



NEW POLICY TOOLS FOR CONSERVATION IN ALBERTA'S BOREAL NATURAL REGION

By Mike Kennedy

The province of Alberta has experienced unprecedented growth over the past 10 years fueled by rising energy and commodity prices and a pro-growth government strategy that has brought increased expansion in industrial development and urban sprawl. No region has experienced this trend as much Alberta's Boreal Natural Region.

To begin to address the challenges the province is facing, the government established the Land-Use Framework (LUF) in 2008 and in 2009 passed its supporting legislation – the *Alberta Land Stewardship Act* (ALSA). ALSA enables

a broader suite of policy instruments for conservation and environmental compliance purposes. As umbrella policy and legislation, the LUF sets the objectives and outcomes for the policy framework. These objectives and desired outcomes create an opportunity to use new policy approaches to enhance water regulation, air quality, wildlife habitat and overall biodiversity. As the Land Use Secretariat works to draft the first regional plan in the Lower Athabasca Regional Planning Area (LARP) we will begin to better understand how meaningful the opportunity is for new approaches related to enhancing the

ecosystem services the Boreal Region provides the global community.

Alberta's LUF outlines, as one of its seven strategies, a suite of policy instruments focused on ecological goods and services. As the rationale goes, by offering a suite of policy instruments policy-makers are better able to address specific environmental issues in a more cost and environmentally effective manner. While ALSA unfortunately gives the provincial cabinet tremendous discretion by leaving many of the details of these new instruments to be enacted by regulation, it has established the legislative basis for such a system (for

a discussion of the amount of discretion contained in ALSA see Cindy Chiasson's article in the October 2009 issue of the *Advocate*). The instruments outlined in the LUF are described in Table 1.

Prior to the development of the LUF, in 2006, Premier Ed Stelmach requested that the Minister of Agriculture lead the establishment of an arm's length organization called the Institute for Agriculture, Forestry and the Environment (IAFE). The government gave IAFE the mandate to: *identify market-based solutions to increase environmentally sound practices in the renewable resource sectors*. The IAFE used this mandate to develop a policy framework for the evaluation, selection and implementation of market-based instruments that may enhance provision of ecosystem services.

IAFE's appointed board reflected the government's broader pro-business focus since it was composed of representatives from the agriculture and forestry sectors. The board delivered on their mandate in March 2010 with the Ecosystem Service Market Policy Framework (the policy framework). Premier Stelmach claims that, while the outcomes of the IAFE are not yet public, cabinet is considering the IAFE policy framework. But we still do not know if the public will be granted access to these documents and, if so, what the timeline for access is.

As a consultant to IAFE I had first-hand experience in developing this policy framework. The policy framework outlines a process for the Government of Alberta to make better-informed choices about using market-based instruments (MBIs).

Market-based instruments are policy instruments that use price or other economic variables to provide incentives for polluters to reduce harmful emissions or pollution. They may contribute to the better overall use of natural resources.

The IAFE policy framework introduces a broader suite of MBIs than are currently used by the Alberta government and a broader suite of instruments than are currently being considered by ALSA legislation. Some of the policy instruments put forward

Table 1. New policy instruments introduced in Alberta's Land-Use Framework (LUF).

<i>Conservation easement</i>	A voluntary legal agreement to conserve a parcel of land, made between a private landowner and the Alberta government or a provincial government agency; a local government body; or a registered charity that meets certain criteria (e.g. a community-based organization such as a land trust).
<i>Conservation offsets</i>	Mechanisms that counterbalance the unavoidable loss and degradation of Alberta's terrestrial ecosystems that results from development activities on public or private lands.
<i>Transfer of development credits</i>	Allows municipalities to direct development away from areas valued for conservation towards areas better suited to increased urban development.
<i>Conservation directive</i>	A mandatory conservation tool that can be applied on public or private lands to support conservation objectives identified in regional plans.

by IAFE that extend beyond those considered in ALSA include: tax credits, user fees, payment schemes, performance based insurance premiums, labeling etc.

Table 2 below outlines the range of policy approaches and instruments that are available to the Government of Alberta for managing ecosystem services.

The policy framework provides definitions, background research on key issues and case study reviews to familiarize government officials with the advantages and disadvantages of various market-based instruments (MBIs), as well as to suggest how to begin to choose between a suite of market-based instrument options. It also suggests when the application of these MBIs would be appropriate.

As a starting point, the policy framework recommends that the province establish a science-based approach to assessing ecosystem services that "enables the establishment of metrics and currencies to facilitate identification and registration of ecosystem service units." It recommends that the ecosystem service assessment framework be integrated across provincial, regional and local scales and enable prioritization and the assigning of a value (or currency) to the particular ecosystem service attached to the area. While there is much more

work to be done, this type of framework could be developed from an existing data source such as the Alberta Biodiversity Monitoring Institute's intactness index.

It is important to note that this recommendation is similar to the stewardship units discussed in ALSA. What is important to note is that the currency of the ecosystem service units can be expressed in dollars or as a biophysical measure (hectares of riparian area), which would then be registered and traded in an ecosystem marketplace.

