Thinking Outside the Fence

International Land Stewardship Policy Options for the Canadian Agriculture Sector

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EXECUTIVE SUMMARY

Canada's agricultural working landscapes produce economic and cultural wealth and there are numerous public policies in place to help support these two forms of wealth. However, agricultural land also provides ecological goods and services such as water filtration and habitat—a form of wealth that tends to be overlooked by current public policy in Canada.

Relatively new public policy tools being used in a variety of jurisdictions have the potential to correct this oversight by simultaneously protecting farmland, supporting rural communities, and increasing the supply of the ecological goods and services upon which we all depend.

It is therefore an appropriate time for "thinking beyond the fence" and for exploring solutions beyond our borders. This report does just that by examining six international case studies (and one notable western Canadian example) of land stewardship policy options for the agriculture sector.

Examples of public policy tools in use in Australia, the United States, and England demonstrate that policy approaches can link agricultural activities to local and national environmental priorities and create win-win solutions for both farmers and the environment. The following case studies are explored:

- Conservation Security Program, United States
- Rural Land Stewardship Program, Florida, United States
- Conservation Easement Tax Credit Program, Colorado, United States
- Environmental Stewardship Scheme, England
- Environmental Quality Incentives Program, United States
- National Landcare Program, Australia
- Agricultural Land Reserve, British Columbia, Canada

International agri-environmental policy examples demonstrate a shift away from income support tied to production toward producers receiving payments for the provision of ecological goods and services (EGS). The focus is on achieving environmental objectives and rewarding stewardship rather than penalizing poor environmental performance.

Solutions for farmers and the environment require a "land stewardship bundle" approach. Land stewardship policy for the agriculture sector should simultaneously deliver and maintain ecological goods and services for current and future generations; support the long-term economic viability of farming; and protect productive farmland from residential and industrial development.

Integrated land stewardship policy can be used to require, enable or encourage agricultural land users to build and maintain natural capital assets while continuing economically viable operations. The design of cost-effective and successful policies can avoid competition among economic and environmental objectives and can lead to entrepreneurial approaches that improve land stewardship and agriculture. There are significant opportunities for policy-makers to unleash the stewardship potential that inherently exists in agricultural communities through innovative public policy.

1. Introduction

Land stewardship policies are actions taken by governments that require, enable or encourage land users to manage land in ways that maintain or enhance natural capital for future generations. The steady loss of Canada's best agricultural land to other uses, the precarious economic circumstances faced by so many farmers and ranchers, and missed opportunities to increase the environmental sustainability of agricultural operations are three issues that land stewardship policy has the potential to address. The policy challenge is to identify and implement effective land stewardship mechanisms for helping farmers and ranchers stay on the land and engage in practices that increase the range of ecological goods and services that land provides.

To help identify viable policy options that could be applied in Canada, this report examines seven land stewardship case studies:

- Conservation Security Program, US
- Rural Land Stewardship Program, Florida, US
- Conservation Easement Tax Credit Program, Colorado, US
- Environmental Stewardship Scheme, England
- Environmental Quality Incentives Program, US
- National Landcare Program, Australia
- Agricultural Land Reserve, BC, Canada

These case studies demonstrate that public policy can link agricultural activities to environmental priorities and create win-win solutions for both farmers and the environment. They also show that effective land stewardship policy requires a bundled approach that simultaneously facilitates the provision of ecological goods and services, supports the economic viability of farming, and protects productive farmland.

Unfortunately, current Canadian policy approaches rarely integrate these three objectives. To help rectify this, Canadian policy-makers can look to jurisdictions in other countries for innovative land stewardship policy approaches that support the agricultural economy while conserving agricultural land and improving ecological outcomes.

International agri-environmental policy examples demonstrate a shift away from income support tied to production toward producers receiving payments for the provision of ecological goods and services (EGS). The focus is on achieving environmental objectives and rewarding stewardship rather than penalizing poor environmental performance. There is a recognition that, as direct land stewards, agricultural producers can provide both food production and ecosystem services stewardship (Government of Quebec 2005).

BC's Agricultural Land Reserve is included as a case study because it stands out as a policy option aimed at preserving agricultural land that has been in place in western Canada for over 30 years. It useful to compare this approach to the land stewardship policy options suggested by the other case studies.

2. Conservation Security Program, United States

2.1 Purpose

Delivered by the Natural Resources Conservation Service (NRCS) within the federal Department of Agriculture in the US, the Conservation Security Program (CSP) is a voluntary performance-based program that rewards farmers and ranchers who engage in practices that secure conservation objectives. All agricultural operations are eligible for the program if basic requirements are met.

According to the NRCS, the Conservation Security Program's role is:

- to identify and meaningfully reward those farmers and ranchers who meet standards of conservation and environment management;
- to create powerful incentives for other producers who meet those same standards of conservation performance on their operations; and
- to provide public benefits for generations to come (Natural Resources Conservation Service 2007).

2.2 Background

Initiated in the 2002 Farm Bill, the CSP is one of many other NRCS conservation programs for working landscapes to improve wildlife habitat, secure clean water supplies, reduce soil erosion, and provide natural buffers against natural disasters. The CSP is unique in three ways: first, it provides financial reward for previous, as well as ongoing, conservation practices; second, it is tied to a targeted watershed approach; and third, eligible participants must meet existing soil and water quality guidelines prior to contract approval. The program piloted 2,188 contracts on 18 watersheds in its first year.

2.3 Current Status

According to NRCS statistics, more than 4,000 contracts were signed in the 2006 fiscal year. This was a significant reduction from the previous year (12,780) owing to funding commitments for previously signed CSP contracts and reductions in overall government funding. To date, there are more than 15.4 million acres (approximately 6.2 million hectares) enrolled in the CSP with most contracts in Tier II or III denoting a significant number of stewardship activities beyond basic compliance with environmental regulations. In the 2005 fiscal year, 81% of CSP payments were enhancement payments (see below) (USDA 2007).

Current discussions about continued funding for the CSP in the 2007 Farm Bill are underway in the US. Multiple civil society and agriculture groups are advocating funding increases to the CSP because of its critical success factors: producer support, targeted and cost-effective public expenditure, and financial rewards for stewardship practices meeting and exceeding environmental guidelines.

