

# Nova Scotia Agriculture



## A REVIEW OF INITIATIVES INTENDED TO CONSERVE AGRICULTURAL LAND



Industry Development & Business Services Branch

# A Review of Initiatives Intended to Conserve Agricultural Land

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## Executive Summary

Agricultural land is a limited resource. The free market directs land to its most valuable use, for the benefit of the property owner. This resource also holds public value in its ability to provide food and environmental and social benefits, particularly when a longer time period is considered. Public values are not directly accounted for in the market for agricultural land. Private property owners are not paid for the public value held by their land and generally make decisions based on market signals and on short time frames. Agriculture will often not be the most valuable use of the land as directed by the market and in this case may be put into non-agricultural use that is irreversible. As pressure to develop land for non-agricultural purposes increases, the debate over the role of government in protecting agricultural land for its public benefit inevitably rises.

Ideally, the market would sufficiently value agricultural land. In this case, there would be no need for any intervention in the market on behalf of the public good.

In Nova Scotia, the debate over the right to develop agricultural land versus the role of government in protecting the land has recently intensified. Applications to rezone agricultural land in the Annapolis Valley have been met with public opposition and were partially or outright denied by municipal governments. Farmers rightly argue that without the proceeds derived from selling a portion of their land, or the services available with a zoning change, they won't be able to make the improvements necessary to continue to farm.

Recent estimates of land in agriculture in Nova Scotia range from 234 215 to 403 044 hectares.<sup>1,2</sup> This amounts to between 0.25 and 0.43 hectares per person. One North American study estimates that, depending on diet type, between 0.18 and 0.86 hectares of agricultural land are needed to feed one person.<sup>3</sup>

There are other unique factors related to the agricultural land situation in Nova Scotia. The province has one of the highest percentages in the country of land that is privately owned (approximately 70 per cent).<sup>4</sup> Much of this land is close to urban areas and/or the coast, increasing current and/or future pressure from development. Due to climate and soil structure, portions of the province provide unique economic benefits through scarcity, as they produce products (such as maple syrup and wild blueberries) that come from only small geographic regions worldwide.

Nova Scotia is not alone in the debate over whether to protect its agricultural resources from other forms of development, as the same question is being faced in many areas of the world. Some of these areas have taken action to protect agricultural land using various programs and policies. These initiatives are introduced in this paper, with attention given to their varying costs, levels of political acceptability, and effectiveness in meeting the objective of keeping land in agriculture. Learning from the experiences of other regions will help to inform the issue in Nova Scotia.



## Objective

The objective of this review is to provide a description of programs/policies/methods that jurisdictions around the world have used to protect agricultural land from other types of development. The benefits and drawbacks of each approach are highlighted, and where possible, the effectiveness of each is evaluated.

## Introduction

Land is a limited resource. Unfettered, the free market directs land to its most valuable use for the benefit of the property owner. When value is equated purely with profit, the highest short-term value is often not in agricultural production, but instead is in residential, industrial, or commercial development. This puts pressure on agricultural land to be converted out of production.

Agricultural land has the potential to yield additional environmental and social benefits. Environmental benefits might include the trapping of carbon dioxide or the protection of wildlife habitat. Having a local food system can also reduce pollution from transportation of food over long distances (reduced “food miles”).

Societal benefits range from the preservation of a rural way of life (and subsequent economic benefits from tourism) to food security—the ability of a population to have “access to nutritious, safe, personally acceptable and culturally appropriate foods that are produced, procured and distributed in ways that are environmentally sound and socially just.”<sup>5</sup>

When a private land owner considers whether or not to turn agricultural land over to development, the environmental and social values are often overshadowed by the economic value of different uses of the land in the short term. If the market is not paying for the land’s environmental and social goods, there is no economic incentive to consider them in determining how the land should be used. When protecting agricultural land with a view towards future economic, environmental, and societal needs, the resource takes on attributes of a public good. In other words, the public benefits of agricultural land, looking ahead to the future, may be enough to warrant policy intervention if the free market does not otherwise provide these benefits.

Think of a tiny population living on a small island that is cut off from the outside world. Half of the island’s land is suitable for food production, while the other half is rock. Such a society would have to ensure that the arable half of the island was not put to any irreversible use that would take the land out of agriculture. In a capitalist system, such land would be protected by the market, particularly as the population of the island grew, because the land is scarce and important. If, however, trade links are eventually established so that the island’s food can be purchased from a second island, this resource might no longer be necessary to feed the island in the short run. Would it make sense, with a growing population (on both islands), to allow this land to be developed and to rely on the partner island for food? Would there be future economic benefits to keeping the land in agriculture? Would there be a role for government in protecting the land? These are the questions that must be asked.

Concern that a growing population and the loss of arable land will eventually come to a head has continuously been brushed aside by technological and scientific advances. A more efficient and global food system has, in terms of the food output of agricultural land, done much more with less. Such advances have made societies viable despite having virtually no agricultural land, as they can be sustained by selling goods or services in which they have an advantage and then trading for their food.

Other areas of the world have determined that it is unwise to simply allow the forces of the market to determine how their land resources are developed. Some have realized the potentially lucrative contributions that agriculture can make to their economies as agricultural land in other areas increasingly becomes scarce.

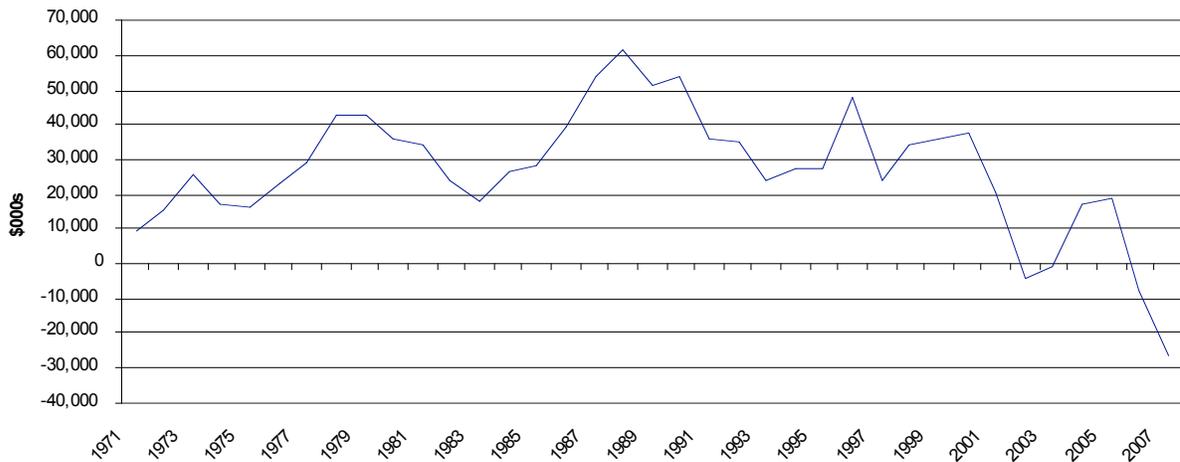
These areas have developed a suite of programs and policies that can be studied by any region interested in the topic of agricultural land and development. Initiatives they have undertaken include profitable agriculture, land ownership restrictions, agriculture zoning and districts, government purchase of agricultural land, transfer of development credits, agricultural and conservation easements, mitigation ordinances, orders-in-council, smart growth, and tax-based programs, among others.

The following section provides a background on the agricultural land resource situation in Nova Scotia. This is followed by a discussion of how major attributes of policy (cost, political acceptability, effectiveness) differ depending on the method used to protect the resource. A review of different types of agricultural land protection initiatives and conclusions ends the report.

