



Protecting and Preserving Agricultural Land in Nova Scotia

A Policy Framework

submitted by the

Nova Scotia Department of Agriculture

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Introduction

Land use planning involves managing our land and resources. It is a dynamic process. With planning comes change—and potential for conflict.

Well-planned communities attract jobs and investments and are guided by the general principles of prosperity, sustainability, livability, and uniqueness of the local community. Agriculture is important to local communities. But farmers face significant challenges from increasing pressures of growth and development, and from municipal by-laws that may encumber agricultural practices. A farmer's greatest asset is land. When financial concerns are not an issue, farmland and surrounding areas typically remain in agricultural production. When money is an issue, the local community could be affected by potential land conversion.

Nova Scotia does not have a definitive policy on protection of agricultural lands. Under the *Municipal Government Act*, land use planning is the responsibility of individual municipalities. While the act does contain a Statement of Provincial Interest regarding agricultural land, it does not formally require land preservation. Instead, it acknowledges an overall goal to protect agricultural land for the development of a viable and sustainable industry.

In any community, the debate cannot be limited to just the preservation of land. A farm is more than just land. Disposition of agricultural land must therefore take into account economic, environmental, and social impacts. The levels of agricultural activity that arise from new farm development or existing farm expansion also have to be taken into account. Nuisance complaints, separation distances, and community development issues are also of importance when making land use decisions.

The issue of agricultural land use planning in Nova Scotia has three components:

1. Non-agricultural development on agricultural land
2. New or existing farm development and expansion
3. Intensive versus non-intensive agricultural activities

The minister-appointed Agricultural Land Review Committee (ALRC, also referred to as the Williams Report) was originally tasked with giving advice on actions needed to preserve agricultural land. Following public and stakeholder consultations, the committee submitted a final report in the fall of 2010. Immediately following the presentation to the Minister of Agriculture and the Minister of Service Nova Scotia and Municipal Relations, an eight-person interdepartmental working group was formed. Led by the Nova Scotia Department of Agriculture (NSDA), this group looked at the issue of agricultural land use planning in Nova Scotia. Members included representatives from NSDA, Service Nova Scotia and Municipal Relations, and the Department of Natural Resources. They reviewed the Williams Report and discussed it in detail (see Appendix A for responses to each recommendation). They also made recommendations about further analysis and appropriate measures needed for agricultural land use planning.

Worldwide, agriculture is experiencing major shifts, and Nova Scotia's agriculture sector is not resistant to these changes. The agriculture and agri-food system has become global. Trade liberalization and the resulting increased competition have had significant impact on our primary

producers, many of whom are high-cost producers in a commodity-priced marketplace. Instability within commodity markets plus fluctuating exchange rates have affected trade. Low-cost competitors have secured a place in our domestic market, displacing homegrown products.

Agriculture in Nova Scotia is struggling economically. This puts the long-term retention of some agricultural lands at risk, especially those near developing areas. The urgency of establishing and following sound agricultural land use planning is rising. This paper attempts to place a policy framework on the issue of agricultural land use planning for protection and preservation. This policy framework is proposed to guide current and future policy, legislative, and jurisdictional developments with respect to agricultural land use planning. The framework outline is repeated on each page to help readers identify each policy consideration being presented. The document is set up as follows:

1. An overview of agriculture within the local community (p. 3)
2. Current Statement of Provincial Interest (p.5)
3. Background and recommendations that aim to achieve for agricultural land
 - protection from development (Goal 1, p. 7)
 - preservation from deterioration (Goal 2, p. 16)
4. Summary of recommendations (p. 20)
5. Appendices with supporting information (p. 25)

Nova Scotia Agricultural Industry Facts

- 3795 farms (2006 census)
- 262 acres average farm size (2006)
- \$460,500,000 cash receipts (2010)
- 70% of farms reported cash receipts under \$50,000 (2006)
- More than 100 agricultural processors and 80 agri-businesses (2009)
- 4700 employed full-time, 1100 part-time (2010)
- \$570,000,000 contributed from agri-processing sector (2009)
- 1.8% of provincial GDP

Within the Local Community

While many people enjoy farmland for its pastoral settings, open spaces, or products, farming is at its core both a business and a land use. In the short term, there is concern that when productive farmland is converted to competing land uses the local economy of an area reliant on a strong agricultural base will be seriously affected. In the long term, the productive agricultural land base may be eroded to the point where a viable agricultural sector cannot be sustained.

The loss of productive farmland happens primarily because agriculture competes with other land uses within a market system that does not recognize the basic value of soil as a resource. In general, the market economy favours land use that returns the highest economic profit; land uses with lower returns generally lose out. Where higher profit comes from residential, commercial, and industrial development, landowners seek the higher economic gain of selling their farmland for non-agricultural uses.

Benefits of Agriculture

Agriculture helps stabilize and maintain rural communities by creating a critical business infrastructure and tax base. Local communities benefit from agriculture through the purchases of goods and services, wages and salaries from employment, and taxes collected from the business income generated. A less-recognizable economic benefit, diversification, ensures that our economy does not rely on only one industry.

Beyond the economic benefits, less obvious intrinsic benefits accrue from agriculture. For instance, agriculture connects small communities across great distances. As one drives through the Annapolis Valley, there are psychological benefits from the pastoral settings and farm infrastructure that may not occur with less visually diversified landscapes.

Challenges to Sustaining Agriculture

A major issue facing the agricultural community is dealing with the conflicts or stresses that exist between farm and non-farm residents. As a working business, a farm affects its surroundings. Depending on the type of farm, there is the possibility of truck and customer traffic, signage, noise, use of pest and plant controls, and, in some cases, unpleasant odours.

Urban sprawl and subsequent migration of urban dwellers into rural areas have contributed to an increase in farm versus non-farm conflicts. A difference in value systems can affect the farming community by creating problems of allocation (consumption of land), management (misuse of land resources), and conflict (problems between users). Farmers trying to maximize economic returns must now consider a more communal attitude toward land stewardship. The result is clashing views on how the rural environment and economy functions, how the countryside of the present and future should be developed, and how specific development should proceed. Methods for handling the conflicts may take many forms, including land use and environmental regulations, legal action taken by non-farm residents who view certain farming practices as unacceptable, or, conversely, legal action taken by farmers for having their day-to-day farming activities disturbed.