Figure 1: Number and Percentage of CSP Contracts Approved for Eligible Watersheds and Applications

CSP Fiscal Year	Eligible Watersheds	Eligible Applications	Contracts Approved	Percentage Approved
2004	18	2,188	2,188	100
2005	220	14,516	12,780	87
2006	60	8,570	4,323	51

2.4 Key Considerations

The CSP ties environmental performance with payment in flexible contracts and involves three tiers and four types of payments all dependent on eligibility criteria. Eligibility for the program initially begins with watershed selection: state authorities identify a watershed in critical need of rehabilitation and provide the information to the NRCS staff involved with the CSP. On a rotating basis, only a certain number of selected watersheds will be included each year with the aim of targeting all US watersheds within eight years.

Applicants must have at least 51% of their agricultural operation within the selected watershed and complete a self-assessment to document current practices related to soil, water, and emissions. In addition, a submission outlining activities in the previous two years, including pesticide management, tillage practices, and grazing schedules is required. An interview is then conducted between regional NRCS staff and the producer. NRCS uses this interview and documentation to determine the applicant's approval and tier category.

All agricultural operations are eligible regardless of crop type, production practice, or size of operation. The basic criteria include:

- control over land use decisions for the duration of the contract;
- share in the risk of producing the crop or livestock or both; and
- meet existing environmental compliance standards.

The three tier categories are:

Tier I
- Partial farm inclusion
- Producer meets standards for soil and water quality prior to approval. The maximum payment is $20,000 (US) per year and contract terms are 5 years.

Tier II
- Whole farm inclusion
- Producer meets minimal requirements for soil and water quality for their entire operation and agrees to meet additional concerns of the specific watershed as determined by local authorities. The maximum payment is $35,000 (US) per year and contracts are 5 to 10 years.

Tier III

- Whole farm inclusion
- Producer meets all resource concerns and the NRCS Field Office Technical Guide Standards for their entire operation as well as conducting additional activities as determined by the Office of Management and Budget. The maximum payment is $45,000 (US) per year and contracts are 5 to 10 years.

The contract payment categories for documented historical conservation and obligations to continue practices are:

Stewardship

An annual per acre payment for meeting basic stewardship requirements.

Maintenance

A cost-sharing payment up to a maximum of 50% of the stewardship payment for maintaining existing practices.

New Practice

A payment incentive for adopting new practices based on cost-sharing up tp 65% of the cost of implementation to a maximum of $10,000 (US) for the duration of the contract.

Enhancement

A cost-sharing payment for activities that provide increased environmental benefits beyond the prescribed levels. Eligible activities include participating with adjacent farmers to conduct collaborative activities on the watershed, conducting on-farm conservation research or a pilot project, and conducting assessments and evaluation of practices beyond the original contract.

To summarize, farmers receive a baseline annual stewardship payment for meeting existing soil and water quality guidelines, and are able to receive additional reward for continually improving their conservation practices through maintenance, new practice and enhancement payments.

2.5 Highlights

Popular and profitable: Farmers are pleased with CSP incentives and feel that they are commensurate with their conservation practices. An assessment of CSP implementation found that 90% of farmers were happy with the payments they received and 70% said the program made their operation more profitable (Gieseke 2007).

Figure 2: CSP Payment Types and Tiers (US Dollars)

Payment Type	Tier I Cap	Tier II Cap	Tier III Cap
Stewardship	$5,000/year	$10,500/year	$13,500/year
Maintenance	$1,250/year	$2,625/year	$3,375/year
New Practice	$10,000/contract	$10,000/contract	$10,000/contract
Enhancement	$10,000	$17,500	$22,500
Total Possible Payments	$20,000	$35,000	$45,000

Flexible contracts with a long-view: Farmers can increase the amount of payments they receive beyond the base stewardship payment by engaging in additional conservation practices in one or more of the 11 available categories (e.g., Habitat Management, Salinity Management, Soil Management). Five-year contracts allow ample time to demonstrate positive financial and environmental gains from conservation practices.

Shift from commodity payments to conservation payments: Under WTO regulations, conservation payments are considered "green box" payments and are not seen to be trade-distorting payments.

2.6 Challenges

Guideline inconsistencies: Each state determines environmental guidelines for agricultural operations. A recent US Government Accountability Office report found that state guidelines are inconsistent with national criteria. For example, national criteria outline a specific percentage of operations to be non-crop vegetative cover (e.g., riparian habitat). Producers in some states did not meet these national criteria although they were allocated to Tier III, the highest level of stewardship payments (United States Government Accountability Office 2006).

More assessment and monitoring tools required: NRCS regional staff concede that additional monitoring and assessment tools are required to determine the environmental outcomes and conservation achievements. The development of tools is ongoing (personal communication 2007).

Duplicate payments: Farmers are ineligible for CSP if they receive funding for the same practices under other conservation programs. In a study of the CSP in 2004, 172 of the initial 2,188 producers received funding from another NRCS program, the Environmental Quality Initiatives Program, or EQIP. Criticism of NRCS protocol involves the lack of processes to identify operations already in programs prior to CSP approval (United States Government Accountability Office 2006).

Small farms may lose out: Conservation payments are linked to size (acres) and rental rates. Large operations receive large payments. Farmers have criticized the program for not using other criteria to determine payment (Gieseke 2007).

Resources:

Department of Agriculture, Natural Resources Conservation Service: www.nrcs.usda.gov/programs/csp

The Land Stewardship Project: www.landstewardshipproject.org

The Minnesota Project: www.mnproject.org

3. Rural Land Stewardship Program, Florida, United States

3.1 Purpose

Florida's Rural Land Stewardship Program (RLSP) is a state sanctioned planning tool that is primarily the responsibility of the Department of Community Affairs. It provides a mechanism for the protection and conservation of agricultural land and the sustainable development of rural areas through integration of market value for natural assets in property value.