## Background

Economically, agriculture is a significant industry in Nova Scotia, creating 16,000 jobs and contributing approximately \$1 billion to the economy in 2006.<sup>6</sup> With notable exceptions, the Nova Scotia agriculture industry has seen its profitability decline, particularly in the past decade (see Figure 1). With declining profitability comes increasing pressure to sell farms for other uses. In the context of keeping land in farming, the problem has been compounded by demographics—the average farmer was 53.2 years old in 2006, and many will soon be looking to retire.

**Figure 1. Total Net Farm Income, Nova Scotia**



Source: Statistics Canada, 2008.

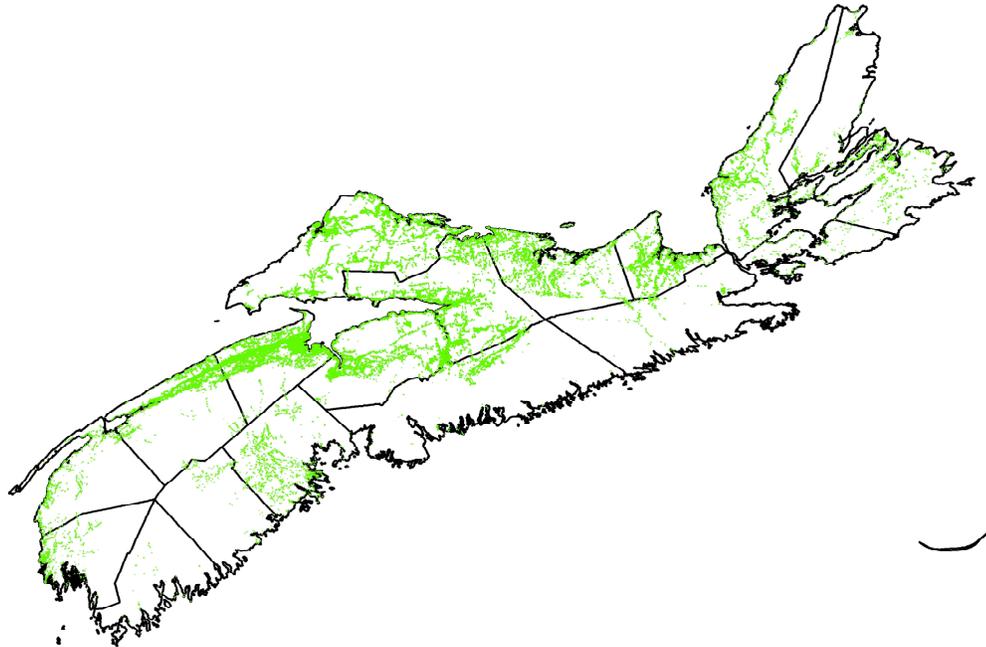
In 2006, 403 044 hectares (7.3 per cent) of land in Nova Scotia were in agricultural production.<sup>7</sup> The Canada Land Inventory for Agriculture ranks soils from 1 (no significant limitation for use in crops) to 7 (no capacity for production).<sup>8</sup> The best land in Nova Scotia is Class 2 or 3\* and amounts to 7 per cent of total land, slightly less than the land that is actually farmed in the province.<sup>9</sup> Figure 2 displays the agricultural land in Nova Scotia as of 1998, from the Agricultural Land Identification Program (ALIP) of the Nova Scotia Department of Agriculture. According to ALIP, there were 234 215 hectares of active and inactive agricultural land in the province in 1998.

Using the ALIP and census estimates, land in agriculture and land that is currently inactive but suitable for food production amount to between 0.25 and 0.43 hectares per person.\*\* One North American study estimated that the land needed for food production per person ranged from 0.18 to 0.86 hectares, depending on the type of diet.<sup>10</sup>

\* Has limitations that restrict the range of crops or require conservation practices.

\*\* Based on a population estimate of 936,000 ([www.gov.ns.ca/finance/statistics/agency/index.asp](http://www.gov.ns.ca/finance/statistics/agency/index.asp)).

**Figure 2. Agricultural Land (Active and Inactive) in Nova Scotia, 1998**



Source: Agricultural Land Identification Program, Department of Agriculture

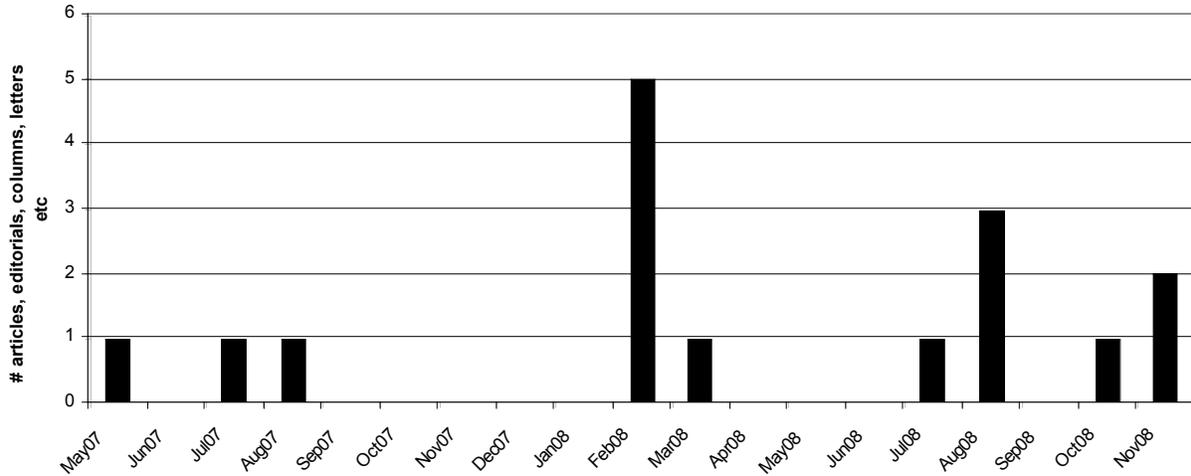
There are other unique factors related to the agricultural land situation in Nova Scotia. The province has one of the highest percentages in the country of land that is privately owned (approximately 70 per cent).<sup>11</sup> Much of this land is close to urban areas and/or the coast, increasing current and/or future pressure from development. Due to climate and soil structure, portions of the province provide unique economic benefits through scarcity as they produce products (such as maple syrup and wild blueberries) that come from only small geographic regions worldwide.

Nova Scotia has a Statement of Provincial Interest (SPI) that directly addresses the issue of agricultural land development. The SPI directs municipalities to provide for a sustainable agriculture and food industry when amending planning documents. Other policies that indirectly affect how much land is in agriculture include tax exemptions for agricultural land, the Select Nova Scotia (buy local) campaign, and all other programs (both provincial and federal) that have an impact on the financial viability of the industry.

Another important factor to note is that in Canada property rights are held by the Crown.<sup>12</sup> Land owners technically do not own the land but are “very privileged tenants” of the nation. This is in contrast to the United States where property rights are ingrained in the constitution, and government intervention is limited compared to the Canadian situation. In Canada, under the British North America Act of 1867, municipalities have the statutory power to regulate land use. There are, of course, checks and balances inherent in a democratic system to mitigate a government’s attempts to exercise this power to its full extent without some sort of compensation.

The issue of protecting agricultural land has risen in prominence over the past year. Figure 3 displays coverage in Nova Scotia’s major newspaper directly related to this topic.