Nuisance is considered anything that can affect enjoyment of life and property—for example, noise, odour, and dust. Nuisance is determined by common law, which relies on judgment and precedents, rather than statutory law based on legislative statutes. In Nova Scotia, the *Farm Practices Act* (2000) protects farmers engaged in normal farm activities from nuisance or negligence suits. The act does not limit municipalities from applying a municipal planning strategy or land use by-law; nor does it protect farmers in violation of other legislation, including zoning by-laws. Municipalities may address potential conflicts by requiring that developers adjacent to farms create enough buffer to limit potential nuisance concerns, or through education and awareness that focus on living in an agricultural area.

Building the Case for Agriculture

Agriculture incentive zoning requires a clear understanding of the role that agriculture plays in the local community. Fundamental to this understanding is establishing what constitutes an agricultural use and activity. A successful agricultural land use zoning by-law will allow agricultural activities throughout the community while ensuring maximum flexibility for agricultural practices. To ensure success with local land use by-laws, a few key steps should be carried out during the planning process:¹

- Encourage participation by the local agricultural community: these stakeholders are experts on the needs and concerns unique to farming.
- Identify significant farmland soils within the community: undeveloped prime agricultural lands are an important natural resource.
- Establish a comprehensive agricultural profile of the town: this can identify historic, existing, and potential agricultural activities that can serve as a base for zoning regulations.
- Conduct a concerted public outreach program: educating people how agriculture works in the community is integral to ensuring a successful relationship between the farmers and other community members.

1. Williams, E. (ed.). 2008. *Innovative Land Use Planning Techniques: A Handbook for Sustainable Development*. New Hampshire Department of Environmental Services.

Statement of Provincial Interest

The Statements of Provincial Interest (SPI) are regulations that were originally introduced with the *Municipal Government Act (MGA)* in 1998 and that ultimately came into effect on April 1, 1999. From a provincial point of view, land use planning decisions are the responsibility of the individual municipalities. However, the fundamental purpose of these Statements is to allow the province to influence municipal land use planning in the five subject areas they cover:

- Preserving high quality farmland (Appendix B)
- Preventing development on known flood plains
- Protecting municipal drinking water supply areas
- Providing for affordable housing
- Making the best use of existing infrastructure

Municipalities are required to consider the Statements when they are preparing new comprehensive municipal planning strategies or revising existing strategies. They must comply with the Statements or justify the reasons why they cannot. The Statements do not provide rigid standards but instead set the direction and provide general guidelines for dealing with the issue.

In many respects, the SPI on Agricultural Land has not been effective. It is the responsibility of the municipalities to carry it out, but, unfortunately, not all municipalities engage in comprehensive planning. Some rural municipalities have land use plans only for the more urbanized areas within their boundaries. Others adopt single-issue plans. In some instances, the SPI might even be a deterrent to planning, as the complexity of responding to the issues covered by the Statements makes comprehensive planning even more demanding. The SPI is therefore applied unevenly across the province.

Future Direction

Municipal planning is, in essence, a political process. The province, through the *MGA*, sees the planning process as best conducted at the municipal level. The municipality seeks to find and then apply public interest to any development activities within its jurisdiction. If the province seeks to influence the planning process, there is a much broader public-interest view. Since municipal and provincial interests are not always in agreement, an unwilling partner makes it difficult to advance a provincial interest.

In some land use regulations, the province has taken complete control over the resource. Mineral resources, for example, fall under the regulatory authority of the province. Municipalities cannot, and do not, attempt to control the exploration or extraction of mineral resources. They have control over processing facilities, but any land use activity critical to the operation of a mine falls under provincial regulation. Sand and gravel deposits are also regulated by the province, while the municipalities regulate the processing facilities. Perhaps a more direct example is the protection of agricultural marshlands. In 2000, the province enacted the *Agricultural Marshlands Conservation Act*, which, among other things, effectively adds another layer of authoritative provincial control of land use in designated areas (s. 41).

The ALRC report suggests that the province regulate farmland where municipalities have been reluctant to proceed on their own. Further, the report recommends that the Minister of Service Nova Scotia and Municipal Relations compel municipal compliance with the SPI on Agricultural Land. Section 198 of the *MGA* provides the minister with the power to request a municipality (within a prescribed period of time) to prepare or amend planning documents that are reasonably consistent with the Statement. If a municipality does not comply, the minister can then establish an interim planning area and essentially prevent development or produce a stalemate. To date, this authority has not been exercised and is unlikely to be unless some financial support for the necessary planning programs is offered. Further, this approach could lead to frustration and a lack of beneficial results.

A more effective approach might be for the province to develop provincially applicable agricultural land use legislation. For example, key land classes could require a permit from a provincial administrator before any development other than farming could occur. In addition, the legislation could encompass regulations, applicable exemptions, and an appeal mechanism. Applied equally across the province, this approach would eliminate the variation observed across municipal plans while including mechanisms to address local input and advice.

As an interim step or alternative to new legislation, the SPI on Agricultural Land could be amended to improve its efficacy. The SPI could be expanded, with more definitive guidelines and criteria to guide decisions. For example, the Statement does not require the municipality to consider the amount of existing land already available for development or to do an analysis of future needs. The Statement could be amended to require such a study and make it clear that no new farmland could be rezoned if an adequate supply of land already exists.

Goal 1: Protect Agricultural Land from Development

1. Agriculture as the Most Profitable Use of Land

Agricultural land at risk is typically not the most economically beneficial use for the landowner. In some cases, especially near concentrated urban areas, the value of the land for other uses will exceed the agricultural value to the point that landowners will be inclined to sell. If profitability from the practice of agriculture were comparable to that from other uses, the landowner would have less inclination to sell the land.

a. A More Profitable Business Model

Agriculture in its current business model is profit-challenged across North America, if not the world. In the evolving globally dominated marketplace, our commodity producers might not be competitive, especially when our competitors are highly subsidized. We are small scale, have a small population, and are energy expensive; in most cases, we are a high-cost, low-volume producer in a market based on high volume and low cost. The industry could possibly be more profitable using a business model that capitalizes on our inherent natural advantages and elevates our competitiveness. The 10-year agricultural framework, *Homegrown Success*, announced by the province in November 2010, speaks to the kind of transition and focus that should lead to profitability.

