are on ALIP.

Table 4. Analysis of small properties (< 2ha) encroaching on farm land- Inverness County, Nova Scotia

	Vacant properties		Properties with civic address		TOTAL of small properties (< 2 ha)	
	# properties	Hectares	# properties	Hectares	# properties	Hectares
Centered in ALIP farmland	816	560	469	336	1,285	896
Area in farmland of properties centered in ALIP	816	463	469	274	1,285	736
Within 10 meters of ALIP farmland	1,525	1,058	1,005	670	2,530	1,728

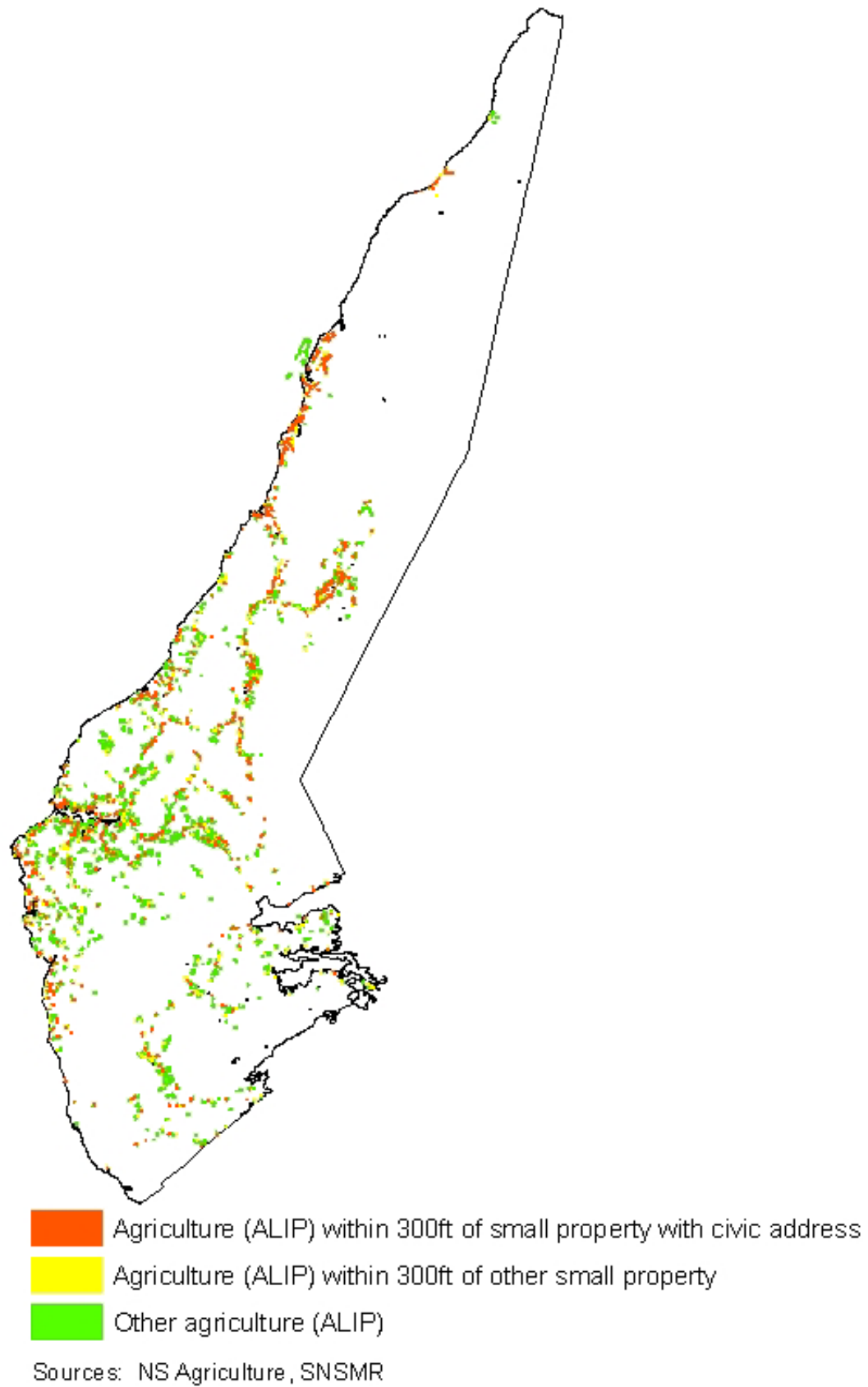
Source: Provincial PID data, NSDA (ALIP data)

A total of 2,530 properties less than two hectares in size are on or adjacent to ALIP lands, 40 percent of which have civic addresses (i.e. are not vacant). This amounts to 11 percent of the provincial total of these properties. Relative to the amount of farming in Inverness, the county has the 3rd highest rate of small developed properties that are adjacent to farmland.

Ultimately, approximately 102 hectares (1 percent) of ALIP lands in Inverness have been lost to urban development since 1998. This places Inverness 16th in terms of percentage farmland lost to development and 11th in terms of area of farmland lost.

While physical occupancy of land by non farm development or land with the potential for non-farm development can be used to estimate potential loss of land to the sector, the effect of development on adjacent agricultural lands is probably of greater significance in terms of area affected. In order to estimate the area of farm land that is at risk due to the proximity of development, a 300 ft (91.44m) buffer was drawn around each small (<2ha) property and the amount of ALIP farm land falling under this zone was calculated (Figure 4). Inverness has approximately 28 percent of its ALIP farmland falling under this category, the 8th lowest in the province (8th highest in absolute terms). Approximately 17 percent of Inverness farmland is within 300 feet of a small property with a civic address (i.e. likely a developed property).

Figure 4. Agriculture (ALIP) within 300 feet of small properties (< 2ha)



ⁱ Nova Scotia does not have any CLI class 1 soil. Class 2 to 4 soils have moderate to severe limitations that restrict the range of crops or require special conservation practices or both. Class 5 soils and below have very severe limitations for agriculture.

Sources

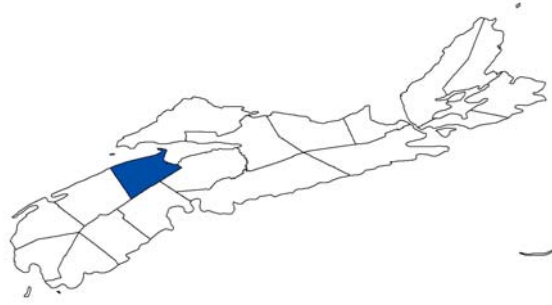
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SNSMR (Service Nova Scotia and Municipal Relations). 2009. NS Civic Address File and property polygons.

KINGS COUNTY



PROFILE of AGRICULTURAL LAND RESOURCES

Overview of county land resources

Land most suitable for agricultural production (Canadian Land Inventory (CLI) classes 2,3 and 4ⁱ) covers half of Kings County (see Table 1). Kings has 12 percent of the province's CLI 2 soils, 4 percent of CLI 3 and 11 percent of CLI 4.

Kings has more than 40,000 hectares in agricultural production. This amounts to approximately 18 percent of Nova Scotia land in agriculture. Farming in Kings uses 19 percent of the county land area.

Table 1. Agricultural land statistics- Kings County

	Hectares	Percent of provincial total	Percent of county land area
CLI 2,3,4 TOTAL	107,850	6.9	50.6
CLI 2	20,438	12.4	9.6
CLI 3	42,898	4.3	20.1
CLI 4	44,515	10.6	20.9
Agricultural land (ALIP)*	40,188	17.0	18.9
Agricultural land (DNR)**	40,461	17.7	19.0
Blueberry land (DNR)**	0	0.0	0.0
<p>* As indicated by the NSDA Agricultural Land Identification Project. ** Based on forest coverage files from NS Natural Resources (blueberry land is low-bush/ wild) Source: Nova Scotia Department of Agriculture, Natural Resources Canada, Nova Scotia Department of Natural Resources.</p>			

Figure 1a. Agricultural lands in Kings County

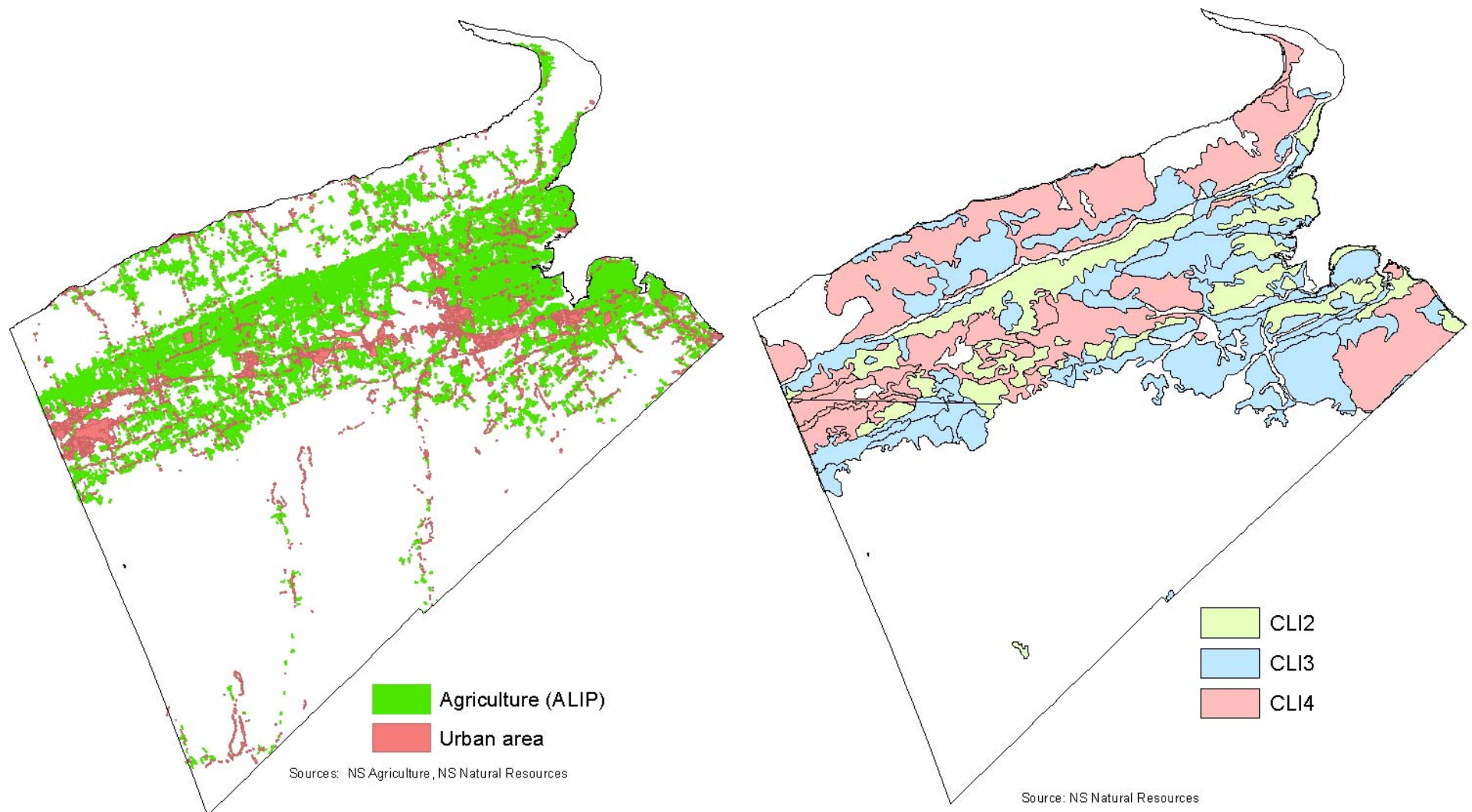
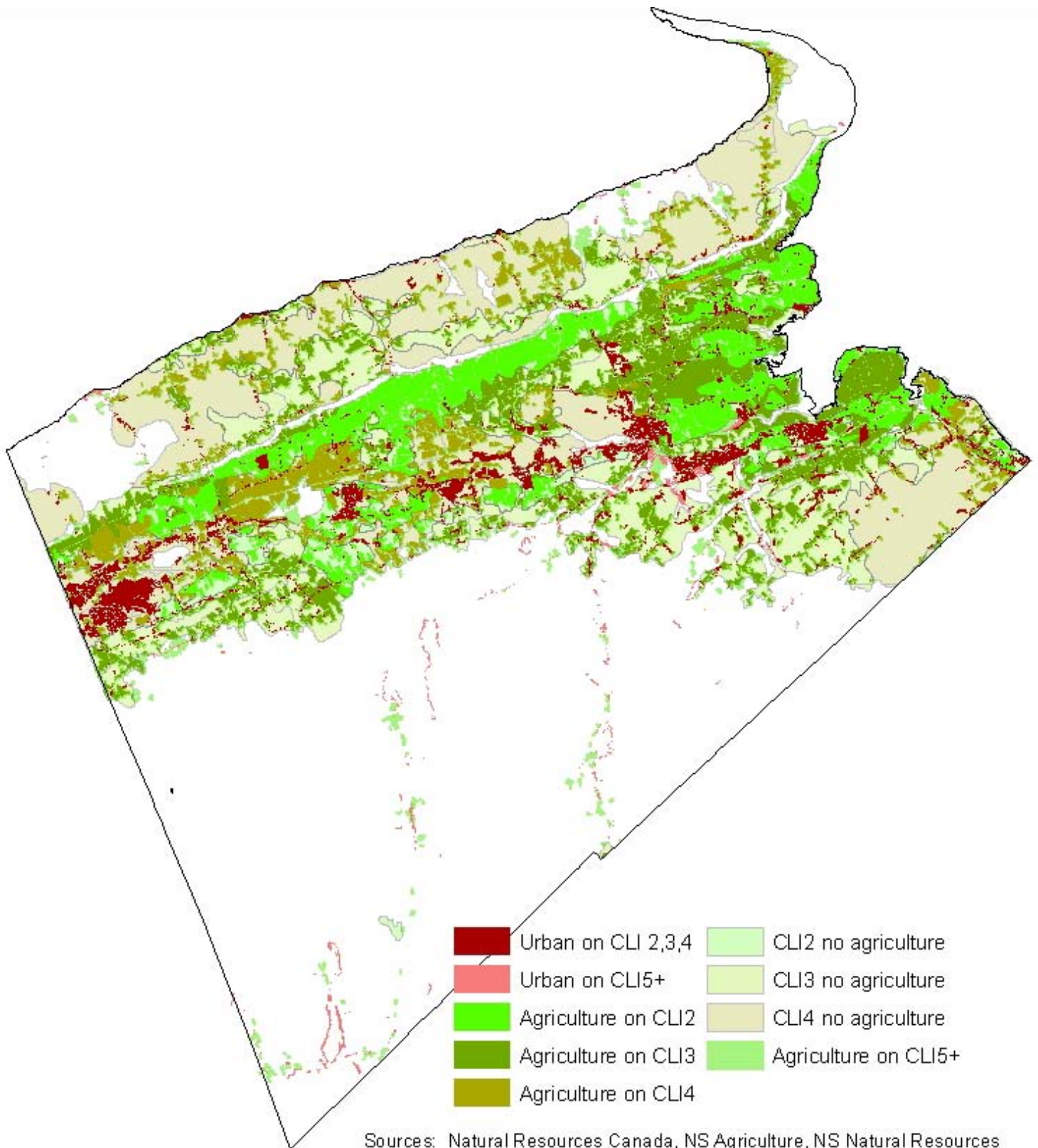


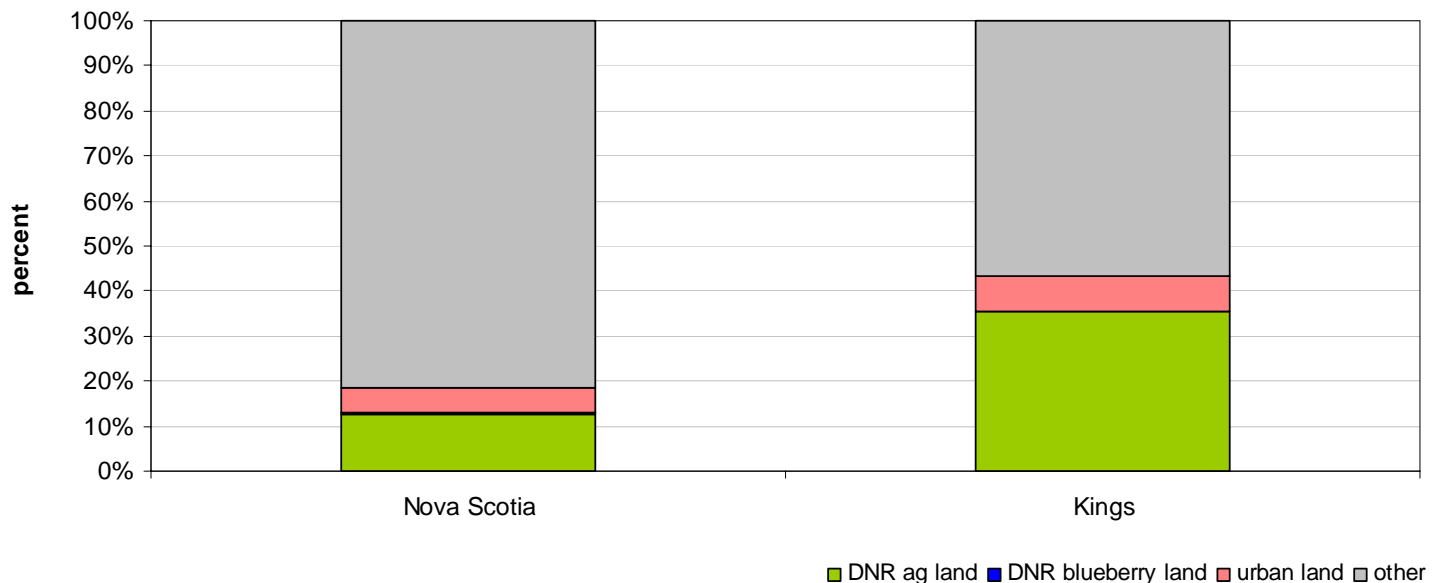
Figure 1b. Agricultural lands in Kings County (overlay)



Usage of arable land and composition of farmed land

Land most suitable for agricultural production (CLI classes 2, 3 and 4) are used for agriculture in Kings County at a significantly higher rate than the provincial average (see Table 2). Over one-third of suitable agricultural land is used for agricultural production in Kings compared with 13 percent provincially. Kings utilizes the most arable land for farming of any county.

Figure 2. Utilization of soils suitable for agriculture- Kings vs Nova Scotia



Premium agricultural land (CLI 2) is highly utilized in Kings with 62 percent in agriculture, the highest of any county. Provincially 29 percent of CLI 2 lands are in agriculture.

Kings also has a slightly higher percentage of good agricultural soils under urban development at 7.6 percent compared with 5.4 percent for all of Nova Scotia, with an important consideration being that over half of Kings county is class 2,3 or 4 CLI land in comparison with less than 30 percent provincially.

Table 2. Use of agricultural soils (CLI classes 2,3,4) in Kings County and Nova Scotia								
	CLI 2		CLI 3		CLI 4		TOTAL CLI 2,3,4	
	Kings	Nova Scotia	Kings	Nova Scotia	Kings	Nova Scotia	Kings	Nova Scotia
	Percent							
Agricultural land (DNR)*	62.1	29.3	38.2	12.0	20.8	7.9	35.6	12.7
Blueberry land (DNR)*	n/a	0.5	n/a	0.3	n/a	1.8	n/a	0.7
Urban area	7.6	6.9	6.5	5.4	8.7	4.6	7.6	5.4
Other	30.3	63.3	55.3	82.3	70.4	85.7	56.8	81.2
* Based on forest coverage files from NS Natural Resources (blueberry land is low-bush/ wild) Source: Nova Scotia Department of Agriculture. Natural Resources Canada. Nova Scotia Department of Natural Resources.								

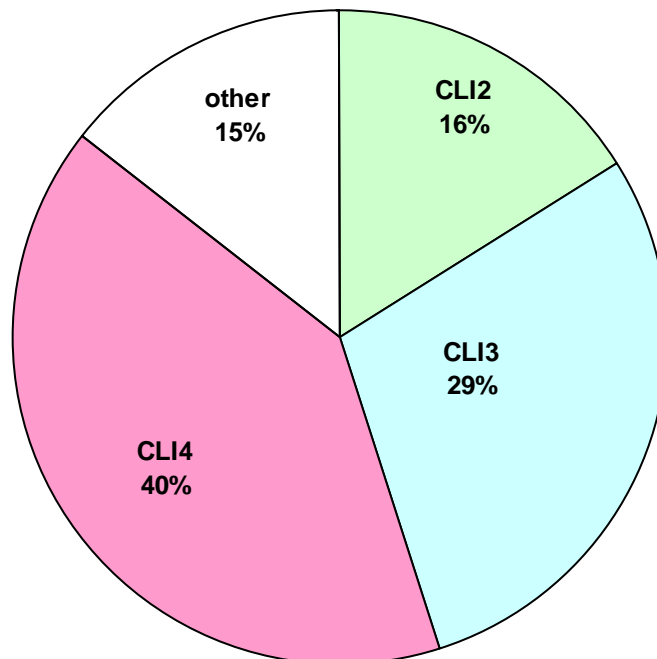
Looking at the land base from a slightly different perspective (the composition of lands used for agriculture, Table 3) it is apparent that Kings County agriculture is generally taking place on good agricultural soils. Forty percent of agricultural land is on class 3 soils, while 32 percent is on class 2 soils and 23 percent on class 4. Only 5 percent of Kings' agriculture is on less than class 4 soils, less than half of the provincial total.

Table 3. Composition of lands in agriculture- Kings County						
	Agricultural land (ALIP)*		Agricultural land (DNR)**		Blueberry land (DNR)**	
	Kings	Nova Scotia	Kings	Nova Scotia	Kings	Nova Scotia
	Percent					
CLI 2	31.8	20.5	31.4	21.1	n/a	4.7
CLI 3	40.1	49.4	40.5	51.8	n/a	16.4
CLI 4	23.2	16.3	22.9	14.5	n/a	44.5
Other	5.0	13.8	5.2	12.7	n/a	34.4
* As indicated by the NSDA Agricultural Land Identification Project. ** Based on forest coverage files from NS Natural Resources (blueberry land is low-bush/ wild) Source: Nova Scotia Department of Agriculture, Natural Resources Canada, Nova Scotia Department of Natural Resources.						

Urban use and property fragmentation of the agricultural land base

As shown in Figure 3, the majority of urban development in Kings is on good agricultural soils. Only 15 percent of urban development occurs on soils that are of poorer quality than class 4. As indicated in Table 2, in Kings, the proportion of urban land encroachment on CLI soils goes down as soil class improves; the opposite is true for Nova Scotia as a whole. This is reflective of the importance of agriculture and good agricultural land to the Kings economy.

**Figure 3. Composition of urban land-
Kings**



Some lands currently in agriculture may be relatively easily removed for other forms of development. A contributing factor is lot size. Kings County has 3,023 properties that are less than two hectares in size and centered in ALIP lands (Table 4). These properties amount to 2,174 hectares, 1,883 of which are on ALIP.

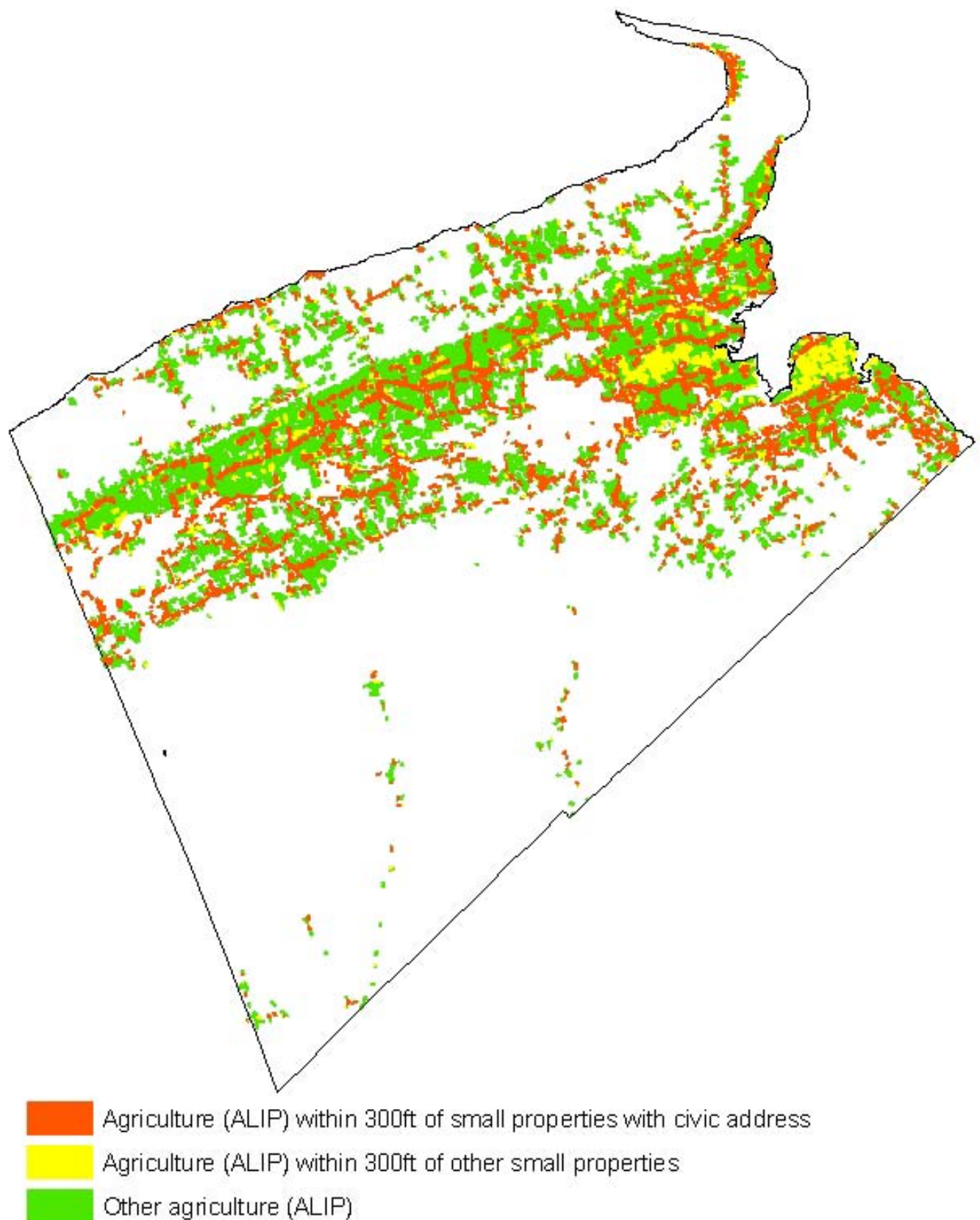
Table 4. Analysis of small properties (< 2ha) encroaching on farm land- Kings County, Nova Scotia						
	Vacant properties		Properties with civic address		TOTAL of small properties (< 2 ha)	
	# properties	Hectares	# properties	Hectares	# properties	Hectares
Centered in ALIP farmland	1,343	1,051	1,680	1,123	3,023	2,174
Area in farmland of properties centered in ALIP	1,340	943	1,680	940	3,020	1,883
Within 10 meters of ALIP farmland	2,264	1,543	4,942	2,718	7,206	4,261
Source: Provincial PID data, NSDA (ALIP data)						

A total of 7,206 properties less than two hectares in size are on or adjacent to ALIP lands, almost 70 percent of which have civic addresses (i.e. are not vacant). This amounts to 26.5 percent of the provincial total of these properties. Relative to the amount of farming in Kings, the county has the 11th highest rate of small developed properties that are adjacent to farmland (but 1st in absolute number of properties).

Ultimately, approximately 400 hectares (1.64 percent) of ALIP lands in Kings have been lost to urban development since 1998. This places Kings tied for 12th with Yarmouth in terms of percentage farmland lost to development and 3rd in terms of area of farmland lost.

While physical occupancy of land by non-farm development or land with the potential for non-farm development can be used to estimate potential loss of land to the sector, the effect of development on adjacent agricultural lands is probably of greater significance in terms of area affected. In order to estimate the area of farmland that is at risk due to the proximity of development, a 300 ft (91.44m) buffer was drawn around each small (<2ha) property and the amount of ALIP farmland falling under this zone was calculated (Figure 4). Kings has approximately 30 percent of its ALIP farmland falling under this category, the 8th highest in the province (highest in absolute terms). Approximately 21 percent of Kings farmland is within 300 feet of a small property with a civic address (i.e. likely developed property).

Figure 4. Agriculture (ALIP) within 300 feet of small properties (< 2ha)



Sources: NS Agriculture, SNSMR

ⁱ Nova Scotia does not have any CLI class 1 soil. Class 2 to 4 soils have moderate to severe limitations that restrict the range of crops or require special conservation practices or both. Class 5 soils and below have very severe limitations for agriculture.

Sources

Natural Resources Canada. Canada Land Inventory. Available from: <http://geogratis.cgdi.gc.ca/CLI/frames.html>. Accessed [25 January 2010].

Nova Scotia Department of Agriculture. Agricultural Land Identification Project (ALIP).

Nova Scotia Department of Natural Resources. Forest Inventory - Geographic Information Systems. Available from: www.gov.ns.ca/natr/forestry/gis/forest-inventory.asp. Accessed [25 January 2010].

SNSMR (Service Nova Scotia and Municipal Relations). 2009. NS Civic Address File and property polygons.