**Figure 3. Chronicle Herald Coverage of Agricultural Land versus Other Development Issues**



Source: Chronicle Herald online metro edition

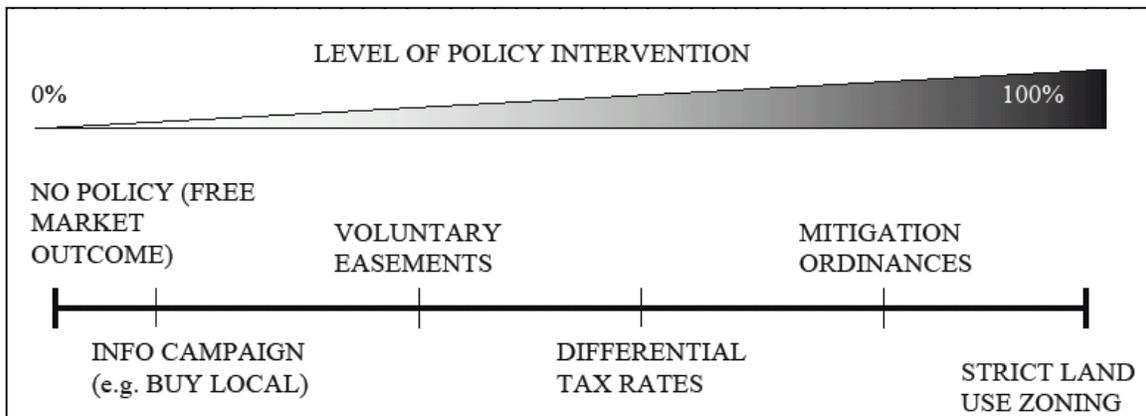
The situation in Nova Scotia does not perfectly mirror that of any other place. The initiatives used to protect agricultural land in other areas, however, provide valuable insights into the question of whether to, and if so how to, protect this resource in Nova Scotia.

## Policy Spectrum

Policies are not free, they will encounter opposition that may render them politically unfeasible, and they may not always have the desired outcome. If agricultural production were the most profitable use of arable land, there would be little need for discussions on how to protect the resource. This situation is the most desirable from the perspective of program cost, political acceptability, and effectiveness. In this case, no programs are needed to keep the land in agriculture, so there is no cost. Politicians are not required to make difficult decisions and act on assessments of public versus private interests. Finally, profitable agriculture is highly effective in keeping land in food production.

Obviously, such a situation is rare, and some market intervention is likely necessary if agricultural land protection is a priority. Any additional initiative to protect agricultural land will deviate from the outcome that the free market would otherwise provide, for better or for worse. Any initiative will have some program cost, will have an impact on how voters perceive government, and will change the amount of land that will ultimately remain in agriculture. Figure 4 displays some examples of policies used to protect agricultural land and illustrates how these policies might rank in terms of how “interventionist” they are or how much they interfere with the free market outcome. Intervention or interference is not necessarily meant to imply negativity but simply a difference from the free market outcome.

**Figure 4. Policy Spectrum**



Trade-offs between the attributes of a policy (cost, political acceptability, and effectiveness) must be made when determining whether action should be taken to protect land resources and what that action should be. While the free market that sufficiently values agricultural land is the least costly and the most politically acceptable and effective, this does not imply that the most interventionist policy will have highest cost and lowest acceptability. A “buy local” campaign that provides information to consumers and raises the value of agriculture may be quite politically acceptable and yet costly. Other policies might have little program cost but high costs in terms of forgone development. Finally, strict land use zoning might have low cost and be completely successful in preventing the loss of agricultural land, but it could be extremely polarizing politically. These issues should be kept in mind when reviewing the policy options that follow.

## Options for the Protection and Preservation of Agricultural Land

There are a large number of policies that have been implemented in various areas, with major and minor differences from one policy to the next. This section describes broad protection mechanisms, gives specific examples of each, and attempts to evaluate effectiveness where possible.

### **Profitable Agriculture**

As mentioned, the “easiest” way to keep land in agriculture is to have agriculture as the most profitable use of that land as directed by the free market. In a less ideal situation, profitable agriculture can be achieved through policy. Profit-enhancing policies are indirect methods of protecting agricultural land.

Major national agricultural policy frameworks such as the U.S. Farm Bill and the European Union’s Common Agricultural Policy have diverse program offerings that mitigate risk, increase prices, and generally enhance the profitability of agriculture. Acceptability under world trade agreements and market distortions aside, agriculture in these countries is more profitable than would be the case in the absence of such policies.

To aid in the profitability of farmers, Canada has implemented risk-management strategies such as AgriStability and the new Growing Forward policy framework. Marketing strategies have also been developed as a means of growing markets for producers. Pricing and cost-related programs may also be used to increase profitability for producers. Land is kept in dairy and poultry production due to supply management. This might not be the case without the policy.

These programs and policies cost significant amounts of money. Certain policies come under intense political pressure from the public and from trade agreements. The benefit of profit-driven agricultural land protection in the ideal situation is that there is no government interference, only the market at work that pushes land into its best use. By avoiding government intervention, public costs are avoided. The negative of a market-driven system is the lack of stability over time as market conditions change.

The mainstream market is inherently focused on short-term wants and needs, and while it is a champion of making its participants produce efficiently (at low dollar cost), it ignores many other costs and benefits associated with how goods and services are produced. Recently, more people and groups have begun to question the rationality behind the market ignoring costs that have a potentially large impact on society (pollution, unsustainable fishing practices, unfair labour laws, to name just a few). As a result of this new type of demand, the market is beginning to take these costs and benefits into account in a variety of ways, including product labelling, carbon taxes/cap and trade systems, media attention, and government regulation. Any initiative that works towards providing the market with incentives to account for more of its currently ignored costs and benefits will reduce pressure on agricultural resources for other forms of development.

## **Transfer of Development Credits (TDCs)**

Parcels of land often have limits on the amount of development that can occur on those sites. For many farms that are not sufficiently profitable through agricultural production, the financial temptation or necessity to develop the land is great. For developers, profits are greater for a given parcel of land when higher densities can be achieved. One method that can benefit both parties and protect agricultural land is through the transfer of development credits.

The value of land reflects the value of its possible uses (residential, commercial, industrial). Initiatives such as TDCs allow for the removal of certain uses from a parcel of land in exchange for financial compensation.

Take an area covered by a TDC that has a density regulation of 10 dwellings per hectare. A farm that is no longer economically viable could be sold for development at this density. Or, instead of selling land, the farmer could sell only the right to construct the 10 dwellings per hectare. A developer who already owns land in the area covered by the TDC could purchase development rights for five hectares, for example, and then construct 100 dwellings (20 dwellings per hectare) on five hectares that they own. The farmer who sold the development credits could no longer develop the land for that use.

The transfer of development credits (TDCs) is an intelligent approach to development for a couple of reasons. From an agricultural perspective, the right to develop the land out of agriculture is removed, and the farmer is fairly compensated for the sale. The capital gained may be used for reinvestment into the farm. If the owner stops farming, the land can only be used for agriculture and will thus sell for a relatively affordable price to a buyer who intends to continue farming the land. For the developer, more units on the same land translate into higher profit. For the town, fewer additional services must be provided because less new land is being developed.

Examples of the transfer of development rights/credits can be seen throughout the United States.<sup>13</sup> For example, Florida has a well-established program by which large ranches are selling rights to develop whole towns on poor agricultural land.<sup>14</sup> This is a positive for municipal governments because development is concentrated and thereby increases tax revenues relative to costs of providing services. This is also beneficial for producers who now have a large market close by in which to sell their products. TDCs are funded through private transactions, and thus the public cost of the program is low (some administrative costs).

A TDC program requires a functioning local housing market. If there is no demand for development, the value of a development credit would be essentially nothing.

A downfall of these programs is their complexity to both establish and maintain. Municipalities in Alberta have experimented with TDC programs with little success, due mainly to a lack of understanding among citizens.<sup>15</sup> An educational campaign may be needed to help citizens understand how the program works and what benefits would be received.

These programs may also serve to increase the land values around parcels that have sold development rights because the supply of land is now lower and there is a guarantee that the adjacent land will not be developed. Increased value may make selling land more enticing to other land owners. Also, the government must pass legislation to establish transfer programs; therefore, inception may be slow.