Recommendation:

By identifying provincial advantages, industry and government should pursue more profitable agri-business models.

b. Tax Policy

Tax policy has been used as a tool to assist agriculture for several years now. Selective use of tax policy might achieve economic development goals of profitability and growth. The roughly \$4.5 million spent annually in tax expenditures appears to have had little impact. Currently, three tax-policy (or policy-like) tools are employed to influence agricultural profitability: reduced municipal property taxation, reduced costs of farm vehicle registration, and fuel tax rebates. The intent in differentiating property tax rates (that is, a reduced rate on

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2. Controlled urban encroachment
 - a. Regulations / by-laws / codes / policies / guidelines
 - b. Incentives
 - c. Disincentives / penalties
3. Higher appreciation of agriculture for its social and cultural benefits
 - a. Public recognition of non-economic contributions
 - b. Preference for local supply
4. Appropriate development adjacent to agricultural land
 - a. Education / information / awareness
 - b. Programming that does not conflict with outcomes
 - c. Land use planning requirements

GOAL 2:

Preserve Agricultural Land from Deterioration

1. Soil conservation
 - a. Prevention of soil erosion
 - b. Restriction of topsoil removal
 - c. Control of soil additives
2. Maintaining the productive capability of agricultural soils
 - a. Strategic siting for non-crop production
 - b. Appropriate storage of substances

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actively used farmland) was, in part, to somewhat equalize the tax burden on agricultural land located close to urban centres with that of land in rural areas. The assumption was that land adjacent to residential and industrial concentrations would be subject to a much higher property tax cost because of higher assessed values. Since the reduction was applied in both very rural and urbanized areas, it is unclear how this original objective would be effectively achieved. A frequent complaint about the tax preference is that land *not* used actively in agriculture also benefits from the reduced tax burden. If true, this could result from either a flaw in the design of the tax measure or a lack of enforcement.

The tax-policy objectives of reduced farm-vehicle registration fees and fuel tax rebates are less clear, other than that these measures would reduce operating costs relative to other industrial activities.

Recommendation:

There is little evidence that the current mix of tax policy tools leads to agricultural profitability. A new or different design to existing tax-policy tools should be considered.

c. Public Goods and Services

Another, more recent tool proposed to aid agricultural profitability is paying farmers a price to produce “public goods and services” (ecological goods and services are considered a subset). The theory is that if society values the generation of a good or service that farmers can produce where there is not a regular market for sale and payment, society can contract with, and provide payment to, the farmer. For example, if society values the landscape aesthetics of farmland, society can contract, for a defined price (compensation), to maintain that landscape. Typically, a public good is not created by compliance with a regulation or limitation but must be explicitly contracted for, thereby providing compensation to the producer.

When society imposes a requirement that limits farmers’ ability to sell their land while other landowners have no such limitation, society has acquired a public good from the preservation of that farmland. The farmer, however, not society, bore the cost of producing that good. The concept of public goods and services suggests that society should bear the cost of creating that public good and therefore compensate the farm owner for whatever economic and social costs were incurred in not being able to sell or use the land in question, as non-farm landowners can.

Recommendation:

Government and industry should explore contracted public goods and services as additional profit-making opportunities for agriculture.

d. Banning or Impeding Imports

If imports were banned or limited, the price of goods supplied by our producers would rise and presumably add to profitability. However, it is not in the constitutional jurisdiction of the province to restrict imports; nor would it be a rational trade policy. Further, a restrictive trade policy would hurt the provincial economy, as we export more than 50 per cent of our agricultural products, and the amount of our other exports is even greater. Restricted supply could dramatically raise sales for farmers, but it would also raise the purchase cost of food for all income groups. This would be felt especially by lower-income consumers, who spend a large share of their income on necessities such as food.

Recommendation:

A restrictive trade policy is not within our jurisdictional powers; nor is it an effective policy option.

2. Controlled Urban Encroachment

In many cases, the alternative use proposed for agricultural land is development related to urban growth. The higher potential profit encourages farmers to sell, lease, or use their agricultural land for alternative uses.

Agricultural land could be protected by limiting urban encroachment. A number of tools of compliance can be used to control encroachment and diminish the loss of agriculturally important land to non-agricultural uses. The effectiveness of any tool of compliance is a function of its authoritative level, how well it is crafted, and whether it is enforced.

a. Regulations / By-laws / Codes / Policies / Guidelines

Legislation and regulations can be used to control urban encroachment on agricultural land. In Nova Scotia, the primary mechanism is through the *Municipal Government Act (MGA)* and associated regulations for municipal planning. Many policy objectives are achievable through municipal planning, such as orderly development, conflict prevention, controlled municipal

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service costs, and socially beneficial communities. Municipal “laws,” called by-laws, are similar to regulations and are enforceable in court. Zoning by-laws, for example, can limit ribbon development.

Municipalities are responsible for enforcing the Nova Scotia Building Code Regulations. These regulations adopt the National Building Code of Canada and include the Farm Building Code. While each municipality issues permits for farm buildings, there is some debate about whether the codes are being consistently enforced. To ensure effective and consistent administration of land use and building requirements, permitting authorities may have to verify enforcement and make sure that administrative staff completely understand existing regulations and requirements.

The MGA, through the Statement of Provincial Interest (SPI) on Agricultural Land, imposes an obligation on municipalities to consider protecting agricultural land. The SPI, being general, is basically a requirement for best efforts; it is not a clear, definitive policy that would guide common municipal planning. Variability in the level of municipal planning and enforcement across the province results in the SPI’s objective of protecting agricultural land not being effectively served. Municipalities that are actively protecting farmland include Halifax Regional Municipality and Cape Breton Regional Municipality; Hants East, Hants West, and Kings Counties; and the East End and Upper Clements Plan areas of Annapolis County.

From a policy standpoint, it is important to evaluate whether an issue of province-wide interest is best managed as a municipal responsibility and potential cost to the municipality. The current model diffuses responsibility between the municipality and the province, and it is not clear that preserving agricultural land is a policy objective best imposed at the municipal level.