LUNENBURG COUNTY



PROFILE of AGRICULTURAL LAND RESOURCES

Overview of county land resources

Land most suitable for agricultural production (Canadian Land Inventory (CLI) classes 2,3 and 4ⁱ) covers less than 10 percent of Lunenburg County (see Table 1). Lunenburg has 3 percent of the province's CLI 3 soils, but no CLI 2 or CLI 4 land.

Lunenburg has approximately 8,000 hectares in agricultural production. This amounts to over 3 percent of Nova Scotia land in agriculture. Farming in Lunenburg uses 3 percent of the county land area.

Table 1. Agricultural land statistics- Lunenburg County

	Hectares	Percent of provincial total	Percent of county land area
CLI 2,3,4 TOTAL	27,138	1.7	9.4
CLI 2	0	0	0
CLI 3	27,138	2.7	9.4
CLI 4	0	0	0
Agricultural land (ALIP)*	7,716	3.3	2.7
Agricultural land (DNR)**	8,392	3.7	2.9
Blueberry land (DNR)**	33	0.2	0.01
<p>* As indicated by the NSDA Agricultural Land Identification Project. ** Based on forest coverage files from NS Natural Resources (blueberry land is low-bush/ wild) Source: Nova Scotia Department of Agriculture, Natural Resources Canada, Nova Scotia Department of Natural Resources.</p>			

Lunenburg also has a small amount (33 hectares) of wild blueberry production. This amounts to 0.2 percent of the Nova Scotia total.

Figure 1a. Agricultural lands in Lunenburg County

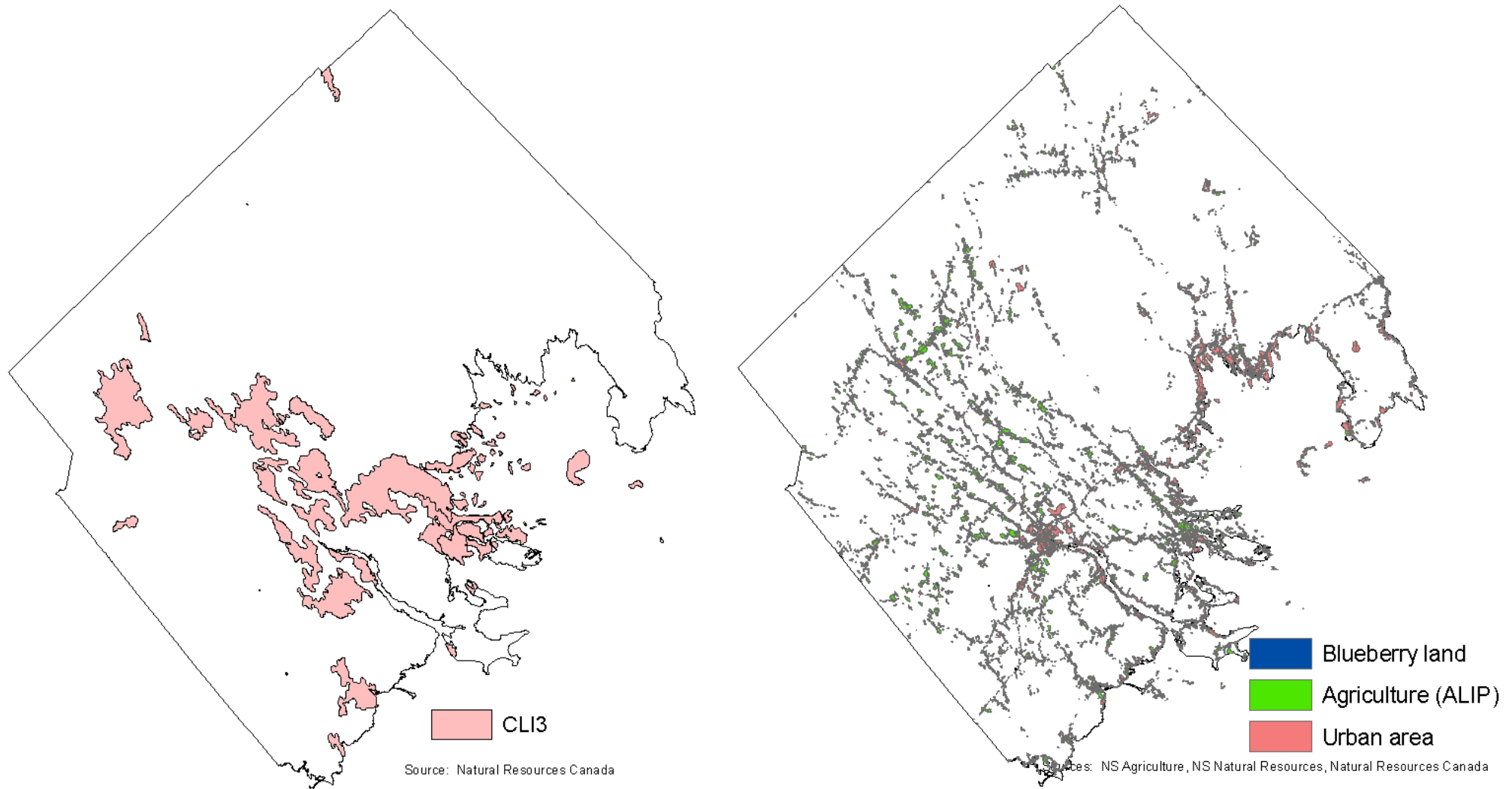
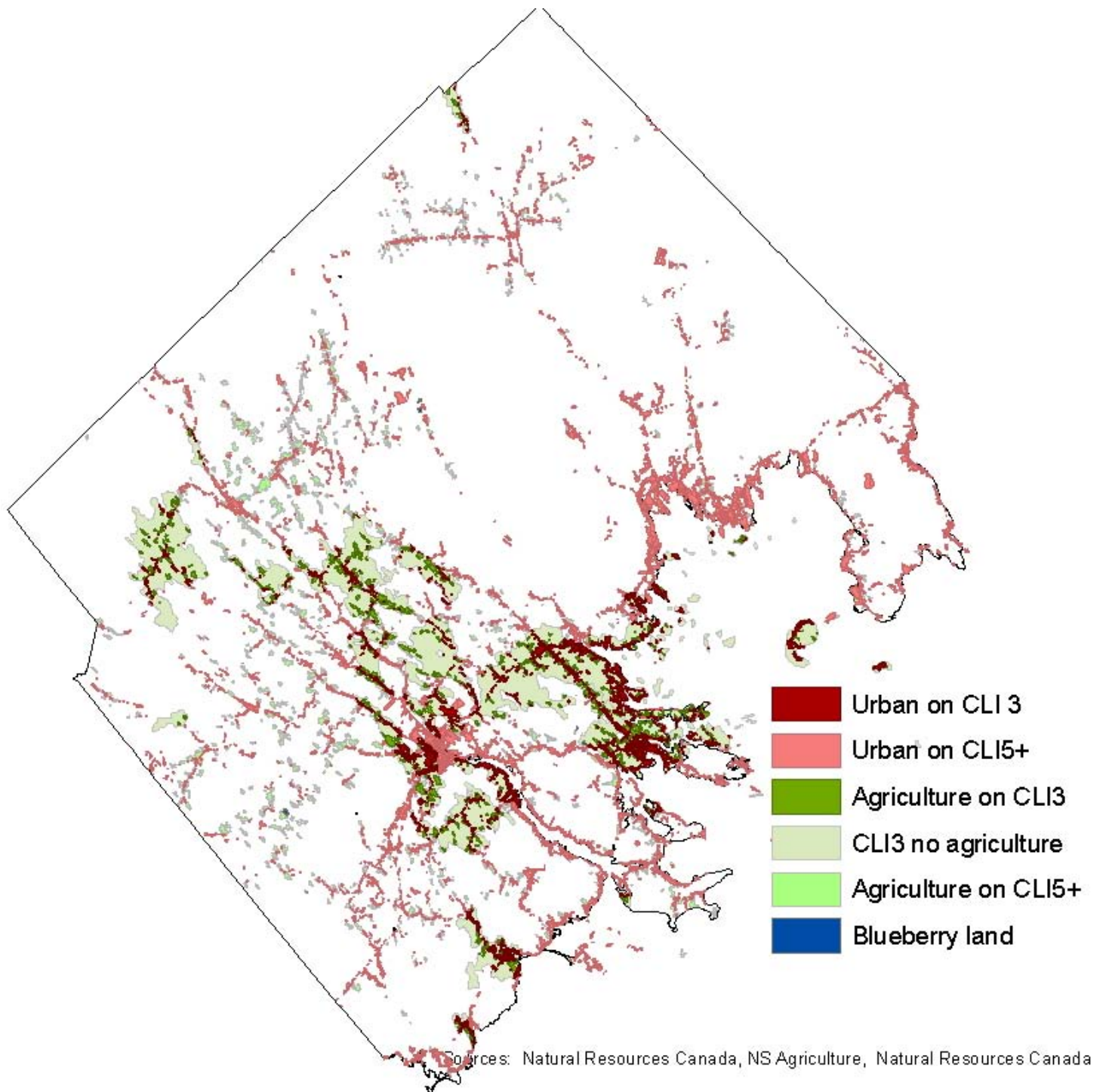


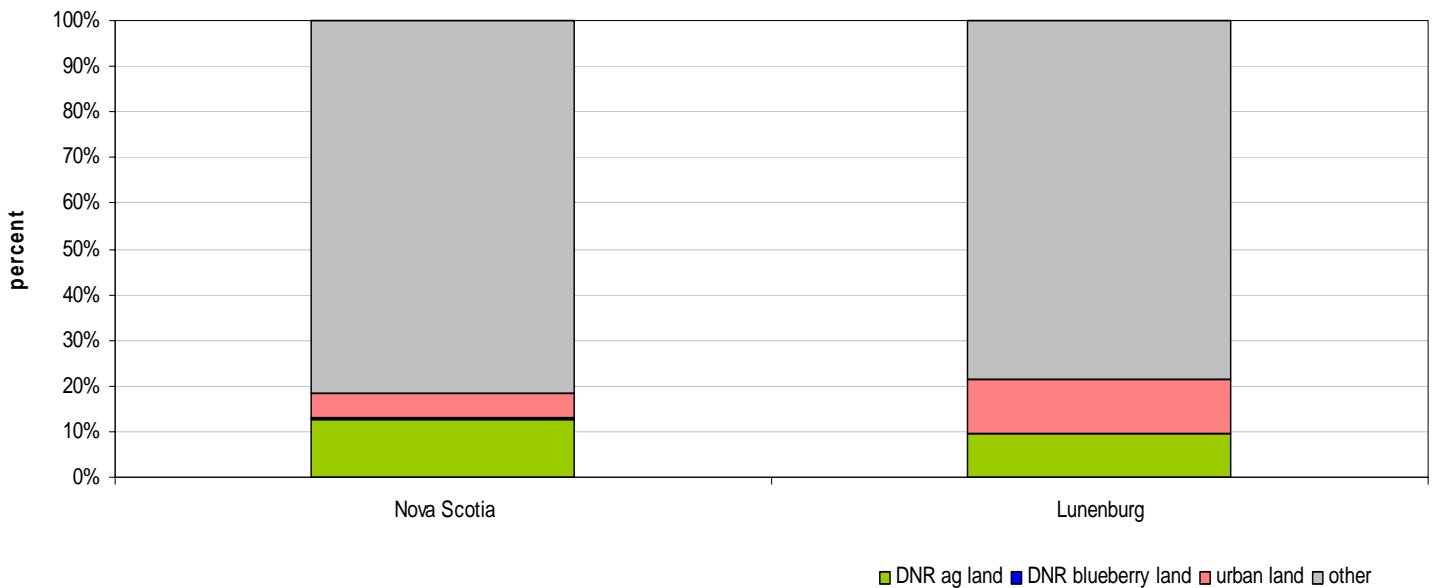
Figure 1b. Agricultural lands in Lunenburg County (overlay)



Usage of arable land and composition of farmed land

Land most suitable for agricultural production (CLI classes 2, 3 and 4) are used for agriculture in Lunenburg County at a slightly lesser rate than the provincial average (see Figure 2 and Table 2). About 10 percent of suitable agricultural land is used for agricultural production in Lunenburg compared with 13 percent provincially. This places Lunenburg 8th among the 18 counties in terms of utilization of arable land for farming.

Figure 2. Utilization of soils suitable for agriculture- Lunenburg vs Nova Scotia



Lunenburg has about 12 percent of its good agricultural soils under urban development ranking Lunenburg 3rd. This is significantly higher than the provincial average of 5.4 percent.

Table 2. Use of agricultural soils (CLI classes 2,3,4) in Lunenburg County and Nova Scotia								
	CLI 2		CLI 3		CLI 4		TOTAL CLI 2,3,4	
	Lunenburg	Nova Scotia	Lunenburg	Nova Scotia	Lunenburg	Nova Scotia	Lunenburg	Nova Scotia
	Percent							
Agricultural land (DNR)*	n/a	29.3	9.6	12.0	n/a	7.9	9.6	12.7
Blueberry land (DNR)*	n/a	0.5	0.0	0.3	n/a	1.8	0.0	0.7
Urban area	n/a	6.9	11.8	5.4	n/a	4.6	11.8	5.4
Other	n/a	63.3	78.6	82.3	n/a	85.7	78.6	81.2
* Based on forest coverage files from NS Natural Resources (blueberry land is low-bush/ wild) Source: Nova Scotia Department of Agriculture. Natural Resources Canada. Nova Scotia Department of Natural Resources.								

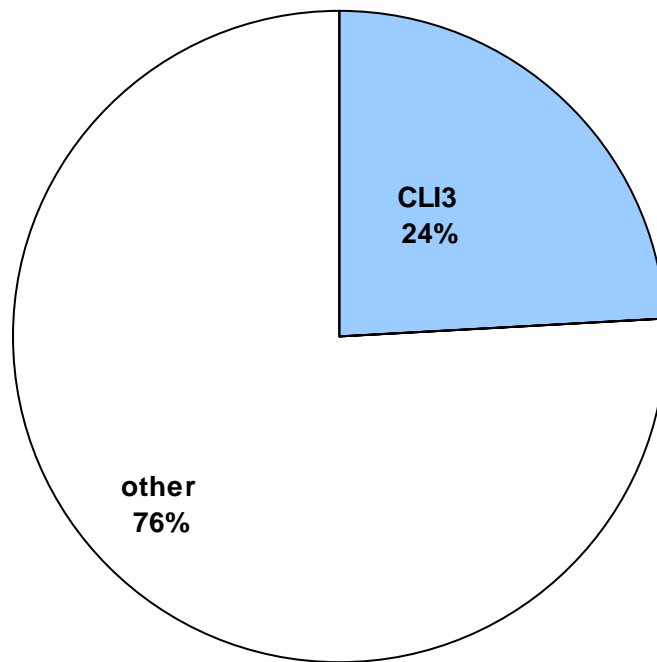
Looking at the land base from a slightly different perspective (the composition of lands in agriculture, Table 3) it is apparent that Lunenburg County agriculture is generally taking place on poorer agricultural soils, differing significantly from the provincial average. This is primarily due to a relative lack of arable land available in Lunenburg with the county having no class 2 or class 4 land. More than two-thirds of agriculture in Lunenburg takes place on poorer than class 4 soil, with the remainder on class 3 land.

Table 3. Composition of lands in agriculture- Lunenburg County						
	Agricultural land (ALIP)*		Agricultural land (DNR)**		Blueberry land (DNR)**	
	Lunenburg	Nova Scotia	Lunenburg	Nova Scotia	Lunenburg	Nova Scotia
	Percent					
CLI 2	n/a	20.5	n/a	21.1	n/a	4.7
CLI 3	29.9	49.4	30.9	51.8	9.5	16.4
CLI 4	n/a	16.3	n/a	14.5	n/a	44.5
Other	70.1	13.8	69.1	12.7	90.5	34.4
* As indicated by the NSDA Agricultural Land Identification Project. ** Based on forest coverage files from NS Natural Resources (blueberry land is low-bush/ wild) Source: Nova Scotia Department of Agriculture, Natural Resources Canada, Nova Scotia Department of Natural Resources.						

Urban use and property fragmentation of the agricultural land base

As shown in Figure 3, approximately one-quarter of urban development in Lunenburg is on good agricultural soils. The majority of urban development in the county has taken place on lands that are relatively unsuitable for agricultural production.

**Figure 3. Composition of urban land-
Lunenburg**



Some lands currently in agriculture may be relatively easily removed for other forms of development. A contributing factor is lot size. Lunenburg County has 1,033 properties that are less than two hectares in size that are centered in ALIP lands (Table 4). These properties amount to 698 hectares, 548 of which are on ALIP.

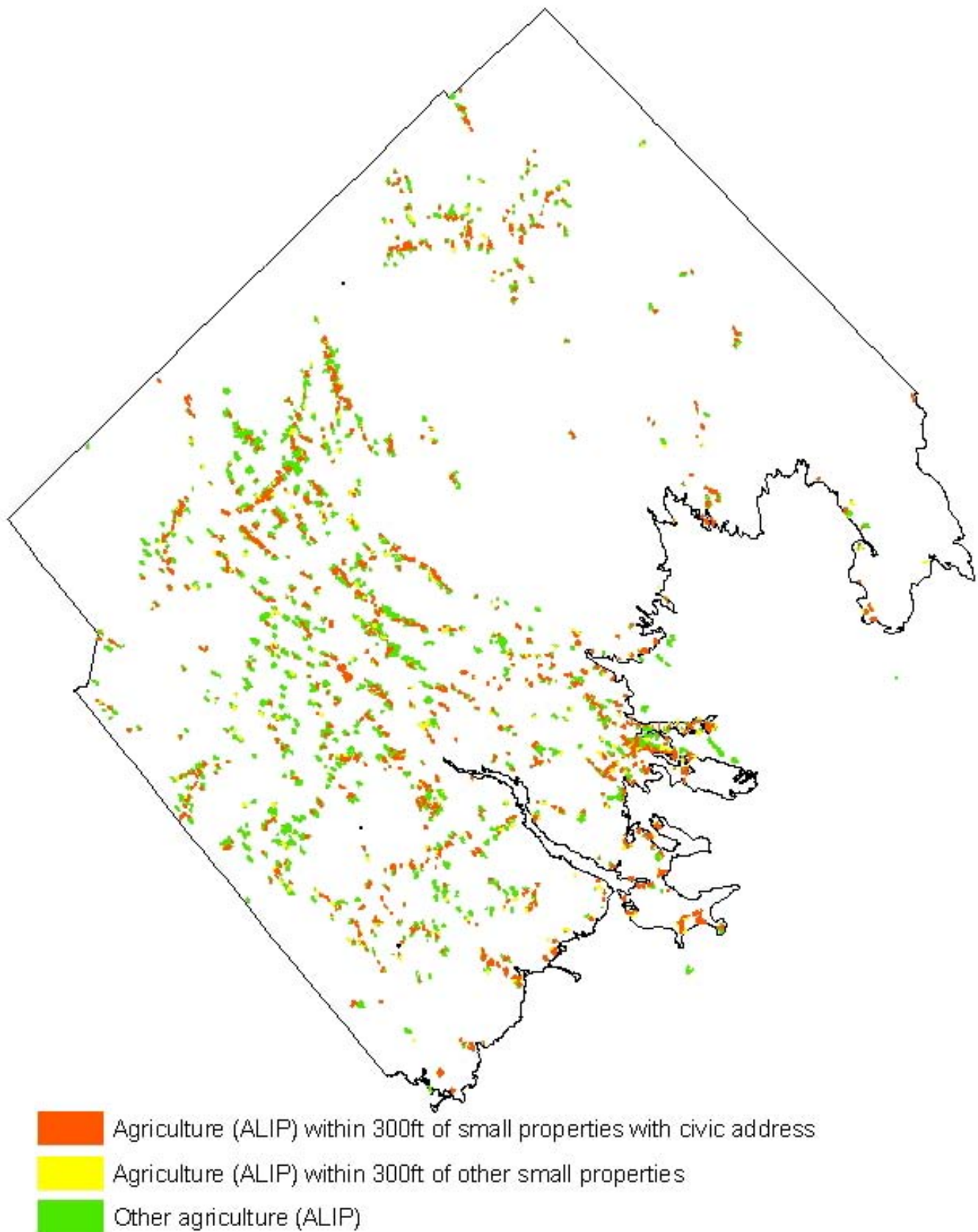
Table 4. Analysis of small properties (< 2ha) encroaching on farm land- Lunenburg County, Nova Scotia						
	Vacant properties		Properties with civic address		TOTAL of small properties (< 2 ha)	
	# properties	Hectares	# properties	Hectares	# properties	Hectares
Centered in ALIP farmland	493	309	540	389	1,033	698
Area in farmland of properties centered in ALIP	492	242	540	306	1,032	548
Within 10 meters of ALIP farmland	1,098	733	1,465	1,010	2,563	1,743
Source: Provincial PID data, NSDA (ALIP data)						

A total of 2,563 properties of less than two hectares in size are on or adjacent to ALIP lands, 57 percent of which have civic addresses (i.e. are not vacant). This amounts to 11 percent of the provincial total of these properties. Relative to the amount of farming in Lunenburg, the county has the 4th highest rate of small developed properties that are adjacent to farmland.

Ultimately, approximately 153 hectares (2 percent) of ALIP lands in Lunenburg have been lost to urban development since 1998. This places Lunenburg tied for 6th with Guysborough in terms of percentage farmland lost to development and 8th in terms of area of farmland lost.

While physical occupancy of land by non-farm development or land with the potential for non-farm development can be used to estimate potential loss of land to the sector, the effect of development on adjacent agricultural lands is probably of greater significance in terms of area affected. In order to estimate the area of farmland that is at risk due to the proximity of development, a 300 ft (91.44m) buffer was drawn around each small (<2ha) property and the amount of ALIP farmland falling under this zone was calculated (Figure 4). Lunenburg has approximately 38 percent of its ALIP farmland falling under this category, the 4th highest in the province (9th highest in absolute terms). Approximately 30 percent of Lunenburg farmland is within 300 feet of a small property with a civic address (i.e. likely developed property).

Figure 4. Agriculture (ALIP) within 300 feet of small properties (< 2ha)



Sources: NS Agriculture, SNSMR

ⁱ Nova Scotia does not have any CLI class 1 soil. Class 2 to 4 soils have moderate to severe limitations that restrict the range of crops or require special conservation practices or both. Class 5 soils and below have very severe limitations for agriculture.

Sources

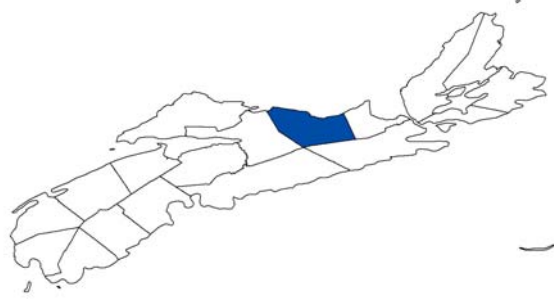
Natural Resources Canada. Canada Land Inventory. Available from: <http://geogratis.cgdi.gc.ca/CLI/frames.html>. Accessed [25 January 2010].

Nova Scotia Department of Agriculture. Agricultural Land Identification Project (ALIP).

Nova Scotia Department of Natural Resources. Forest Inventory - Geographic Information Systems. Available from: www.gov.ns.ca/natr/forestry/gis/forest-inventory.asp. Accessed [25 January 2010].

SNSMR (Service Nova Scotia and Municipal Relations). 2009. NS Civic Address File and property polygons.

PICTOU COUNTY



PROFILE of AGRICULTURAL LAND RESOURCES

Overview of county land resources

Land most suitable for agricultural production (Canadian Land Inventory (CLI) classes 2,3 and 4ⁱ) covers half of Pictou County (see Table 1). Pictou has 12 percent of the province's CLI 2 soils, 8 percent of CLI 3 and 12 percent of CLI 4.

Pictou is a significant county in terms of agricultural production with approximately 20,500 hectares in agricultural production. This amounts to 9 percent of Nova Scotia land in agriculture. Farming in Pictou uses about 7 percent of the county land area.

Table 1. Agricultural land statistics- Pictou County

	Hectares	Percent of provincial total	Percent of county land area
CLI 2,3,4 TOTAL	144,383	9.2	50.8
CLI 2	19,061	11.6	6.7
CLI 3	75,330	7.6	26.5
CLI 4	49,992	12.0	17.6
Agricultural land (ALIP)*	20,994	8.9	7.4
Agricultural land (DNR)**	20,302	8.9	7.1
Blueberry land (DNR)**	1,931	11.7	0.7
<p>* As indicated by the NSDA Agricultural Land Identification Project. ** Based on forest coverage files from NS Natural Resources (blueberry land is low-bush/ wild) Source: Nova Scotia Department of Agriculture, Natural Resources Canada, Nova Scotia Department of Natural Resources.</p>			

Pictou is also an important producer of wild blueberries with 1,931 hectares. This amounts to 12 percent of the Nova Scotia total.