An example of one type of policy that might be implemented follows: An ecosystem service unit is a newly established area of riparian forest. By establishing a new area of riparian forest, an ecosystem service assessment process is applied to a land base to estimate the current and future contributions of ecosystem services like water regulation, wildlife habitat, carbon sequestration, water filtration, etc. Depending on the nature of the policies developed in Alberta, the person that owns the land providing the new area of riparian forest (e.g. a farmer north of Lac La Biche) may be eligible for payments directly from a user who is causing damage to the land-base (e.g. an oil sands mine) or from a central market place. Either way, the aim is to replace damages incurred to

Table 2. Policy approaches, types and instruments for incenting ecosystem services
(Source: IAFE Market Policy Framework, 2010).

Approach	Description of Policy Approach	Examples of Instrument
<i>Market-based</i>	Market creation (quantity-based) instruments establish a property right on a unit basis and that unit can be traded or purchased.	Tradable permits or credits Tradable disturbance rights Compliance or voluntary offsets
	Market shifting (price-based) instruments influence the market by incorporating the environmental benefit or cost of particular activities.	Environmental taxes User fees Payment schemes Tax credits
	Market shifting (market friction) instruments remove obstacles to ecosystem service market formation or growth.	Performance based insurance premiums Performance based or risk management-based interest rates Consumer information
<i>Command and control</i>	Quantity-based instruments are used to set aside designated land for particular uses.	Land use planning Protected areas/conservation directives Covenants
	Performance based instruments provide flexibility in meeting clear environmental objectives.	Management plans Compulsory best management practices Licensing
<i>Suasive (Supporting)</i>	Suasive instruments and voluntary approaches seek to change behaviour in support of achieving an objective by raising awareness and providing information. Suasive instruments are commonly used in combination with other approaches discussed above.	Awareness and Information programs Education programs



McClelland Lake Fen PHOTO: I. URQUHART

a similar riparian area located elsewhere (e.g. by the oil sands mine). To ensure that a cumulative benefit to ecological integrity occurs, the damage to ecosystem services being offset should be less (sometimes by an order of magnitude) than the current and future flow of

ecosystem services provided by the farmer north of Lac La Biche.

In reality, this type of interaction is already occurring in Alberta through voluntary offset development between Alberta Conservation Association and oil sands companies. However, the example above provides an example of how the Government of Alberta might move further ahead in better managing the cumulative effects on the landscape from industrial use. I should note though that the exact structure of the MBI will differ based on the ecological,

economic and social context in the region scale (i.e. province, land use region and/or watershed) being considered.

Moving towards quantifying the relationships between ecological function and human activities represents

a significant scientific challenge. Being able to express the value of these functions that exist in nature and then to be able to incorporate the value of these interactions into broader public and private land-use decision-making gets even more challenging. Other jurisdictions around the world are already moving in the direction of adopting a broader suite of policy instruments, including those that are market-based. Two examples that were discussed in the development of the IAFE policy recommendations include:

- Willamette River Basin- Ecosystem Credit Accounting Scheme (<http://willamettepartnership.org/ecosystem-credit-accounting>)
- Government of Victoria, Australia – Bush Broker Program (<http://www.dpi.vic.gov.au/DSE/nrence.nsf/LinkView/90D1EEF7733B9CD7CA256FA4001617CE4F65BBF1E5A3A721CA25720C00167A65>)

By taking an ecosystem service-focused, market-based approach, as opposed to a traditional natural resource management approach, the IAFE policy framework’s recommendations

offer a more integrated approach to environmental and economic policy than previously practiced in the province. By linking land and natural resource use actions with their resulting impacts on ecosystem services, decision-makers are provided with better information about how ecosystems are being affected and what it is likely to cost society to repair the damages.

This may be compared with current policy in the province that sets, in most cases, prescriptive regulation for companies to follow without sufficient monitoring and enforcement of compliance with a given regulation to ensure enforcement and compliance with legislation. The IAFE policy framework seeks to align the ambitions of the Land-Use Framework with the following Government of Alberta strategies: Water for Life, Clean Air, Climate Change, Energy, Parks Plans, Livestock and Meat and Forestry.

While further work is needed to make the aspirations of the IAFE policy framework a reality, there are a number of opportunities in Alberta's boreal forest for the Government of Alberta to test a market-based approach. One

example that is currently being advocated by environmental and industry groups includes a regulated boreal forest conservation offset scheme in the Lower Athabasca Region.

In October 2009 the Alberta Boreal Conservation Offsets Advisory Group (BCOG); composed of industry, First Nations and environmental groups, presented the Government of Alberta and IAFE with recommendations for establishing a Regulatory Boreal Conservation Offset system with banking. This policy approach expands on the existing voluntary conservation offset approaches by the Alberta Conservation Association and a number of oil sands operators (Shell, Suncor and Total).

The BCOG recommendation advocated a regulated approach to offsetting development projects in the boreal. The approach would provide a range of compliance options based on the size, timing and type of disturbance. The approach would prioritize and incentivize the restoration of boreal forest. For example, reclaiming the land would not generate an offset credit unless the land is restored to its native ecological function.

While MBIs should not be seen as replacing existing regulatory approaches or eliminating the need to establish large protected areas free of industrial activity across Alberta, these instruments may be effective at improving environmental outcomes. This is particularly true when price signals are strong enough to influence pro-environmental behaviour. What is clear is that the development of the policy framework is shaping discussions within the Government of Alberta, within environmental non-government organizations and within natural resource industries in Alberta. There is much more to be done to turn the tide of existing ecosystem service loss in the province. 🍷

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