Recommendations:

The province should evaluate whether protecting agricultural land, a province-wide interest, would be best administered at the municipal or provincial level and whether the policy objective serves provincial or municipal interests.

The province should consider whether a defined piece of legislation about protecting agricultural land would be more effective than the current SPI.

The province should consider policy options where landowners may be compensated for limiting the uses and market values of their assets.

The province and municipalities should consider how to broaden the application of municipal planning needs across all areas of a municipality and how enforcement can be strengthened.

b. Incentives

Provincial and municipal governments that aim to protect or preserve agricultural land may try to influence the behaviour of agricultural landowners and land developers by offering incentives to protect or preserve agricultural land. Non-tax-based incentives, such as Transfer of Development Credits and mitigation by-laws, could be highly effective in the right application.

Incentive-based approaches are often win-win: the social goal of protecting land is achieved, and the landowner or developer benefits. In some cases, incentives can be far more effective than the tools-of-compliance approach. (See Appendix C for examples of such incentives.)

Incentive-based approaches in the land protection context are in an early stage of development. Since 1992, the provincial *Conservation Easements Act* has gradually been developing success in protecting various lands. The federal government has attempted to fine-tune and expand the use of charitable donation credits for ecologically sensitive lands. The province is working on a community lands trust approach to accelerate protection of selected or favoured types of lands by non-government groups.

Recommendation:

The province and municipalities should consider the range and benefits of incentive tools available to achieve the policy objective of protecting agricultural lands, especially in light of ease of administration, effectiveness, and net cost/benefit.

c. Disincentives / Penalties

Penalties are also used as tools by governments to influence behaviour. In the land protection context, the change-in-use tax is a 20 per cent penalty imposed on landowners for transferring agricultural land to another use. It is meant both as a

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disincentive to change the use and as a partial clawback for the reduced property taxation of agricultural land.

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While the intent is evident, the impact on deterring change in use is not. If the profit potential in using the land for something other than agriculture is well in excess of the penalty, the effectiveness is lost. Further, this penalty might not be consistently applied at the municipal level. More importantly, it is unclear why the penalty is imposed and collected at the municipal level while the province bears the cost of the subsidy to protect the land. (Municipalities receive a subsidy from the province for losses of property tax revenue resulting from a preferred tax rate on agricultural land.)

There may be other, more-effective mechanisms to ensure that only *active* agricultural landowners benefit from maintaining land in agriculture (for example, using reported farm income to determine a credit equivalent in value to that typically available through the reduced-property-tax approach).

Recommendations:

The province should evaluate the effectiveness of the change-in-use tax and identify any other approaches that would be more effective.

Municipalities should identify how to enhance consistency and enforcement of the change-in-use tax.

3. Higher Appreciation of Agriculture for its Social and Cultural Benefits

An enhanced understanding of the linkage between agriculture and its social and cultural benefits may help keep land in production. Such benefits can include pastoral settings, fresher produce, green fields, watershed preservation, anchors for rural employment and commerce, and visual access to animals and plants.

a. Public Recognition of Non-Economic Contributions

A heightened awareness of the intrinsic benefits of local agriculture might help increase public emotional support and commercial sales transactions. This could translate to higher local purchases, lobbying and demand for local supply, a willingness to pay more for local, or a broader recognition of what is being produced locally. Promotion and information to the public are essential. Presenting the positive economic, environmental, and social

benefits of local agriculture helps to paint a better picture of the true value of the local agricultural industry.

Recommendation:

Industry and government should focus awareness efforts on promoting the intrinsic benefits of agriculture.

b. Preference for Local Supply

Some of the provincial population already appreciates having a local supply of agricultural outputs. The fact that it is truly local has cachet; the assumption that it might be fresher or safer or taste better can be a factor. “Buy local” promotions and organizations and the 100-mile diet are increasingly gaining recognition and value.

Recommendation:

“Buy Local. Eat Fresh.” (a Select Nova Scotia promotion) and similar awareness and promotional efforts may contribute to the protection of agricultural lands.

4. Appropriate Development Adjacent to Agricultural Land

Agriculture is, in most cases, a form of industrial activity. It can generate smells, noises, sights, and effects that go beyond the farm property lines. It is important for land planning authorities and potential adjacent landowners to understand the impacts of being next to agricultural operations.

a. Education / Information / Awareness

Authorities responsible for managing land and planning need to identify the issues around industrial activities and how they affect adjacent landowners. Through planning and permitting, people living next to farms can be informed of acceptable agricultural uses and practices as well as the expected and customary rights of farm owners to generate defined effects that extend beyond farm boundaries. New schools or residential development, for example, would not be preferred uses near certain active agricultural operations and could therefore be deterred.

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 - b. Tax policy
 - c. Public goods and services
 - d. Banning or impeding imports
2. **Controlled urban encroachment**
 - a. Regulations / by-laws / codes / policies / guidelines
 - b. Incentives
 - c. Disincentives / penalties
3. **Higher appreciation of agriculture for its social and cultural benefits**
 - a. Public recognition of non-economic contributions
 - b. Preference for local supply
4. **Appropriate development adjacent to agricultural land**
 - a. Education / information / awareness
 - b. Programming that does not conflict with outcomes
 - c. Land use planning requirements

GOAL 2:

Preserve Agricultural Land from Deterioration

1. **Soil conservation**
 - a. Prevention of soil erosion
 - b. Restriction of topsoil removal
 - c. Control of soil additives
2. **Maintaining the productive capability of agricultural soils**
 - a. Strategic siting for non-crop production
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Recommendation:

The province, municipalities, and industry should consider defining and setting appropriate and clearly defined land use planning criteria. More technical guidelines for land use planning may be required.

b. Programming that Does Not Conflict with Outcomes

Government programming to support economic or social objectives should be designed to ensure that intended outcomes are met. For consistency in the pursuit of strategic objectives, all the relevant actions that we take should be moving toward a common goal or outcome.

Our programs—incentive and loan, extension, tax, education and training, and service support (among others)— should all be coordinated to lead to the same objectives and outcomes. For example, it would be counterproductive to try to foster farmers’ markets and then bring in a differential higher property tax rate on them. Instead, our loan programs should complement our investment and promotion programs.