Figure 1a. Agricultural lands in Pictou County

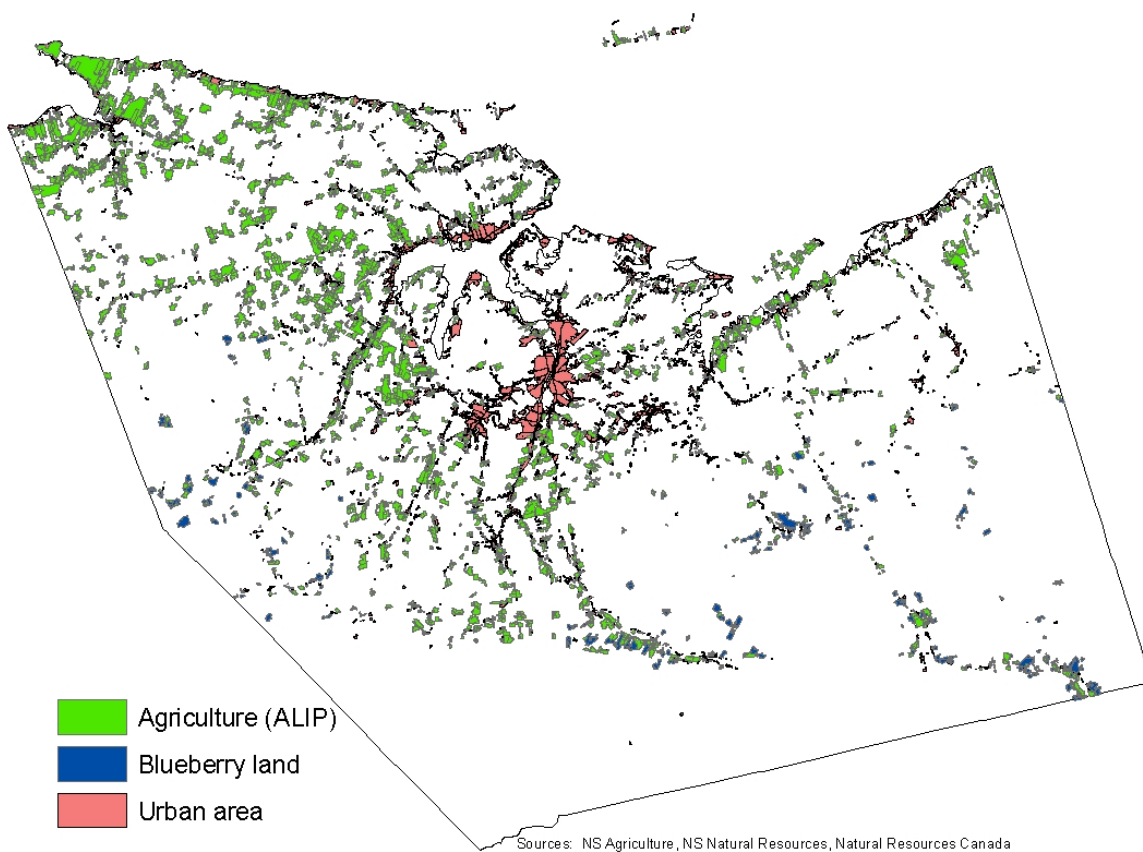
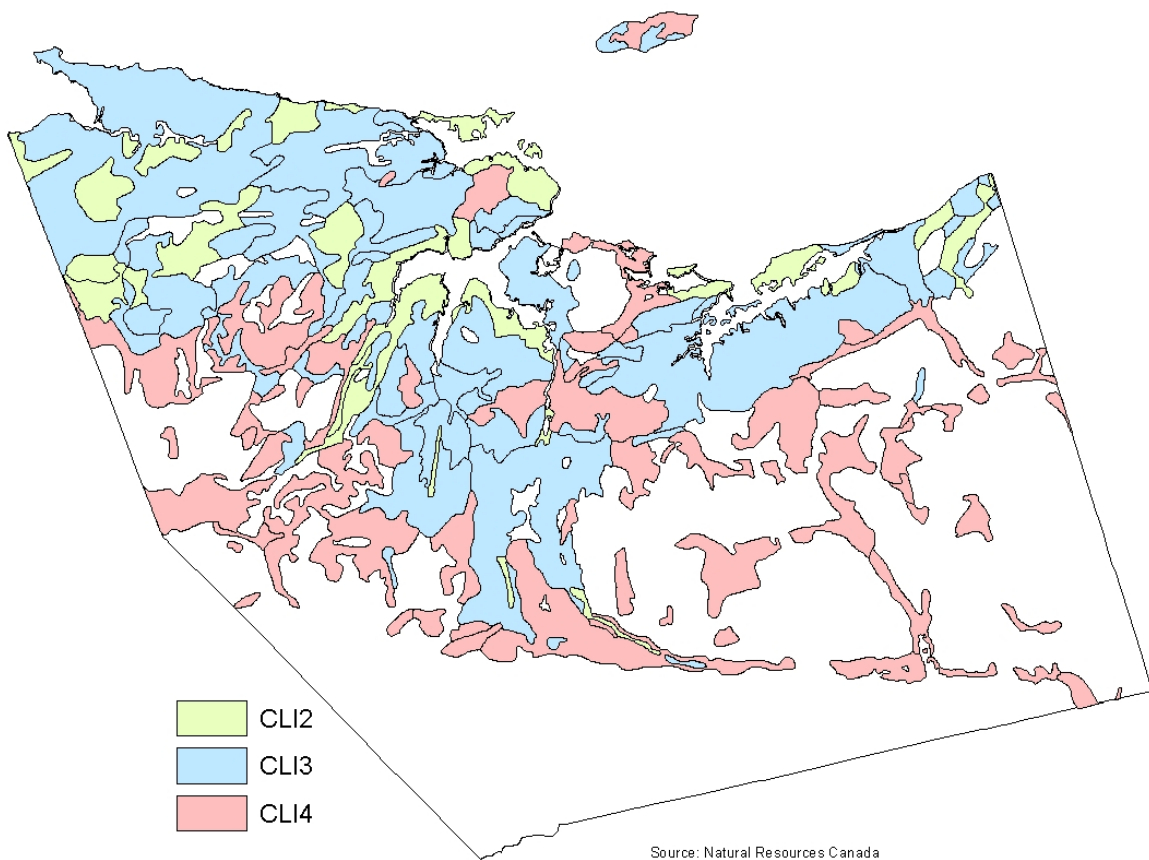
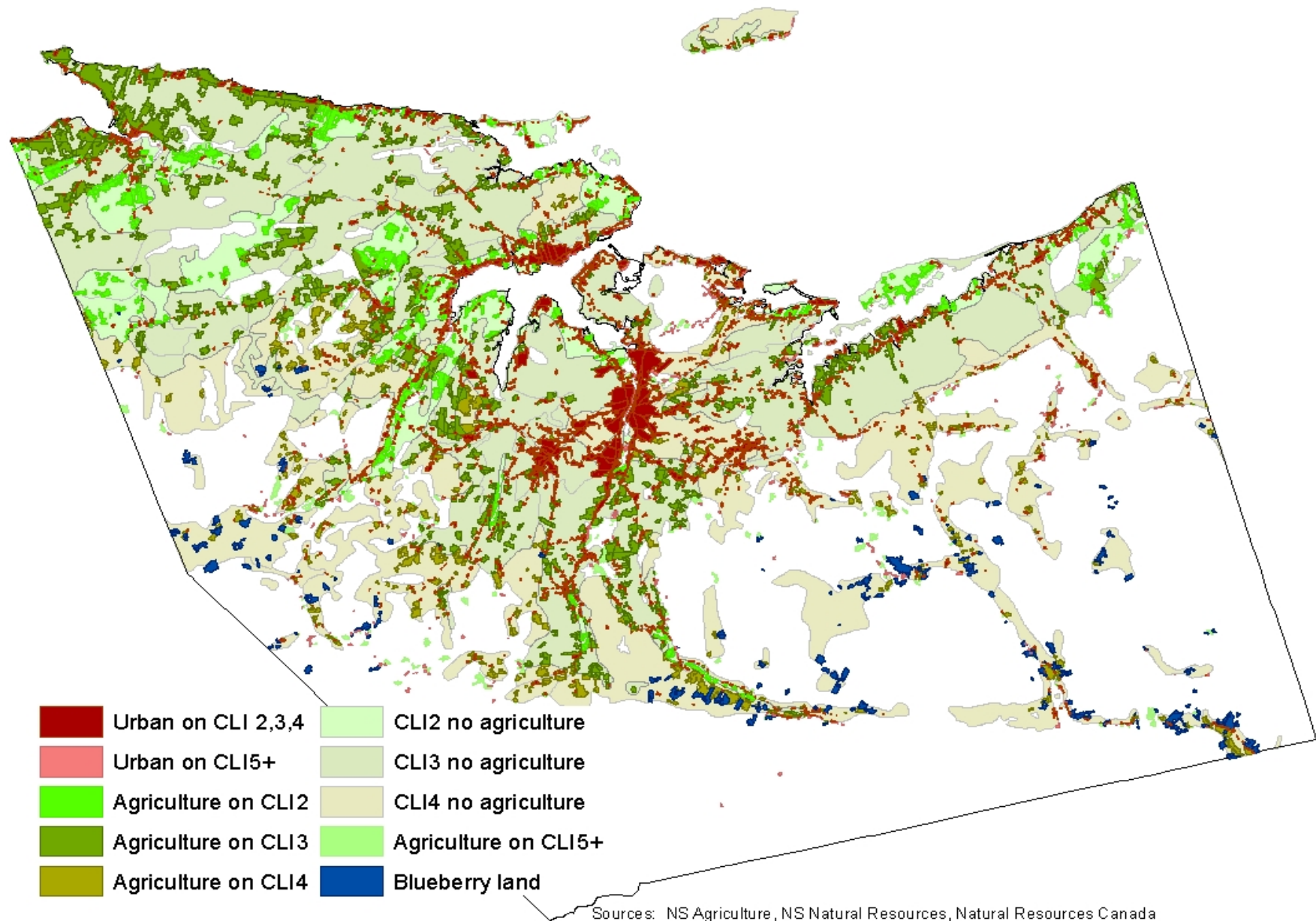


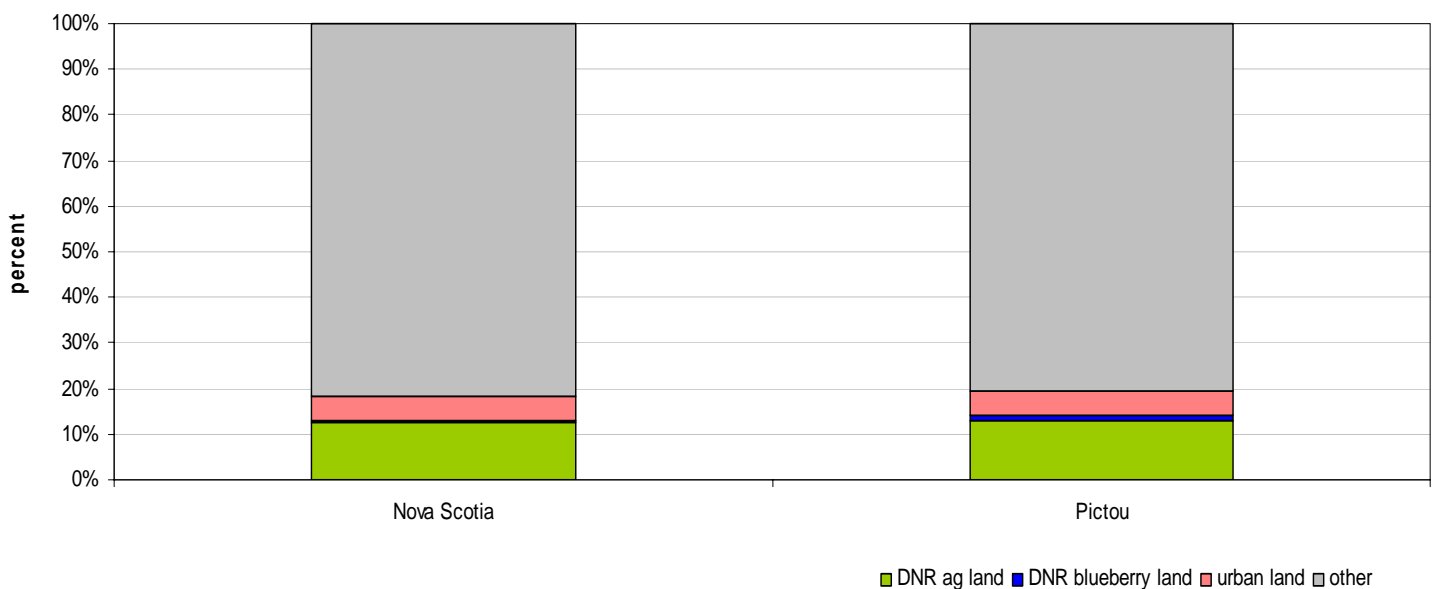
Figure 1b. Agricultural lands in Pictou County (overlay)



Usage of arable land and composition of farmed land

Land most suitable for agricultural production (CLI classes 2, 3 and 4) are used for agriculture in Pictou County at a rate nearly identical to the provincial average (see Figure 2 and Table 2) with a small amount of farming substituted for blueberry production in the case of Pictou. About 13 percent of suitable agricultural land is used for agricultural production in Pictou compared with 13 percent provincially. This places Pictou 5th among the 18 counties in terms of utilization of arable land for farming.

Figure 2. Utilization of soils suitable for agriculture- Pictou vs Nova Scotia



Premium agricultural land (CLI 2) is not highly utilized in Pictou with approximately 20 percent in agriculture (9th out of 18 counties). This is lower than the Nova Scotia average of 29 percent of CLI 2 lands used for agriculture.

Pictou has about 5 percent of its good agricultural soils under urban development ranking Pictou tied for 9th with Victoria County. This compares to the provincial average of 5.4 percent.

Table 2. Use of agricultural soils (CLI classes 2,3,4) in Pictou County and Nova Scotia								
	CLI 2		CLI 3		CLI 4		TOTAL CLI 2,3,4	
	Pictou	Nova Scotia	Pictou	Nova Scotia	Pictou	Nova Scotia	Pictou	Nova Scotia
	Percent							
Agricultural land (DNR)*	20.8	29.3	14.9	12.0	7.7	7.9	13.2	12.7
Blueberry land (DNR)*	0.0	0.5	0.0	0.3	2.4	1.8	0.9	0.7
Urban area	6.5	6.9	5.5	5.4	4.5	4.6	5.3	5.4
Other	72.8	63.3	79.7	82.3	85.3	85.7	80.7	81.2
* Based on forest coverage files from NS Natural Resources (blueberry land is low-bush/ wild) Source: Nova Scotia Department of Agriculture. Natural Resources Canada. Nova Scotia Department of Natural Resources.								

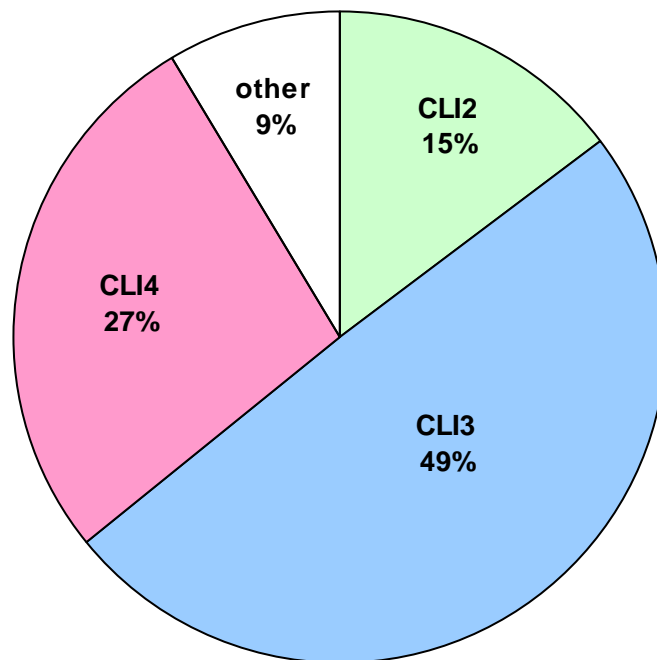
Looking at the land base from a slightly different perspective (the composition of land used for agriculture, Table 3) it is apparent that Pictou County agriculture is generally taking place on good agricultural soils, and at a higher percentage than the provincial average. Over half of farmed agricultural land is on class 3 soils, while 20 percent is on class 2 soils and 19 percent on class 4. Only 6 percent of Pictou agriculture is on poorer than class 4 soils.

Table 3. Composition of lands in agriculture- Pictou County						
	Agricultural land (ALIP)*		Agricultural land (DNR)**		Blueberry land (DNR)**	
	Pictou	Nova Scotia	Pictou	Nova Scotia	Pictou	Nova Scotia
	Percent					
CLI 2	17.7	20.5	19.5	21.1	0.1	4.7
CLI 3	50.9	49.4	55.1	51.8	0.6	16.4
CLI 4	22.8	16.3	19.0	14.5	63.2	44.5
Other	8.6	13.8	6.4	12.7	36.1	34.4
* As indicated by the NSDA Agricultural Land Identification Project. ** Based on forest coverage files from NS Natural Resources (blueberry land is low-bush/ wild) Source: Nova Scotia Department of Agriculture, Natural Resources Canada, Nova Scotia Department of Natural Resources.						

Urban use and property fragmentation of the agricultural land base

As shown in Figure 3, the majority of urban development in Pictou is on good agricultural soils. Less than 10 percent of urban land in Pictou is on poorer than CLI4 soil; the lowest percentage in the province. As indicated in Table 2, the proportion of urban land encroachment on CLI soils is higher on higher quality land, consistent with the provincial average.

**Figure 3. Composition of urban land-
Pictou**



Some lands currently in agriculture may be relatively easily removed for other forms of development. A contributing factor is lot size. Pictou County has 853 properties that are less than two hectares in size that are centered in ALIP lands (Table 4). These properties amount to 720 hectares, 602 of which are on ALIP.

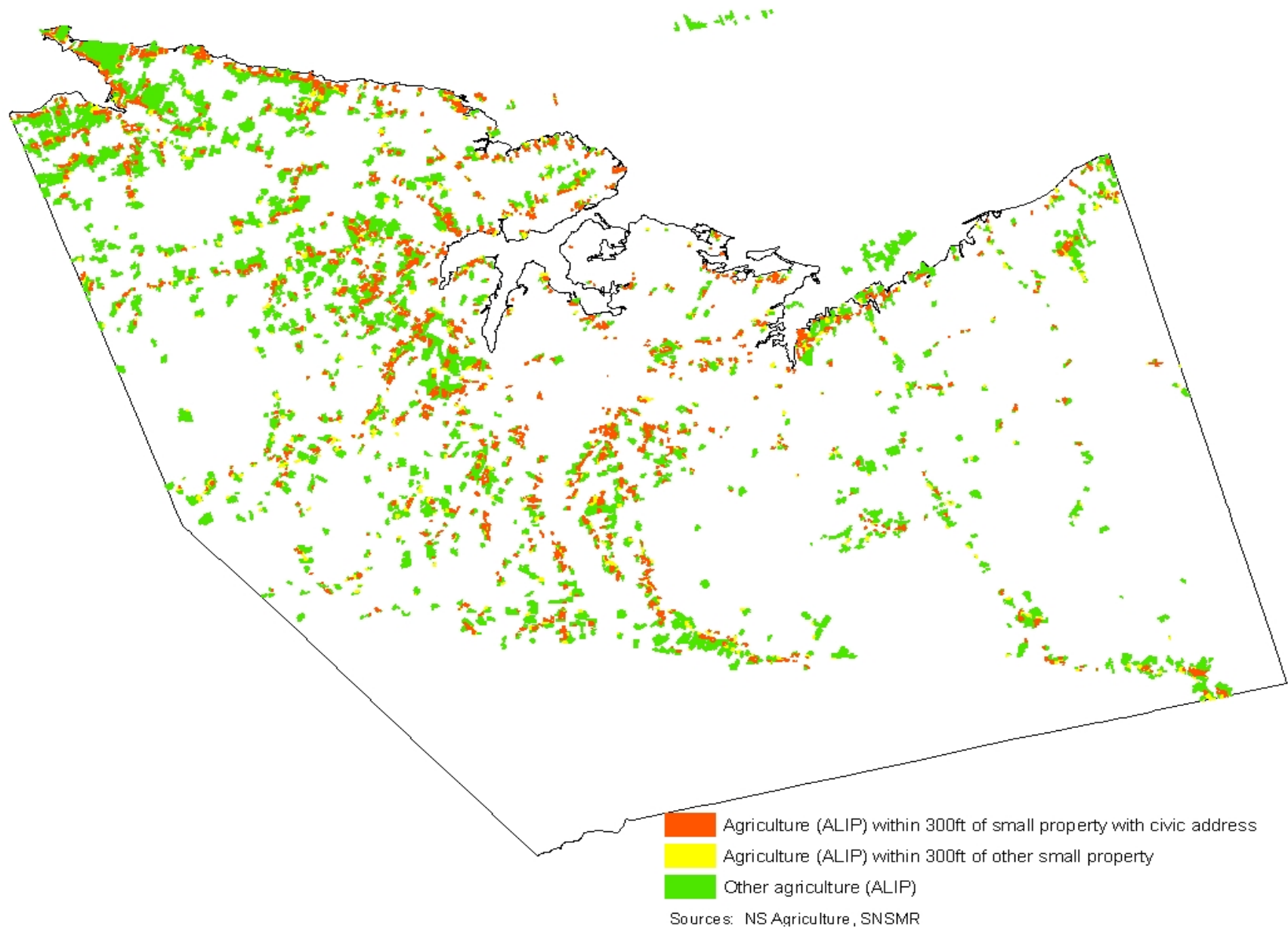
Table 4. Analysis of small properties (< 2ha) encroaching on farm land- Pictou County, Nova Scotia						
	Vacant properties		Properties with civic address		TOTAL of small properties (< 2 ha)	
	# properties	Hectares	# properties	Hectares	# properties	Hectares
Centered in ALIP farmland	444	358	409	361	853	720
Area in farmland of properties centered in ALIP	443	306	409	295	852	602
Within 10 meters of ALIP farmland	1,032	764	1,686	1,228	2,718	1,992
Source: Provincial PID data, NSDA (ALIP data)						

A total of 2,718 properties of less than two hectares in size are on or adjacent to ALIP lands, 62 percent of which have civic addresses (i.e. are not vacant). This amounts to 12 percent of the provincial total of these properties. Relative to the amount of farming in Pictou, the county is tied with Guysborough for the 14th highest rate of small developed properties that are adjacent to farmland.

Ultimately, approximately 184 hectares (0.9 percent) of ALIP lands in Pictou have been lost to urban development since 1998. This places Pictou tied for 14th with Antigonish in terms of percentage farmland lost to development and 7th in terms of area of farmland lost.

While physical occupancy of land by non farm development or land with the potential for non-farm development can be used to estimate potential loss of land to the sector, the effect of development on adjacent agricultural lands is probably of greater significance in terms of area affected. In order to estimate the area of farm land that is at risk due to the proximity of development, a 300 ft (91.44m) buffer was drawn around each small (<2ha) property and the amount of ALIP farm land falling under this zone was calculated (Figure 4). Pictou has approximately 23 percent of its ALIP farmland falling under this category, the 3rd lowest in the province (6th highest in absolute terms). Approximately 18 percent of Pictou farmland is within 300 feet of a small property with a civic address (i.e. likely developed property).

Figure 4. Agriculture (ALIP) within 300 feet of small properties (< 2ha)



ⁱ Nova Scotia does not have any CLI class 1 soil. Class 2 to 4 soils have moderate to severe limitations that restrict the range of crops or require special conservation practices or both. Class 5 soils and below have very severe limitations for agriculture.

Sources

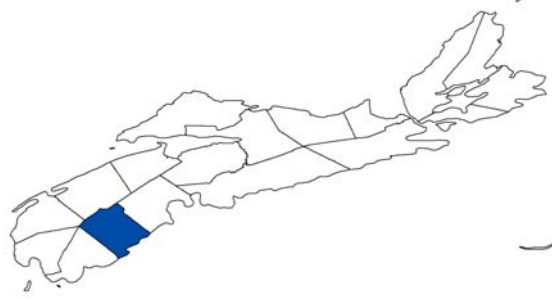
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Nova Scotia Department of Agriculture. Agricultural Land Identification Project (ALIP).

Nova Scotia Department of Natural Resources. Forest Inventory - Geographic Information Systems. Available from: www.gov.ns.ca/natr/forestry/gis/forest-inventory.asp. Accessed [25 January 2010].

SNSMR (Service Nova Scotia and Municipal Relations). 2009. NS Civic Address File and property polygons.

QUEENS COUNTY



PROFILE of AGRICULTURAL LAND RESOURCES

Overview of county land resources

Land most suitable for agricultural production (Canadian Land Inventory (CLI) classes 2,3 and 4ⁱ) covers less than 1 percent of Queens County (see Table 1). Queens has no CLI 2 soils, and less than 1 percent of the province's CLI 3 and CLI 4 land. Queens has the smallest amount of arable land in the province.

Queens has approximately 1,000 hectares in agricultural production. This amounts to less than 1 percent of Nova Scotia land in agriculture. Farming in Queens uses less than 1 percent of the county land area.

Table 1. Agricultural land statistics- Queens County

	Hectares	Percent of provincial total	Percent of county land area
CLI 2,3,4 TOTAL	470	0.03	0.2
CLI 2	0.0	0.0	0.0
CLI 3	265	0.03	0.1
CLI 4	205.4	0.1	0.1
Agricultural land (ALIP)*	989	0.4	0.4
Agricultural land (DNR)**	1,018	0.4	0.4
Blueberry land (DNR)**	33	0.2	0.01
<p>* As indicated by the NSDA Agricultural Land Identification Project. ** Based on forest coverage files from NS Natural Resources (blueberry land is low-bush/ wild) Source: Nova Scotia Department of Agriculture, Natural Resources Canada, Nova Scotia Department of Natural Resources.</p>			

Queens has a small amount of wild blueberry production (33 hectares). This amounts to a small fraction of the provincial total.

Figure 1a. Agricultural lands in Queens County

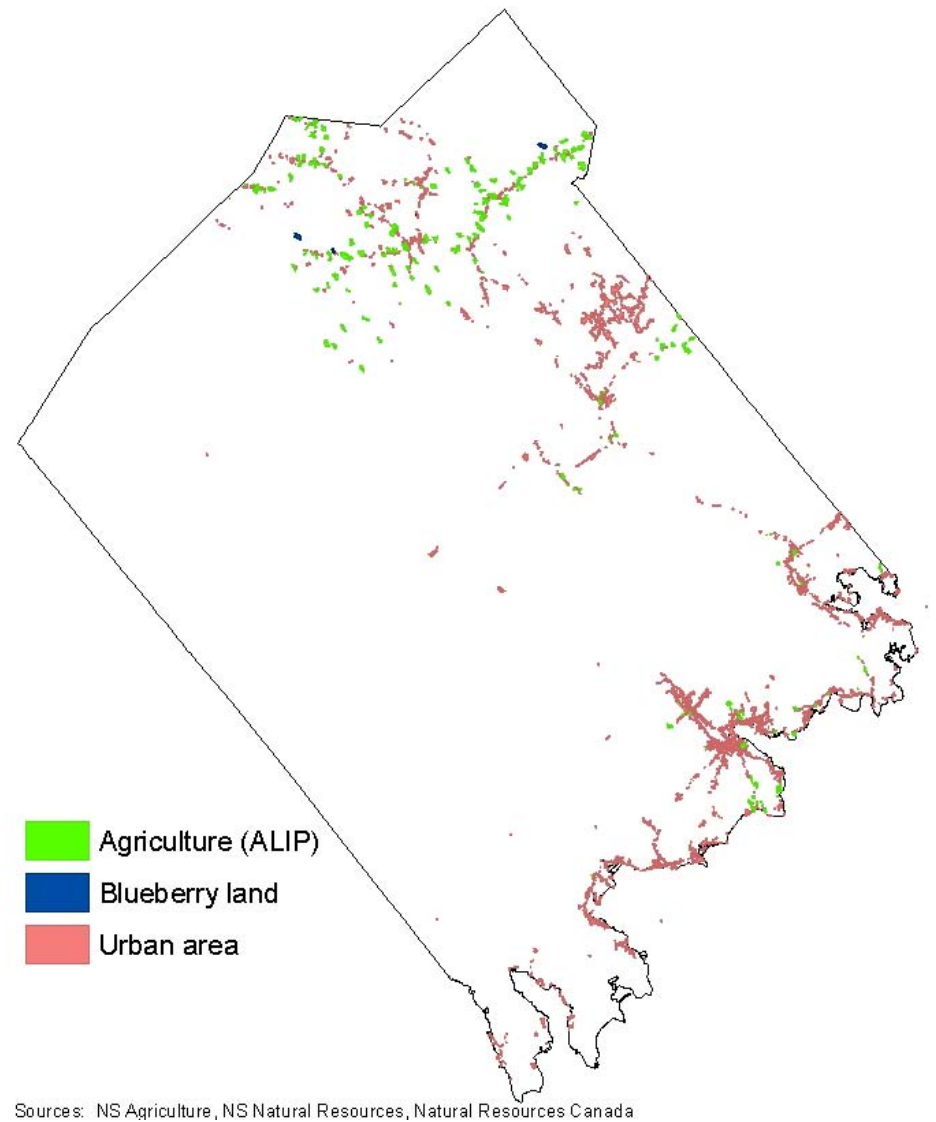
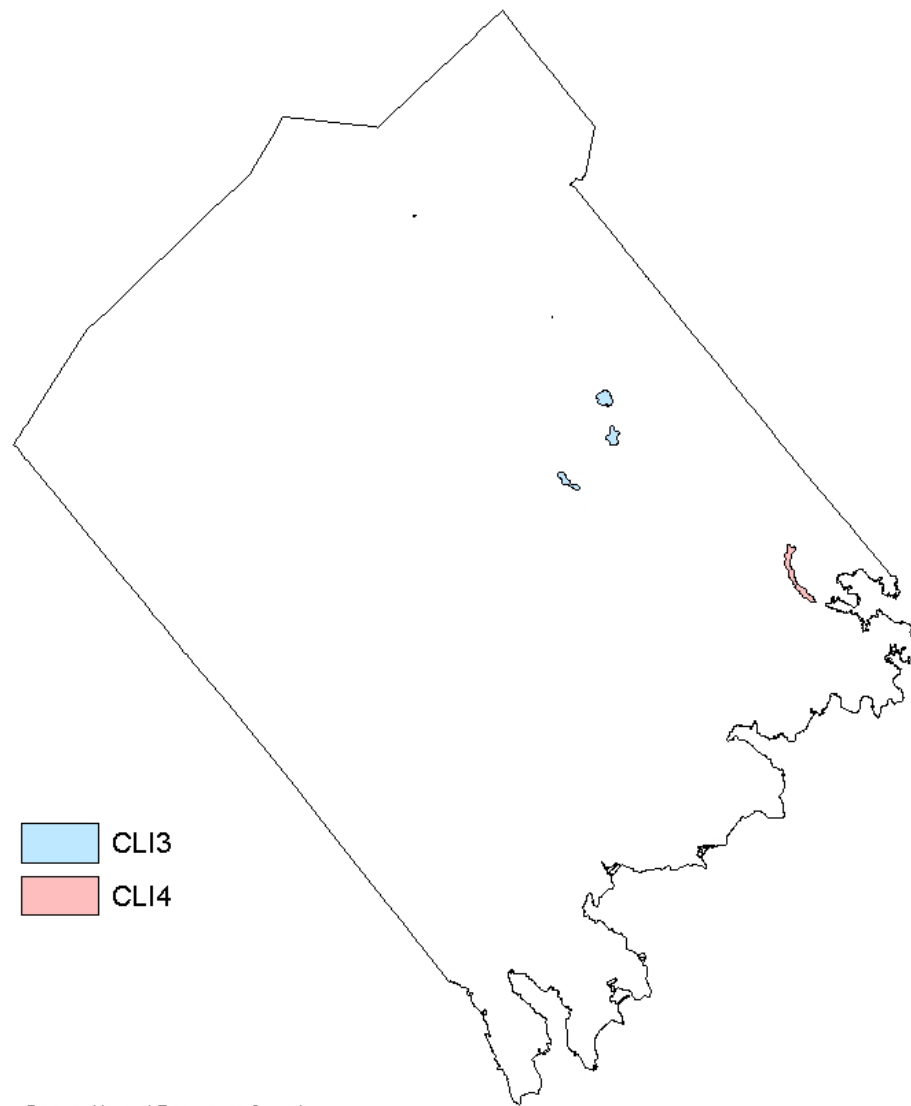
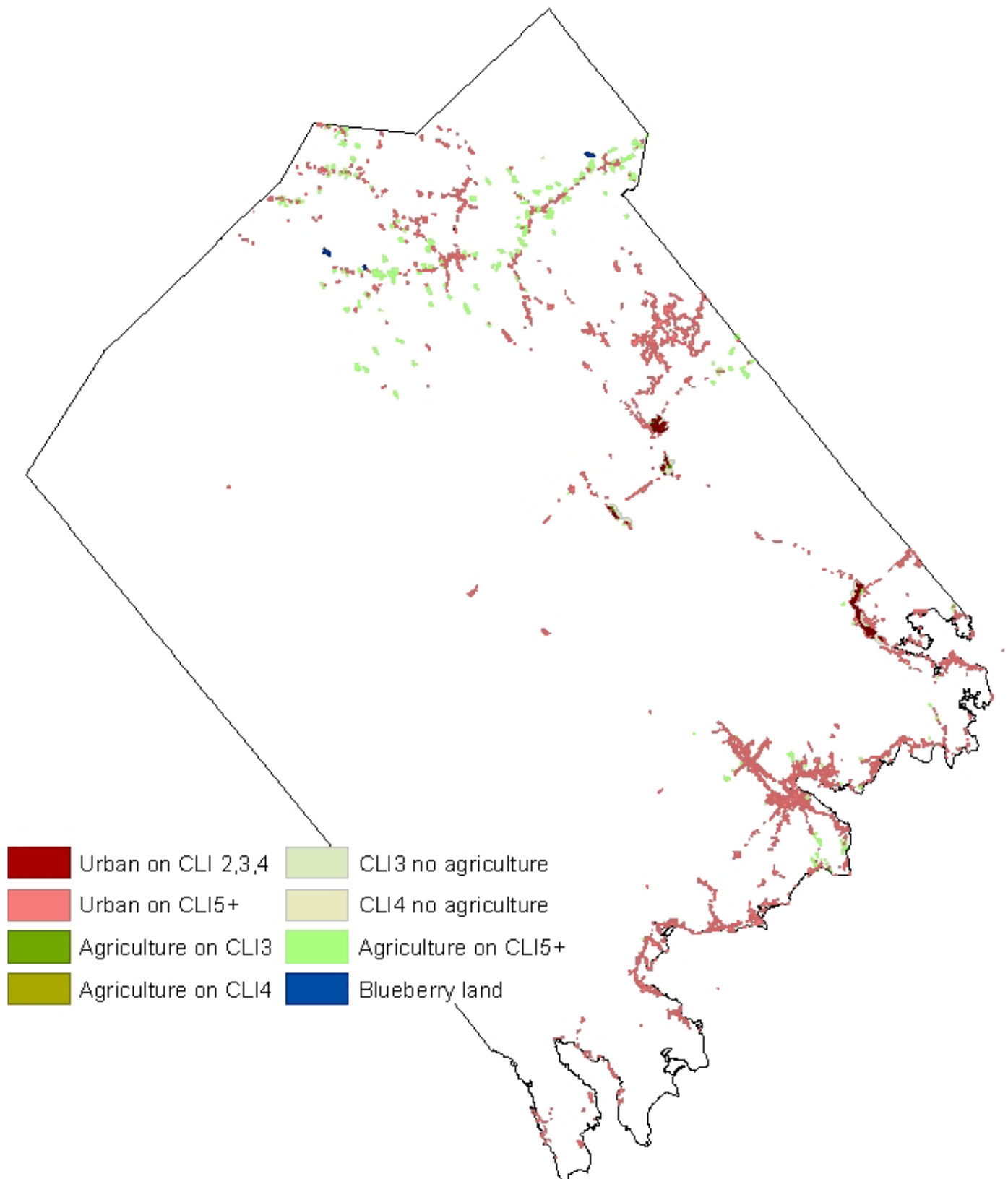