3.2 Background

The RLSP was originally adopted in 2001 through legislation that allowed for up to five pilot projects to be initiated by local governments. The aim was to pilot the development of rural land stewardship areas ranging in size from 50,000 to 250,000 acres (approximately 20,234 hectares to 101,171 hectares) exemplifying ecologically significant landscapes. Collier County was the first to create a rural land stewardship area, covering approximately 195,000 acres (approximately 78,913 hectares). Areas within rural land stewardship areas are designated as areas to be protected (stewardship sending areas) and areas to be developed (stewardship receiving areas) in county development plans.

In 2004, the pilot project status was removed and the policy was established statewide allowing single or multiple counties to designate rural land stewardship areas (subject to Comprehensive Plan amendments in each county). The bill lowered the minimum size of an area from 50,000 to 10,000 acres (approximately 4,047 hectares) and removed the rural land stewardship area size ceiling of 250,000 acres (approximately 101,171 hectares).

Adam's Ranch

"Land must be conserved and replenished, because you can't make something out of nothing."

— Alto "Bud" Adams

In St. Lucie County, the Adam's Ranch has been in the same family through four generations and is the 15th largest cow-calf operation in the United States. The family is dedicated to, and has been nationally recognized for, environmental stewardship. Within St. Lucie County's adopted a rural land stewardship area of approximately 22,500 acres (9,105 hectares), Adam's Ranch covers 16,500 acres (6,677 hectares), of which 12,000 acres (4,856 hectares) are proposed for the first sending area. All land uses, except those for ranching and limited farming purposes, will be removed from the sending area and conserved in perpetuity. The remaining 6,000 acres (2,428 hectares) of the rural land stewardship area is Cloud Grove (an old citrus grove cleared of canker-infected trees) about 5 km from Adam's Ranch, and is proposed as the receiving area for the credits and may be the site of a new town. The new town will include approximately 12,000 homes over the next 25 years. The plan also has a provision for the town to include 35% green space. To accommodate that many homes under the current zoning without the rural land stewardship area (1 unit/5 acres) developers would need 60,000 acres (24,281 hectares).

In 2005, a number of significant changes were made to the program:

- Protection of listed species—Provisions included conducting a species survey at the time of the designation of stewardship receiving areas. If one or more protected species are present, then the appropriate local, state and federal agencies must coordinate action to protect the species and their habitat.

- Long-term planning—The total stewardship credits available for transfer from the stewardship sending area to receiving areas within a rural land stewardship area is tied to a 25-year projected population size.

- Valuing agricultural land and open space—In addition to areas of significant environmental value, the highest number of stewardship credits is also available to areas where open space and agricultural land is a top community priority.

3.3 Current Status

The Rural Land Stewardship Program has garnered considerable interest statewide as other counties have seen the result of Collier County's program and are eager to follow suit. For example, St. Lucie County adopted a rural land stewardship area on approximately 22,500 acres (9,105 hectares), and the historic Adam's Ranch applied for the necessary approvals to implement the program. Collier County's first receiving area, the University and Town of Ave Maria, is near completion and will be accepting students and residents in Fall 2007.

3.4 Key Considerations

The RLSP is a planning tool used to designate land for appropriate development and land conservation. A county will designate a minimum of 10,000 acres (4,047 hectares) as a rural land stewardship area. Within this, land will be designated as either a stewardship sending area or a stewardship receiving area. Landowners within the rural land stewardship area can choose to participate in the program by selling or trading allocated stewardship credits. Credits can only be used for specific forms of development (e.g., high density). The Florida Department of Community Affairs provides criteria for the designation of rural land stewardship areas and receiving areas.

Key criteria for rural land stewardship areas:

- outside of urban growth areas and city limits;

- at least 10,000 acres in size (no maximum); and

- can cover multiple counties.

Key criteria for designating stewardship receiving areas:

- provide land that will accommodate future development for at least 25 years;

- avoid environmentally sensitive areas; and

- adopt land development regulations specifying particular urban design elements.

Since 2004, the Department of Community Affairs has been authorized to provide financial and technical assistance to local governments in the establishment of rural land stewardship areas. Under the same legislation, the Department of Environmental Protection and water management districts are responsible for mapping the land cover of a potential stewardship area through the use of a geographic information systems (GIS) and aerial photogrammetry. The cost of administering this program is marginal compared to the investment that would be required for the state government to purchase land solely for preservation.

To participate in the program, counties adopt rural land stewardship areas by a Comprehensive Plan amendment approved by the Department of Community Affairs. The amendment designates the rural land stewardship area and outlines criteria for receiving areas including planning, zoning and land development regulations. The plan also allows for the designation of stewardship sending areas through Rural Land Stewardship Agreements between landowners and governments. Stewardship sending areas are designated based on conservation and agricultural objectives agreed upon by landowners, stakeholders, and local and state governments.

Rural Land Stewardship Agreements between landowners and government provide contractual obligations and outline the available stewardship credits. The value of stewardship credits is determined by the market demand for sustainable development in the rural land stewardship area. The amount of stewardship credits for each acre is calculated based on a

public valuation of natural or other resources. For example, Collier County uses what they call a Natural Resource Index to calculate stewardship credits. The index factors and their relative values were determined through an extensive public engagement process whereby public values were assigned to factors such as the presence of listed species habitat or restoration potential. The number of stewardship credits available increases as development rights or "layers" (i.e., potential land uses) are removed in perpetuity from that acre, for example, future residential development.

Under the RLSP, ecologically sensitive land has a high value and agricultural landowners are rewarded for protecting the land through the stewardship agreement providing an incentive to protect the most sensitive areas first. Because of legislative changes made in 2005, if open space and agricultural land is identified as a community priority, the maximum amount of stewardship credits may be available to landowners if they remove all land use "layers" aside from those supporting agriculture and conservation uses. The transfer of credits is recorded in the public records as a covenant or restrictive easement on the land title. Landowners are therefore able to build or maintain natural capital assets through a program that values ecosystem goods and services that are undervalued in the traditional market system.

3.5 Highlights

Priority zoning: Stewardship sending areas are designated based on community conservation objectives. Stewardship receiving areas are zoned for higher-density, mixed-use developments that will accommodate future development without sprawl.

Valuing natural capital: Stewardship credits assigned to environmentally sensitive land reflect public values and give the protection of natural resources an economic value competitive with urban and other development.