## **Conservation and Agricultural Easements**

Conservation easements (CEs) are similar to transfer of development credits in that the right to develop is removed from a parcel of land. In the case of easements, however, the development right is not transferred to other land. In such programs, a group such as a land trust or government possesses or “holds” an easement that restricts the use of the land in question and ensures that the conditions of the easement are being maintained. The arrangement is voluntarily entered into by the land owner. Some conservation easements restrict any disturbance of the natural character of the land, whereas most agricultural easements remove the right to the division or development of land. In the United States, agricultural easements are not distinguished from conservation easements, but in Canada they are separate because of the different rights surrounding each. Non-agricultural CEs have “been recognized legally and financially since 1995 under the federal government’s Environmental Protection and Enhancement Act (EPEA). This Act is supported by the Ecological Gifts Program within Environment Canada.”<sup>16</sup>

In Canada, conservation easements focus on wetlands, wildlife habitats, and other ecologically sensitive areas. When a conservation easement is donated to an organization, the land owner can claim the donation and receive a tax benefit. Easements can also reduce the value of land and thus property taxes. Easements can also be purchased, but this is typically done only if the land is extremely important or in high risk of being converted (i.e., scarce). The cost of purchasing easements can be very large.

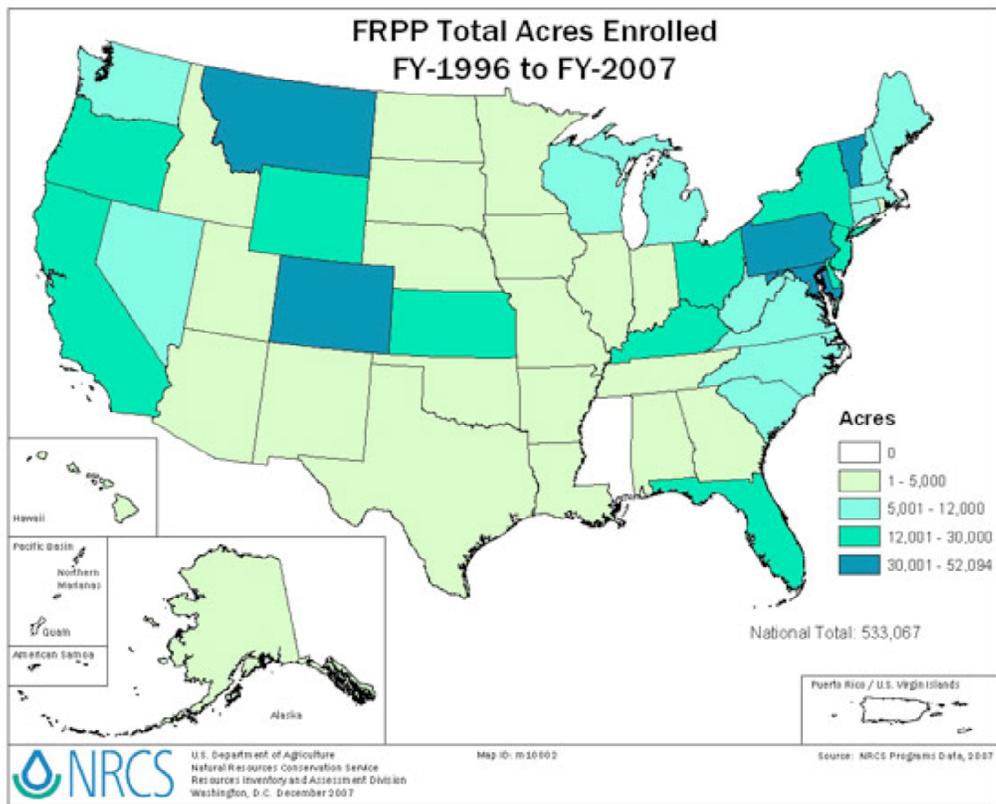
Agricultural easements are not as common as conservation easements in Canada. They allow for regular farming practices to continue as normal, but block the development and division of land. In Ontario, the provincial government introduced legislation that allows for agricultural easements; however, donors are subject to capital gains taxes on the donation because under the Income Tax Act the land owner disposed of some value of the land.<sup>17</sup> This cost is partially offset by a tax receipt issued by the conservation organization holding the easement, assessed for the difference in land value before and after the easement was placed on the deed. A major step that needs to be taken in Canada to make agricultural easements more successful is the adoption of a gifts program, similar to that used for ecologically sensitive lands, that eliminates the capital gains tax.<sup>18</sup>

Though easements are slightly different in the United States, there are many examples of successful protection initiatives centred on easements that could be utilized in Canada. Land owners who donate easements receive a tax credit for their charitable donation. In Colorado, land owners receiving this tax credit for their charitable donation can sell a portion of the credit to a third party to use on their tax return.<sup>19</sup> This can be very beneficial for the land owner because the value of the credit can be higher than taxes owed and can be carried over

on a tax return for a limited number of years, thus limiting the ability to benefit from the total value of the credit.

The United States has seen the benefit of easements for almost 25 years, and the USDA funds a federal easement program in co-operation with land trusts and other conservation organizations.<sup>20</sup> Though there is a direct cost to the federal government through either the purchase of easements or the loss of tax revenue, the benefits of collaboration with organizations and the permanent protection are apparent. The government has few administrative duties and the cost of the land is based on the value of the appraisal, thereby reducing disagreements between land owners and organizations regarding price.

**Fig 5. Land Protected by the U.S. Farm and Ranch Lands Protection Program**



Source: USDA, 2008.<sup>21</sup>

A limiting factor in the ability of CEs to protect agricultural land is that they are voluntary. This results in prime agricultural land remaining unprotected, because land owners may see a greater value in retaining the future potential of their land versus selling it or donating it now. Also, the benefits of the program must be properly communicated to the public. There is also the risk that the value of land adjacent to a parcel protected by an easement will increase due to the guarantee of that neighbouring land will not be developed. To combat land speculation, some states have made it mandatory that a farmer put an easement on his or her entire property, not just select pieces. The loss of income to the various levels of government may also limit support for the legislation changes required to make this program feasible.

Nova Scotia has two farms protected by a conservation easement (121 hectares total). One is Avonmouth Farm in Summerville and the other is Red Fox Co-op in Centre Burlington. HelioTrust, part of the Ecology Action Centre, is the registered easement holder under the Conservation Easement Act.<sup>22</sup> The land was protected through private funding with CEs in 2005–2006. Each easement was negotiated with the land owners and includes restrictions on subdivision, construction, and land management.

## Tax-Based Programs

### Differential Assessment

Property taxes can be a significant cost to agricultural land owners, increasing as the market value of their land grows with pressure from development. This may encourage land owners to sell land out of agriculture to reduce expenses, or it may decrease the feasibility of expansion through additional land purchases or new buildings that would further increase property taxes.

Differential assessment is used as a tool to protect agricultural land from conversion by reducing taxes paid on this land to reflect its agricultural value, rather than its market/speculative value, which is often higher.<sup>23</sup> Every state in the United States except Michigan (which feels that the benefits do not outweigh the cost) has some form of differential assessment.<sup>24</sup> To be considered under these regulations, specific requirements must be met such as minimum agricultural acreage, gross revenues from farming, past devotion to agricultural production, and ownership by a “farmer.”