Figure 1b. Agricultural lands in Queens County (overlay)

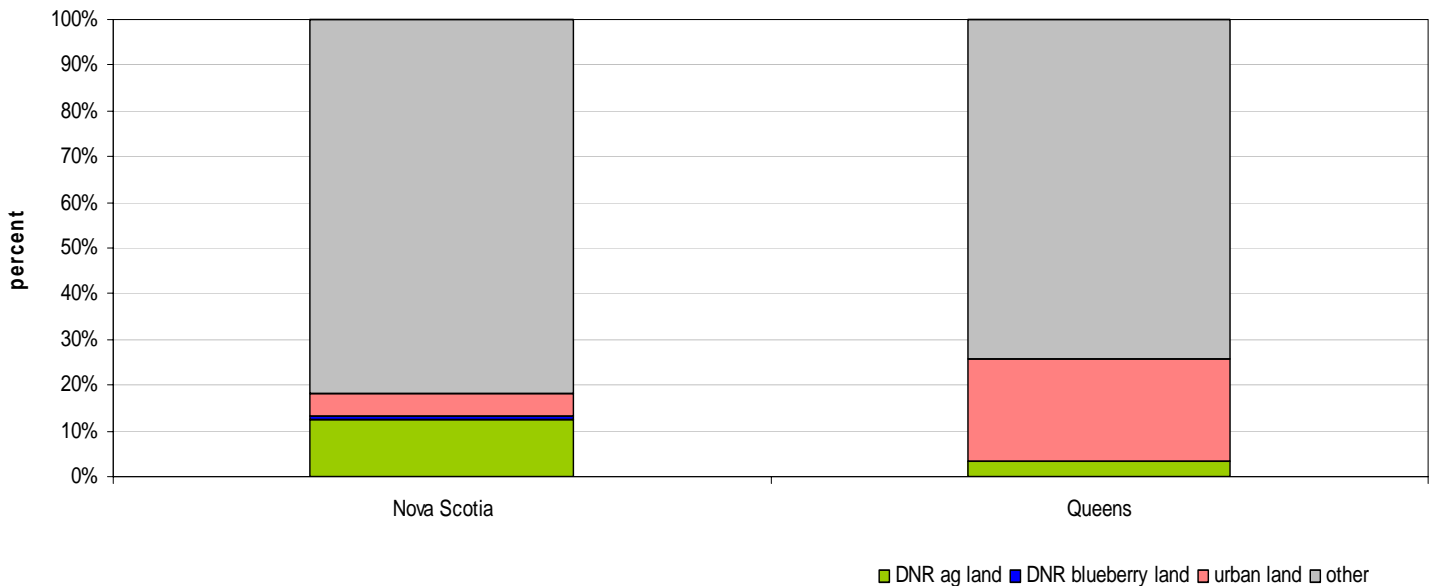


Sources: NS Agriculture, NS Natural Resources, Natural Resources Canada

Usage of arable land and composition of farmed land

Land most suitable for agricultural production (CLI classes 2, 3 and 4) are used for agriculture in Queens County at a significantly lower rate than the provincial average (see Figure 2 and Table2). About 4 percent of suitable agricultural land is used for agricultural production in Queens compared with 13 percent provincially. This places Queens 15th among the 18 counties in terms of utilization of arable land for farming.

Figure 2. Utilization of soils suitable for agriculture- Queens vs Nova Scotia



Queens has lost the highest percentage of its potential arable land to urban development of any county at 22 percent. The high percentage is due to the very small arable land base that Queens is endowed with.

Table 2. Use of agricultural soils (CLI classes 2,3,4) in Queens County and Nova Scotia

	CLI 2		CLI 3		CLI 4		TOTAL CLI 2,3,4	
	Queens	Nova Scotia	Queens	Nova Scotia	Queens	Nova Scotia	Queens	Nova Scotia
	Percent							
Agricultural land (DNR)*	n/a	29.3	6.2	12.0	0.0	7.9	3.5	12.7
Blueberry land (DNR)*	n/a	0.5	0.0	0.3	0.0	1.8	0.0	0.7
Urban area	n/a	6.9	18.3	5.4	27.0	4.6	22.1	5.4
Other	n/a	63.3	75.5	82.3	73.0	85.7	74.4	81.2
* Based on forest coverage files from NS Natural Resources (blueberry land is low-bush/ wild) Source: Nova Scotia Department of Agriculture. Natural Resources Canada. Nova Scotia Department of Natural Resources.								

Looking at the land base from a slightly different perspective (the composition of lands in agriculture, Table 3) it is apparent that almost all agriculture in Queens takes place on poorer than class 4 land. The approximately 1.5 percent of agriculture that occurs on better than class 4 land is the lowest in Nova Scotia.

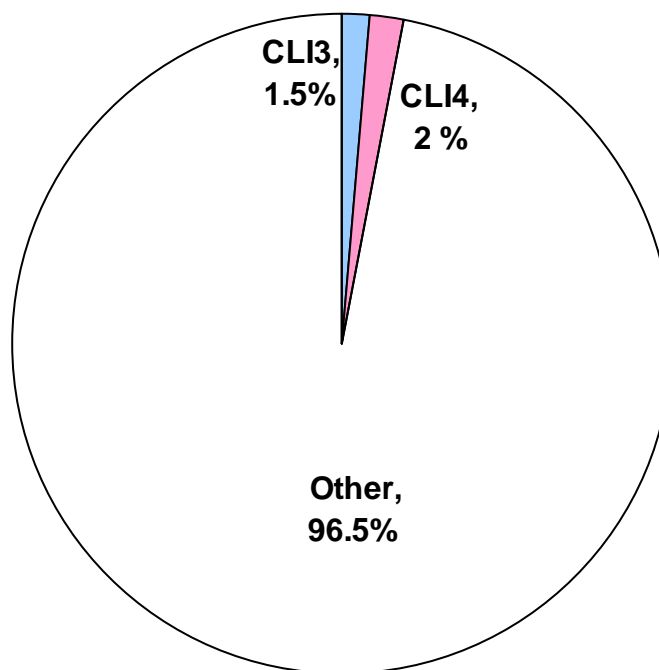
Table 3. Composition of lands in agriculture- Queens County

	Agricultural land (ALIP)*		Agricultural land (DNR)**		Blueberry land (DNR)**	
	Queens	Nova Scotia	Queens	Nova Scotia	Queens	Nova Scotia
	Percent					
CLI 2	n/a	20.5	n/a	21.1	n/a	4.7
CLI 3	1.2	49.4	1.6	51.8	0.0	16.4
CLI 4	0.0	16.3	0.0	14.5	0.0	44.5
Other	98.8	13.8	98.4	12.7	100	34.4
* As indicated by the NSDA Agricultural Land Identification Project. ** Based on forest coverage files from NS Natural Resources (blueberry land is low-bush/ wild) Source: Nova Scotia Department of Agriculture, Natural Resources Canada, Nova Scotia Department of Natural Resources.						

Urban use and property fragmentation of the agricultural land base

As shown in Figure 3, nearly all urban development in Queens is on land with poor capability for agriculture. Approximately 3.5 percent of urban development is on class 3 or 4 land combined, making Queens the least intensive user of arable land for urban development of any county in the province, due mostly to the small amount of arable land available.

**Figure 3. Composition of urban land-
Queens**



Some lands currently in agriculture may be relatively easily removed for other forms of development. A contributing factor is lot size. Queens County is the only county in the province without any small properties (less than two hectares in area) that are centered in ALIP lands (Table 4).

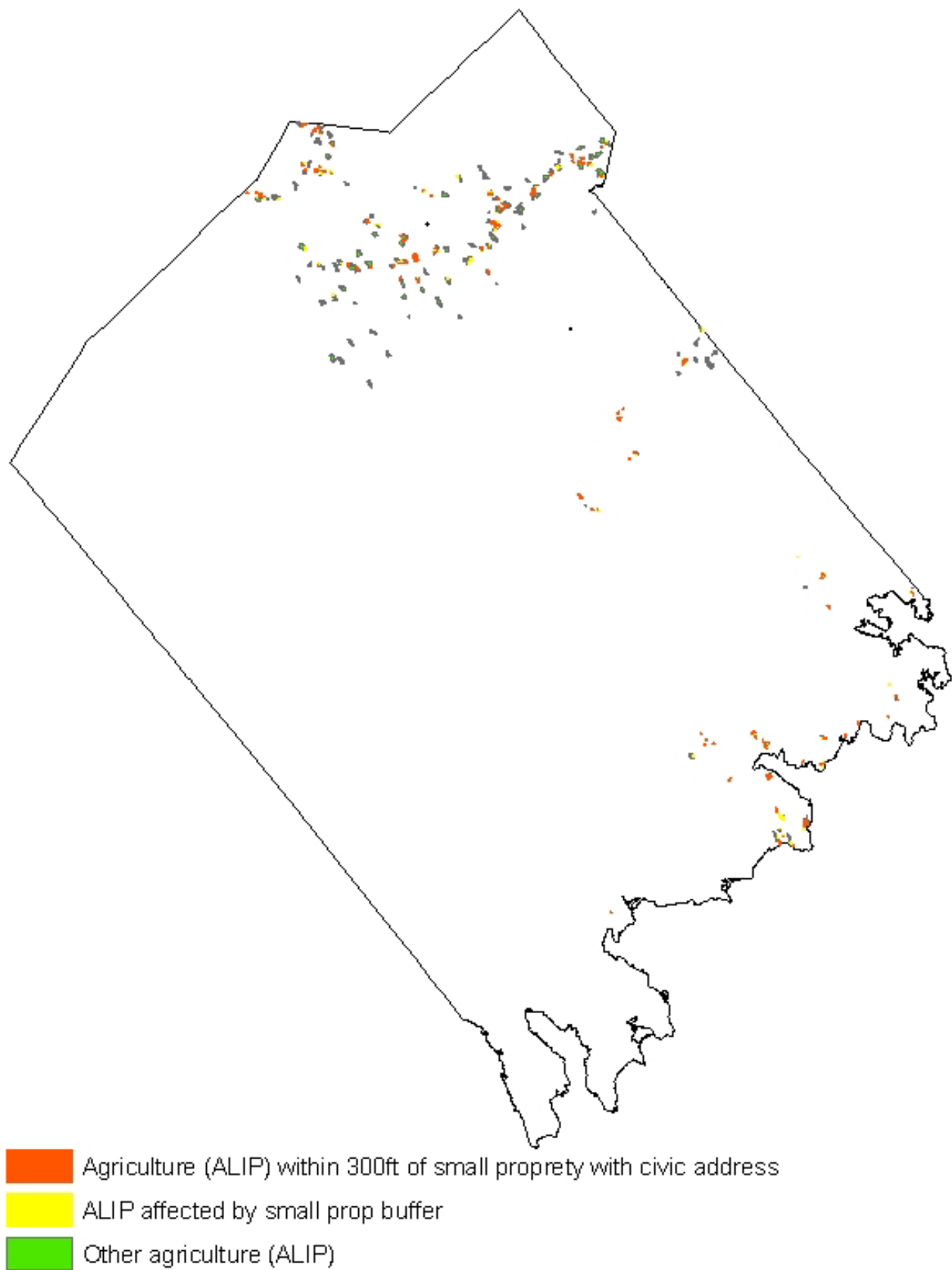
Table 4. Analysis of small properties (< 2ha) encroaching on farm land- Queens County, Nova Scotia						
	Vacant properties		Properties with civic address		TOTAL of small properties (< 2 ha)	
	# properties	Hectares	# properties	Hectares	# properties	Hectares
Centered in ALIP farmland	0	0	0	0	0	0
Area in farmland of properties centered in ALIP	0	0	0	0	0	0
Within 10 meters of ALIP farmland	70	48	122	78	192	126
Source: Provincial PID data, NSDA (ALIP data)						

A total of 192 properties less than two hectares in size are on or adjacent to ALIP lands, 64 percent of which have civic addresses (i.e. are not vacant). This amounts to 1 percent of the provincial total of these properties. Relative to the amount of farming in Queens, the county has the 8th highest rate of small developed properties that are adjacent to farmland.

Ultimately, approximately 5 hectares (0.5 percent) of ALIP lands in Queens has been lost to urban development since 1998. This places Queens 17th in terms of both percentage farmland lost to development and area of farmland lost.

While physical occupancy of land by non farm development or land with the potential for non-farm development can be used to estimate potential loss of land to the sector, the effect of development on adjacent agricultural lands is probably of greater significance in terms of area affected. In order to estimate the area of farm land that is at risk due to the proximity of development, a 300 ft (91.44m) buffer was drawn around each small (<2ha) property and the amount of ALIP farm land falling under this zone was calculated (Figure 4). Queens has approximately 22 percent of its ALIP farmland falling under this category, the 2nd lowest in the province in both percent and absolute terms. Approximately 16 percent of Queens farmland is within 300 feet of a small property with a civic address (i.e likely a developed property), the smallest percentage in the province.

Figure 4. Agriculture (ALIP) within 300 feet of small properties (< 2ha)



Sources: NS Agriculture, SNSMR

ⁱ Nova Scotia does not have any CLI class 1 soil. Class 2 to 4 soils have moderate to severe limitations that restrict the range of crops or require special conservation practices or both. Class 5 soils and below have very severe limitations for agriculture.

Sources

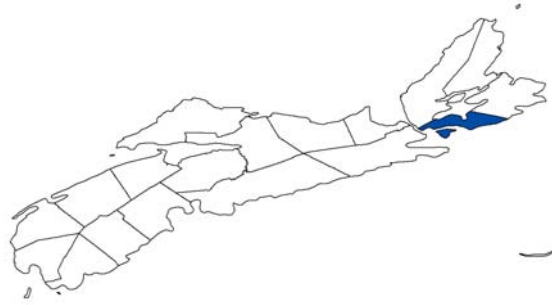
Natural Resources Canada. Canada Land Inventory. Available from: <http://geogratis.cgdi.gc.ca/CLI/frames.html>. Accessed [25 January 2010].

Nova Scotia Department of Agriculture. Agricultural Land Identification Project (ALIP).

Nova Scotia Department of Natural Resources. Forest Inventory - Geographic Information Systems. Available from: www.gov.ns.ca/natr/forestry/gis/forest-inventory.asp. Accessed [25 January 2010].

SNSMR (Service Nova Scotia and Municipal Relations). 2009. NS Civic Address File and property polygons.

RICHMOND COUNTY



PROFILE of AGRICULTURAL LAND RESOURCES

Overview of county land resources

Land most suitable for agricultural production (Canadian Land Inventory (CLI) classes 2,3 and 4ⁱ) covers slightly more than one-third of Richmond County (see Table 1). Richmond has 1.5 percent of the province's CLI 2 soils, 3 percent of CLI 3 and 2 percent of CLI 4.

Richmond has approximately 1,200 hectares in agricultural production. This amounts to less than 1 percent of Nova Scotia land in agriculture. Farming in Richmond uses approximately 1 percent of the county land area.

Table 1. Agricultural land statistics- Richmond County

	Hectares	Percent of provincial total	Percent of county land area
CLI 2,3,4 TOTAL	43,220	2.8	34.6
CLI 2	2,408	1.5	1.9
CLI 3	32,733	3.3	26.2
CLI 4	8,080	1.9	6.5
Agricultural land (ALIP)*	1,132	0.5	0.9
Agricultural land (DNR)**	1,259	0.6	1.0
Blueberry land (DNR)**	0.0	0.0	0.0
* As indicated by the NSDA Agricultural Land Identification Project. ** Based on forest coverage files from NS Natural Resources (blueberry land is low-bush/ wild) Source: Nova Scotia Department of Agriculture, Natural Resources Canada, Nova Scotia Department of Natural Resources.			

Figure 1a. Agricultural lands in Richmond County

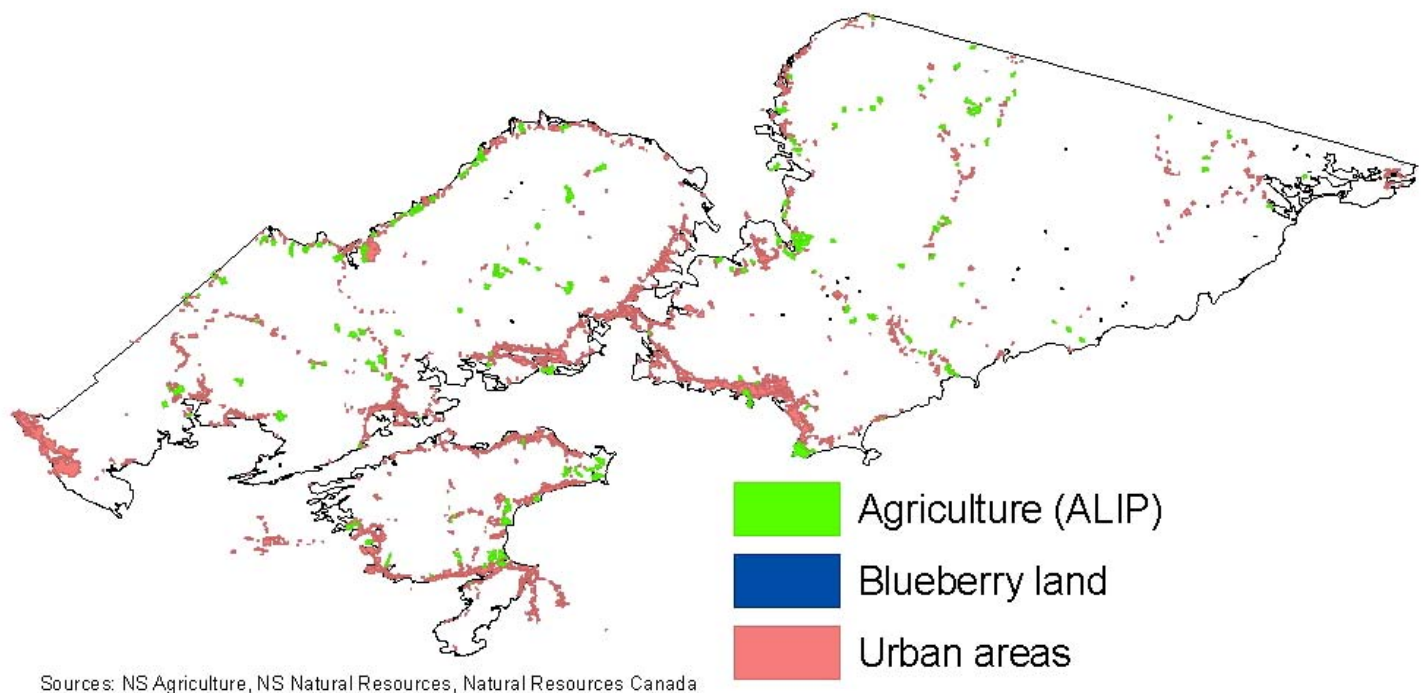
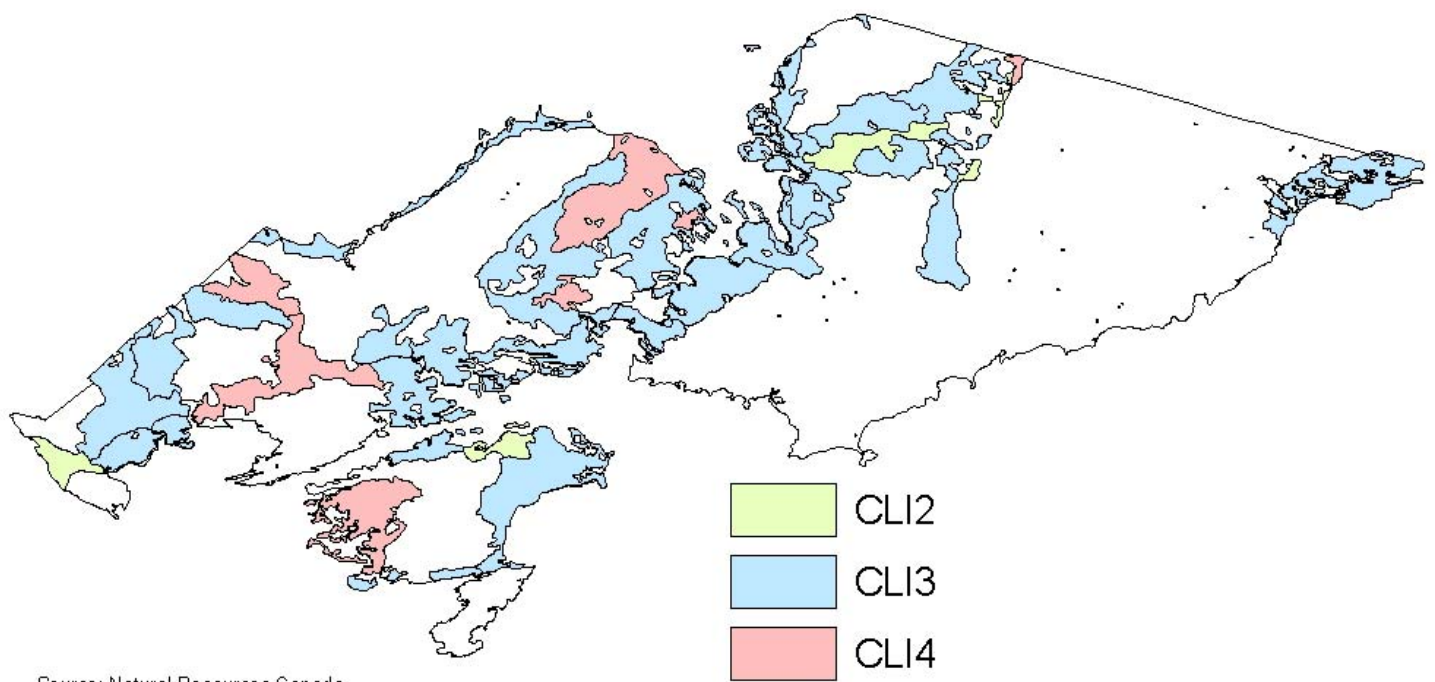
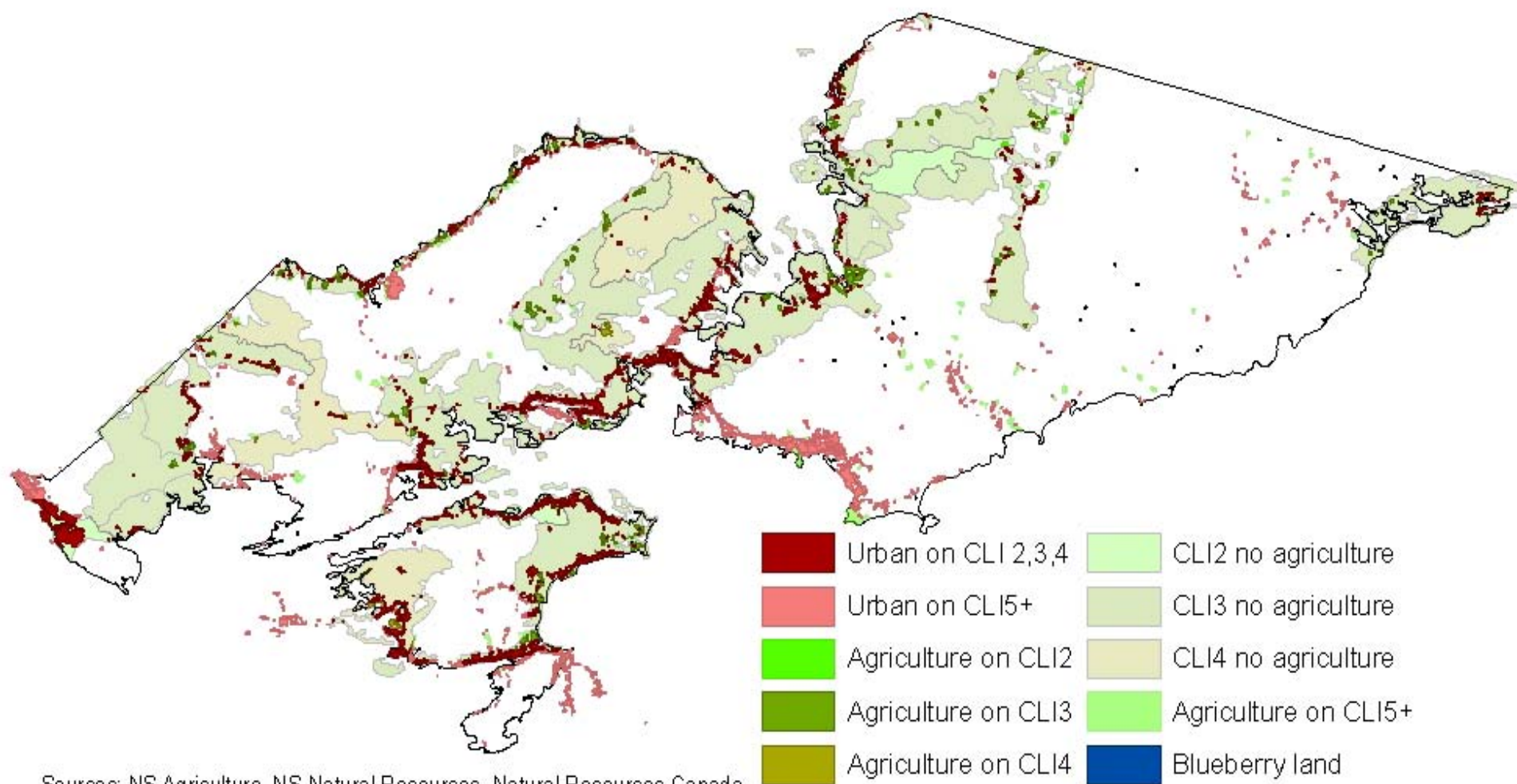


Figure 1b. Agricultural lands in Richmond County (overlay)

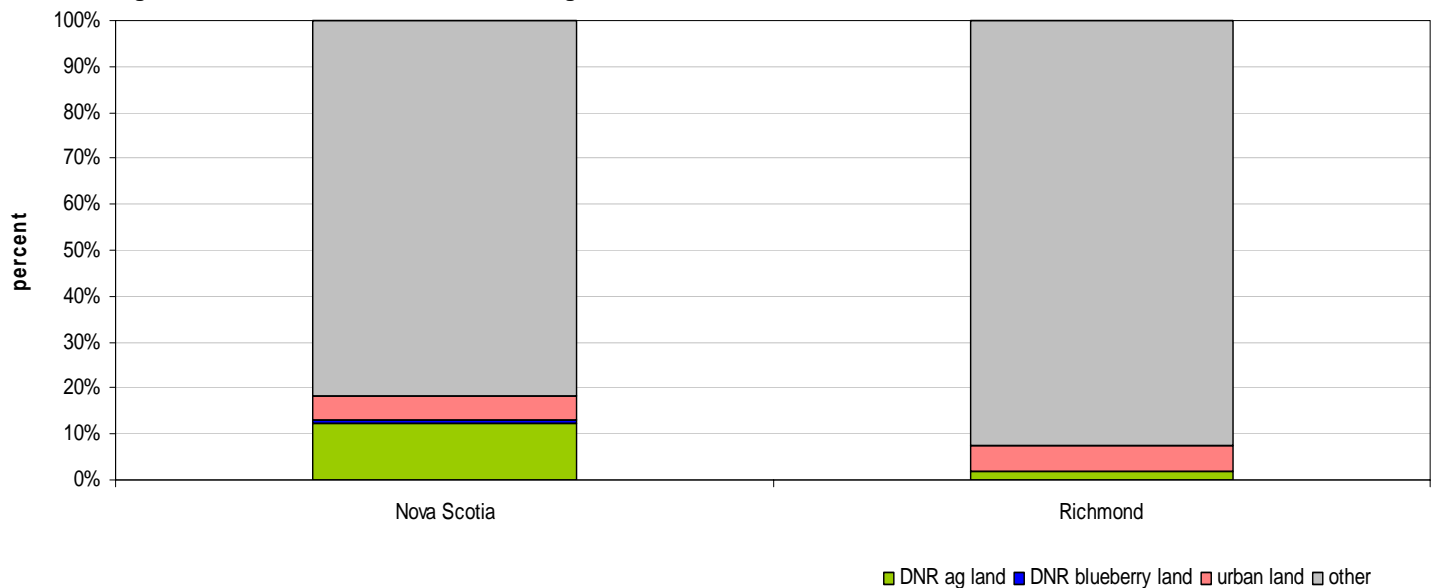


Sources: NS Agriculture, NS Natural Resources, Natural Resources Canada

Usage of arable land and composition of farmed land

Land most suitable for agricultural production (CLI classes 2, 3 and 4) is used for agriculture in Richmond County at a significantly lower rate than the provincial average (see Figure 2 and Table 2). About 2 percent of suitable agricultural land is used for agricultural production in Richmond compared with 13 percent provincially. This places Richmond 17th among the 18 counties in terms of utilization of arable land for farming.