Recommendation:

Government, at both provincial and municipal levels, should ensure that its full suite of programming is consistent with achieving the intended goals.

c. Land Use Planning Requirements

Municipal planning can define appropriate land uses adjacent to existing agricultural lands. Land use authorities could restrict development to only those activities in agreement with or indifferent to the practice of agriculture on neighbouring property.

This approach can become problematic when new practices develop. For example, the attractive setting created by farm vineyards also comes with the potential use of noise cannons to deter birds. Already-established adjacent landowners cannot make choices about locating next to such activity. Land use planning authorities cannot influence adjacent uses, as the neighbouring landowners were already there before the introduction of the noise cannons.

It is essential that land use planners clearly define what is compatible within an area. Further, the inclusion of grandfather clauses within local by-laws could be required to ensure that established farming operations cannot be hassled for undertaking

acceptable farming practices. It is also recommended that to limit unnecessary nuisance complaints, municipalities adopt separation distance guidelines for manure management. Inherent within this is an understanding and consistent application of the Manure Management Guidelines.

Recommendation:

To minimize conflict between agricultural landowners and adjacent neighbours, the province and municipalities must identify whether sufficient guidance and regulations exist to control development adjacent to agricultural lands.

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1. Soil Conservation

Protecting agricultural land is also a responsibility of current agricultural landowners. If agricultural land protection is meant to secure such land for future generations and users, current holders must also participate in its preservation while it is in their control.

a. Prevention of Soil Erosion

Soil conservation practices have been promoted by the Department of Agriculture since the 1990s. No-till farming, crop rotation, mulching, and cover crops have been tried in different areas of the province as demonstration projects. Popularity of these practices, combined with proper ditching, drainage, grass waterways, and monitoring organic matter content have ensured that few fields in the province have erosion problems. In recent years, the Environmental Farm Plan (EFP) team has stressed the importance of soil-conservation practices. The compliance performance by participants and integration of these practices with other departmental assistance programs has to be evaluated for their effectiveness in supporting land protection through soil preservation.

While regulations are in place within the *Environment Act* and the *Fisheries Act*, a regulatory authority for long-term ramifications of short-term investments must be established. Regulatory, educational, informational, and incentive efforts are part of the tool kit needed to influence sound soil management by landowners. Regulatory efforts could require enforcement capacity as well.

Recommendations:

The province should evaluate whether existing tools of compliance and guidelines to control soil erosion from agricultural lands are sufficient and whether additional efforts are needed.

Policy tools, such as Environmental Farm Plans (EFP) and Nutrient Management Plans (NMP), should have obligatory compliance and reporting requirements.

Industry development programming should reinforce the policy goal of soil conservation.

Regulatory efforts should be complemented with education and awareness efforts.

The province should clarify who is responsible for enforcement of soil erosion protection.

b. Restriction of Topsoil Removal

Removal is restricted at both the municipal level (acknowledged within the Statement of Provincial Interest) and provincial level (*Environment Act*). Removal of defined qualities of soils should be done in a thoughtful way to take into account alternatives to removing that soil (for example, is there a critical need to use that piece of land?), ensuring minimal negative impacts on the land from which it is taken and ensuring that all possible efforts are made to retain the removed soil in a long-term accessible and useful way for agriculture.

It would be useful to develop guidelines for agricultural soil removal, relocation, and reuses. Guidelines and potential regulatory requirements should address topsoil removal by any landowner—individual, business, municipality, or the provincial government.

Recommendations:

The province should identify who is responsible for controlling topsoil removal.

Guidelines or regulatory direction for topsoil control should be considered.

c. Control of Soil Additives

Soil additives are typically added to the soil to supplement its fertility and productive capacity. Regulated soil additives must meet certain requirements by regulatory bodies such as the federal Pest Management Regulatory Agency (PMRA) and the Canadian Food Inspection Agency (CFIA). At the provincial level, an Activities Designation permit is required from Nova Scotia Environment. There may be cases where a substance by either its nature or its quantity could irreparably harm the agricultural soil. Landowners should seek guidance and evaluate additives before application. It is not clear that effective guidelines and information on this issue are available or disseminated.

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Recommendation:

The province and industry should ensure that sufficient information, resources, and awareness exist to prevent irreparable harm to agricultural soil through soil additives.

2. Maintaining the Productive Capability of Agricultural Soils

If certain types of agricultural soils are worthy of long-term protection, landowners should make reasonable efforts to ensure that they site non-crop production on the least-productive land without undue additional costs and inconvenience.

a. Strategic Siting for Non-Crop Production

This addresses the idea that a farmer with a smaller amount of Class 2 soil than Class 4 should seek to maintain the Class 2 for production and locate buildings and structures on the less productive Class 4 (within reason). In essence, the principle is to minimize the impact on the most productive land in favour of siting non-crop production structures and activities on the less productive soils.

Agricultural operations are expanding the range of revenue-generating activities they pursue beyond traditional practices of growing food-related outputs. Diversifying their business activities is a healthy economic growth approach. However, landowners should consider the potential impacts on the productive nature of their land. Potential non-crop production uses could include campgrounds, RV parks, and golf courses. Municipalities may have regulatory authority and planning requirements for many of these kinds of developments; part of what they should consider is minimizing long-term negative impact on agricultural soils.

Recommendations:

Industry and the province should develop policies and guidelines on appropriate siting for non-crop production structures.

Municipal planning requirements should reinforce siting structures and non-crop production on least-productive land.

When setting assistance conditions for applicants, government assistance programs should seek compliance with sound policies such as strategic siting.

b. Appropriate Storage of Substances

Farm operators already seek to comply with handling requirements for environmental and labour safety standards. They should also consider the long-term risks when storing substances that could irreparably harm soils.

Recommendation:

Landowners should seek to minimize potential negative impacts from siting and storage of substances that could irreparably harm agricultural lands.

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Summary of Recommendations

In the context of land protection, regulatory approaches are not the only tool and may not be the most effective. Good policy analysis must look at what tools would have the greatest desired effect at the lowest cost with the highest and broadest level of compliance. Effective land protection should consider a mix of incentives, penalties, education and promotion, codes and policies, and recognition to generate the greatest level of desired effect at the lowest cost with the least negative impact on society.