Voluntary and incentive-based: Preferred by landowners to public purchase of their land or donations. Landowners choose when and how many credits they will sell and over what period. The program also works as an incentive to protect the most environmentally sensitive land first.

3.6 Challenges

Garnering public support: Community members may dislike increased density. Public engagement and a community visioning process in the early stages of program implementation are key success criteria.

Design of natural resource valuation criteria: Challenges exist to develop consensus on community conservation objectives and the creation of consistent valuation methodology for natural resources.

Facilitation of credit transfer: At this time there are no provisions for a state-level land bank that would facilitate the transfer of credits between buyers and sellers in a consistent manner.

Resources:

Florida Department of Community Affairs:
www.dca.stat.fl.us

Adam's Ranch: www.adamsranch.com

Collier County's Comprehensive Planning Department:
www.co.collier.fl.us/Index.aspx?page=1515

Collier County's receiving area, Ave Maria:
www.avemaria.com

Family Lands Remembered:
www.familylandsremembered.com

4. Conservation Easement Tax Credit Program, Colorado, United States

4.1 Purpose

The purpose of Colorado's Conservation Easement Tax Credit Program is to protect agricultural land and encourage long-term conservation. A conservation easement is a legally binding agreement that permanently limits uses of the land to protect its conservation values (Land Trust Alliance 2007). What makes this program unique from other conservation easement

programs is that landowners are able to sell their tax credits to a third party. This is an attractive choice because landowners generally do not owe the amount of their credit in taxes.

4.2 Background

Political leadership was the main driver for the creation of this unique conservation easement program. As a rancher herself, former House Majority Leader Lola Spradley was committed to finding a way to help ranchers stay on the land and lobbied to make tax credits transferable. The Conservation Easement Tax Credit Program has been in place since 1999.

4.3 Current Status

According to the Colorado Conservation Trust, the Conservation Easement Tax Credit Program had become the largest conservation program in the state by 2004. The Colorado Conservation Trust reports that 467,350.8 hectares of land have been conserved in Colorado to date through conservation easements (personal communication 2007). Unfortunately, it is not possible to distinguish which conservation easements are part of this tax credit program (see below for a description of a recently proposed bill meant to address this issue and increase the transparency and accountability of the tax credit program).

4.4 Key Considerations

A conservation easement is a voluntary agreement between a landowner and a qualified conservation organization or government organization that restricts land uses on the easement that would be inconsistent with the protection and preservation of the conservation purposes or values of the donation. In the US, conservation values are defined under section 170(h) of the federal tax code. Every conservation easement must meet one of these "conservation purposes" tests:

- the preservation of land areas for outdoor recreation by, or the education of, the general public;
- the protection of relatively natural habitat of fish, wildlife, or plants, or similar ecosystem;
- the protection of open space for the scenic enjoyment of the general public, or pursuant to a clearly delineated governmental policy, which will yield a significant public benefit; and
- the preservation of a historically important land area or a certified historic structure.

This particular program works best in conditions of rising land values and development pressures. When land values are high, the tax credit is high enough to be an economic incentive for landowners to resist sale or subdivision of the property. There must be a desire on the part of the landowner to stay in agriculture, protect conservation values, or both. The amount of the tax credit has been regularly assessed so that it coincides with land prices and ownership patterns. The Colorado government has adapted the program in recent years to prevent the fragmentation of ownership of land, as well as the fragmentation of large parcels of land into small parcels.

Colorado tax law legislates the amount of, and rules for, the sale of credits. The program is delivered through land trusts, government open space programs and credit facilitators who link landowners to credit buyers. It has gone through a series of changes to adapt it to changing land values and to make it more accountable to the public.

A recent change entitles the landowner to a credit for 50% of the value of the land donated for a conservation easement up to a maximum of $375,000 (US).

Another consideration is accountability to the public. The government must ensure that conservation organizations can be relied upon to manage land in perpetuity. At the same time, they must hold high standards for land appraisers and credit facilitators so that the public can be confident that it is getting the most effective conservation for public dollars. As of May 2007, a new bill (HB 1361) was passed as a means of strengthening the accountability and transparency of the program in four ways:

- tax credit claimants must submit detailed information about the land under easement, the values preserved, and declarations from the appraiser and holder of the easement;
- transparency mechanisms for the public include the location, number of acres, easement-holding organization, donation amount and the conservation values protected;

- standards for conservation easement appraisers were increased; and
- a new requirement for conservation organizations to complete an annual report with the Department of Natural Resources regarding easements in the tax credit program and details of conservation value (Continental Divide Land Trust 2007).

Communicating the benefits to landowners is essential, particularly information regarding conservation easement agreements and land use rights. The program allows landowners to derive financial value from the natural capital on their land, support their agricultural operations and pass the land on to future generations. Credit purchasers benefit from a significant tax break and the general public benefits from preserving the cultural heritage and aesthetic value of rural Colorado.

4.5 Highlights

Financial benefit and tradability: The credit is beneficial to landowners because of the tradable financial benefit, giving it unique appeal among the many conservation easement programs.

Conservation benefits: The landowner remains responsible for the management of the land in accordance with the conservation easement agreement and the public derives benefits from the delivery of ecological goods and services and the cost-effective nature of the policy. Through the tax credit, the public pays only half the market value as a tax credit to the landowner to a maximum of $375,000 (US).

Market-driven: Land is acquired without significant government intrusion and the values are market-driven.

4.6 Challenges

Tax fraud: Anytime there is a tax credit there is the chance of tax fraud. The Internal Revenue Agency is increasing scrutiny of conservation easements.

Trust and transparency: The design of the program requires more transparency so that the public knows what land is being protected and the ecological goods and services that land provides.

Conservation limitations: The program is voluntary and a number of critical ecological areas may not be conserved.

Resources:

Colorado Cattleman's Agricultural Land Trust: www.ccalt.org

Colorado Coalition of Land Trusts: www.cclt.org

Colorado Conservation Trust: www.coloradoconservationtrust.org

Conservation Resource Center: www.taxcreditexchange.com

5. Environmental Stewardship Scheme, England

5.1 Purpose

Natural England's Environmental Stewardship scheme is a whole farm approach to agri-environmental policy offering financial reward for beneficial management practices that improve the ecological goods and services capacity of the land.