Figure 2. Utilization of soils suitable for agriculture- Richmond vs Nova Scotia



Richmond has about 6 percent of its good agricultural soils under urban development ranking Richmond as the 8th highest county in terms of urban development of arable land. This is comparable to the provincial average of 5.4 percent.

Table 2. Use of agricultural soils (CLI classes 2,3,4) in Richmond County and Nova Scotia								
	CLI 2		CLI 3		CLI 4		TOTAL CLI 2,3,4	
	Richmond	Nova Scotia	Richmond	Nova Scotia	Richmond	Nova Scotia	Richmond	Nova Scotia
	Percent							
Agricultural land (DNR)*	1.1	29.3	2.1	12.0	0.9	7.9	1.8	12.7
Blueberry land (DNR)*	n/a	0.5	n/a	0.3	n/a	1.8	n/a	0.7
Urban area	16.2	6.9	5.7	5.4	2.8	4.6	5.8	5.4
Other	82.8	63.3	92.1	82.3	96.3	85.7	92.4	81.2
* Based on forest coverage files from NS Natural Resources (blueberry land is low-bush/ wild) Source: Nova Scotia Department of Agriculture, Natural Resources Canada, Nova Scotia Department of Natural Resources.								

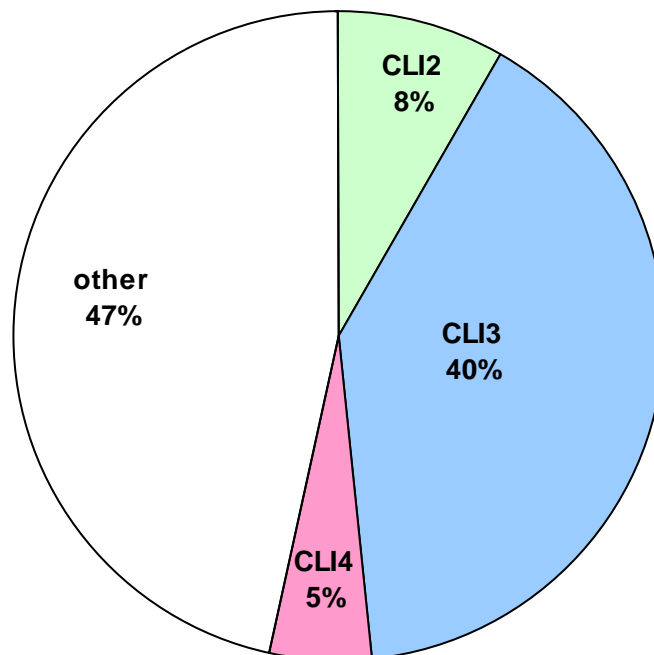
Looking at the land base from a slightly different perspective (the composition of lands in agriculture, Table 3) it is apparent that Richmond County agriculture is generally taking place on good agricultural soils, although at a significantly lower rate than the provincial average. Over half of agricultural land is on class 3 soils, while 2 percent is on class 2 and 6 percent on class 4 land. Over one-third of Richmond's agriculture is on poorer than class 4 soils.

Table 3. Composition of lands in agriculture- Richmond County						
	Agricultural land (ALIP)*		Agricultural land (DNR)**		Blueberry land (DNR)**	
	Richmond	Nova Scotia	Richmond	Nova Scotia	Richmond	Nova Scotia
	Percent					
CLI 2	1.9	20.5	2.1	21.1	n/a	4.7
CLI 3	55.2	49.4	54.7	51.8	n/a	16.4
CLI 4	5.6	16.3	5.6	14.5	n/a	44.5
Other	37.4	13.8	37.6	12.7	n/a	34.4
* As indicated by the NSDA Agricultural Land Identification Project. ** Based on forest coverage files from NS Natural Resources (blueberry land is low-bush/ wild) Source: Nova Scotia Department of Agriculture, Natural Resources Canada, Nova Scotia Department of Natural Resources.						

Urban use and property fragmentation of the agricultural land base

As shown in Figure 3, over half of urban development in Richmond is on good agricultural soils, while 47 percent of urban development occurs on soils that are of poorer quality than class 4. As indicated in Table 2, the proportion of urban land encroachment on CLI soils is higher on higher quality land and more pronounced (16 percent on CLI2, 6 percent on CLI3 and 3 percent on CLI4) than is the case for Nova Scotia as a whole.

**Figure 3. Composition of urban land-
Richmond**



Some lands currently in agriculture may be relatively easily removed for other forms of development. A contributing factor is lot size. Richmond County has 145 properties that are less than two hectares in size that are centered in ALIP lands (Table 4). These properties amount to 113 hectares, 88 of which are on ALIP.

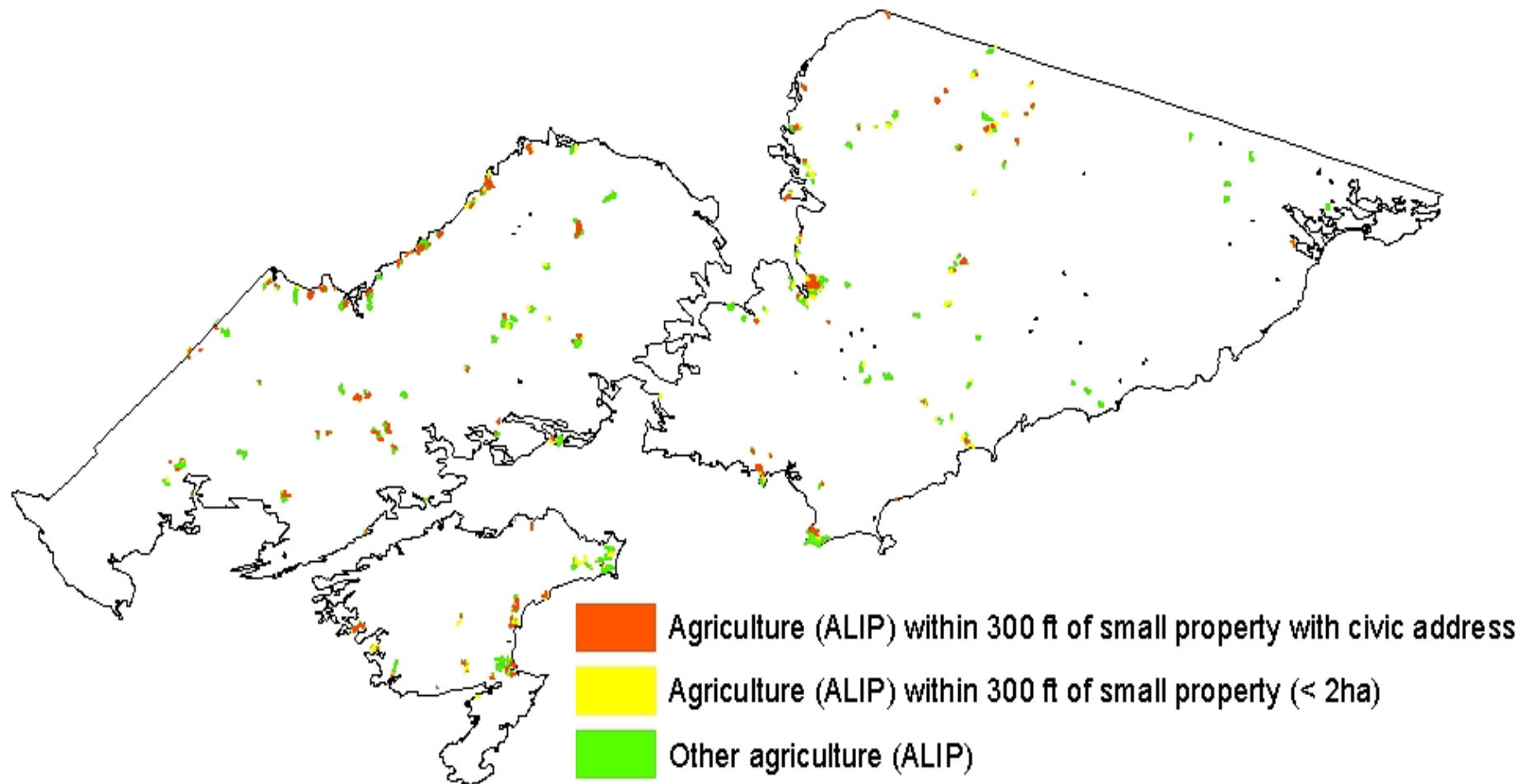
Table 4. Analysis of small properties (< 2ha) encroaching on farm land- Richmond County, Nova Scotia						
	Vacant properties		Properties with civic address		TOTAL of small properties (< 2 ha)	
	# properties	Hectares	# properties	Hectares	# properties	Hectares
Centered in ALIP farmland	74	56	71	57	145	113
Area in farmland of properties centered in ALIP	74	43	71	45	145	88
Within 10 meters of ALIP farmland	167	133	132	102	299	235
Source: Provincial PID data, NSDA (ALIP data)						

A total of 299 properties of less than two hectares in size are on or adjacent to ALIP lands, 44 percent of which have civic addresses (i.e. are not vacant). This amounts to 1.5 percent of the provincial total of these properties. Relative to the amount of farming in Richmond, the county has the 6th highest rate of small developed properties that are adjacent to farmland.

Ultimately, approximately 25 hectares (2 percent) of ALIP lands in Richmond have been lost to urban development since 1998. This places Richmond 5th in terms of percentage farmland lost to development and 15th in terms of area of farmland lost.

While physical occupancy of land by non farm development or land with the potential for non-farm development can be used to estimate potential loss of land to the sector, the effect of development on adjacent agricultural lands is probably of greater significance in terms of area affected. In order to estimate the area of farm land that is at risk due to the proximity of development, a 300 ft (91.44m) buffer was drawn around each small (<2ha) property and the amount of ALIP farm land falling under this zone was calculated (Figure 4). Richmond has approximately 40 percent of its ALIP farmland falling under this category, the 3rd highest in the province (tied for 3rd lowest in absolute terms with Guysborough). Approximately 25 percent of Richmond farmland is within 300 feet of a small property with a civic address (likely developed).

Figure 4. Agriculture (ALIP) within 300 feet of small properties (<2ha)



Source: NS Agriculture, SNSMR

ⁱ Nova Scotia does not have any CLI class 1 soil. Class 2 to 4 soils have moderate to severe limitations that restrict the range of crops or require special conservation practices or both. Class 5 soils and below have very severe limitations for agriculture.

Sources

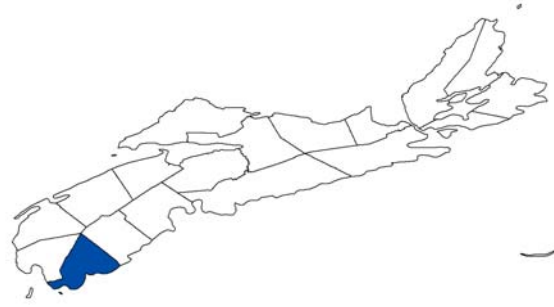
Natural Resources Canada. Canada Land Inventory. Available from: <http://geogratis.cgdi.gc.ca/CLI/frames.html>. Accessed [25 January 2010].

Nova Scotia Department of Agriculture. Agricultural Land Identification Project (ALIP).

Nova Scotia Department of Natural Resources. Forest Inventory - Geographic Information Systems. Available from: www.gov.ns.ca/natr/forestry/gis/forest-inventory.asp. Accessed [25 January 2010].

SNSMR (Service Nova Scotia and Municipal Relations). 2009. NS Civic Address File and property polygons.

SHELBURNE COUNTY



PROFILE of AGRICULTURAL LAND RESOURCES

Overview of county land resources

Land most suitable for agricultural production (Canadian Land Inventory (CLI) classes 2,3 and 4ⁱ) covers less than 2 percent of Shelburne County (see Table 1). Shelburne has less than 1 percent of the province's arable land; the second smallest potential agricultural land base ahead of only Queens.

Shelburne has approximately 230 hectares in agricultural production. This amounts to less than 1 percent of Nova Scotia land in agriculture. Farming in Shelburne uses less than 1 percent of the county land area.

Table 1. Agricultural land statistics- Shelburne County

	Hectares	Percent of provincial total	Percent of county land area
CLI 2,3,4 TOTAL	4,631	0.3	1.9
CLI 2	0	0	0
CLI 3	3,437	0.4	1.4
CLI 4	1,194	0.3	0.5
Agricultural land (ALIP)*	322	0.1	0.1
Agricultural land (DNR)**	232	0.1	0.1
Blueberry land (DNR)**	101	0.6	0.04
<p>* As indicated by the NSDA Agricultural Land Identification Project. ** Based on forest coverage files from NS Natural Resources (blueberry land is low-bush/ wild) Source: Nova Scotia Department of Agriculture, Natural Resources Canada, Nova Scotia Department of Natural Resources.</p>			

Shelburne also has a small amount (100 hectares) of wild blueberry production. This amounts to 0.6 percent of the Nova Scotia total.

Figure 1a. Agricultural lands in Shelburne County

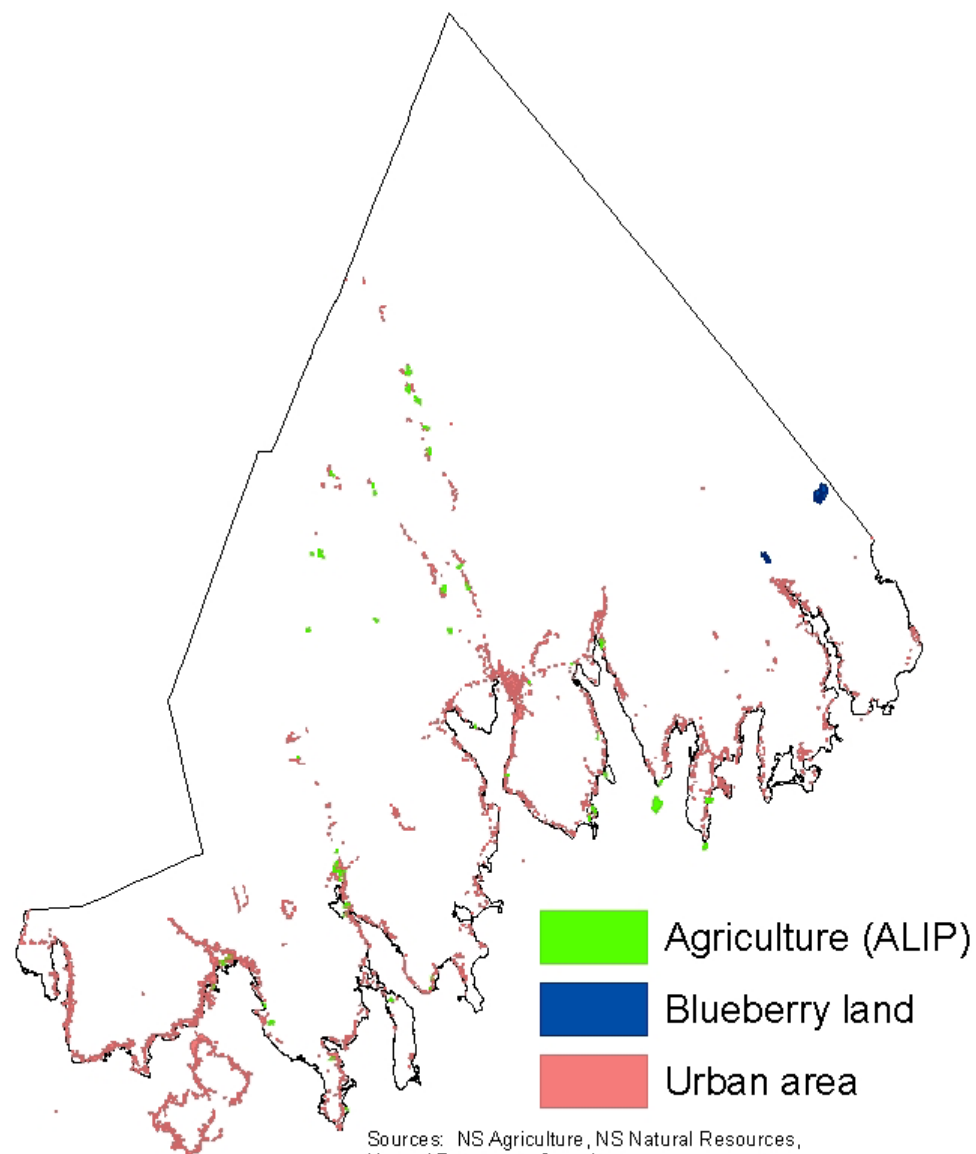
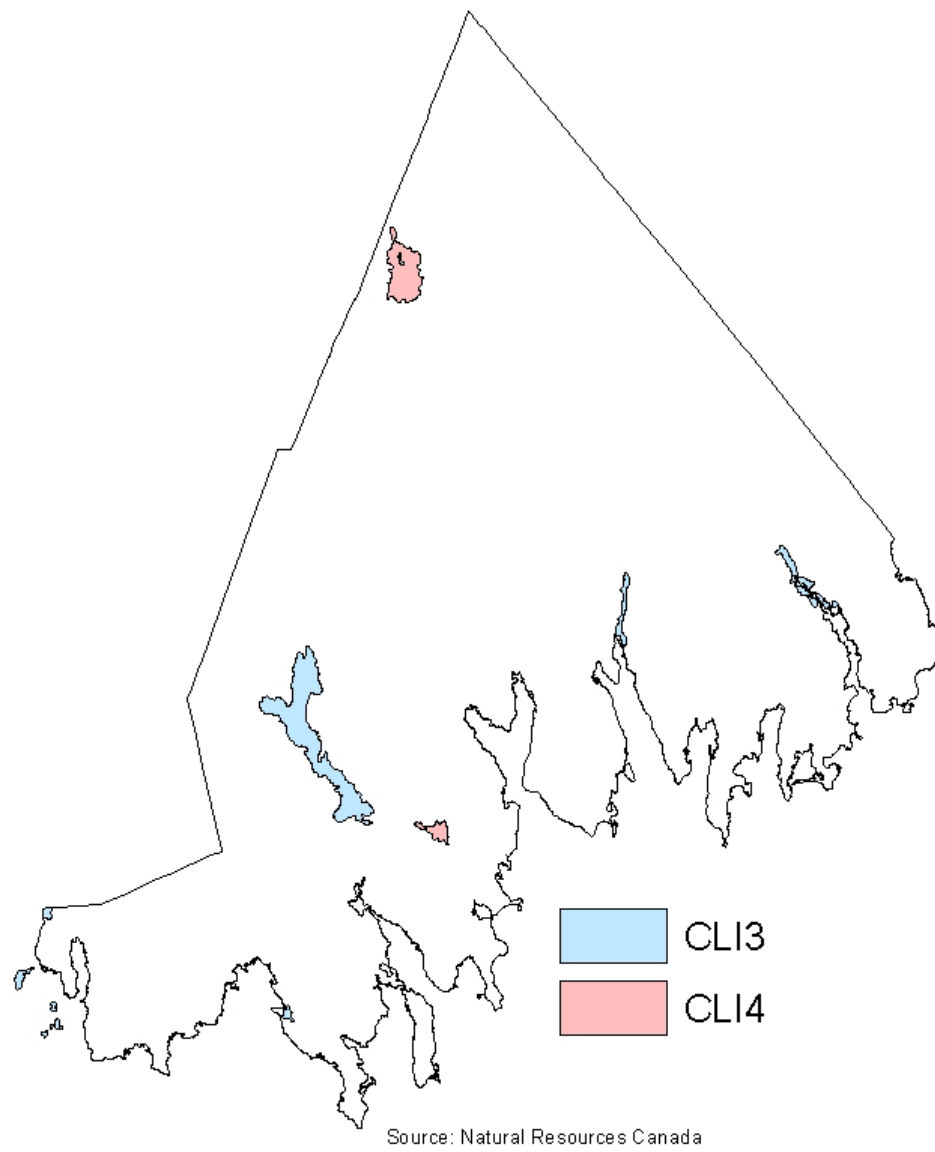
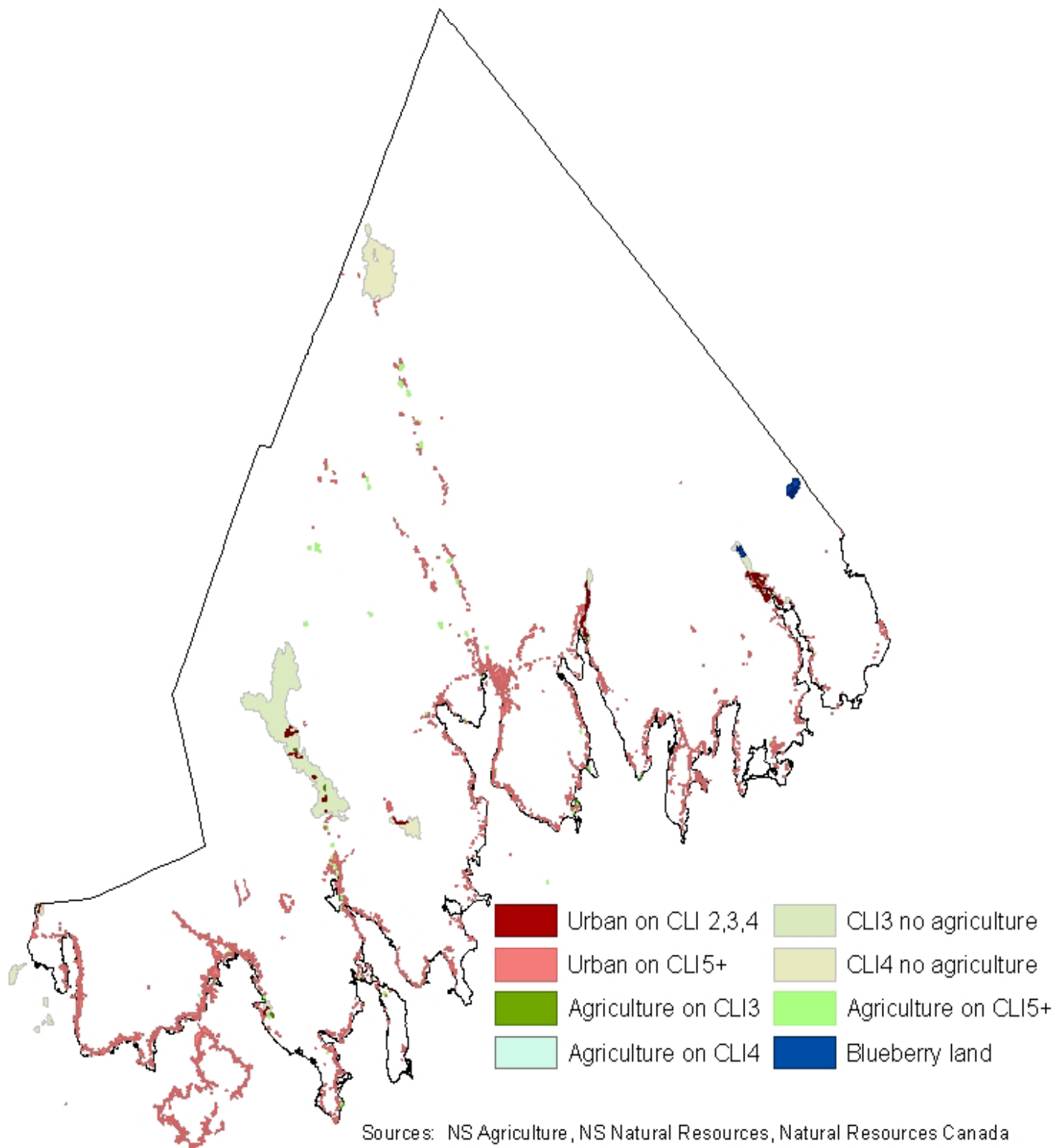


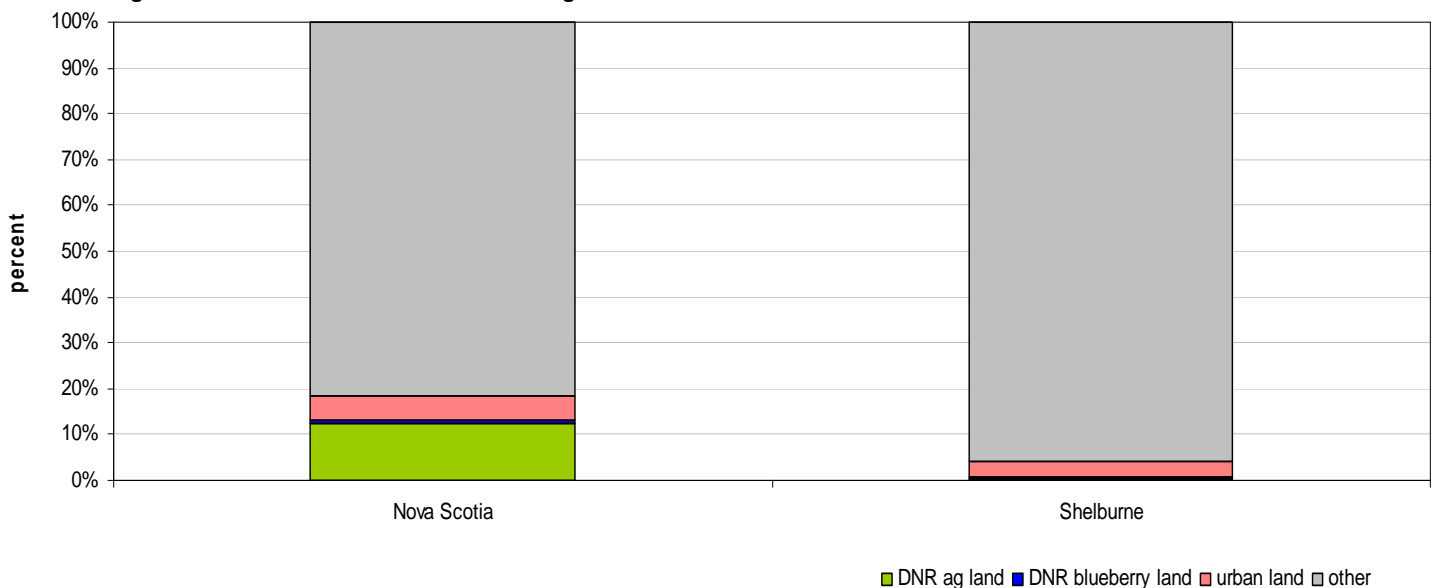
Figure 1b. Agricultural lands in Shelburne County (overlay)



Usage of arable land and composition of land in farming

Land most suitable for agricultural production (CLI classes 2, 3 and 4) is almost unused for agriculture in Shelburne County and at a substantially lower rate than the provincial average (see Figure 2 and Table 2). Less than 1 percent of suitable agricultural land is used for agricultural production in Shelburne compared with 13 percent provincially. This places Shelburne 18th among the 18 counties in terms of utilization of arable land for farming.

Figure 2. Utilization of soils suitable for agriculture- Shelburne vs Nova Scotia



Shelburne has about 3.5 percent of its good agricultural soils under urban development ranking Shelburne 14th. The provincial average is 5.4 percent.

Table 2. Use of agricultural soils (CLI classes 2,3,4) in Shelburne County and Nova Scotia								
	CLI 2		CLI 3		CLI 4		TOTAL CLI 2,3,4	
	Shelburne	Nova Scotia	Shelburne	Nova Scotia	Shelburne	Nova Scotia	Shelburne	Nova Scotia
	Percent							
Agricultural land (DNR)*	n/a	29.3	0.4	12.0	0.0	7.9	0.3	12.7
Blueberry land (DNR)*	n/a	0.5	0.6	0.3	0.0	1.8	0.4	0.7
Urban area	n/a	6.9	4.5	5.4	0.6	4.6	3.5	5.4
Other	n/a	63.3	94.5	82.3	99.4	85.7	95.7	81.2
* Based on forest coverage files from NS Natural Resources (blueberry land is low-bush/ wild) Source: Nova Scotia Department of Agriculture. Natural Resources Canada. Nova Scotia Department of Natural Resources.								