Each recommendation includes a ranking of low (L), medium (M), or high (H) for each of the following: public acceptability, cost, and effectiveness. The ranking is considered within a provincial context. For example, under the recommendation to identify our provincial advantages and pursue more profitable agri-business models, acceptability is “high” because a profitable agricultural sector ensures a strong rural base, cost is “low” because the new approach does not rely on government subsidies, and effectiveness is “high” because the shift to more of a business mentality will ensure a viable sustainable sector.

Goal 1: Protect Agricultural Land from Development

1. Agriculture as the Most Profitable Use of Land

If profitability from the practice of agriculture were comparable to that from other uses, the landowner would have less inclination to sell the land.

Goals	Recommendations	Acceptability	Cost	Effectiveness
a. Pursuing a more profitable business model (p. 7)	By identifying provincial advantages, industry and government should pursue more profitable agri-business models.	H	L	H
b. Tax policy (p. 7)	There is little evidence that the current mix of tax policy tools leads to agricultural profitability. A new or different design to existing tax policy tools should be considered.	M	M	L
c. Public goods and services (p. 8)	Government and industry should explore contracted public goods and services as additional profit-making opportunities for agriculture.	H	Varies	Varies
d. Banning or impeding imports (p. 9)	A restrictive trade policy is not within our jurisdictional powers; nor is it an effective policy option.	N/A	N/A	N/A

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2. Controlled Urban Encroachment

A number of tools can be used to control urban encroachment and diminish the migration of agriculturally important land to non-agricultural uses.

Goals	Recommendations	Acceptability	Cost	Effectiveness
a. Regulations / by-laws / codes / policies / guidelines (p. 10)	The province should evaluate whether protecting agricultural land, a province-wide interest, would be best administered at the municipal or provincial level and whether the policy objective serves provincial or municipal interests.	M	L	H
	The province should consider whether a defined piece of legislation about protecting agricultural land would be more effective than the current SPI.	H	L	Varies
	The province should consider policy options where landowners may be compensated for limiting the uses and market values of their assets.	H	Varies	Varies
	The province and municipalities should consider how to broaden the application of municipal planning needs across all areas of a municipality and how enforcement can be strengthened.	H	L	M
b. Incentives (p. 11)	The province and municipalities should consider the range and benefits of incentive tools available to achieve the policy objective of protecting agricultural lands, especially in light of ease of administration, effectiveness, and net cost/benefit.	Varies	Varies	Varies
c. Disincentives / Penalties (p. 12)	The province should evaluate the effectiveness of the change-in-use tax and identify other approaches that would be more effective.	M	L	H
	Municipalities should identify how to enhance consistency and enforcement of the change-in-use tax.	H	L	Varies

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3. Higher Appreciation of Agriculture for its Social & Cultural Benefits

If the appreciation of agriculture could be raised among the general population, it could help agricultural land preservation.

Goals	Recommendations	Acceptability	Cost	Effectiveness
a. Public recognition of non-economic contributions (p. 13)	Industry and government should focus awareness efforts on promoting the intrinsic benefits of agriculture.	H	M	M
b. Preference for local supply (p. 13)	"Buy Local. Eat Fresh." (a Select Nova Scotia promotion) and similar awareness and promotional efforts may contribute to the protection of agricultural lands.	H	M	M

4. Appropriate Development Adjacent to Agricultural Land

It is important for land planning authorities and potential adjacent landowners to understand the impacts of being next to agricultural operations.

Goals	Recommendations	Acceptability	Cost	Effectiveness
a. Education / information / awareness (p. 13)	The province, municipalities, and industry should consider defining and setting appropriate and clearly defined land use planning criteria. More technical guidelines for land use planning may be required.	H	M	H
b. Programming that does not conflict with outcomes (p. 14)	Government, at both provincial and municipal levels, should ensure that its full suite of programming is consistent with achieving the intended outcomes.	H	L	H
c. Land use planning requirements (p. 14)	To minimize conflict between agricultural landowners and adjacent neighbours, the province and municipalities must identify whether sufficient guidance and regulations exist to control development adjacent to agricultural lands.	M	M	H

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1. Soil Conservation

If agricultural land protection is meant to secure agricultural lands for future generations and users, current holders must also participate in its protection while it is in their control.

Goals	Recommendations	Acceptability	Cost	Effectiveness
a. Prevention of soil erosion (p. 16)	The province should evaluate whether existing tools of compliance and guidelines to control soil erosion from agricultural lands are sufficient and whether additional efforts are needed.	H	L	H
	Policy tools, such as Environmental Farm Plans (EFP) and Nutrient Management Plans (NMP), should have obligatory compliance and reporting requirements.	H	M	H
	Industry development programming should reinforce the policy goal of soil conservation.	H	L	H
	Regulatory efforts should be complemented with education and awareness efforts.	H	M	M
	The province should clarify who is responsible for enforcement of soil erosion protection.	H	L	L
b. Restriction of topsoil removal (p. 17)	The province should identify who is responsible for controlling topsoil removal.	H	M	M
	Guidelines or regulatory direction for topsoil control should be considered.	H	L	H
c. Control of soil additives (p. 17)	The province and industry should ensure that sufficient information, resources, and awareness exist to prevent irreparable harm to agricultural soil through soil additives.	H	M	M

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2. Maintaining the Productive Capability of Agricultural Soils

If certain types of agricultural soils are worthy of long-term protection, landowners should make reasonable efforts to ensure that they have sited non-crop production on the least-productive land without undue additional costs and inconvenience.

Goals	Recommendations	Acceptability	Cost	Effectiveness
a. Strategic siting for non-crop production (p. 18)	Industry and the province should develop policies and guidelines on appropriate siting for non-crop production structures.	H	L	H
	Municipal planning requirements should reinforce siting structures and non-crop production on least-productive land.	M	L	H
	When setting assistance conditions for applicants, government assistance programs should seek compliance with sound policies such as strategic siting.	H	L	H
b. Appropriate storage of substances (p. 19)	Landowners should seek to minimize potential negative impacts from siting and storage of substances that could irreparably harm agricultural lands.	M	L	H

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Appendix A: ALRC (The Williams Report) Recommendations & Responses



Feasibility of each recommendation is identified according to agree (✓), outside the scope of agricultural land protection (✗), or a work in progress (⊕).