The primary objectives of the Environmental Stewardship scheme are: 1) to conserve biodiversity; 2) to maintain and enhance landscape quality and character; 3) to protect the historic environment and natural resources; and 4) to promote public access and understanding of the countryside. In addition, the UK government views the Environmental Stewardship scheme as a complementary delivery vehicle for the national Sustainable Food and Farming Strategy, the England Biodiversity Strategy, and the Sustainable Development Strategy, among other environmental policy agendas (Department of Environment, Food and Rural Affairs 2007).

5.2 Background

The Environmental Stewardship scheme developed out of public concern about the declining environmental integrity of England's rural countryside combined with public policy exacerbating environmental and economic issues and the

failure of the market to internalize public goods derived from agricultural operations. In order to more effectively address these concerns, as well as to coordinate multiple conservation efforts, the Department for Environment, Food and Rural Affairs (DEFRA) divested authority for the delivery of the Environmental Stewardship scheme to Natural England, a new multi-department initiative launched in October 2006. Natural England amalgamates the Rural Development Service, English Nature, and Countryside Agency under a single branch. They share a mandate to conserve and enhance biodiversity, landscapes and wildlife in rural, urban, coastal and marine areas.

To receive funding under the EU Common Agricultural Policy, each member state of the European Union is required to develop and deploy an agri-environmental program. The Environmental Stewardship scheme was launched through the Department for Environment, Food and Rural Affairs in 2005. The European Agriculture Fund for Rural Development and the UK government will contribute £3.9 billion to the Environmental Stewardship scheme until 2013 (personal communication 2007).

The Environmental Stewardship scheme began as a pilot project within DEFRA. Initiated with a set budget and a target for the amount of land desired to be included in a conservation scheme, the design team set out to create a comprehensive, yet simple and cost-effective institution. Community organizations and agriculture groups contributed to the scheme payment rates and desired environmental outcomes, including the National Farmers Union, the Royal Society for the Protection of Birds and the Association of Local Government Archaeological Officers (personal communication 2007).

Of the designed three-tier system, the lower tiers, Entry Level Stewardship and Organic Level Stewardship, were designed to be straightforward requiring no additional technical assistance. The top tier, Higher Level Stewardship, is far more complex and follows principles from preceding schemes, Environmental Sensitive Areas and Countryside Stewardship (see Department of Environment, Food and Rural Affairs 2007 for more information).

5.3 Current Status

As of January 2007, more than 4.7 million hectares, equivalent to more than 50% of all farmland in England, is involved in the Environmental Stewardship scheme. Since March 2005, approximately £150 million ($335 million CDN) has been paid to farmers and funding through the Rural Development Service of Natural England has been secured until 2013. The program is on track to meet its goal of 60% of all farmland under the Entry Level Stewardship tier (personal communication 2007).

In a recent speech to the National Farmers Union national conference, Natural England's Chief Executive Dr. Helen Phillips emphasized the increasing desire of Natural England to streamline the application process, reduce the bureaucracy of the program, and to integrate emerging trends in agriculture-related terrestrial carbon storage. Natural England is also working on changes to simplify and sharpen the focus on the Higher Level Stewardship tier whereby an invitation is initiated targeted to landscapes in need of ecological restoration.

5.4 Key Considerations

All farmland in England is eligible for the Environmental Stewardship scheme and participants are organized into three tiers with each tier requiring adherence to a points system. Fund allocation is determined by contract requirements and a point system.

Entry Level Stewardship (ELS) is the first tier where acceptance is guaranteed if the farmer meets established UK environmental legislation (also known as cross-compliance). While promoting and rewarding ongoing stewardship activities, this tier also rewards existing practices, such as maintaining hedgerows for bird habitat. Contracts commit farmers to five-year terms and basic payment is bi-annual. Farmers receive £30 (approximately $70 CDN) per hectare per year for meeting point targets. An ELS farmer must meet 30 points per hectare chosen from over 50 land and resource management options. Examples include 2 points per hectare for a nutrient management plan and 12 points per in-field tree maintained. Payments for capital works are not available in this tier.

In the Organic Entry Level Stewardship (OELS) tier, there is recognition of the additional environmental benefits derived from organic land management practices. The focus is on ensuring that organically certified farm operations remain organic and go beyond minimal compliance. Organic farmers receive £60 (approximately $140 CDN) per hectare per year for land entered into the scheme. Farmers in this tier are also required to meet point targets; farmers automatically

receive 30 points per hectare for their organic practices, then they are required to choose from over 50 land and resource management options to achieve an additional 30 points. Contracts commit farmers to five-year terms and they receive payments every six months. Farmers participating in other organic schemes offered by the government are ineligible, as are payments for capital projects.

Higher Level Stewardship, the third tier, is significantly more complex. A farmer must already be a part of the ELS or OELS to participate in this scheme, thereby requiring adherence to minimal compliance and the point targets per hectare dependent on tier. Grant payments are determined by the negotiated options in a management plan. With the assistance of regional Natural England technical staff, options are negotiated with landowners. A Farm Environment Plan (FEP) must be completed when submitting an application requiring the technical expertise of department staff. Natural England contributes to the cost of an FEP contractor.

The list of options available for all tiers is linked to specific environmental features and characteristics previously established by the development of the Joint Character Areas (JCA) map. The JCA was established to provide a national spatial framework for understanding landscape features and the influences of land use changes. Using the JCA, Targeting Statements are created for Higher Level Stewardship participants to establish which sites are appropriate and what management options are available (Natural England 2007).

Limited technical assistance is provided for participants in the ELS and OELS. This is a consequence of the policy design: a low cost program capable of achieving readily identifiable environmental benefits for the largest amount of land possible. A handbook for ELS and OELS describes all of the necessary information and scheme requirements. A recent "schemes advice team" was created to address additional questions that are continually uploaded into a searchable FAQ database.

Higher Level Stewardship land users negotiate contracts with local Natural England staff, adding to the transaction and administrative requirements for this tier. The advisor's role is to ensure maximum conservation value for dollars spent while also maximizing the environmental benefits. Each agreement holder will receive an assessment once during the course of their contract to assess progress and to identify and remedy problems.