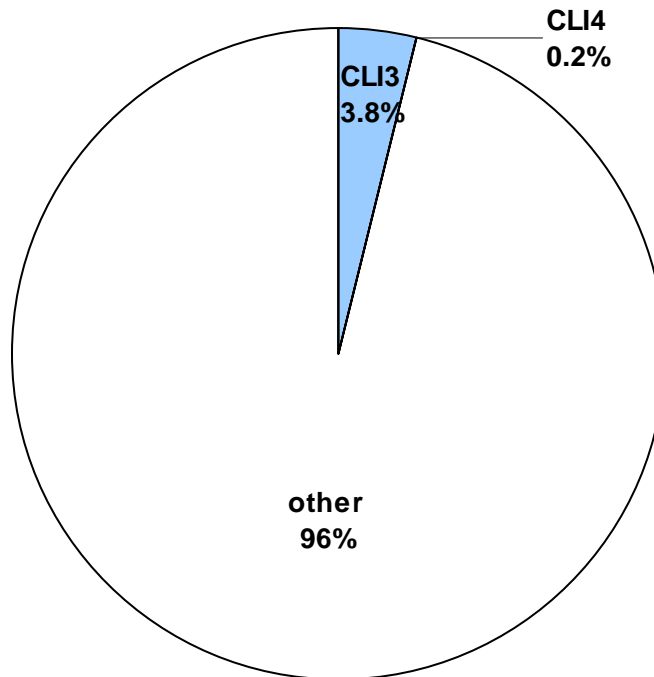
Looking at the land base from a slightly different perspective (the composition of lands in agriculture, Table 3) it is apparent that the large majority of Shelburne County agriculture is taking place on poorer agricultural soils, significantly differing from the provincial average. This is primarily due to a relative lack of arable land available in Shelburne and agriculture's low importance within the county's economy. More than 90 percent of agriculture in Shelburne takes place on poorer than class 4 soil, with the remainder on class 3 land.

Table 3. Composition of lands in agriculture- Shelburne County						
	Agricultural land (ALIP)*		Agricultural land (DNR)**		Blueberry land (DNR)**	
	Shelburne	Nova Scotia	Shelburne	Nova Scotia	Shelburne	Nova Scotia
	Percent					
CLI 2	n/a	20.5	n/a	21.1	n/a	4.7
CLI 3	8.6	49.4	6.6	51.8	19.6	16.4
CLI 4	0.0	16.3	0.0	14.5	0.0	44.5
Other	91.4	13.8	93.4	12.7	80.4	34.4
* As indicated by the NSDA Agricultural Land Identification Project. ** Based on forest coverage files from NS Natural Resources (blueberry land is low-bush/ wild) Source: Nova Scotia Department of Agriculture, Natural Resources Canada, Nova Scotia Department of Natural Resources.						

Urban use and property fragmentation of the agricultural land base

As shown in Figure 3, less than 5 percent of urban development in Shelburne is on good agricultural soils. The majority of urban development in the county has taken place on lands that are relatively unsuitable for agricultural production.

**Figure 3. Composition of urban land-
Shelburne**



Some lands currently in agriculture may be relatively easily removed for other forms of development. A contributing factor is lot size. Shelburne County has 45 properties that are less than two hectares in size that are centered in ALIP lands (Table 4). These properties amount to 33 hectares, 26 of which are on ALIP.

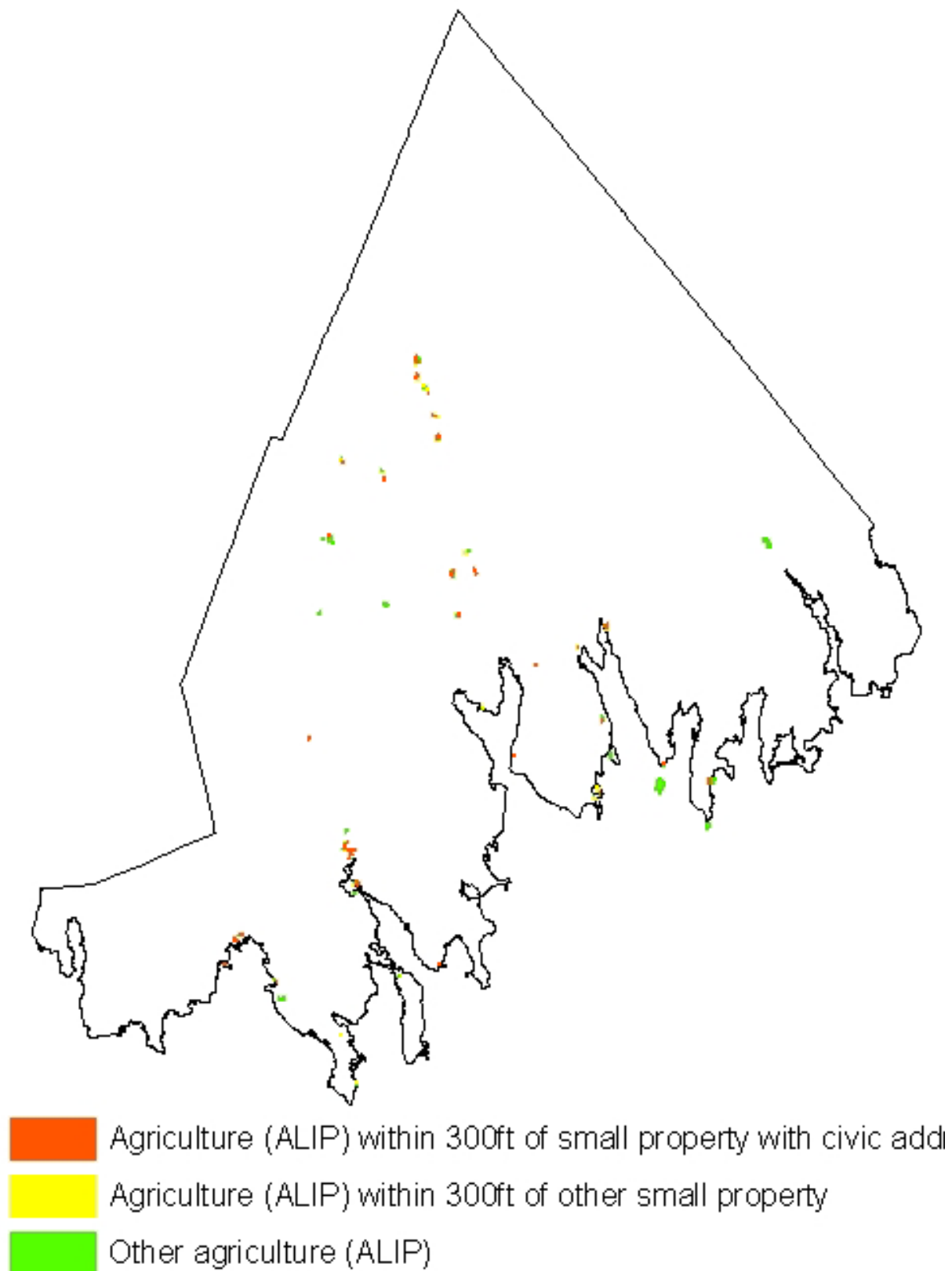
Table 4. Analysis of small properties (< 2ha) encroaching on farm land- Shelburne County, Nova Scotia						
	Vacant properties		Properties with civic address		TOTAL of small properties (< 2 ha)	
	# properties	Hectares	# properties	Hectares	# properties	Hectares
Centered in ALIP farmland	17	12	28	21	45	33
Area in farmland of properties centered in ALIP	17	9	28	17	45	26
Within 10 meters of ALIP farmland	41	36	69	52	110	88
Source: Provincial PID data, NSDA (ALIP data)						

A total of 110 properties less than two hectares in size are on or adjacent to ALIP lands, 63 percent of which have civic addresses (i.e. are not vacant). This amounts to 0.5 percent of the provincial total of these properties. Relative to the amount of farming in Shelburne, the county has the 3rd highest rate of small developed properties that are adjacent to farmland.

Ultimately, approximately 12 hectares (4 percent) of ALIP lands in Shelburne have been lost to urban development since 1998. This places Richmond 2nd in terms of percentage farmland lost to development and 16th in terms of area of farmland lost.

While physical occupancy of land by non farm development or land with the potential for non-farm development can be used to estimate potential loss of land to the sector, the effect of development on adjacent agricultural lands is probably of greater significance in terms of area affected. In order to estimate the area of farm land that is at risk due to the proximity of development, a 300 ft (91.44m) buffer was drawn around each small (<2ha) property and the amount of ALIP farm land falling under this zone was calculated (Figure 4). Shelburne has approximately 38 percent of its ALIP farmland falling under this category, the 5th highest in the province (but the lowest in absolute terms). Approximately 29 percent of Shelburne farmland is within 300 feet of a small property with a civic address (likely a developed property).

Figure 4. Agriculture (ALIP) within 300 feet of small properties (<2ha)



Sources: NS Agriculture, SNSMR

ⁱ Nova Scotia does not have any CLI class 1 soil. Class 2 to 4 soils have moderate to severe limitations that restrict the range of crops or require special conservation practices or both. Class 5 soils and below have very severe limitations for agriculture.

Sources

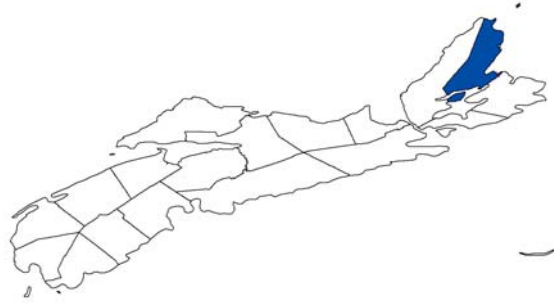
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SNSMR (Service Nova Scotia and Municipal Relations). 2009. NS Civic Address File and property polygons.

VICTORIA COUNTY



PROFILE of AGRICULTURAL LAND RESOURCES

Overview of county land resources

Land most suitable for agricultural production (Canadian Land Inventory (CLI) classes 2,3 and 4ⁱ) covers approximately 12 percent of Victoria County (see Table 1). Victoria has less than 1 percent of the province's CLI 2 soils, 3 percent of CLI 3 and 2 percent of CLI 4.

Victoria has approximately 2,900 hectares in agricultural production. This amounts to just over 1 percent of Nova Scotia land in agriculture. Farming in Victoria uses about 1 percent of the county land area.

Table 1. Agricultural land statistics- Victoria County

	Hectares	Percent of provincial total	Percent of county land area
CLI 2,3,4 TOTAL	34,869	2.2	12.3
CLI 2	325	0.2	0.1
CLI 3	27,466	2.8	9.7
CLI 4	7,078	1.7	2.5
Agricultural land (ALIP)*	2,725	1.2	1.0
Agricultural land (DNR)**	2,897	1.3	1.0
Blueberry land (DNR)**	0.00	0.0	0.0
<p>* As indicated by the NSDA Agricultural Land Identification Project. ** Based on forest coverage files from NS Natural Resources (blueberry land is low-bush/ wild) Source: Nova Scotia Department of Agriculture, Natural Resources Canada, Nova Scotia Department of Natural Resources.</p>			

Figure 1a. Agricultural lands in Victoria County

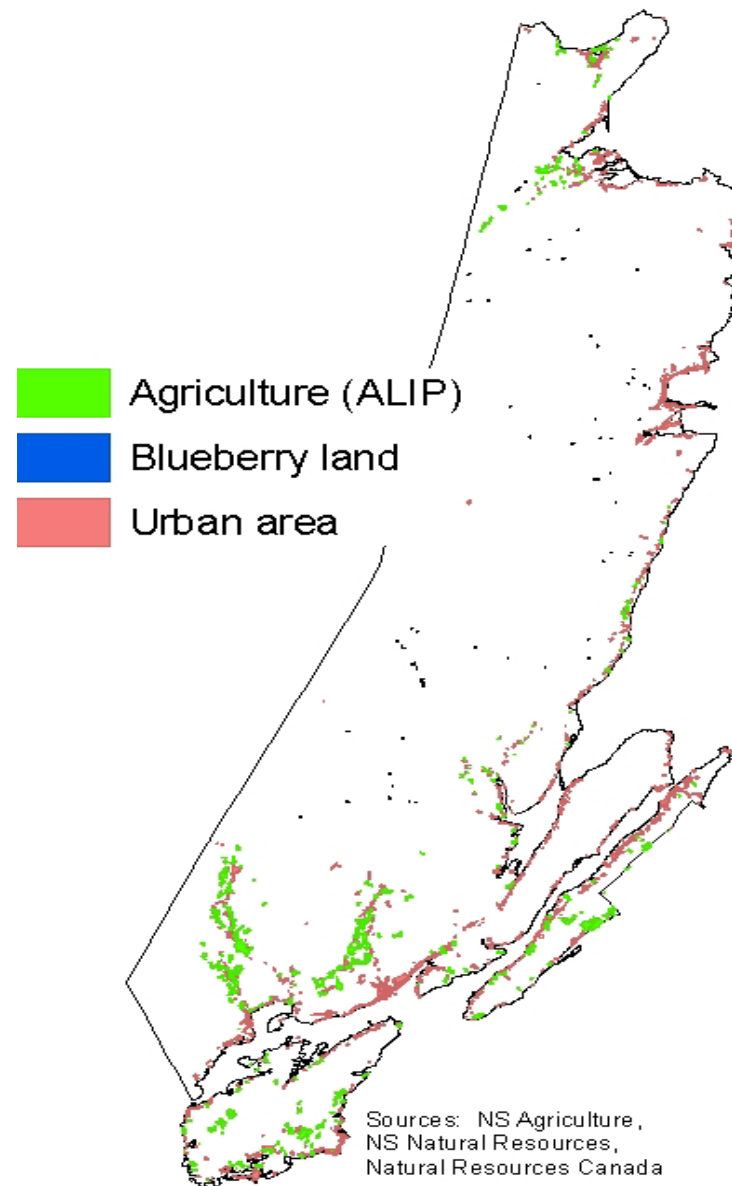
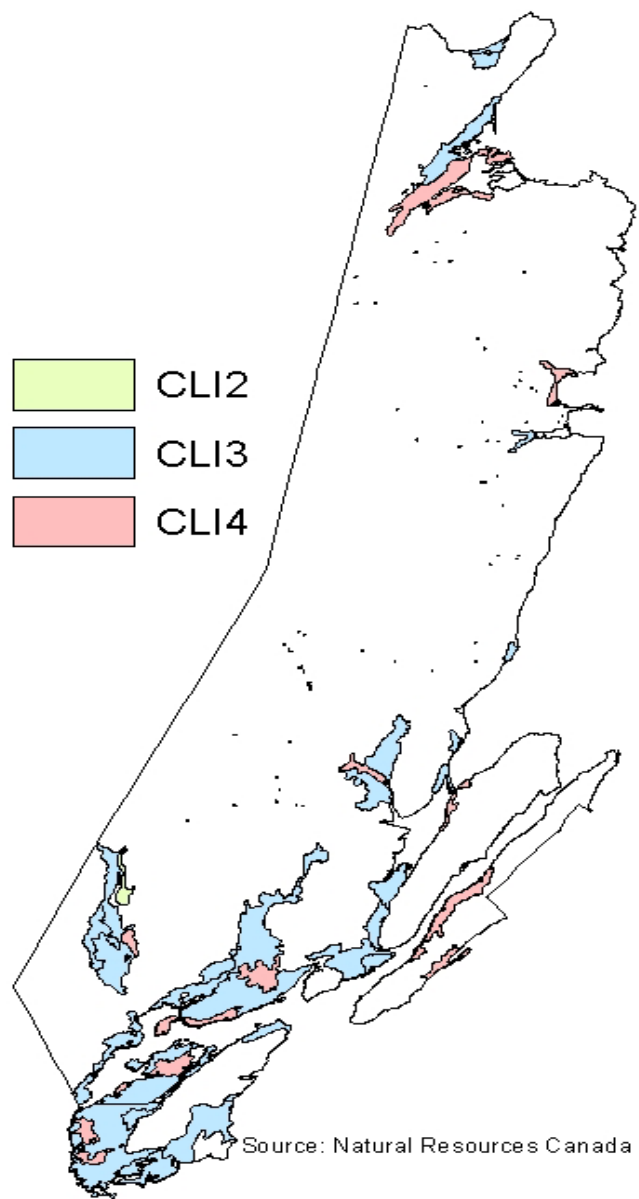
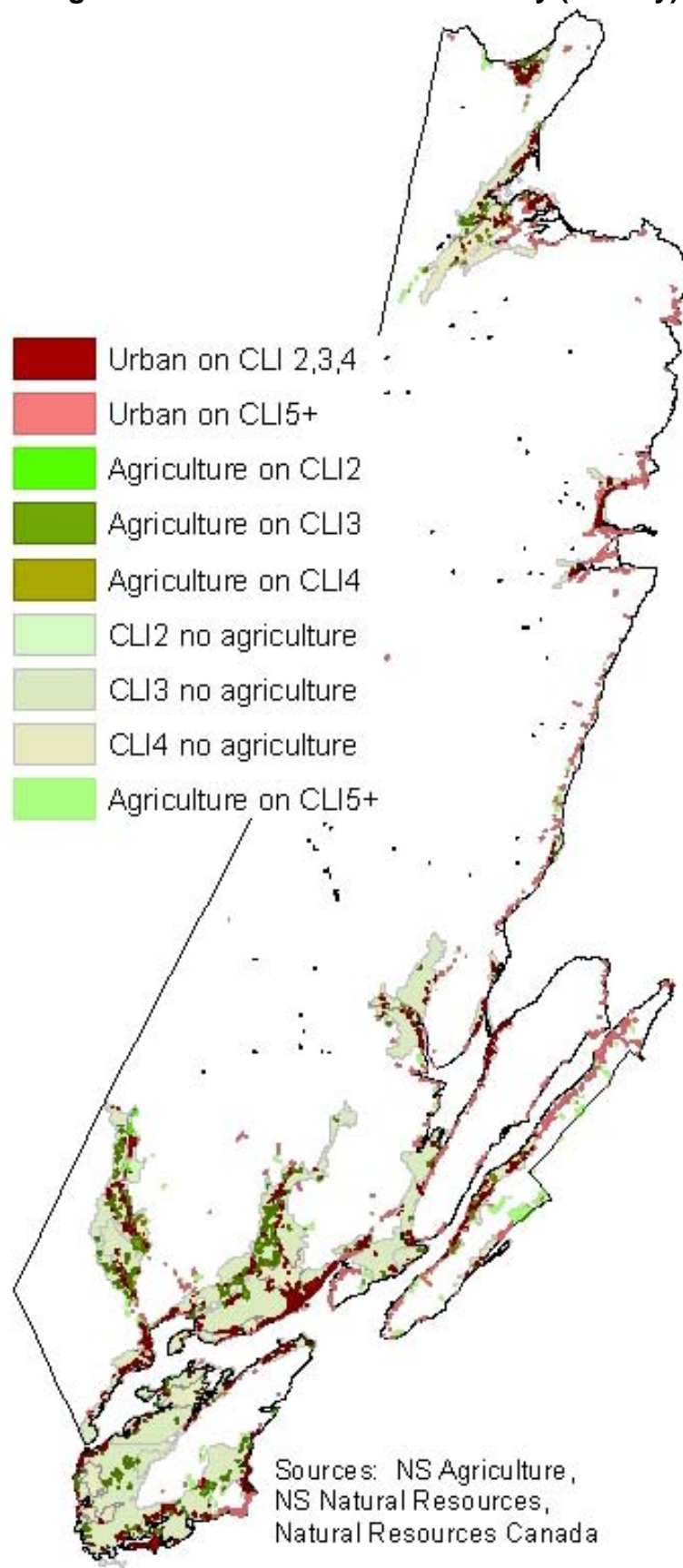


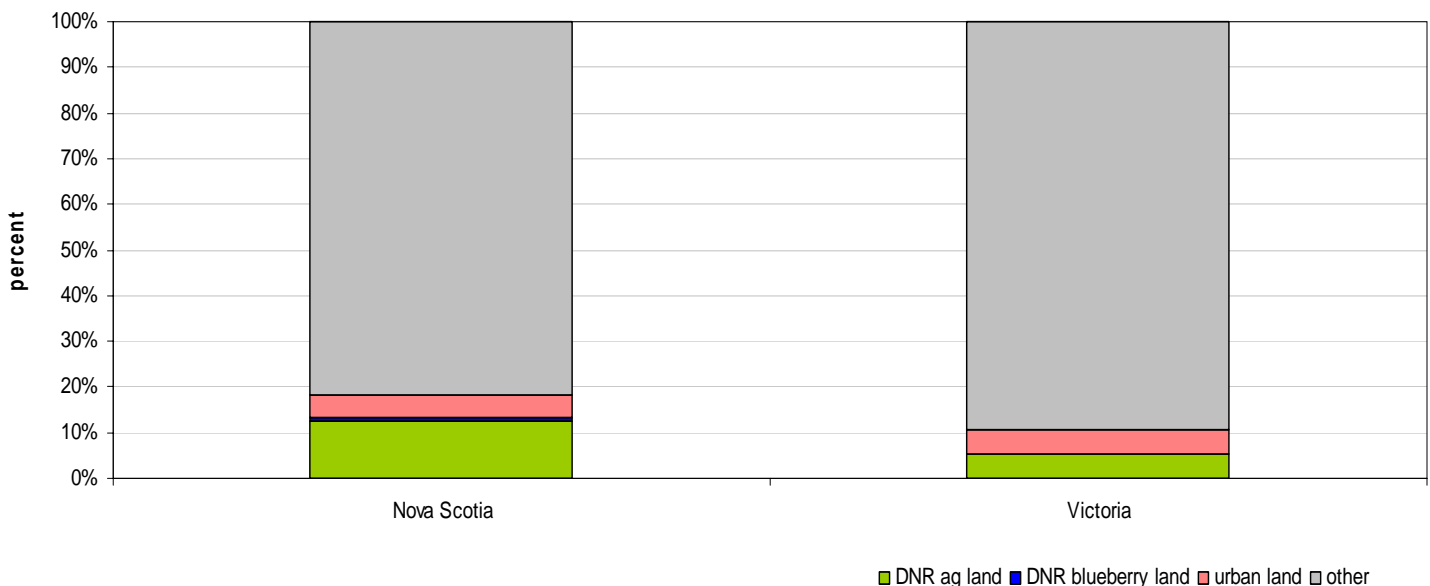
Figure 1b. Agricultural lands in Victoria County (overlay)



Usage of arable land and composition of farmed land

Land most suitable for agricultural production (CLI classes 2, 3 and 4) are used for agriculture in Victoria County at a lower rate than the provincial average (see Figure 2 and Table 2). About 6 percent of suitable agricultural land is used for agricultural production in Victoria compared with 13 percent provincially. This places Victoria tied for 11th with Digby among the 18 counties in terms of utilization of arable land for farming.

Figure 2. Utilization of soils suitable for agriculture- Victoria vs Nova Scotia



Premium agricultural land (CLI 2) is not highly utilized for farming in Victoria with approximately 8 percent in agriculture (2nd last out of the 14 counties with CLI2 land). This is substantially lower than the Nova Scotia average of 29 percent of CLI 2 lands used for agriculture.

Victoria has about 5 percent of its good agricultural soils under urban development ranking Victoria 9th. Victoria is closest to the provincial average of 5.4 percent.

Table 2. Use of agricultural soils (CLI classes 2,3,4) in Victoria County and Nova Scotia

	CLI 2		CLI 3		CLI 4		TOTAL CLI 2,3,4	
	Victoria	Nova Scotia	Victoria	Nova Scotia	Victoria	Nova Scotia	Victoria	Nova Scotia
	Percent							
Agricultural land (DNR)*	7.8	29.3	5.9	12.0	3.6	7.9	5.5	12.7
Blueberry land (DNR)*	0.0	0.5	0.0	0.3	0.0	1.8	0.0	0.7
Urban area	5.4	6.9	5.1	5.4	6.4	4.6	5.3	5.4
Other	86.8	63.3	89.0	82.3	90.0	85.7	89.2	81.2
* Based on forest coverage files from NS Natural Resources (blueberry land is low-bush/ wild) Source: Nova Scotia Department of Agriculture. Natural Resources Canada. Nova Scotia Department of Natural Resources.								

Looking at the land base from a slightly different perspective (the composition of lands in agriculture, Table 3) it is apparent that while the majority of Victoria County agriculture is taking place on good agricultural soils, one-third is on poorer than class 4 land. Over half of agricultural land is on class 3 soils, while 1 percent is on class 2 soils (the lowest of any county with CLI2 land) and 9 percent on class 4.

Table 3. Composition of lands in agriculture- Victoria County

	Agricultural land (ALIP)*		Agricultural land (DNR)**		Blueberry land (DNR)**	
	Victoria	Nova Scotia	Victoria	Nova Scotia	Victoria	Nova Scotia
	Percent					
CLI 2	0.9	20.5	0.9	21.1	n/a	4.7
CLI 3	56.8	49.4	55.9	51.8	n/a	16.4
CLI 4	8.7	16.3	8.9	14.5	n/a	44.5
Other	33.6	13.8	34.4	12.7	n/a	34.4

* As indicated by the NSDA Agricultural Land Identification Project.

** Based on forest coverage files from NS Natural Resources (blueberry land is low-bush/ wild)

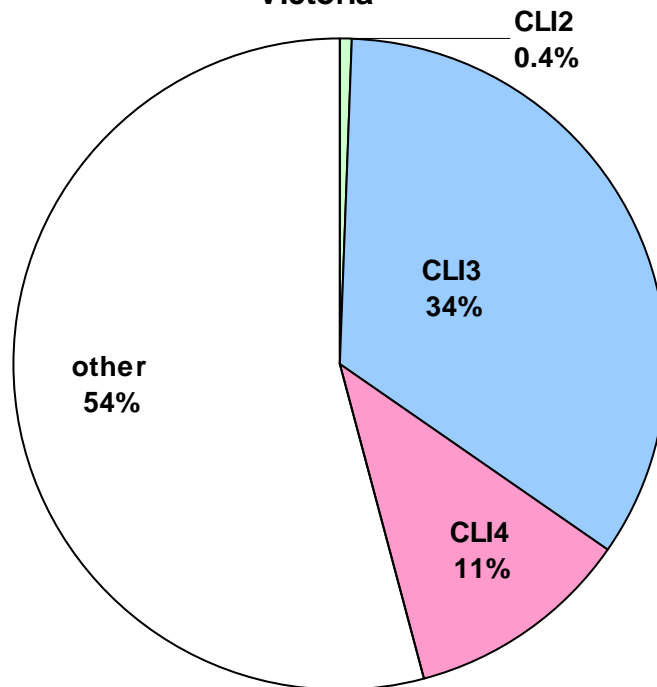
Source: Nova Scotia Department of Agriculture, Natural Resources Canada,

Nova Scotia Department of Natural Resources.

Urban use and property fragmentation of the agricultural land base

As shown in Figure 3, the majority of urban development in Victoria is on land with poor capability for agriculture. Less than 1 percent of urban development occurs on class 2 soil, 34 percent on CLI3 and 11 percent on CLI4 land. Over half of urban areas in Victoria are on land rated CLI5 or poorer, making Victoria the 6th least intensive user of arable land for urban development.

Figure 3. Composition of urban land-Victoria



Some lands currently in agriculture may be relatively easily removed for other forms of development. A contributing factor is lot size. Victoria County has 231 properties that are less than two hectares in size that are centered in ALIP lands (Table 4). These properties amount to 153 hectares, 125 of which are on ALIP.

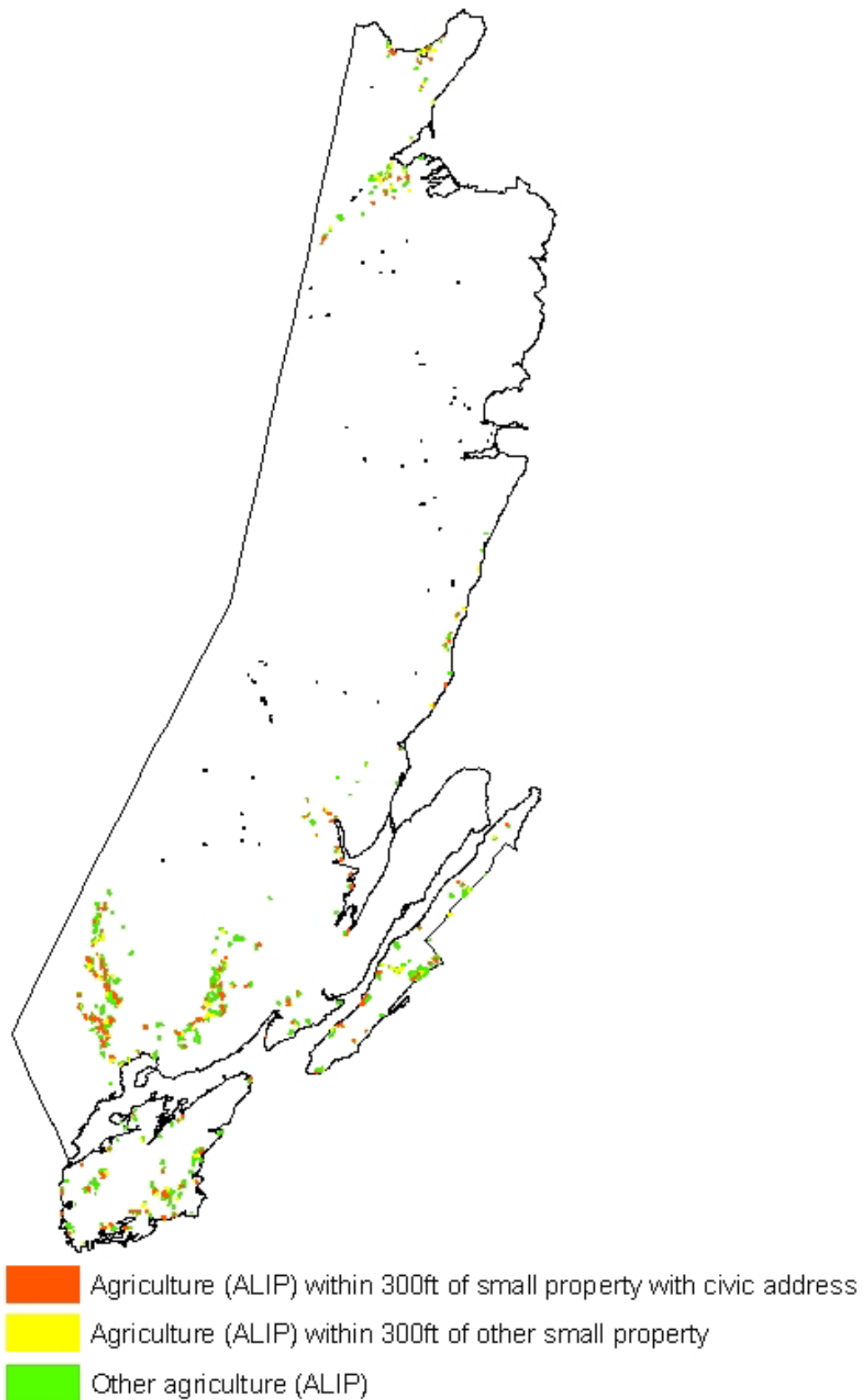
Table 4. Analysis of small properties (< 2ha) encroaching on farm land- Victoria County, Nova Scotia						
	Vacant properties		Properties with civic address		TOTAL of small properties (< 2 ha)	
	# properties	Hectares	# properties	Hectares	# properties	Hectares
Centered in ALIP farmland	109	66	122	88	231	153
Area in farmland of properties centered in ALIP	109	53	122	71	231	125
Within 10 meters of ALIP farmland	220	154	205	152	425	306
Source: Provincial PID data, NSDA (ALIP data)						

A total of 425 properties less than two hectares in size are on or adjacent to ALIP lands, 48 percent of which have civic addresses (i.e. are not vacant). This amounts to 2 percent of the provincial total of these properties. Relative to the amount of farming in Victoria, the county has the 3rd lowest rate of small developed properties that are adjacent to farmland.