Recommendation	Response
<p>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.</p>	<p>✓ An eight-person interdepartmental working group is looking at agricultural land protection policy. Led by the NSDA, the group comprises representatives from within the department and from Service Nova Scotia and Municipal Relations and the Department of Natural Resources. Through a more formal policy approach, the group is working to develop actions items.</p>
<p>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.</p>	<p>✓ An eight-person interdepartmental working group is looking at agricultural land protection policy. Led by the NSDA, the group comprises representatives from within the department and from Service Nova Scotia and Municipal Relations and the Department of Natural Resources. Through a more formal policy approach, the group is working to develop actions items.</p>
<p>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.</p>	<p>✓ Government has developed a series of strategies, such as the Natural Resources Strategy, which already covers most of the areas listed in the recommendation. However, there is a need to get a handle on data that already exist and to identify gaps. A more formal policy approach must be pursued in the future.</p>

Recommendation	Response
<p>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.</p>	 <p>This statement is very prescriptive. However, through the efforts of the working group, the government is working on developing an agricultural land protection policy.</p>
<p>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.</p>	 <p>Implementing a new policy framework is being considered by the working group (pp. 5, 10).</p>
<p>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.</p>	 <p>It is proposed that the effectiveness of the SPI be reconsidered (pp. 5, 10).</p>
<p>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.</p>	 <p>With a more formal policy approach, the working group is looking at tools needed to implement change.</p>

Recommendation	Response
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.	 This is being addressed through the strategic objectives of <i>Homegrown Success</i> , a 10-year plan for agriculture. Specifically, the preservation and enhancement of agricultural resources and the protection of agriculturally important land are key outcomes for achieving environmental stewardship.
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.	 It is a policy choice within government as to which lands should be protected (p. 16).
4.4.1.b The removal and sale of topsoil on any Class 2 to 4 agricultural lands should be prohibited.	 This is already in place both at the municipal level (acknowledged within the Statement of Provincial Interest) and within the <i>Environment Act</i> . However, the working group recognizes the need for further clarification and is including this issue within its work (p. 17).
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.	 This is a complex issue with a potentially negative impact on municipalities. A policy analysis is needed to more accurately assess the way farmland qualifies for a tax rebate. This would require a significant effort to identify what is currently active for “real” cost estimates. This type of policy issue is being addressed within the efforts of the working group (p. 7).
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.	 Within its work, the group is considering what analyses, recommendations, and most appropriate measures are needed to preserve agricultural land (p. 12).

Recommendation	Response
4.4.1.e Provincial law to allow for the purchase of agricultural conservation easements should be enacted.	 Agricultural easements were examined in the Community Lands Trust Discussion Paper. The Government plans to introduce a <i>Community Easement Act</i> , which includes the creation of agricultural easements in the Spring 2012 sitting of the legislature.
4.4.1.f The Province should create tax incentives for charitable donations to bona fide Land Trusts.	 Tax incentives and land trusts were also considered in the Community Lands Trust Discussion Paper. Government is considering the recommendations which came out of the public consultation process.
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.	 This is beyond the scope of the issue. However, <i>Homegrown Success</i> is pursuing all economic opportunities.
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 20% change-of-use tax was intended to address this kind of issue. Many complex issues such as this must be considered and will be addressed in the efforts of the working group. However, it should be noted that the basis of these programs is as an incentive for the farming community. Funding payback as stated in the recommendation is not an approach used in other sectors (p. 12).
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.	 Much like 4.1.4, this statement is very prescriptive. When land becomes provincially owned, certain approaches must be followed in a legislative context. The underlying issue is protection of agricultural land. If the land referred to in this recommendation is deemed agricultural, the working group will address it.
4.4.2 Measures should be taken as soon as possible to strengthen and maintain dyke land defenses.	 The province has programs in place to maintain dykelands.

Recommendation	Response
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 endeavors.	 The province announced additional soil amendment support in the 2011 budget (p. 16)
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.	 We are taking strides to ensure that the issues of farm profitability, protection of agriculturally important land, and enhanced appreciation of agriculture remain at the forefront. In <i>Homegrown Success</i> , we have stressed the need to think differently with a focus on competitive advantage and profitability, while acknowledging the need to increase public awareness regarding the importance of agriculture. A cornerstone of all of the department's activities is the commitment to fostering a prosperous and sustainable agriculture sector (p. 7).

Appendix B: Summary of Statement of Provincial Interest

The following summarizes the Provincial Statement of Interest, Guideline 3: Agricultural Land

The focus of this statement is on lands which are currently being used for agriculture or which because of the soil characteristics have potential for agricultural production. The term *agricultural land*, is defined in the Municipal Government Act's Schedule "B" – Statements package and for reference purposes the definition appears at the end of this Guideline. It clarifies that agricultural potential means land defined by the Canada Land Inventory as Class 2, 3 or 4 and situated in active agricultural areas. It also points out that *agricultural land* also means specialty crop lands and dykelands, as identified by the Department of Agriculture and Fisheries.

Land suitable for agriculture is limited in Nova Scotia and so it is important to recognize and protect it. *Planning documents* must identify lands which meet the *agricultural land* definition. This includes:

- lands presently in active agriculture and land with agricultural potential;
- lands on which specialty crops such as blueberry, cranberry and grapes are cultivated; and
- dykelands which are suitable for commercial agricultural purposes.

Specialty crops have been singled out because they often have specific growing requirements and/or specific infrastructure investments which are important to recognize. Dykelands are also noted because they represent some of the most fertile land in the province and the dykes which sustain these areas are maintained at public expense. The Nova Scotia Department of Agriculture and Fisheries should be contacted to ensure that all dykeland areas have been identified.

Planning documents also should distinguish between active lands and those that have agricultural potential. This provides a better picture of the agricultural industry in the planning area and can help in decision making regarding land use and development. Where possible, active *agricultural land* which has undergone land improvements, such as ditching and tile drainage should be identified, since these typically represent public investments. A good initial source of agricultural land use information is the Agriculture Land Information Program (ALIP) maps (1998). These are available from the Resource Stewardship Branch, Nova Scotia Department of Agriculture and Fisheries. A reference map showing this information, entitled *Agricultural Land – Implementation Guidelines*, is attached.