For all agri-environment schemes receiving European Union funding, a "Compliance Monitoring Inspection" is required on a minimum of 5% of land under a scheme. In England, DEFRA's Rural Payment Agency conducts the assessments comparing the original management agreement with an on-the-ground comparison of contractual obligations and adherence to Indicators of Success that complement the options available.

5.5 Highlights

Contracts for ecological goods and services: This type of program is considered "direct payment" to farmers to continue conservation activities. The funding also contributes to farm income. Payments are biannual and provide adequate financial compensation. Long-term contracts provide ample time for landowners to witness productivity benefits.

Secured funding source: Funding has been secured through 2013, providing security and certainty for farmers.

Rewards stewardship beyond compliance: All farm operations are required to adhere to Regulation 1257/1999 (Good Farming Practice) that involves compliance with existing environmental legislation. Many participants are also exceeding their point target although not additionally compensated.

5.6 Challenges

Minimal stewardship outcomes: Although there is flexibility of stewardship practices farmers can choose, farmers tend to adopt practices that are easy to implement and the least costly. With multiple options to choose from, farmers may engage in a piecemeal approach, rendering minimal environmental improvements that are insignificant on a landscape scale.

Minimal use of indicators: Even though ELS has the highest number of participants and amount of land included, only the HLS tier requires adherence to indictors linked to actions.

Management plan, a deterrent: The HLS scheme requirement to collaboratively create a Farm Environment Plan, demands considerable time and financial and technical inputs; this is a deterrent for some farmers and ranchers.

Resources:

Natural England: www.naturalengland.org

Department for Environment, Food and Rural Affairs: www.defra.gov.uk

6. Environmental Quality Incentives Program, United States

6.1 Purpose

State conservation authorities for the US Department of Agriculture deliver the Environmental Quality Incentives Program (EQIP). The purpose of the EQIP is to improve on-farm environmental practices through the delivery of direct technical, educational, and financial assistance to farmers and ranchers. EQIP provides assistance to meet state and federal environmental requirements, in addition to assistance to implement a range of options for improved land and resource stewardship.

6.2 Background

The Federal Agriculture Improvement and Reform Act of 1996 established the Environmental Quality Incentives Program (EQIP) through the consolidation of four related programs: the Colorado River Salinity Control Program; the Water Quality Incentives Program; the Agricultural Conservation Program; and the Great Plains Conservation Program. It was later reauthorized through the 2002 Farm Security and Rural Investment Act (2002 Farm Bill).

The program is administered by the Natural Resources Conservation Service (NRCS) and is available to all agricultural producers. The NRCS operates in each state and aligns local conservation priorities with identified national conservation priorities such as water quality and point source emissions regulations.

6.3 Current Status

EQIP is the largest conservation program for working landscapes in the United States when examining acreage, contracts, and budget expenditure. According to the NRCS, by the end of the fiscal year 2006, there were 138,993 EQIP contracts with producers amounting to more than 125 million acres (over 50 million hectares) under conservation goals. Funding for the program ends in 2007, though reauthorization is expected in the 2007 Farm Bill.

6.4 Key Considerations

The EQIP program is a voluntary incentive program for producers to increase the environmental performance of their operations with assistance from federal and state governments. The program offers a cost-sharing payment scheme to farmers and ranchers on eligible agricultural land for implementing specific beneficial management practices (BMPs) that they would not otherwise carry out without the assistance. These include practices relating to nutrient management, soil erosion, land protection, and water resources management. The program also offers technical assistance in achieving these goals.

EQIP National Priorities for agricultural land include:

- reduction of soil erosion and sedimentation to acceptable levels;
- promotion of habitat conservation for at-risk species;
- reduction of non-point source pollution (such as nutrients, sediment, pesticides, or excess salinity) in impaired watersheds;
- conservation of ground and surface water resources; and
- reduction of emissions, such as particulate matter, nitrogen oxides (NOx), volatile organic compounds (VOCs) and ozone depleters that decrease air quality.

Federal authorities use 31 factors based on national priorities to determine state level funding for the EQIP program. The weighted factors include number of water bodies, amount of grazing land, and pasture type requiring rehabilitation. The NRCS factors determine what environmental characteristics are included and weights are associated with the factors determining how much total funding per factor the state receives.

The Chief of NRCS allocates available funding to State Conservationists who use the national priorities and environmental guidelines to determine allocation to producers at the state level. State Conservationists determine what practices will be rewarded, the cost-share rates, the application ranking process used to prioritize eligible participants, and the selection of producers to participate in the program. A cost-benefit analysis is conducted to determine the most appropriate allocation of funds based on environmental benefits and cost-share requirements of activities.

An EQIP plan developed by the producer is required in accordance with NRCS technical standards and details recommended conservation practices to address the resource(s) of concern. All plans are also required to receive approval from the respective conservation district prior to implementation. The program pays up to 75% (up to a maximum of $450,000 (US)) to cost-share the implementation of the conservation practices requested by state and local authorities. For new farmers and ranchers, the cost sharing allowance can be up to 90%.

Agricultural producers and state authorities sign a contract with a minimum term of one year and a maximum term of 10 years after the implementation of the last scheduled practices. For example, a contract may stipulate an operator in a Washington county will receive $1,000 (US) for developing a nutrient management plan and $1.50 (US) per square foot of erosion control netting.

State authorities responsible for the program are required to develop a ranking system to determine the priority of funding allocated to approved EQIP plans and contracts. Because of the high level of state and local authority decision-making and the aggregation of information to the national level, there is considerable uncertainty about the effectiveness of the program to improve environmental conditions (The Soil and Water Conservation Society and Environmental Defense 2007).

6.5 Highlights

Focus on producer choice and flexibility: Producers are financially rewarded for beneficial management practices to improve environmental performance. The contracts are flexible, and with state and local authorities determining the practices receiving compensation, locally applicable options are available.

Societal benefits: The adoption of beneficial management practices supported through financial incentives from the program contribute to long term productivity of rural landscapes and maintenance of natural resources, reductions in emissions and pollution impacts from agricultural operations, as well as, improved wildlife habitat.

Largest program with most funding: EQIP is the largest NRCS/USDA program providing financial and technical assistance to farmers and ranchers on working landscapes. More than 125 million acres are involved and more than $6 billion (US) between 2002-2007 was allocated to the program.

6.6 Challenges

State funding allocation unclear: The allocation to state authorities involves a formula with 31 factors with specific weights per factor. There is no substantiated resource to determine the rationale for these chosen factors or how they are weighted, nor how these factors contribute to meeting national priorities.

Vulnerable to funding cuts: Each year since the 2002 Farm Bill, program funding has been reduced. The current shortfall for backlogged contracts without payments equals more than $596 million (The Soil and Water Conservation Society and Environmental Defense 2007).

Demand exceeds available funds: Requests for EQIP contracts are presently exceeding available funding by 6 to 1.

Resources:

Environmental Quality Incentives Program: www.nrcs.usda.gov

Environmental Defense Centre for Conservation Initiatives: www.environmentaldefense.org

7. National Landcare Program, Australia

7.1 Purpose

The aim of the National Landcare Program (NLP) is to achieve public benefits by improving natural resource management through landowner engagement at the farm level. Public benefits include more economic efficiency of available tax resources; improved water quality and natural resource condition; a sound resource base for future economic growth; and more resilient rural communities (Australian Department of Agriculture, Fisheries and Forestry 2003).

7.2 Background

Landcare groups form a longstanding national grassroots movement in Australia. The NLP was established by the Australian government in 1992 to support the landcare movement at the farm level through awareness raising,

education, financial assistance and assistance with on-the-ground implementation. The Australian government, in part, attributes the decline of natural capital assets to a lack of understanding of the capacity of natural systems to deal with intense land use demands including agricultural production. Therefore, the NLP is meant as a means to address this issue.

7.3 Current Status

The national Department of Agriculture, Fisheries and Forestry delivers the NLP. It is administered at the state level by State Landcare Coordinators and at the local or catchment level by Community Landcare Coordinators who assist landcare citizens groups in the implementation of sustainable resource management practices.

In 2003, the government reviewed the NLP and concluded that the program is highly effective in stimulating the adoption of beneficial management practices through funding, education, awareness-raising and skill development. It found that 91% of farmers who have some involvement with NLP (50% of all farmers) report that they made changes to their land management practices as a result of Landcare.

The program enjoys tremendous public support with the Australian government reporting that 85% of the public recognize and support "landcare" as an important mechanism for natural resource management and environmental protection. The Australian government continues to support this program and to promote it internationally as a way to empower local communities to act and contribute to the care of natural resources.

7.4 Key Considerations

There are two main components to the program: community support and national initiatives. The community support component funds landcare citizen groups to conduct local activities that will improve natural resource management by primary producers. For example, from 2004-2006, the program provided $321,210 (AUS) to a partnership between three landcare groups that focused on dryland salinity, soil and land management, revegetation, sustainable resource use and water quality called Restoring the Balance: Landcare Working for Sustainable Agriculture.

To be approved for government funding, projects must be consistent with priorities in regional natural resource management (NRM) plans and must meet NLP objectives. Regional NRM organizations are generally catchment management authorities. The main assessment criteria for projects include the potential to increase sustainability, productivity and profitability of primary industries.

Funding priorities include projects that:

- promote the implementation of best management practices;
- significantly increase the uptake of sustainable agricultural and other natural resource management practices; and
- support landcare group activities (Department of Agriculture, Fisheries and Forestry 2007).

The purpose of the national component of the NLP is to fund projects on a broader scale than those funded through the community component. Fund allocation occurs through a number of national initiatives such as the Australian Landcare Council, the National Landcare Facilitator, and Landcare Australia Ltd. The NLP also invests in Natural Resource Innovation Grants that support the development and implementation of land management practices that have not been adopted before or only on a limited scale. Sustainable industry initiatives undertaken by national industry groups receive funds from the NLP under its national component as well as priority national projects identified by the Australian government.

The NLP is intended to align with other farm-level, regional, state and national policies and programs meant to achieve sustainable ecosystems. At the national and regional levels, the NLP is meant to complement the National Action Plan for Salinity and Water Quality (NAP), Natural Heritage Trust (NHT) and overarching policy and regulatory approaches. At the farm and local level, the NLP is meant to complement Farmbis, the Environmental Management System (EMS), the Envirofund, and other government initiatives.

7.5 Highlights

Government support of community initiatives: Rather than a top-down system of regulating on-farm activities, the NLP is meant to complement and support regional and local level initiatives.

Support of a wide-range of sustainable agricultural practices: The NLP supports initiatives from the grassroots level to regional initiatives and national projects. Projects include education programs, catchment management strategies and industry initiatives to improve agricultural practices on a national scale.

Ecological and economic benefit for farmers: The Australian government has reported improved land, water and vegetation management resulting not only in public benefits but also in increased productivity and profitability of the agriculture industry.

7.6 Challenges

Full community engagement: The government has found that it is challenged to involve a growing group of rural residential "hobby-farmers" and "lifestylers" as well as indigenous communities.

Regional delivery: By primarily focusing on farm-level activities, the government acknowledges that regional level improvements may not be noticeable for many years. By adopting a new regional delivery model for the distribution of funds to landcare groups, their challenge is to integrate this aspect with the community-support and national components of the program.

Distinguishing "landcare" programs: Funding for "landcare" under the second phase of the Natural Heritage Trust is not analogous to the NLP funding. Coordination is needed to receive optimal benefit from both programs; however, they must still clearly identify and separate the objectives of each program.

Resources:

Australian Department of Agriculture, Fisheries and Forestry: www.daffa.gov.au

Australian Landcare Council: www.auslandcarecouncil.org

National Landcare Facilitator Project: www.landcarefacilitatory.com/au

Landcare Australia Ltd: www.landcareonline.com

8. Agricultural Land Reserve, British Columbia, Canada

8.1 Purpose

The Agricultural Land Reserve (ALR) is a unique example of farmland protection in Canada. It is a land use zoning tool that recognizes farmland and agricultural production as having primary value and priority over and above other non-farm uses. The ALR functions as an urban growth boundary and agricultural land protection zone. The intent was to create a land reserve for the preservation of farmland and provide support for farming practices. The ALR was established between 1974 to 1976 through cooperative efforts with regional districts and member municipalities.