Ultimately, approximately 1 hectare (0.05 percent) of ALIP lands in Victoria has been lost to urban development since 1998. This places Victoria last in terms of both percentage farmland lost to development and area of farmland lost.

While physical occupancy of land by non farm development or land with the potential for non-farm development can be used to estimate potential loss of land to the sector, the effect of development on adjacent agricultural lands is probably of greater significance in terms of area affected. In order to estimate the area of farm land that is at risk due to the proximity of development, a 300 ft (91.44m) buffer was drawn around each small (<2ha) property and the amount of ALIP farm land falling under this zone was calculated (Figure 4). Victoria has approximately 27 percent of its ALIP farmland falling under this category, the 6th lowest in the province (5th lowest in absolute terms). Approximately 17 percent of Victoria farmland is within 300 feet of a small property with a civic address (i.e. likely developed property).

Figure 4. Agriculture (ALIP) within 300 feet of small properties (< 2ha)



Sources: NS Agriculture, SNSMR

ⁱ Nova Scotia does not have any CLI class 1 soil. Class 2 to 4 soils have moderate to severe limitations that restrict the range of crops or require special conservation practices or both. Class 5 soils and below have very severe limitations for agriculture.

Sources

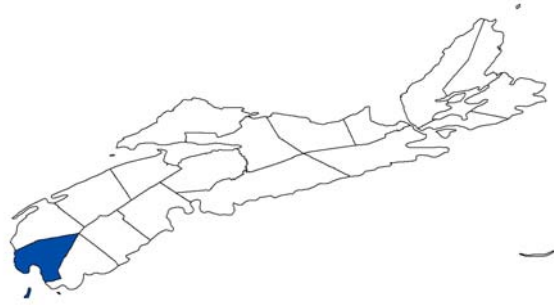
Natural Resources Canada. Canada Land Inventory. Available from: <http://geogratis.cgdi.gc.ca/CLI/frames.html>. Accessed [25 January 2010].

Nova Scotia Department of Agriculture. Agricultural Land Identification Project (ALIP).

Nova Scotia Department of Natural Resources. Forest Inventory - Geographic Information Systems. Available from: www.gov.ns.ca/natr/forestry/gis/forest-inventory.asp. Accessed [25 January 2010].

SNSMR (Service Nova Scotia and Municipal Relations). 2009. NS Civic Address File and property polygons.

YARMOUTH COUNTY



PROFILE of AGRICULTURAL LAND RESOURCES

Overview of county land resources

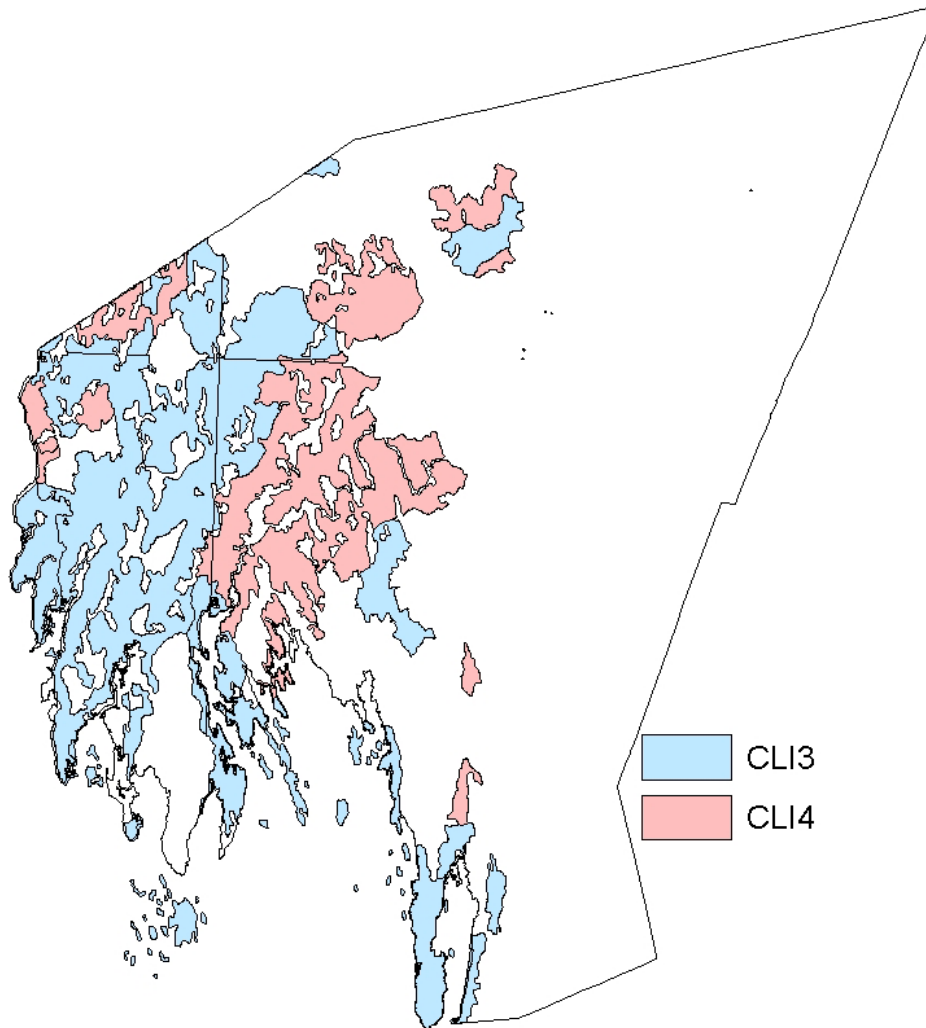
Land most suitable for agricultural production (Canadian Land Inventory (CLI) classes 2,3 and 4ⁱ) covers approximately 29 percent of Yarmouth County (see Table 1). Yarmouth has no CLI 2 soils, 4 percent of the province's CLI 3 land and 5 percent of CLI 4.

Yarmouth has approximately 3,800 hectares in agricultural production. This amounts to less than 2 percent of Nova Scotia land in agriculture. Farming in Yarmouth uses less than 2 percent of the county land area.

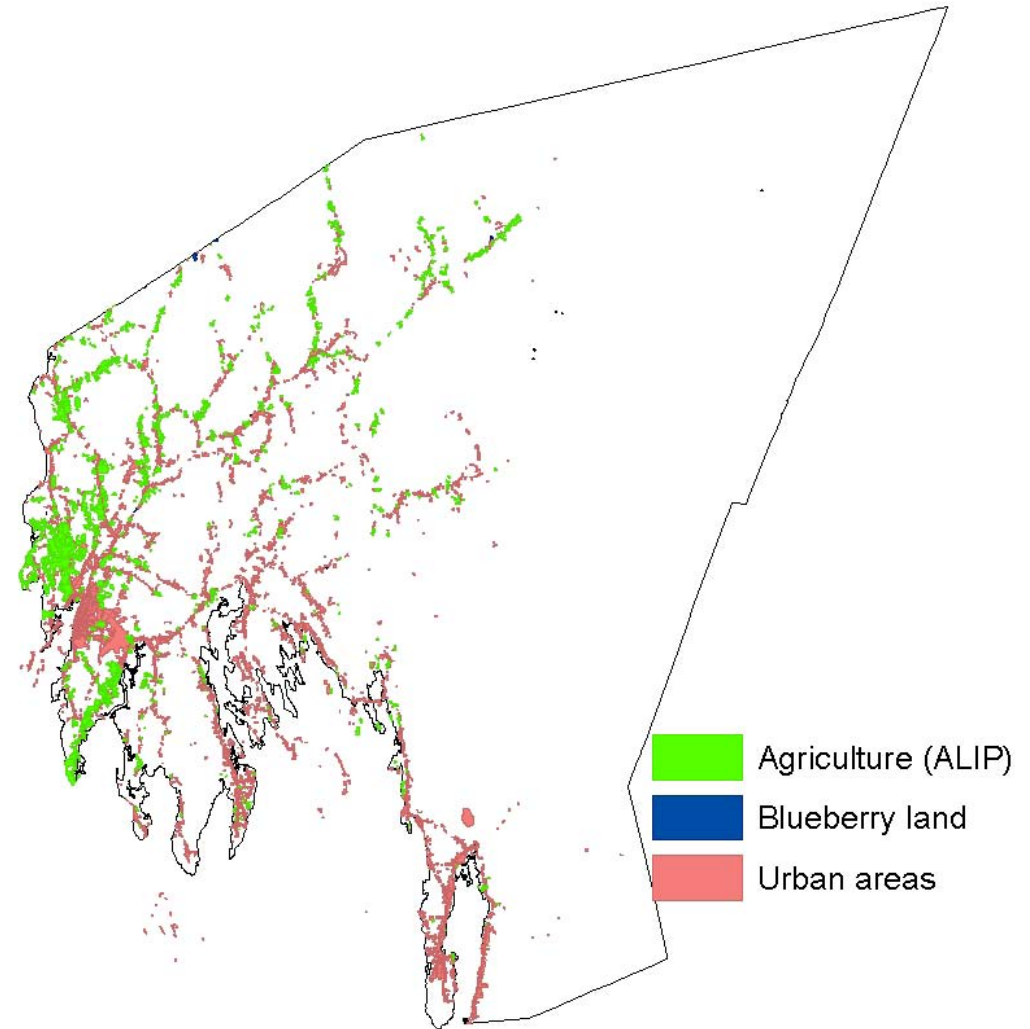
Table 1. Agricultural land statistics- Yarmouth County

	Hectares	Percent of provincial total	Percent of county land area
CLI 2,3,4 TOTAL	61,532	3.9	29.1
CLI 2	0.0	0.0	0.0
CLI 3	38,933	3.9	18.4
CLI 4	22,599	5.4	10.7
Agricultural land (ALIP)*	3,514	1.5	1.7
Agricultural land (DNR)**	3,791	1.7	1.8
Blueberry land (DNR)**	21	0.1	0.01
* As indicated by the NSDA Agricultural Land Identification Project. ** Based on forest coverage files from NS Natural Resources (blueberry land is low-bush/ wild) Source: Nova Scotia Department of Agriculture, Natural Resources Canada, Nova Scotia Department of Natural Resources.			

Figure 1a. Agricultural lands in Yarmouth County

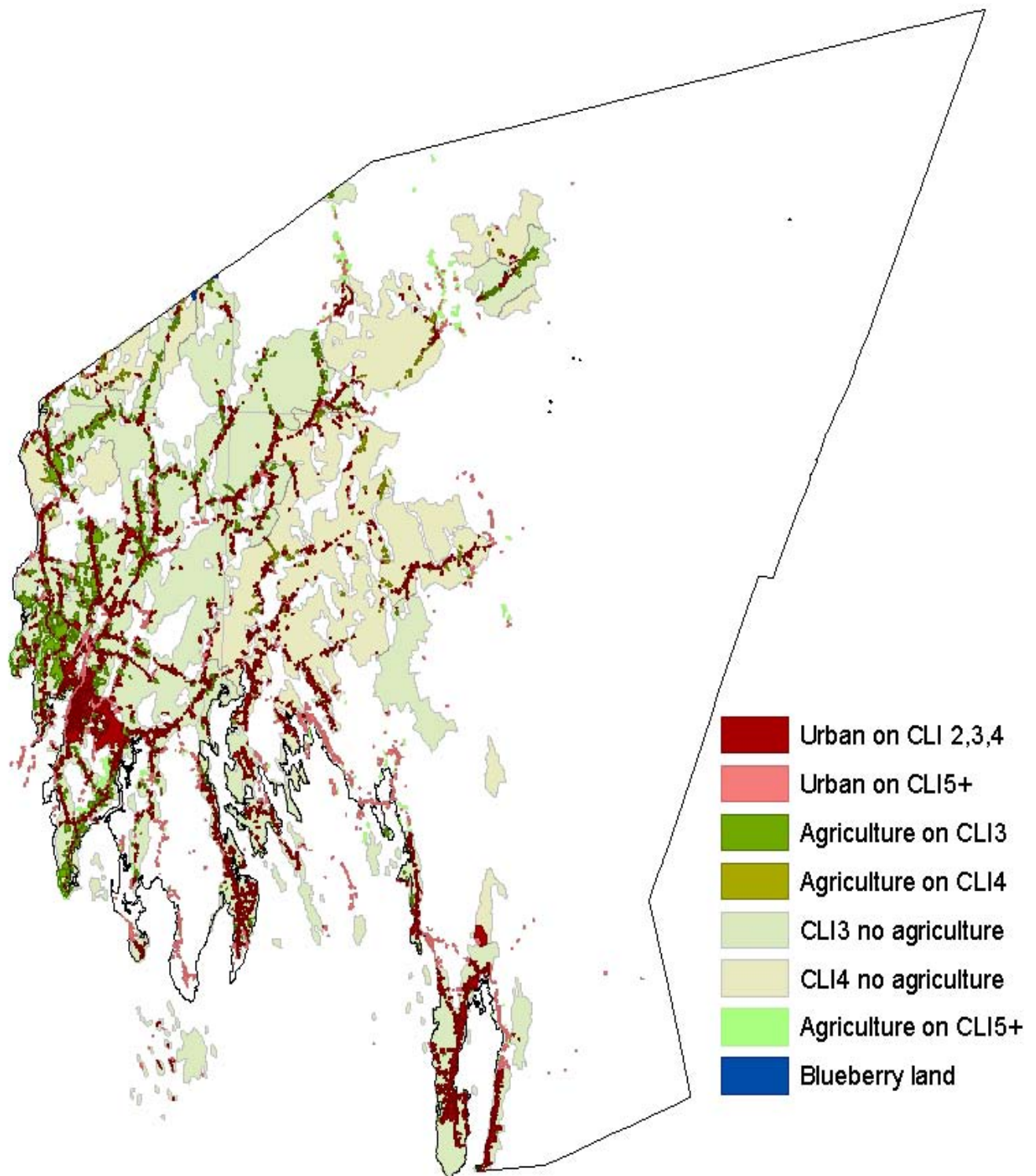


Source: Natural Resources Canada



Sources: NS Agriculture, NS Natural Resources, Natural Resources Canada

Figure 1b. Agricultural lands in Yarmouth County (overlay)

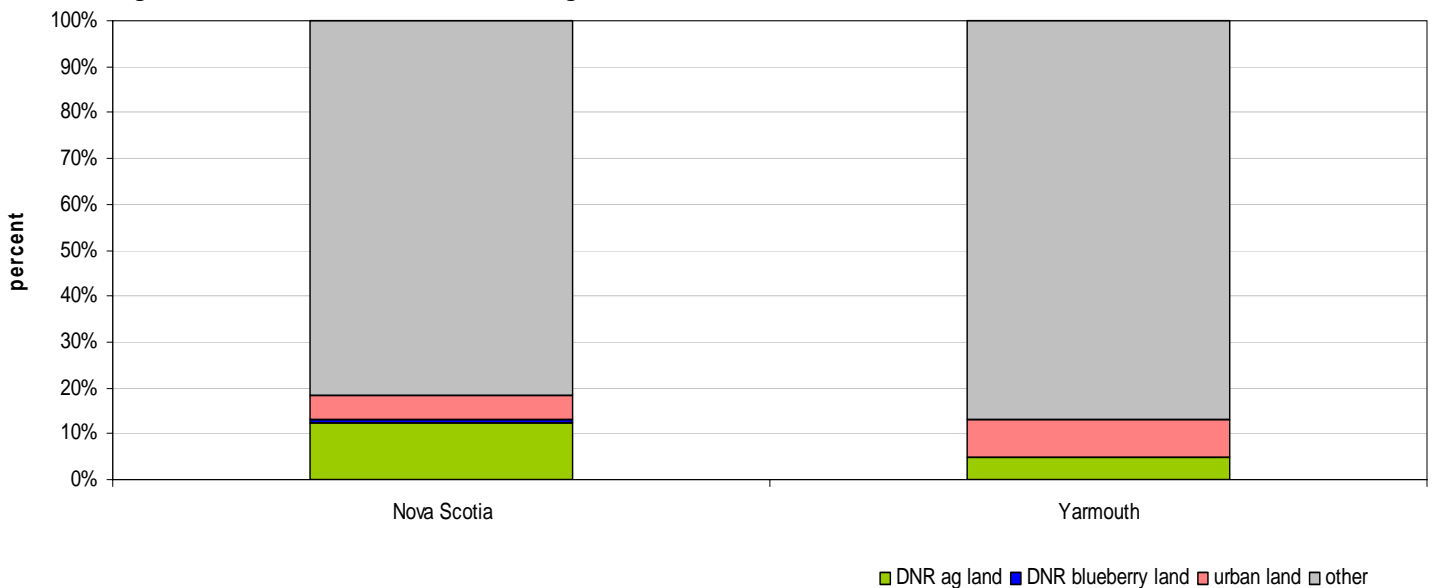


Sources: NS Agriculture, NS Natural Resources, Natural Resources Canada

Usage of arable land and composition of farmed land

Land most suitable for agricultural production (CLI classes 2, 3 and 4) are used for agriculture in Yarmouth County at a significantly lower rate than the provincial average (see Figure 2 and Table 2). About 5 percent of suitable agricultural land is used for agricultural production in Yarmouth compared with 13 percent provincially. This places Yarmouth 14th among the 18 counties in terms of utilization of arable land for farming.

Figure 2. Utilization of soils suitable for agriculture- Yarmouth vs Nova Scotia



Yarmouth has about 8 percent of its good agricultural soils under urban development ranking Yarmouth as the 6th highest county in terms of urban development of arable land. This compares to the provincial average of 5.4 percent.

Table 2. Use of agricultural soils (CLI classes 2,3,4) in Yarmouth County and Nova Scotia								
	CLI 2		CLI 3		CLI 4		TOTAL CLI 2,3,4	
	Yarmouth	Nova Scotia	Yarmouth	Nova Scotia	Yarmouth	Nova Scotia	Yarmouth	Nova Scotia
	Percent							
Agricultural land (DNR)*	n/a	29.3	7.0	12.0	1.6	7.9	5.0	12.7
Blueberry land (DNR)*	n/a	0.5	0.0	0.3	0.1	1.8	0.0	0.7
Urban area	n/a	6.9	10.1	5.4	4.2	4.6	8.0	5.4
Other	n/a	63.3	82.9	82.3	94.1	85.7	87.0	81.2
* Based on forest coverage files from NS Natural Resources (blueberry land is low-bush/ wild) Source: Nova Scotia Department of Agriculture. Natural Resources Canada. Nova Scotia Department of Natural Resources.								

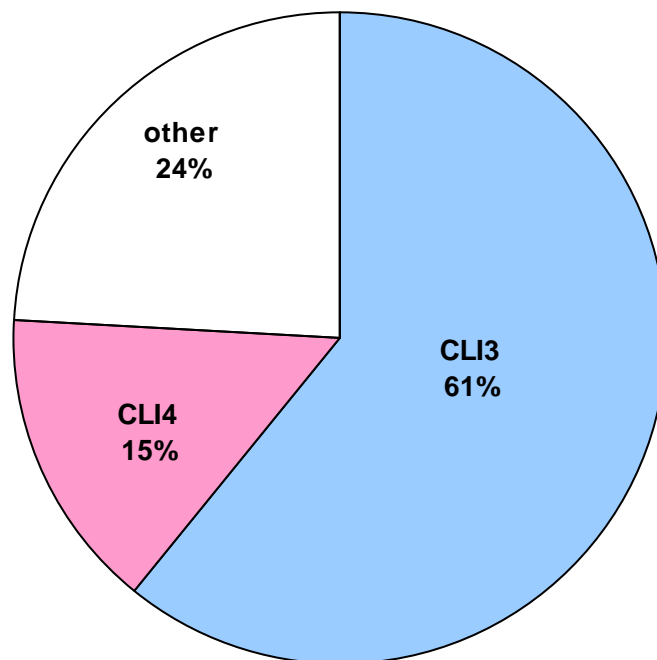
Looking at the land base from a slightly different perspective (the composition of lands in agriculture, Table 3) it is apparent that Yarmouth County agriculture is generally taking place on good agricultural soils, although less so than the provincial average. Over 70 percent of agricultural land is on class 3 soils, while 10 percent is on class 4 soils. Almost one-fifth of Yarmouth's agriculture is on poorer than class 4 soils.

Table 3. Composition of lands in agriculture- Yarmouth County						
	Agricultural land (ALIP)*		Agricultural land (DNR)**		Blueberry land (DNR)**	
	Yarmouth	Nova Scotia	Yarmouth	Nova Scotia	Yarmouth	Nova Scotia
	Percent					
CLI 2	n/a	20.5	n/a	21.1	n/a	4.7
CLI 3	73.9	49.4	71.5	51.8	34.6	16.4
CLI 4	8.6	16.3	9.7	14.5	56.9	44.5
Other	17.5	13.8	18.7	12.7	8.5	34.4
* As indicated by the NSDA Agricultural Land Identification Project. ** Based on forest coverage files from NS Natural Resources (blueberry land is low-bush/ wild) Source: Nova Scotia Department of Agriculture, Natural Resources Canada, Nova Scotia Department of Natural Resources.						

Urban use and property fragmentation of the agricultural land base

As shown in Figure 3, over three-quarters of urban development in Yarmouth is on good agricultural soils, while 24 percent of urban development occurs on soils that are of poorer quality than class 4. As indicated in Table 2, the proportion of urban land encroachment on CLI soils is higher on higher quality land and more pronounced (10.1 percent on CLI3 vs 4.2 percent on CLI4) than is the case for Nova Scotia as a whole.

**Figure 3. Composition of urban land-
Yarmouth**



Some lands currently in agriculture may be relatively easily removed for other forms of development. A contributing factor is lot size. Yarmouth County has 547 properties that are less than two hectares in size that are centered in ALIP lands (Table 4). These properties amount to 438 hectares, 325 of which are on ALIP.

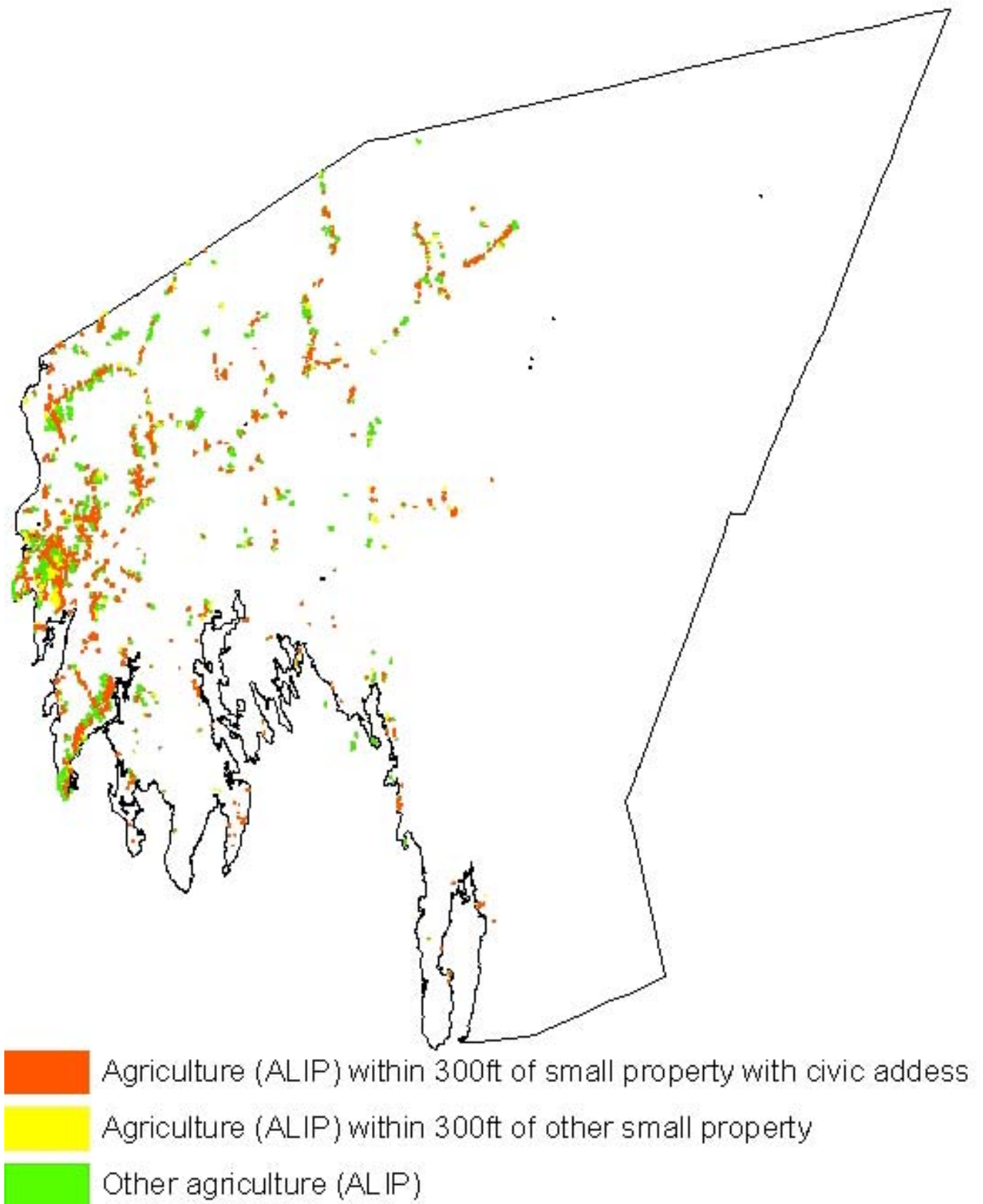
Table 4. Analysis of small properties (< 2ha) encroaching on farm land- Yarmouth County, Nova Scotia						
	Vacant properties		Properties with civic address		TOTAL of small properties (< 2 ha)	
	# properties	Hectares	# properties	Hectares	# properties	Hectares
Centered in ALIP farmland	279	227	268	212	547	438
Area in farmland of properties centered in ALIP	279	177	268	148	547	325
Within 10 meters of ALIP farmland	586	453	906	617	1,492	1,070
Source: Provincial PID data, NSDA (ALIP data)						

A total of 1,492 properties less than two hectares in size are on or adjacent to ALIP lands, 61 percent of which have civic addresses (i.e. are not vacant). This amounts to 7 percent of the provincial total of these properties. Relative to the amount of farming in Yarmouth, the county has the 2nd highest rate of small developed properties that are adjacent to farmland.

Ultimately, approximately 37 hectares (1 percent) of ALIP lands in Yarmouth have been lost to urban development since 1998. This places Yarmouth tied for 12th with Kings in terms of percentage farmland lost to development and 13th in terms of area of farmland lost.

While physical occupancy of land by non farm development or land with the potential for non-farm development can be used to estimate potential loss of land to the sector, the effect of development on adjacent agricultural lands is probably of greater significance in terms of area affected. In order to estimate the area of farm land that is at risk due to the proximity of development, a 300 ft (91.44m) buffer was drawn around each small (<2ha) property and the amount of ALIP farm land falling under this zone was calculated (Figure 4). Yarmouth has approximately 46 percent of its ALIP farmland falling under this category, the 2nd highest in the province (the 6th lowest in absolute terms). Approximately 35 percent of Yarmouth farmland is within 300 feet of a small property with a civic address (i.e. likely a developed property).

Figure 4. Agriculture (ALIP) within 300 feet of small properties (<2ha)



Sources: NS Agriculture , SNSMR

ⁱ Nova Scotia does not have any CLI class 1 soil. Class 2 to 4 soils have moderate to severe limitations that restrict the range of crops or require special conservation practices or both. Class 5 soils and below have very severe limitations for agriculture.