A negative of this policy is the perceived loss of revenue for local governments that collect property taxes. This view is usually based on incomplete information about the economic benefits and costs of agricultural land and other development. Studies have indicated that municipalities must spend more on services for non-agricultural development than these uses provide in tax revenues.<sup>25</sup> The less obvious economic benefits of having land in agriculture (tourism, the increased ability to attract people and companies to an area) must also be considered. Nonetheless, to combat the direct loss of tax revenues from differential assessment Vermont imposed a “land use change tax.” This tax is applied when land previously devoted to agriculture and assessed under the state’s differential assessment program, is sold for development.<sup>26</sup> The amount collected from this tax is put in a fund used to reimburse the local governments for lost revenue from the differential assessment program.<sup>27</sup>

The effectiveness of tax relief programs has been questioned in the past. Some studies have stated that they are a means to increase farmer’s income, but will aid in land preservation only if the farmers wish to protect their land.<sup>28</sup> One 2007 study of the U.S. Mid-Atlantic states found that taxation programs had a significant effect on land preservation. The report concluded that “counties with preferential taxation programs had a farmland loss rate of 4.06 per cent, while counties without one had a rate of 7.9 per cent.”<sup>29</sup>

In Nova Scotia, farmland is exempt from property tax under the provincial Assessment Act.<sup>30</sup> This exemption stays in place as long as the land stays in agricultural production. If

land is converted out of agriculture a “change in use” tax of 20 per cent of the assessed property value is charged to the owner.<sup>31</sup> Nova Scotia Property Valuation Services Corporation is presently evaluating what is required for land to be classified as agricultural. To compensate municipalities for the loss in income, the provincial government gives each municipality a grant in lieu based on the number of exempt acres. The 2008 rate is \$2.63/acre and changes based on the Canadian Consumer Price Index—the generally accepted measure of inflation.<sup>32</sup> It should be noted that this exemption applies only for agricultural land and not buildings, which are taxed per \$100 of assessed value at the commercial level.<sup>33</sup>

### **Capital Gains and Estate Tax Programs**

Capital gains tax is a tax placed on the profit earned from the sale of an asset.<sup>34</sup> In Vermont, the state government adopted a law in 1973 that saw capital gains taxes increase for land held for less than six years.<sup>35</sup> The purpose of this law was to reduce land speculation and rising land costs and reduce the subdivision of land. It exempts the sale of a primary residence and charities buying agricultural land for its protection, with the stipulation that the land be used for agriculture for the next 10 years. This program was effective in reducing short-run land speculation but may have rewarded longer-term speculators.

Estate tax programs have also been used to promote agricultural land preservation. In Connecticut, heirs to farms were being forced to sell a portion or all of the operation to pay the estate tax. To mitigate this situation, the government introduced a use-value assessment of estate farms for tax purposes if the family agrees to farm for the next 10 years. If they do not meet the 10-year requirement the farm is reassessed at market value, and the appropriate taxes are applied retroactively. This law eases the transition of farmland from one generation to the next and acts as a short-term deterrent to converting land out of agriculture.

### **Executive Orders/Orders-in-Council**

An executive order (U.S.) or order-in-council (Canada) is a government directive that guides government initiatives and spending. An order can be specific to protection of agricultural land, or it can affect agricultural land indirectly.

Many states along the Eastern Seaboard of the United States enacted executive orders decades ago. In 1981, the governor of Massachusetts signed an executive order directing “all relevant state agencies to seek to mitigate agricultural land conversion of state-owned agricultural land.” Public projects should not be built on agricultural land unless absolutely necessary and state and federal funds will not be used to convert agricultural land out of production.<sup>36</sup>

In Maryland, an act was passed that restricts subsidies for new infrastructure spending to areas within municipalities, communities close to major cities, and other specially designated areas called Priority Funding Areas.<sup>37</sup>

These initiatives are less “heavy-handed” relative to some others that aim to protect agricultural land. This makes them more attractive to politicians but can also limit effectiveness.

## **Mitigation Ordinances**

In California there is huge pressure on agricultural land to be developed for other uses. The City of Davis introduced a mitigation ordinance program in 1995 to address the problem of balancing the need for development with the need for agricultural land.<sup>38</sup> For every one acre of agricultural land taken out of production, a developer must pay to protect two acres of land through the purchase of a conservation easement or an equivalent in-lieu fee to a land trust that will purchase the easement. Additionally, the agricultural land that is protected must be adjacent to that developed, which creates a permanent edge to the city. This has been a very effective way to raise funds and by 2006 had led to the protection of approximately 3000 acres of farmland.

Additional counties are now using the same method to protect their agricultural land. The policy has also, through competition among developers, driven up the price for easements, although this was not the intent of the law.

California has experienced some difficulty with collaboration between counties, thus the development of a more regional, wide-sweeping regulation may see more success. A downfall of this type of regulation is the fact that many acres of prime agricultural land are still being developed. The political acceptability may be affected, as such a program may deter companies from establishing in the area.

## **Agricultural Zoning, Districts, and Security Areas**

### **Zoning**

Zoning land for agricultural use is a very common and useful protection tool. Zoning regulates how land is to be developed by limiting or prohibiting certain uses of the land included in the zone. Zones are adopted by municipalities as part of their land use by-laws. They can be changed by the municipality but only to carry out the intent of their established land use policy found in the municipal plan (sometimes called the official plan).

Provincial governments in Nova Scotia and Ontario have given authority for land use planning to their municipal governments, subject to provincial interest. Nova Scotia adopted five Statements of Provincial Interest (SPI) in 1999. One of these SPIs relates to the protection of agricultural land. The goal of the statement is “to protect agricultural land for the development of a viable and sustainable agriculture and food industry.”<sup>39</sup> 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 come under provincial government review if lands in farming or with agricultural potential (CLI Classes 2, 3, and 4) are affected.

A major shortcoming of the SPI in Nova Scotia is that while all municipalities have municipal plans, some, particularly rural municipalities, have plans that apply only to specific things (i.e., not agriculture) or do not apply to the entire municipality.<sup>40</sup> That means that the SPI cannot be carried out in all areas of the province.

One issue with zoning in general is the lack of consistency from one municipality to the next, and the effectiveness of zoning to protect agricultural land will vary throughout the province. The ability to customize planning and zoning to individual municipalities is also a positive because it allows small areas to address their specific needs. Zoning will become obsolete if it is not updated. Municipalities often develop a plan and zone but do not re-evaluate the plan over time as the situation of the municipality changes.<sup>41</sup>

Urban zoning can be just as important as agricultural zoning in protecting agricultural land. In the Golden Horseshoe region of Ontario, for example, increasing the density of urban areas, thereby reducing sprawl, is one component of a large smart growth movement that recognizes the importance of agriculture to the region.<sup>42</sup>

Other areas have used cluster zoning in guiding development. Out of a larger parcel of land, homes are built on small lots, while the remaining land is left undeveloped. Often owned by the homeowners association or the developer, the land may be protected from development. The property owners, however, will often object to renting the land for agriculture due to noise, smell, etc. Even if the land is used for agriculture, it will often be too small for commercial-scale production. Cluster zoning can still be useful as a buffer of open space between agricultural and residential areas and/or in providing some locally produced food. The ability to return the land to agriculture in the future remains intact.

## Districts

Agricultural districts are specific areas in which agriculture is recognized as the priority use, and other development is restricted.<sup>43</sup> Three provinces within Canada have developed specific agricultural districts, the first being British Columbia in 1973, followed by Quebec in 1979, and the most recent being the Greenbelt Plan in Ontario.<sup>44, 45, 46</sup>

British Columbia developed its Agricultural Land Reserve (ALR) in the 1970s because large portions of agricultural land were being lost to development.<sup>47</sup> Land had become sufficiently scarce to warrant government intervention in the market for this resource. The provincial government appointed a commission to work with municipalities to identify land that would become part of the ALR.<sup>48</sup> Non-agricultural development is restricted on ALR land and controlled by the commission.

Since the ALR's inception, the loss of agricultural land has been reduced from approximately 6000 hectares per year to 600 hectares.<sup>49</sup> Land values have also stayed lower within the ALR. Figures for the sale of vacant land from 2005 to 2008 demonstrate that land within the ALR sold, on average, for much less than land not controlled by the commission.<sup>50</sup> This is beneficial because it makes land attainable for farmers and reduces land speculation.

A large concern about the ALR is that high-quality land near urban areas has been taken out of the reserve and substituted with poorer-quality land in regions with less pressure for development. Though the total ALR area remains relatively constant, the highest-quality land is still being lost.<sup>51</sup> To overcome the difficulty of being a large province with different regional needs, the commission that oversees the legislation is made up of regional panels, and one member from each regional panel sits on the executive committee that handles provincial and administrative duties.<sup>52</sup> This structure has been criticized because the regions have an apparent economic incentive to exclude their land from the ALR; therefore, aggregate provincial interests may not be adequately protected.<sup>53</sup>

Districts in Ontario and Quebec are quite similar to the ALR. Their legislation takes precedence over other zoning and land use regulations.<sup>54</sup> The regulations regarding the area covered in Ontario is slightly different in that the size of the Greenbelt can never decrease, only grow.<sup>55</sup> In Ontario and Quebec, the districts cover specific areas of the province, in the Golden Horseshoe of Ontario and south of the 50° latitude in Quebec.<sup>56</sup> In British Columbia, however, the ALR targets arable land throughout the province.

A concern of this initiative is the risk of turning the district into a park-like area, making commercial agricultural production and business planning difficult.<sup>57</sup> Also a concern in Ontario is the “leapfrogging” of development beyond the Greenbelt onto additional high-quality agricultural land just beyond the protected area.<sup>58</sup>

Agricultural zones and districts have been effective mechanisms for farmland protection, but not without concerns and criticisms. These initiatives are highly interventionist in terms of deviating from what otherwise would have been the market outcome. One major concern of farmers is the control over the development of new buildings to expand farming operations, whether it is a large commercial poultry barn, a greenhouse for a market garden, or a retail outlet. Zoning and district legislation must be developed in a way that does not stunt the progress of successful and innovative agriculture.

## Security Areas

Security areas are tracts of land in which agriculture is encouraged and protected. A major difference between security areas and agricultural districts is that land owners form security areas voluntarily. Owners can join together to form the areas or pursue the designation individually if they meet the required size.<sup>59</sup>

An example of such a policy is present in Pennsylvania. Farmers can join together to form an area of productive agricultural land if they collectively hold at least 250 acres. The group then submits a petition to their local governing body to become an agricultural security area.<sup>60</sup>

The benefit of forming these areas is the consideration received by local and state government. These bodies cannot impose regulations that would put restrictions on the building of farm structures or on accepted farm practices (or, in general, unreasonably limit agricultural practices). They are also to avoid converting land out of agriculture for government uses such as schools. Within security areas, normal agricultural practices cannot be considered nuisances in a nuisance ordinance.<sup>61</sup>

A major boon to the political acceptability of security areas is that they are completely voluntary. This is also the major limiting factor in their long-term ability to protect agricultural land, as participation can be stopped at any point, and the land owners can retain all development rights to the land. There is also no penalty provision for land included in the security area that is converted out of production. The areas are reviewed every seven years, and the local government has the ability to reject the farmers' petition and deny the designation.<sup>62</sup>

## **Land Ownership Restrictions**

Restrictions on land ownership are used as a means of protecting land and societal interests. A governing body puts restrictions on who can buy land, how much they can purchase, and where. This mechanism is used in different places for a variety of reasons.

On Prince Edward Island, restrictions are in place for a combination of historical reasons involving absentee landowners and Islanders' interests involving coastline protection.<sup>63</sup> In Quebec, non-residents or non-resident corporations must apply to purchase more than four hectares of farm land.<sup>64</sup> This legislation has been attributed to Quebec's desire to be independent and its resistance to outside influences.

These approaches address land protection in a highly legislative way, but do little to specifically protect agricultural land from conversion to non-agricultural uses. They act instead as a means to reduce development by non-residents and to keep land in the control of people and companies with a vested interest in the province.

## **Government Purchase of Agricultural Land**

Purchasing land to protect it from conversion out of agriculture is not a popular mechanism in North America. In this type of policy, government buys land to prevent it from conversion and is, thus, relatively interventionist. Many programs also incorporate the selling or leasing of this land back into agricultural production at a more affordable price.

This policy was practised on Prince Edward Island in the 1970s to 1980s, when the government administered a land bank of sorts through the Land Development Corporation (LDC).<sup>65</sup> The LDC was able to purchase, hold, lease, and sell acreage with the goal of protecting land during difficult periods. The challenge with running such a program is the huge capital investment that is tied up in land and the large administrative cost of running the commission. These costs are a significant deterrent for many jurisdictions and are a major reason the commission on Prince Edward Island no longer exists.

Government purchase of agricultural land is common in Sweden and the Netherlands. The food security of these countries was severely affected by World War II, and as a result, there is a societal willingness to put large amounts of public resources towards protecting the national food supply. In the Netherlands, the federal government is given the first chance to buy agricultural land being converted out of production.<sup>66</sup> The Swedish government has

established a program where County Agricultural Boards have the ability to purchase land and sell it to new entrants with more reasonable mortgage terms and rates.

Nova Scotia's land-banking program was created in the 1960s. Through the Nova Scotia Farm Loan Board (FLB), the government purchased land and leased or sold it back to producers. There are still properties owned by the farm loan board, although no new leases are being issued.<sup>67</sup> This program was developed as a means to assist farmers who wanted to grow their operations but were unable to make capital commitments to land. The FLB leased land to producers thus providing a lower-cost alternative. Originally, land purchased through this program had a covenant placed on its deed that restricted the land's use to agriculture. This was removed due to industry pressure in the early 1990s. The program was successful in providing land to farms when interest rates were high and purchasing land was very expensive. The program effectively ended when the economic situation changed and made purchasing land more feasible.<sup>68</sup>

## Smart Growth

The term "smart growth" has many interpretations, but most focus on the development of a long-term plan that manages growth and focuses on complete communities, farmland and open-space protection, and the reduction of sprawl. Smart growth is not anti-growth, but instead is a more sensible approach to growth with an objective of sustainability.<sup>69</sup>

McNaney (2007) outlines the following as the general principles of smart growth:<sup>70</sup>

- Avoid urban sprawl by promoting compact human settlement that avoids unplanned growth and ensures efficient development.
- Minimize the use of cars by encouraging walking, bicycling, and public transit.
- Protect the ecological integrity of urban and suburban areas.
- Maintain the integrity of a secure and productive agricultural land base.
- Promote adequate and affordable housing.
- Preserve, create, and link urban and rural open space.
- Promote innovative urban development through mixed-use and alternative development standards.
- Ensure an early and ongoing role of citizens in planning, design, and development processes.

Agricultural resources will be front and centre in any planning strategy that seeks to promote "smart growth." A planning approach in an area with limited resources in particular will discourage the use of such important land for development that could be located elsewhere. Indeed, examples of smart growth strategies can often be found in geographically small areas where land resources are limited or in large areas that have seen their resources become scarce.

Incentive-based programs promote smart growth instead of using strict regulations to dictate land use. Maryland offers a prime example of such a strategy. The state is a national leader in actively protecting farmland and planning. The newest state program, adopted in 1997, was composed of five measures:

- **Priority Funding Areas (PFAs):** This measure limits infrastructure subsidies to specific areas (within current built-up areas, growth corridors, etc.).
- **The Rural Legacy Act** provides funding for the purchase of development rights.
- **Brownfield Voluntary Cleanup and Redevelopment Act** “provides financial incentives, technical assistance, and liability protection” for the cleanup and redevelopment of underutilized or abandoned industrial locations perceived to be contaminated.
- **Live Near Your Work** is a program that offers financial incentives for citizens who purchase homes near their places of employment.
- **Job Creation Tax Credit Act** rewards employers, through income tax credits, who created 25 full-time jobs in the new PFAs.<sup>71</sup>

The strategy discourages sprawl using positive incentives or “carrots not sticks”. Most facets of Maryland’s strategy are incentives to everyday citizens and business, not just owners of farmland. Through this approach, farmers and the general public are all able to engage in and benefit from the protection of farmland.

These programs have been politically popular in Maryland due to their voluntary nature. In terms of maximizing protection of agricultural land, this can be a negative, and many people feel the program does not go far enough. The size of the incentive has also been brought into question. Another major problem is that the programs are not permanent and can change as the government changes, as was seen in Maryland when the governor who developed the programs left office and funding was reduced.<sup>72</sup>

British Columbia has been a leader in land planning due to the large increase in population and the amount of prime agricultural land surrounding growing urban areas. As a result of the smart growth approach, residential development has been focused in Vancouver’s city core. Consequently, transportation downtown has undergone a dramatic change. Automobile trips decreased 13 per cent, and trips by foot increased 55 per cent between 1994 and 1999.<sup>73</sup>

British Columbia has been working for many years to develop a smart growth plan and implement it successfully. Smart growth plans are not quickly developed or implemented, as they require consultation with citizens and various organizations. Results are also not seen immediately. Smart growth plans can be effective only if they are implemented and supported over a long period of time; therefore, the costs may be high.

## Conclusion

This paper has reviewed some of the initiatives that jurisdictions have used to protect their agricultural resources. These policies could be used to guide a made-in-Nova Scotia approach to the issue of whether, and if so, how, to protect the province's agricultural land base. The relative market intervention inherent in the different initiatives—and resulting costs, political acceptability, and effectiveness—are important factors to note.

How the debate plays out will depend greatly on how informed and vocal its stakeholders (the public) are. In fact, an engaged public that is provided with accurate information about the impact of planning could go a long way towards persuading the market to provide a more accurate valuation of agriculture in general. Profitable agriculture is, of course, the ideal way to protect the land.

In all cases, the question of how to use the planet requires a longer-term insight than has commonly been the case.



## Endnotes

1. Nova Scotia Department of Agriculture. 1998. *Agricultural Land Identification Program Final Report*.
2. Statistics Canada. 2006. "Total Farm Area, Land Tenure and Land in Crops, by Province," *Census of Agriculture, 1998–2006*. [www40.statcan.ca/101/cst01/agrc25d.htm](http://www40.statcan.ca/101/cst01/agrc25d.htm) (26 June 2008).
3. Peters, C. J., J. L. Wilkins, and G. W. Fick. 2006. "Testing a Complete-Diet Model for Estimating the Land Resource Requirements of Food Consumption and Agricultural Carrying Capacity: The New York State Example," *Renewable Agriculture and Food Systems* 22 (2): 145–53.
4. Personal communication with David Steeves, Director, Land Administration, Nova Scotia Department of Natural Resources. 4 November 2008.
5. Policy Working Group of the Nova Scotia Participatory Food Security Projects. 2006. *Thought About Food? Understanding the Relationship between Public Policy and Food Security in Nova Scotia: A Background Paper and Policy Lens*.
6. Nova Scotia Department of Agriculture. 2007. *Facts and Figures about Agriculture in Nova Scotia*. <http://www.gov.ns.ca/agri/agaware/quickfacts.shtml> (26 June 2008).
7. Statistics Canada. "Total farm area."
8. Natural Resources Canada. 2008. *Canada Land Inventory—Agriculture*. <http://geogratis.cgdi.gc.ca/cgi-bin/geogratis/cli/agriculture.pl> (26 June 2008).
9. Nova Scotia Museum of Natural History. *Natural History of Nova Scotia*, vol. 1, *Soil Classification*. <http://museum.gov.ns.ca/mnh/nature/nhns/t9/t9-2.pdf> (26 June 2008).
10. Peters, Wilkins, and Fick, "Testing a Complete-Diet Model."
11. Personal communication with D. Steeves.
12. Hodge, G. 1985. "The Roots of Canadian Planning," *Journal of the American Planning Association* 51 (1).
13. Beale, B., and C. Fay. 2006. *Transfer of Development Credits*. CanadaWest Foundation. [www.cwf.ca/V2/files/Open%20Spaces%20and%20People%20Places.pdf](http://www.cwf.ca/V2/files/Open%20Spaces%20and%20People%20Places.pdf) (6 August 2008).
14. Rae, G., and B. Beale. 2008. *Thinking outside the Fence: International Land Stewardship Policy Options for the Canadian Agriculture Sector*. CanWest Foundation. [www.cwf.ca/V2/files/AGreportLSI.pdf](http://www.cwf.ca/V2/files/AGreportLSI.pdf) (7 July 2008).
15. Southern Alberta Land Trust Society. 2007. *Environmental Tools: Transfer of Development Rights*. [http://www.salts-landtrust.org/docs/D\\_070424\\_CE\\_TDR\\_Alberta.pdf](http://www.salts-landtrust.org/docs/D_070424_CE_TDR_Alberta.pdf) (7 July 2008).

16. Ducks Unlimited Canada. 2007. *Conservation Easements*. <http://yourl.ducks.ca/protect/pdf/alberta/ce2007.pdf> (8 July 2008).
17. Walther, N. 2008. *Protecting Farmland for Farmers*. Ontario Farmland Trust. [www.farmland.uoguelph.ca/oft/Nancy%20Walther%20Ontario%20Farmland%20Trust%20Presentation.pdf](http://www.farmland.uoguelph.ca/oft/Nancy%20Walther%20Ontario%20Farmland%20Trust%20Presentation.pdf) (9 July 2008).
18. Environment Canada. 2006. *The Ecological Gifts Program*. [www.cws-scf.ec.gc.ca/egp-pde/default.asp?lang=En&n=522AB5A3-1](http://www.cws-scf.ec.gc.ca/egp-pde/default.asp?lang=En&n=522AB5A3-1) (9 July 2008).
19. Rae and Beale, *Thinking outside the Fence*.
20. USDA. 2008. *Farm and Ranch Lands Protection Program*. [www.nrcs.usda.gov/programs/frpp/](http://www.nrcs.usda.gov/programs/frpp/) (12 August 2008).
21. Ibid.
22. Personal communication with Jennifer Scott, HelioTrust Coordinator and Food Systems Analyst, Ecology Action Centre. 19 November 2008.
23. Schnidman, F., M. Smiley, and E. G. Woodbury. 1990. *Retention of Land For Agriculture: Policy, Practice, and Potential in New England*. Lincoln Institute of Land Policy.
24. Norris, P., L. R. Harvey, B. J. Deaton, and M. A. Savard. 2002. *Can Use Value Assessment for Property Taxation of Agricultural Land Protect Environmental Amenities?* Michigan Department of Environmental Quality. [www.deq.state.mi.us/documents/deq-ogl-mglpf-norris.pdf](http://www.deq.state.mi.us/documents/deq-ogl-mglpf-norris.pdf) (29 July 2008).
25. McNaney, K. 2007. "Holding the Line on Sprawl—Farmland Protection and Livable Communities in BC," in *Farmland Preservation Land for Future Generations*, eds. W. Caldwell, S. Hilts, and B. Wilton (Guelph: Centre for Land and Water Stewardship), 223.
26. Schnidman, Smiley, and Woodbury, *Retention of Land for Agriculture*.
27. Ibid.
28. Ibid.
29. Lynch, L. 2006. "Critical Mass: Does the Number of Productive Farmland Acres or Farms Affect Farmland Loss?" in *Economics and Contemporary Land Use Policy: Development and Conservation at the Rural-Urban Fringe* by R. J. Johnstone (ed.) and S. K. Swallow (Washington, DC: Resources for the Future Press) 132.
30. Assessment Act, *Revised Statutes of Nova Scotia* 1989, c. 23. <http://www.gov.ns.ca/legislature/legc/statutes/assess.htm> (13 August 2008).
31. Municipal Government Act, *Revised Statutes of Nova Scotia* 1998, c. 18. <http://www.gov.ns.ca/legislature/legc/statutes/muncpgov.htm> (14 August 2008).

32. Service Nova Scotia and Municipal Relations. 2007. *Building Strong, Healthy Communities Together*.  
[www.gov.ns.ca/snsmr/pdf/muns/municipal\\_services\\_report\\_07.pdf](http://www.gov.ns.ca/snsmr/pdf/muns/municipal_services_report_07.pdf) (13 August 2008).
33. Personal communication with Jeff Caddell, Regional Manager, Property Valuation Services Corporation, 30 July 2008.
34. *The American Heritage Dictionary of the English Language*, 4th ed.  
<http://dictionary.reference.com/cite.html?qh=capital%20gain&ia=ahd4> (14 July 2008).
35. Schnidman, Smiley, and Woodbury, *Retention of Land for Agriculture*.
36. Ibid.
37. Knapp, J., and D. Schmidt-Perkins. 2006. "Smart Growth in Maryland: Facing a New Reality," *Land Lines* 18 (3),  
[www.lincolnst.edu/pubs/PubDetail.aspx?pubid=1139](http://www.lincolnst.edu/pubs/PubDetail.aspx?pubid=1139) (10 July 2008).
38. American Farmland Trust. *Case Studies in Agricultural Land Protection in California*.  
[www.calregions.org/regcivic/bln/20061129/agriculturalcasestudies.pdf](http://www.calregions.org/regcivic/bln/20061129/agriculturalcasestudies.pdf) (9 July 2008).
39. Service Nova Scotia and Municipal Relations. 1999. *Statement of Provincial Interests*.  
[www.gov.ns.ca/snsmr/muns/manuals/pdf/mga/mgasch-b.pdf](http://www.gov.ns.ca/snsmr/muns/manuals/pdf/mga/mgasch-b.pdf) (27 June 2008).
40. Service Nova Scotia. 2006. *Municipal Government Act Resource Binder*, Part VIII.  
[www.gov.ns.ca/snsmr/muns/manuals/mga.asp](http://www.gov.ns.ca/snsmr/muns/manuals/mga.asp) (27 June 2008).
41. Johnstone, R. J., (ed.) and S. K. Swallow. *Economics and Contemporary Land Use Policy: Development and Conservation at the Rural-Urban Fringe* (Washington, DC: Resources for the Future Press) 2.
42. Ontario. Ministry of Public Infrastructure Renewal. 2007. *Planning for Growth in the Greater Golden Horseshoe*.  
[www.pibc.bc.ca/conference/PIBC%202007%20Session%20D%20-%20Ontario's%20Golden%20Horseshoe.pdf](http://www.pibc.bc.ca/conference/PIBC%202007%20Session%20D%20-%20Ontario's%20Golden%20Horseshoe.pdf) (4 July 2008).
43. British Columbia. Provincial Agricultural Land Commission. 2002. *Agricultural Land Reserve*. [www.alc.gov.bc.ca/alr/alr\\_main.htm](http://www.alc.gov.bc.ca/alr/alr_main.htm) (3 July 2008).
44. Smith, B. E. 2007. "A Work in Progress—The BC Farmland Preservation Program," in *Farmland Preservation Land for Future Generations*, eds. W. Caldwell, S. Hilts, and B. Wilton (Guelph: Centre for Land and Water Stewardship).
45. Bryant, C., and D. Granjon. 2007. "Agricultural Land Protection in Quebec—From Provincial Framework to Local Initiatives," in *Farmland Preservation Land for Future Generations*, eds. W. Caldwell, S. Hilts, and B. Wilton (Guelph: Centre for Land and Water Stewardship) 65.

46. Ontario. Ministry of Municipal Affairs and Housing 2005. *Protecting the Greenbelt: The Greenbelt Plan*. [www.mah.gov.on.ca/Page189.aspx](http://www.mah.gov.on.ca/Page189.aspx) (3 July 2008).
47. British Columbia. Provincial Agricultural Land Commission. 2002. "How the ALR Was Established," *Agricultural Land Reserve*. [www.alc.gov.bc.ca/alr/Establishing\\_the\\_ALR.htm](http://www.alc.gov.bc.ca/alr/Establishing_the_ALR.htm) (4 July 2008).
48. Smith, "A Work in Progress."
49. Ibid.
50. BC Assessment. 2008. Obtained from Lorraine Gilbert, Senior Planner, Assessment & Valuation Services.
51. Rae and Beale, *Thinking outside the Fence*.
52. British Columbia. Provincial Agricultural Land Commission. 2002. *Commission Panels*. [www.alc.gov.bc.ca/commission/commission\\_panels.htm](http://www.alc.gov.bc.ca/commission/commission_panels.htm) (7 July 2008).
53. Cavendish-Palmer, H. A. 2003. *Planting Strong Boundaries: Urban Growth, Farmland Preservation and British Columbia's Agricultural Land Reserve*. [www.smartgrowth.bc.ca/Portals/0/Downloads/PlantingStrongBoundaries.pdf](http://www.smartgrowth.bc.ca/Portals/0/Downloads/PlantingStrongBoundaries.pdf) (7 July 2008).
54. British Columbia, *Agricultural Land Reserve*. (7 July 2008).
55. Caldwell, W., and S. Hilts. 2005. "Farmland Preservation: Innovative Approaches in Ontario," *Journal of Soil and Water Conservation* 60 (3).
56. Bryant and Granjon, "Agricultural Land Protection in Quebec," 65.
57. Davison, G. 2007. "Smart Growth in Ontario—Getting Ahead of Your Future," in *Farmland Preservation Land for Future Generations*, eds. W. Caldwell, S. Hilts, and B. Wilton (Guelph: Centre for Land and Water Stewardship) 202.
59. Walther, *Protecting Farmland*.
60. Dodds-Weir, C., and R. Dykstra. 2003. *Approaches to Farmland Preservation: An American Case Study*. Centre for Land and Water Stewardship, University of Guelph. [www.farmland.uoguelph.ca/publications/preservationtour.pdf](http://www.farmland.uoguelph.ca/publications/preservationtour.pdf) (31 July 2008).
61. Ibid.
62. West Caln Township [Pennsylvania]. *West Caln Agricultural Security Area*. [www.wcaln.org/agricultural.htm](http://www.wcaln.org/agricultural.htm) (31 July 2008).
63. Prince Edward Island. Regulatory and Appeals Commission. 2007. *The Prince Edward Island Lands Protection Act Frequently Asked Questions*. [www.irac.pe.ca/document.asp?file=faq/documents/lpafaq.asp](http://www.irac.pe.ca/document.asp?file=faq/documents/lpafaq.asp) (2 July 2008).
64. Québec. 2006. *Agricultural Zoning*. [www.gouv.qc.ca/portail/quebec/pgs/commun/portrait/geographie/climat/zonageagricole/?lang=en](http://www.gouv.qc.ca/portail/quebec/pgs/commun/portrait/geographie/climat/zonageagricole/?lang=en) (2 July 2008).

65. Jacobs, H. M. 1997. *Agricultural Land Protection Policy for Albania: Lessons from Western Europe, North America, and Japan*. Land Tenure Center, University of Wisconsin – Madison. [http://minds.wisconsin.edu/bitstream/1793/21939/1/37\\_wp6.pdf](http://minds.wisconsin.edu/bitstream/1793/21939/1/37_wp6.pdf) (7 July 2008).
66. Ibid.
67. Nova Scotia Farm Loan Board. 2007. *Annual Accountability Report*. [www.gov.ns.ca/agri/farmlb/annrpt/acc\\_rpt\\_0607.pdf](http://www.gov.ns.ca/agri/farmlb/annrpt/acc_rpt_0607.pdf) (21 August 2008).
68. Personal communication with Derrick Jamieson, Nova Scotia Farm Loan Board, 21 August 2008.
69. McNaney, “Holding the Line on Sprawl,” 216.
70. Ibid.
71. Knapp and Schmidt-Perkins, “Smart Growth in Maryland.”
72. Ibid.
73. McNaney, “Holding the Line on Sprawl,” 221.