8.2 Background

According to BC's Agricultural Land Commission, the province was losing approximately 6,000 hectares per year of prime agricultural land to urban and other uses prior to the creation of the ALR. To address the loss of prime agricultural land and at to secure food production capacity for a growing population, an initial moratorium on all development was established in 1972 and a process commenced to establish protection of prime agricultural land. Market mechanisms such as transfer of development rights were rejected in favour of a straightforward policy approach that designated land as agriculture-only and regulated non-farm land uses.

The primary regulatory instruments for the ALR include the Agricultural Land Commission Act and the Farm Practices (Right to Farm) Protection Act. Decisions regarding applications for land use changes and the regulation of non-farm uses in the ALR are the responsibility of the Agricultural Land Commission. Using stakeholder input from regional districts and the biophysical characteristics of the soil and climate through the Canada Lands Inventory, the Agricultural Land Commission secured the ALR boundaries.

8.3 Current Status

While the boundaries may have changed slightly, the ALR today still covers about 4.7 million hectares on private and public land—representing 5% of the provincial land base. According to West Coast Environmental Law, the agricultural sector in the

ALR supplies about 50% of the province's food needs (Curran 2005). The province of BC has experienced no net loss of farmland in 30 years. The boundaries of the ALR, however, have changed over time reflecting ever-growing development pressure from neighbouring towns and cities for industrial or residential land uses.

Landowners are required to apply for inclusions, exclusions or subdivisions of land in the ALR for farm, non-farm uses or incompatible land uses. Other than local farm bylaws created by local governments and approved by the Minister of Agriculture, there are no specific guidelines in the ALR legislation that provide incentives to producers to go beyond basic environmental compliance.

Changes to the ALR boundaries are showing fewer adherences to the promotion of agricultural productivity and viability and more influence from development pressure as a solution to address a growing population. According to the Agricultural Land Commission, the Lower Mainland, Vancouver Island and the Okanagan have experienced a net loss of more than 35,000 hectares from the ALR. Fully 90% of land added to the ALR is found in northern regions; 72% of land removed from the ALR has been in the south (Campbell 2006). Although the total amount of agricultural land in the ALR remains unchanged, the proportion of land classified as 1 or 2 has diminished, replaced primarily by class 5 soils (i.e., lower productive capacity) in the northern parts of the province.

8.4 Key Considerations

The Agricultural Land Commission was established as an independent administrative tribunal to make decisions about inclusions and exclusions of land in the ALR on behalf of the province. The mission of the Agricultural Land Commission is to preserve agricultural land and to encourage and enable farm businesses throughout British Columbia. The Agricultural Land Commission was originally administered at the provincial level, but in 2002, changes were made to legislation to make it more accountable to local governments. It is now comprised of six regional panels of three commissioners plus a chair, reflecting the interests of individual regions rather than the province as a whole.

The Agricultural Land Commission developed the boundaries of the ALR utilizing national soil and climate survey data. Soil and climate are the key characteristics determining the availability of agricultural land suitable to produce a range of crops. These natural capital assets set the basic constraints for agricultural development and were the primary tools to ascertain which lands were appropriate for inclusion in the ALR. Using the Canada Land Inventory, policy-makers mapped BC according to category of soil and climate, utilizing class designations 1 through 6.

Municipal governments also have a role to play in conserving agricultural assets within and adjacent to their communities. Local governments are required to align land use bylaws with the Agricultural Land Commission Act and all regulations. Farm bylaws can also be enacted locally. Municipalities have jurisdiction to establish guidelines for practices and development policies on ALR designated land. Size, setbacks, and buffer requirements are examples of local bylaws. The BC Minister of Agriculture and Lands is required to approve municipal farm bylaws for ALR land.

The ALR is unique when examined against the backdrop of the other case studies presented in this report. The main difference is the regulatory approach taken. Although a community engagement process was used to determine the initial boundaries, the ALR is a legal instrument that dictates a specific land use.

8.5 Highlights

Protects farmland: The ALR successfully protects farmland. There has been no net loss of farmland in BC since 1972.

High agricultural sector support: Although initial support ranged from hostile to lukewarm support, the past 30 years have seen a remarkable increase in support from the agricultural community. In 2002, the Canadian Federation of Independent Business reported that 89% of BC agri-business members support leaving the ALR in place (Canadian Federation of Independent Business 2002).

Producers near markets: The location of the ALR adjacent to growing communities means that producers have close access to markets, as well as to their labour pool.

8.6 Challenges

Balancing "community need" with the provincial interest: Local governments can apply for exclusions from the ALR arguing that there is "community need." Local government interests and the provincial interest for food security, protection of finite dependable agricultural land, and the support of farm communities require balance and transparency.

Lack of incentives for stewardship: The ALR is solely a land use planning tool and while it does protect farmland, it does not provide land users with additional incentives to protect and enhance the environment.

Provincial goals, regional decisions: The original intent of the ALR was to provide security for provincial agricultural land assets. The change to regional bodies may create discrepancies between each district in determining inclusions and exclusions.

Resources:

Agricultural Land Commission: www.alc.gov.bc.ca

Smart Growth BC: www.smartgrowth.bc.ca

BC Farmland Watch Network: www.ffcf.bc.ca

9. Conclusion

Current agricultural policy in Canada does not fully address the complex and diffuse social, ecological, and economic issues of agricultural land stewardship. The case studies examined in this report provide policy-makers in Canada with a range of new policy approaches that have the potential to marry environmental and agricultural goals. They show that it is possible to improve the maintenance and enhancement of ecological goods and services, reduce harmful practices, and compensate agricultural land owners for doing both.

Integrated land stewardship policy can be used to require, enable or encourage agricultural land users to build and maintain natural capital assets while continuing economically viable operations. The design of cost-effective and successful policies can avoid competition among economic and environmental objectives and can lead to entrepreneurial approaches that improve land stewardship and agriculture. There are significant opportunities for policy-makers to unleash the stewardship potential that inherently exists in agricultural communities through innovative public policy.

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