Sources

Natural Resources Canada. Canada Land Inventory. Available from: <http://geogratis.cgdi.gc.ca/CLI/frames.html>. Accessed [25 January 2010].

Nova Scotia Department of Agriculture. Agricultural Land Identification Project (ALIP).

Nova Scotia Department of Natural Resources. Forest Inventory - Geographic Information Systems. Available from: www.gov.ns.ca/natr/forestry/gis/forest-inventory.asp. Accessed [25 January 2010].

SNSMR (Service Nova Scotia and Municipal Relations). 2009. NS Civic Address File and property polygons.

Appendix G – Agricultural Land Requirements for Food Sustainability

Agricultural Land Required for Nova Scotia Food Sustainability

The following tables provide calculations of farmland that would be needed to supply a healthy diet to Nova Scotia's present population. The results of the analysis are based on several assumptions:

- The analysis assumes that all agricultural land in Nova Scotia is the same, which is not the case. For example, Nova Scotia's vegetable production and much of the non-blueberry fruit production is concentrated in the Annapolis Valley because that region has both good quality soils and the climate to support those crops. While many other areas of the province have soils as good as much of the vegetable land in the Annapolis Valley, they have other limiting factors, mainly climate, that reduce the ability to maintain a large acreage of vegetable production. Also, many soils and climates throughout the province can grow grain but may be limited to perennial forage crops (e.g.: hay, pasture) because the local terrain is not flat enough to minimize erosion.
- The analysis assumes that Nova Scotia agriculture can maintain present productivity. This assumption ignores issues raised in the body of the report on the potential impact of increasing energy costs and the ongoing depletion of soil nutrients. Either of these issues has the potential to reduce production per hectare resulting in a need for additional farmland to produce an equivalent amount of food. For example, a production based on fertility provided only by manure, assuming a sufficiently large livestock sector to provide the required volume, would increase land requirements significantly based on data quoted in Section 3.2.3.
- Nova Scotia's crop production is seasonal and most of that production is available fresh for a limited period of the year. The analysis assumes that sufficient processing and/or storage capacity is available so that food produced in Nova Scotia can be available all year.
- The diet upon which the analysis is based reflects Canada Food Guide recommendations for a healthy diet rather than actual consumption of food products by Nova Scotia residents¹.
- Nova Scotia farmers produce a broader range of food products than those identified in the following tables, particularly specialty products such as flax and musk melon (cantaloupe). The calculations for this discussion were complicated and have been simplified somewhat by including crops that are presently, or have been, produced in relatively large volumes.

The following information should be viewed with these caveats in mind. A more accurate assessment of the amount of farmland necessary to provide a healthy diet to all Nova Scotians is beyond the scope of the Committee's mandate and requires more comprehensive and detailed information on Nova Scotia soils, climate and terrain by location than is presently available.

¹ Farmland requirements were estimated based on consumption (i.e.: disappearance) of foods that we can produce in Nova Scotia and total hectares required were similar to those reported in the discussion. However, actual consumption volumes of specific products differed significantly from the recommendations in the Canada Food Guide.

Table 1 provides Canada Food Guide recommendations for a healthy diet by food category, age and sex. The 2009 Nova Scotia population estimate has been distributed among age and sex based on 2006 Census information. This data was used to estimate the total kilograms per year that Nova Scotia residents should consume of each food group.

Table 2 summarizes farmland requirements to meet the recommended diet based on major agricultural production categories and the number of hectares that were in production in each category in 2006.

Tables 3 through 6 provide details of the quantities of food and hectare requirements, outlined in Table 2, for crops that are presently produced in Nova Scotia.

Table 1: Quantity of Food Required per Person in the 2008 National Nutritious Food Basket, by age/sex group per week (Health Canada)											
Sex/Age	Dark green vegetables (kg)	Orange vegetables (kg)	Other vegetables and fruits (kg)	Milk and alternatives (L)	Non-whole grain products (kg)	Whole grain products (kg)	Eggs (unit)	Fish (kg)	Meat, poultry, nuts and legumes (kg)	Unsaturated fats and oils (kg)	Nova Scotia Population per sex/age group
Males and females											
2-3 y	0.67	0.62	1.29	4.49	0.33	0.35	3.50	0.20	0.30	0.21	43,178
Males											
4-8 y	0.67	0.62	2.26	5.39	0.47	0.40	3.50	0.20	0.46	0.21	25,312
9-13 y	0.67	0.62	2.91	7.19	0.57	0.59	3.50	0.20	0.96	0.26	29,333
14-18 y	0.67	0.62	4.52	7.19	0.75	0.79	3.50	0.20	2.13	0.37	32,029
19-30 y	0.67	0.62	5.17	4.94	0.85	0.89	3.50	0.20	1.96	0.42	53,371
31-50 y	0.67	0.62	4.52	4.49	0.85	0.89	3.50	0.20	1.63	0.42	132,748
51-70 y	0.67	0.62	3.87	5.39	0.57	0.89	3.50	0.20	1.63	0.37	115,971
over 70 y	0.67	0.62	3.87	5.39	0.57	0.89	3.50	0.20	1.63	0.26	41,103
Females											
4-8 y	0.67	0.62	2.26	5.39	0.38	0.40	3.50	0.20	0.46	0.21	24,136
9-13 y	0.67	0.62	2.58	5.84	0.57	0.59	3.50	0.20	0.63	0.26	28,434
14-18 y	0.67	0.62	3.55	6.29	0.57	0.69	3.50	0.20	0.96	0.26	31,069
19-30 y	0.67	0.62	4.20	3.59	0.66	0.74	3.50	0.20	1.30	0.32	56,905
31-50 y	0.67	0.62	3.87	4.04	0.66	0.69	3.50	0.20	1.30	0.32	143,024
51-70 y	0.67	0.62	2.91	5.39	0.57	0.59	3.50	0.20	0.96	0.21	121,969
over 70 y	0.67	0.62	2.58	5.39	0.47	0.69	3.50	0.20	0.96	0.21	59,621
Total Per Week	628,596	581,686	3,366,321	4,730,265	587,206	675,053	3,283,712	187,641	1,191,073	288,277	
Total Per Year	32,687,011	30,247,682	175,048,670	245,973,775	30,534,736	35,102,772	170,753,045	9,757,317	61,935,786	14,990,403	
Note: Population groups based on July 2009 Statistics Canada estimates distributed into sex and age group based on 2006 Census data for Nova Scotia											

Table 2: Land Required for Food Sustainability for Nova Scotia and Census Hectares in Crops

Food Categories	Hectares to Produce for 1 Year of NS Consumption	2006 Census Hectares
Meat, poultry and alternatives (dry beans and peas)	176,103	159,196
Fruits	13,184	18,974
Vegetables	11,512	3,745
Grains for human consumption	34,737	Included in Feed Grains
Total	235,537	181,915

Table 2 indicates that, in 2006, Nova Scotia had approximately 77% of the hectares in crop production needed to provide a healthy diet. As noted above, this conclusion assumes that all lands are equal when it comes to production capability. For example, Nova Scotia produces more fruit than it would need for its own residents and both the apple and blueberry sectors export a significant portion of their production. However, both of these crops are frequently located on soils or in terrains that cannot be used for field crops, vegetables and many other fruits. Much of the tree fruit production is located on relatively steep slopes that cannot be planted to annual crops or perennial row crops (e.g.: strawberries) because of the risk of soil erosion. In many cases, blueberries are produced on land that does not have the characteristics necessary to support other crops.

Nova Scotia has the ability to produce grain for human consumption; however, limited amounts of farmland are presently in those crops because they are less profitable for general production than are feed grains. The amount of grain produced for human consumption in Nova Scotia is not available from Statistics Canada, but discussions with farmers and industry representatives indicates that production is usually limited to specialty crops and farms that have the ability to process and market grain products directly to consumers rather than shipping to a large mill.

Table 3 summarizes estimated consumption and required hectares for meat, poultry, milk and alternatives. The alternatives identified in the Canada Food Guide are beans and peas, which can be used as protein substitutes to meat and poultry. Acreage estimates include production of feed grains, forage crops and pasture. Table 1 indicates that land currently in use for these products is within 17,000 hectares of requirements; however, the detailed analysis indicates that production of sufficient feedstuffs other than pasture requires an additional 25,000 hectares of land suitable for those crops. Land currently in pasture may not be suitable for grain and forage crops because of soil quality or terrain.

Table 3: Land Required for Production of Meat, Poultry and Alternatives

Product	Total Tonnes per Year for all Nova Scotians	Hectares to Produce for 1 Year of NS Consumption
Beef, veal	18,264	69,219
Mutton, lamb	794	6,920
Pork	14,181	12,450
Poultry	20,027	43,321
Aquaculture	6,003	697
Dry beans	3,664	1,908
Dry peas	2,233	1,053
Total	65,166	135,569
Product	Total Litres per Year for all Nova Scotians	Hectares to Produce for 1 Year of NS Consumption
Milk	245,973,775	40,534
Total Hectares Required		176,103

Table 4 summarizes potential consumption and land requirements of fruits that are recommended in the Canada Food Guide and that Nova Scotia is able to produce. Nova Scotia produces significant amounts of tree fruits and blueberries, and has a growing wine-grape industry. It also has storage and processing ability to provide fruit all year.

Table 4: Land Required for Production of Fruit for Human Consumption

Fruit	Total Tonnes Per Year for all Nova Scotians	Hectares to Produce for 1 Year of NS Consumption
Apples	32,091	1,672
Blueberries	5,763	2,673
Cherries, Sweet	2,427	640
Cranberries	3,397	272
Grapes	16,015	3,215
Peaches	4,338	880
Pears	6,703	917
Plums and Prunes	2,518	428
Raspberries	2,123	1,200
Strawberries	9,251	1,287
Total	84,627	13,184

Table 5 provides amounts of recommended vegetables and hectares that would be required to produce them under present average yields. Tomato and cucumber production was calculated for greenhouse systems rather than field production because Nova Scotia presently produces these crops all year in greenhouses. National average greenhouse yields were used for the calculation because of a lack of information specific to Nova Scotia. Some of the supply of each crop, tomatoes and cucumbers, is produced

locally during the growing season as part of Nova Scotia's diversified vegetable industry but specific information field production of these crops was not available so the greenhouse production assumption was used for this calculation.

Other crops are produced in greenhouses (e.g.: lettuce) and Nova Scotia requirements for these vegetables and, possibly, some fruit crops could be met with an expansion of the provincial greenhouse industry.

Table 5: Land Required for Production of Vegetables for Human Consumption

Vegetable	Total Tonnes Per Year for all Nova Scotians	Hectares to Produce for 1 Year of NS Consumption
Asparagus	3,449	2,792
Beans	5,201	1,344
Beets	282	34
Cabbage	3,860	149
Carrots	20,739	477
Corn	2,952	127
Lettuce	8,575	2,272
Onions	6,381	154
Peas	1,588	599
Peppers	22,448	1,682
Potatoes	58,025	798
Pumpkins & Squash	9,508	1,008
Rutabagas and Turnips	943	33
Canadian Average Production		
Greenhouse Tomatoes	6,248	13
Greenhouse Cucumbers	3,155	30
Total	153,356	11,512

Table 6 summarizes the recommended consumption amounts and hectares needed to produce the grains from which grain products for human consumption are made. Nova Scotia does not produce a significant amount of any of these products at this time, although it does have the capability. Total farmland required to meet the feed grain shortfall and produce grains for human consumption is almost 60,000 hectares.

Table 6: Land Required for Production of Grains for Human Consumption

Grain Product	Total Tonnes Per Year for all Nova Scotians	Hectares to Produce for 1 Year of NS Consumption
Corn flour and meal	1,027	170
Oatmeal and rolled oats	2,363	1,263
Pot and pearl barley	100	32
Rye flour	269	165
Wheat flour	61,879	33,108
Total	65,638	34,737

References:

- Health Canada, *Canada Food Guide*, <http://www.hc-sc.gc.ca/fn-an/surveill/basket-panier/qa-qr-eng.php>
- Statistics Canada, *2006 Census of Agriculture*
- Statistics Canada, *Population Projection and Estimates*, <http://www40.statcan.gc.ca/l01/cst01/demo31a-eng.htm>
- Nova Scotia Department of Agriculture, *Nova Scotia Agricultural Statistics*.

Appendix H – Land Trusts Examples

Vermont Land Trust

Vermont Land Trust (www.vlt.org) is one of 23 land trusts associated with Land Trust Alliance, the national representative of land trusts across the U.S.

Vermont Land Trust, a private non-profit land conservation organization, was founded in 1977 to protect lands that are critical to the rural economy of Vermont. The Land Trust “helps farm families conserve productive agricultural land for future generations”. The Trust began as the Ottauquechee Regional Land Trust, operating only in the watershed of the Ottauquechee River. In 1980 it began protecting lands outside this area, and by the mid-1980s, after conserving 6,650 acres of land, the organization changed its name to Vermont Land Trust. Vermont Land Trust “actively works with groups involved with agriculture, forestry, tourism, outdoor recreation, historic preservation, and affordable housing”.

The mission of the Vermont Land Trust is “to conserve land for the future of Vermont”. The land trust’s vision is “to conserve productive, recreational and scenic lands to assure for all generations this treasure that is Vermont”. Support and professional services are provided in a central office, but land conservation priorities are determined locally, and all services are delivered locally; the land trust’s field and project staff develop conservation opportunities. This system provides flexibility and allows staff to act quickly.

Vermont Land Trust uses two primary conservation methods to conserve land: donation of easements, and the purchase of development rights, transferred through a conservation easement. Conservation easements are legal instruments that determine how much, if any, future development (residential or commercial) may occur on a property. Property owners who wish to protect their property permanently often donate conservation easements to the land trust. Some landowners sell a conservation easement to the Land Trust at less than appraised value, thereby donating part of the value to the Land Trust. Development rights, conveyed to the Land Trust when the conservation easement is signed by the land owner, are the rights to subdivide a property and construct residential or commercial buildings.

Vermont Land Trust does not own properties; land is still owned and managed by the landowners who sell or donate conservation easements to the Land Trust. Sometimes, though, the Land Trust will acquire and resell property subject to conservation restrictions. The conservation easement, sometimes called a conservation restriction, also puts restrictions on the future uses of the property’s natural resources, including farmland, woodland, water, wetlands, and/or wildlife habitats, by defining what uses will be permitted, and what uses will be prohibited. Although some land trusts limit conservation easements to terms of 20 or 30 years renewable only with the landowners’ consent, Vermont Land Trust acquires only perpetual conservation easements.

Much of the funding for the purchase of development rights is obtained through the Vermont Housing and Conservation Trust, a fund created in 1987 by the Vermont Land Trust. A coalition of land conservation and affordable housing organizations, and

Vermont Land Trust, created this public funding source for both land conservation and affordable housing.

One source of income for Vermont Land Trust is memberships sold to individuals, businesses and corporations. There are 9 levels of memberships starting at \$35.00 per year; the highest value of membership is \$10,000.00 per year. The Land Trust also encourages others to give gift memberships, and giving through bequests. The membership dues, along with private donations, represent 22 percent of the Land Trust's income. The balance of the Land Trust's income is provided by fees for technical assistance, private contributions, state government grants, private foundations, capital gifts, and interest income from endowments and reserves.

As of June 30, 2009, Vermont Land Trust's conservation efforts have conserved 1,567 projects totaling over 496,281 acres. Of these projects, 704 were parcels of agricultural land, mostly dairy farms which are predominant in Vermont, representing 160,935 acres, 13 percent of the total farmland acreage in Vermont of 1,233,313 as of the 2007 Census (<http://www.ers.usda.gov/statefacts/VT.HTM>).

Financial statements to June 30, 2008 (<http://www.vlt.org/AR0708-financials-REV.pdf>) report that the Trust received 51 percent of its funding from government organizations, 30 percent from individuals, and 17 percent from a foundation with the balance (2 percent) from investment income. Over 93 percent of expenditures in 2008 (almost \$16 million) was used directly for land conservation work. In fiscal year 2008, the Trust added four properties to its land base and sold five with conservation easements attached.

Maine Farmland Trust

Maine Farmland Trust (www.maineFarmlandtrust.org), established in 1999, is a non-profit organization, and one of 100 land trusts in the Maine Land Trust Network; however, it is the only statewide land trust that is devoted solely to farmland protection. The mission of the Maine Farmland Trust is to "protect and preserve Maine's farmland, keep agricultural lands working, and support the future of farming in Maine". The trust works with landowners, other land trusts, farm groups, and government agencies, to "identify and preserve valuable agricultural land". The Land Trust states on its website that only four percent of Maine's land base is rated as prime agricultural soil.

Maine Farmland Trust focuses on protecting farmland through conservation easements, "voluntary, legal agreements between a landowner and a non-profit land trust, which permanently restricts use of the land for agricultural production, wildlife habitat or open space". The conservation easement must be well planned at the outset because any development or division that is not mentioned in the easement, and any uses not planned at the time the easement is created, will not be permitted. When farms are sold, new owners must comply with the restrictions of the easement.

Maine Farmland Trust also has Purchase of Development Rights programs. Landowners voluntarily sell agricultural conservation easements to the Trust, and usually receive the

difference between the value of the land as restricted, and the value of the land for residential and commercial development. Maine Farmland Trust's sources for funding this program are Land for Maine's Future Program, sponsored by the state government, USDA Farm and Ranch Lands Protection Program, and other funding coordinated by local land trusts.

Maine Farmland Trust sells memberships to individuals valued from \$20 to a life membership for \$1,000. The Trust funds its operating budgets from its membership and individual donors.

Maine Farmland Trust also operates FarmLink, "a program that connects farmers seeking farmland with retiring Maine farmers and other farmland owners who wish to see their agricultural land remain active". The Maine Farmland Trust fall 2009 newsletter states that the FarmLink has helped to ensure that another 50 farms, totaling 4,700 acres, will likely continue to be farmed for at least another generation.

(http://www.maineFarmlandtrust.org/downloads/MFT_news_2009_fall.pdf). FarmLink operates in partnership with Maine Department of Agriculture, Food and Rural Resources, University of Maine Cooperative Extension, Maine Organic Farmers and Gardeners Association, and Maine Agricultural Center.

Maine Farmland Trust has preserved over 17,000 acres of farmland on 95 farms, representing over two-thirds of all farmland conserved in Maine. The Trust's goal is to preserve 100,000 acres of farmland in the next five years. The Trust has secured over \$3.7 million in state and federal funds to preserve farmland and has initiated a fundraising campaign to raise \$10 million that is expected to leverage an additional \$40 million in grants, donated easements and additional private gifts.

(<http://www.maineFarmlandtrust.org/About/BackgroundHistory/tabid/130/Default.aspx>).

Suffolk County, Long Island, New York

Suffolk County Authority

Suffolk County covers the central and eastern part of Long Island, New York.

Governance of agricultural land is split between the towns and incorporated communities within the county with the remainder the responsibility of the Suffolk County municipal government. Information was gathered for lands under Suffolk County municipal authority and those under the jurisdiction of the Town of Riverhead.

Soils in the county are well-drained, the better soils being a combination of sand and silt loam. Agricultural production in Suffolk County tended towards truck gardening, potato production, and ducklings. Housing development started in earnest in the western part of the county in the post-World War II era and the development of second homes for recreational weekenders started in the eastern part of the county. Population in Suffolk County has grown from 161,055 people in 1931 to over 1.4 million people currently. The only source of water for the entire region is groundwater. It was initially thought the county could eventually support a population of 4.5 million, but at current population

levels groundwater resources are already being overdrawn and degraded through salt water intrusion into the groundwater resource through over-pumping.

By the early 1970s, concern started to be expressed about the retention of the agricultural land base, which originally comprised 123,346 acres in 1950. By the early 1970s this had been reduced to approximately 68,000 acres and it was decided by local governments at that time to try and conserve approximately 30,000 acres for agriculture. The method selected for conservation of agricultural lands was predominately purchase of development rights. It was thought that zoning without compensation would be too unpalatable to the farm population.

It was initially thought, in the early 1970s, that \$45 million would be sufficient to purchase at least 9,000 acres of development rights.

This proved to be a significant underestimation of the true costs; to date approximately 9,768 acres have been secured by purchase of development rights (PDR) at a cost of approximately \$259 million for an average cost of over \$26,500 per acre.

Recent costs are even more illustrative with \$21 million spent to conserve 234 acres/10 farms in 2009, and over \$24 million spent to conserve 88 acres/3 farms to the end of April in 2010, resulting in a per acre cost of \$89,744 per acre in 2009 and almost \$273,000 per acre in 2010. The latter figures represent land purchases on the South Fork of Long Island which includes the Hamptons, an area frequented by movie stars, celebrities, investment bankers and the like, with the attendant inflated property costs. One 7.5 acre property recently had its development rights purchased for \$9 million.

Suffolk County imposes a 2% tax on land sales that is used to help finance PDRs. There is also a sales tax of 8 3/4 percent, half of which goes to the County. On a \$2.7 billion annual County budget, approximately \$75 million per annum is spent on water and farmland protection.

Suffolk County planners who were interviewed believed that the PDR program had started "behind the curve" and that developers already controlled too much of the land base at the time acquisitions started. They believe that, had the program started earlier, much more conservation could have been achieved with the amount of money that has been spent. They believe that purchase of development rights should probably have been replaced with an outright land purchase program with leasebacks to bona fide farmers, as the purchase price for PDRs had risen from approximately 25 percent of total farmland value to approximately 75 percent to 90 percent of total value currently. The planners felt that agricultural zoning would have been the best way to protect the agricultural land base if there had been the political will.

Town of Riverhead, NY

There are five towns in Suffolk County, most of which have some sort of zoning. In the early 1970s housing could be put on one quarter to one half acre lots. Later this was increased to one or two acre lots, depending on the town, partly out of concern for

protecting groundwater resources. This resulted in far more land being taken up for housing.

Agriculture is considered a tremendous tourist bonus to the Town of Riverhead, with thousands of people coming out on weekends to visit the wineries and buy fresh produce. The Riverhead municipal representative believes that, in addition to the conservation acreage achieved by the county, additional acreages conserved by the five towns of Suffolk County may take the total close to 20,000 acres for the entire County, but exact figures are not available. Approximately 2,000 acres have been conserved by the town of Riverhead.

The town has a 70 percent/30 percent program. For example a developer with a hundred acre parcel can develop 30 acres in a cluster, as long as the remaining 70 acres have a conservation easement applied to it for agriculture or open space use. A lot yield on such a parcel is typically 45 lots.

A committee comprised largely of farmers oversees the type and nature of buildings that are put on agricultural land including setback requirements. This committee often serves as a clearing house; putting farmers with parcels of land that they wish to sell in touch with developers for the 70/30 program.

The town representative advised that development rights were selling for \$95,000 an acre before the market crash in 2008 and are currently trading for approximately \$60-\$70,000. The residual value of agricultural land per acre stripped of the development rights was approximately \$25,000.

Agricultural land can be subdivided for agricultural purposes in most communities in Suffolk County. The town of Brookhaven has allowed these to be as small as five acres. The Riverhead representative believes that this leads to housing taking more land from agriculture than is necessary.

Suffolk County References:

- Meeting with Dan Gulizio and Jessica Kalmbacher, Planning Department, Suffolk County, New York, Tuesday April 27, 2010.
- Meeting with Annemarie Prudenti, Deputy Town Attorney, Riverhead, Long Island, Tuesday April 27, 2010.
- *Farmlands Preservation Program, Report to the Suffolk County Legislature, Sept. 1973*
- *Report of the Suffolk County Agricultural Advisory Committee to The Suffolk County Legislature, March 1974.*
- *Report to the Suffolk County Legislature from the Select Committee on the Acquisition of Farmlands, November 1974.*

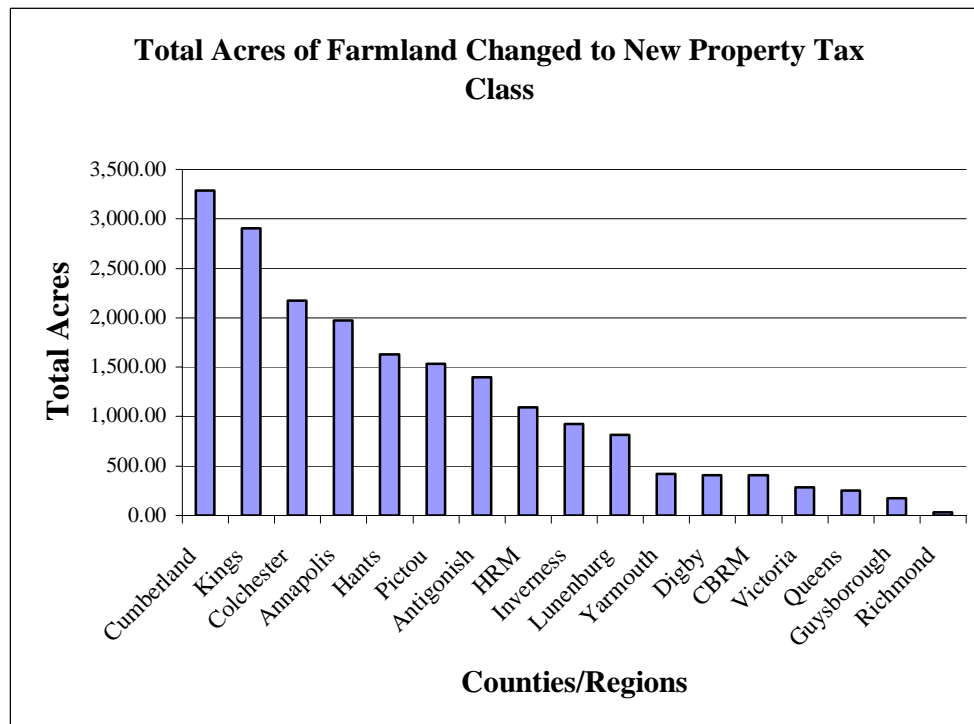
Appendix I – Changes in Land Classification for Property Tax

Acres of Land Changed from Property Tax Farmland Classification

Information was gathered from the Property Valuation Services Corporation (PVSC) on the amount of land that was changed from farm (Legislative Code 25) to another code. Annual information was provided for the government fiscal periods 2005/06 to 2009/10 and was provided by jurisdiction. Information on the reason for the change is not available and some of the changes could be to correct misclassification of land into farm when it was actually for other uses. However, it is reasonable to assume that most of the land changed was for development for non-agricultural uses or in preparation for development in the future. Information on land that had the 20% change of use tax applied is not available.

The table on the next page provides jurisdictions that had farmland removed from Code 25 grouped by geography into counties and regions. Almost 20,000 acres has been removed from the farm tax code in the last five years. Annual changes during the period have been relatively consistent.

The graph below provides 5-year totals for those groupings arranged in descending order. The chart indicates that several counties known for their significant agricultural sectors have converted land at relatively high rates, particularly Cumberland, Kings, Colchester and Hants Counties.



Total Acreage of Farmland Changed from Legislative Code 25 (Farm) to Another Code

Jurisdiction	Tax Year Range					Total by Jurisdiction
	2005 to 2006	2006 to 2007	2007 to 2008	2008 to 2009	2009 to 2010	
Mun of Annapolis	379.00	417.00	260.00	450.48	424.12	1,930.60
Town of Bridgetown		16.00	7.00			23.00
Town of Middleton			9.00		10.00	19.00
Mun of Antigonish	326.00	280.00	279.00	328.14	167.17	1,380.31
Town Antigonish	20.00					20.00
Mun of Guysborough		26.00		11.00	30.50	67.50
Mun of St Mary's	7.00	77.00		25.00		109.00
Mun of Colchester	512.00	166.00	368.00	326.13	759.35	2,131.48
Town of Truro			37.00			37.00
Town of Stewiacke			5.00			5.00
Mun of Cumberland	853.00	438.00	852.00	345.23	757.73	3,245.96
Town of Amherst		4.00				4.00
Town of Oxford			16.00			16.00
Town of Parrsboro			18.00			18.00
Town of Springhill			2.00			2.00
Halifax Regional Mun	167.00	260.00	266.00	325.90	74.00	1,092.90
Mun of East Hants	114.00	100.00	185.00	61.00	87.17	547.17
Mun West Hants	88.00	99.00	554.41	208.85	81.36	1,031.62
Town of Hantsport				31.41		31.41
Town Windsor	18.00					18.00
Cape Breton Regional Mun	60.00	195.00	73.00	57.00	20.15	405.15
Mun of Inverness	291.00	375.00	61.00	83.00	114.00	924.00
Mun of Richmond	3.00	15.00			15.00	33.00
Mun of Victoria	43.00	163.00	30.00	35.00	10.50	281.50
Mun of Kings	677.00	368.00	524.00	512.08	687.17	2,768.25
Town of Berwick		87.00		5.00	15.31	107.31
Town of Kentville				12.38		12.38
Town of Wolfville			15.00			15.00
Mun of Chester		2.00	4.00	6.00	10.00	22.00
Mun of Lunenburg	145.00	110.00	115.00	184.40	236.89	791.29
Mun of Pictou	209.00	248.00	192.50	453.58	371.50	1,474.58
Town of Pictou					54.14	54.14
Town of Westville					7.00	7.00
Region of Queens	0.00	51.00	68.00	95.06	38.00	252.06
Mun of Clare	24.00	7.00	7.00	89.00	30.00	157.00
Mun of Digby	38.00	67.00	42.00	99.60	3.00	249.60
Mun of Yarmouth	86.00	51.00	65.00	68.39	71.30	341.69
Mun of Argyle	39.00	14.00	5.00	8.80	0.50	67.30
Town of Yarmouth	6.00			6.53		12.53
Total by Year	4,105.00	3,636.00	4,059.91	3,828.96	4,075.86	19,705.73