Clearly *planning documents* are expected to protect *agricultural land*. The Statement sets out ways (listed below) by which these lands may be protected in *planning documents*. Where *agricultural land* is not protected in *planning documents*, municipalities must identify the area and state why these lands cannot be protected.

The first priority for *agricultural land* should be to agricultural uses. This includes (but is certainly not limited to) farms that carry out one or more of the wide range of uses which are clearly agricultural, such as:

- field vegetables (e.g. carrots, corn, cabbage),
- fruit trees,
- grapes and other vine fruits, berries, and
- pasture.

As well, agricultural uses include the buildings such as livestock structures, grain and equipment storage, manure storage and residences directly related to the farm operation. Agricultural industries which do food processing can also be considered agricultural related.

Non-agricultural uses such as renewable resource uses (e.g., forestry and passive recreational uses) may also be permitted, since they do not eliminate the possibility of using the land for agricultural purposes in the future. These permitted non-agricultural uses should be ones which do not negatively affect the *agricultural land* base itself (i.e., do not remove the good soil or otherwise alter the landscape) and/or which require financial investment for such things as, but not limited to, infrastructure (roads, water/sewer, buildings) which make it impractical to convert the land to agriculture.

It is recognized that not all *agricultural land* can be protected. There are situations where growth and development must be accommodated. A couple of examples are where growth centres (e.g. hamlets) are identified to concentrate development in one area rather than have it scattered throughout an agricultural area. Another example is where there are existing centralized services (e.g., water, sewer) or where an area is designated for such services in the future.

The extent to which development occurs in an area can also be influenced by the number of lots that exist. Where fewer lots exist, this often means less pressure from landowners for development. Limiting the number of new lots created in an agricultural area can help lessen this pressure. It can also reduce the amount of scattered development and assist in retaining larger property sizes which can be important for today's larger mechanical agricultural equipment. Under the MGA, municipalities, through their subdivision by-law, can limit the number of lots created by the subdivision of a parcel of land in a calendar year [S. 271(4)(c)]. This requires supporting policy in the municipal planning strategy (MPS).

Farm land is often the site of activities which may cause odour, dust, and noise. These activities are often carried out at all hours of the day. They may conflict with adjacent land uses, particularly residential and urban-related uses. Therefore, consideration should be given to establishing separation distances between agricultural uses and non-agricultural uses, such as housing, in the *planning documents*.

Since farms and their impacts vary considerably, there are no hard and fast rules for separation distances. Still there are some sources of information which may be of assistance. For example the Department of Agriculture and Fisheries has prepared "Guidelines for the Siting and Management of Hog Farms in Nova Scotia." That document, in addition to setting recommended separation distances for farms, also suggests that municipalities apply these separation distances in a reciprocal fashion to other land uses. For example, this means establishing a separation distance for a new

hog barn from existing residential uses and a similar one for new residential uses from existing hog barns.

Good soil is essential for most agriculture. Removing the topsoil can change once highly valued agricultural soil into virtually useless farm land. The MGA provides municipalities with the power under Section 220 (5)(h) to “regulate or prohibit the removal of topsoil” by way of the LUB, where there is supporting policy in the MPS. This is a new power.

It is not always possible, nor ultimately in the best public interest, to protect all lands capable of agricultural production. Development and growth especially in urban centres is often inevitable. For example, in areas adjacent to urban centres *agricultural lands* over time may become surrounded or interspersed with non-agricultural uses. Also, in some cases urban services such as centralized water and sewer may have even been extended into these areas. In such cases making efficient and effective use of the services may be more appropriate than protecting the land for agriculture.

Providing for non-agricultural growth (e.g., residential, commercial and industrial uses) is an important objective of *planning documents*. Encouraging infilling and allowing higher densities of development in existing built up areas is one way of protecting adjacent *agricultural land*. Another is to direct growth to lands with the lowest potential for agriculture.

Appendix C: Non-Tax-Based Incentives

Where government wishes to influence the behavior or decisions of its citizens, it typically uses a range of instruments, or what some refer to as “tools of compliance.” The tool of compliance most people think of when government wishes to influence our behavior is legislation and regulations. In many cases the legislative/regulatory tool contains imposed obligations and uses enforcement of fines or jail in the event of failure to comply with the legislated obligations. In a policy maker’s tool box, this is the most draconian of tools of compliance. There are many other complementary tools that government can use to influence choices and behavior.

If government wishes to reduce consumption of a substance, it can raise the purchase price through taxes (tobacco, fuel, and alcohol taxes, for example). Government can also use incentives to get people to pursue a decision (a tax credit for donating to charity, for example, or refunds or grants for installing energy-consumption-reducing technologies).

In reality, government needs to use a broad range of tools of compliance to ensure broad effectiveness. This involves a combination of a number of tools, including taxes, regulated limits, and education and promotion.

Decision-Making Tools

The decision for society whether to facilitate or impede the transfer of agricultural lands to other uses could benefit from better decision-making tools.

Full life-cycle costing would provide quantitative information on the (generally environmental) impact of different methods of agricultural production. Such information would cover the full production chain, from seed purchase by farmers to retail purchases by consumers. In the absence of this information, more sustainable agricultural practices have little quantifiable information to highlight the benefits of a particular product versus a less sustainable (and often cheaper) competing product. By necessity, this encourages producers to gravitate to the most financially efficient production practices, which are not necessarily the most beneficial for society. With talk of including environmental costs in the price of goods (carbon taxes, for example) on the rise, the ability to produce food in the most ecologically sensitive manner is increasingly likely to become a competitive advantage. This information would also help the public and government comprehend the real cost of decisions to change the use of selected agricultural lands and to lose the agricultural function of those lands. Incorporating the full range of social and economic values would add some rigour to the analysis of which uses offer the higher return on investment to society.

Full life-cycle costing feeds more complete and accurate information into a traditional cost/benefit analysis and allows decision makers a more complete picture of the costs and benefits of possible decisions.

Notes: