# Securing Private Lands for Biodiversity Conservation: Tools and Partnerships

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# 1 INTRODUCTION

## 1.1 Purpose of the research

This research report is intended to serve as a useful resource for the wide range of individuals and organizations involved in efforts to balance private land development with biodiversity conservation. Given the increasing pressures on our environment from urban growth and intensive resource use, the report is timely.

Since this report has been carried out to provide input to a companion study examining the possibility of establishing a regional biodiversity conservation partnership for the Lower Mainland of British Columbia (BC), there is a strong focus on this region. However, given commonalities in the threat to biodiversity worldwide, readers from across Canada and beyond will find the content of this research useful.

To maximize the practical value of the report, it includes:

- descriptions of a variety of tools to secure private land for biodiversity conservation, ranging from laws and regulations to eco-gifting and conservation management incentives; and
- a wide range of case studies from BC and beyond, detailing various regional conservation partnerships and innovative conservation projects. All case studies involve securing private land for biodiversity conservation.

Through these components, the research is meant to provide information, ideas and inspiration on how all parties can best work together to maximize the critical role of private land in biodiversity conservation.

The research is based on a broad range of interviews, studies, reports and web-based articles, drawing on experiences from BC, as well as other Canadian and United States (U.S.) jurisdictions.

## 1.2 What is biodiversity conservation?

Biodiversity is the variety of plants, animals and micro-organisms and the terrestrial, freshwater and marine ecosystems of which they are a part. Biodiversity exists in all settings including urban and rural areas. For example, the Lower Mainland of BC's biodiversity includes and is supported by networks of natural areas, urban forests, riparian and foreshore areas, and public and private open spaces.

Biodiversity conservation focuses on protecting, maintaining, and restoring ecosystems and the complex plant, animal and micro-organism communities they support. Biodiversity conservation calls our attention not only to the importance of the components of our land and seascapes, but also to the elements that connect them and the process of life that underlie them.

#### 1.2.1 Benefits from biodiversity conservation

Biodiversity conservation is of great importance to our wellbeing and the robustness of other species, as demonstrated by a variety of socio-economic and environmental benefits it provides, including:

- environmental services such as regulating climate, filtering freshwater for human, fish and animal use, removing pollutants from the atmosphere, maintaining the water cycle, treating wastes, generating soils, pollinating crops and recycling nutrients;
- assistance to ecosystems to adapt to unanticipated pressures such as climate change, pest infestations and flooding;
- critical terrestrial and aquatic habitat for species at risk, including ecosystems at risk;
- wildlife corridors and linkages;
- opportunities to restore watershed health, e.g., with streamside buffers on agricultural land;
- opportunities to bring nature into communities, for example, with greenways within developed landscapes, which contributes to communities' health and livability;
- low-impact recreational opportunities, e.g., wildlife viewing, walking;
- alternative commuting options through greenways (e.g., bicycling instead of driving a car), which can also enhance people's health;
- learning environments for schools, groups, recreationalists, and the general public;
- a greenspace legacy for future generations;
- boosts to municipal revenues, for example, by enhancing the local tax base by increasing the value of land adjacent to open/green space, and by reducing expenditures for infrastructure in the form of storm/rainwater controls, municipal water treatment costs, servicing density developments, corridors for future underground infrastructure, etc;
- increased property value on lands adjacent to greenway corridors, adding to local tax revenues;
- opportunities for business recruitment: companies give high consideration to livability and environment when looking to site operations;
- a boost to local businesses from tourism attractions, such as recreational greenways and wildlife viewing; and
- support to horticultural and landscape businesses through increasing public awareness of the value of biodiversity and its importance in one's own backyard.

#### 1.2.2 Global and local importance

Biodiversity conservation is both a global and local issue. At an international level, the Convention on Biological Diversity commits countries to work individually and collaboratively toward the conservation of biological diversity and the sustainable use of its components. Locally, the Lower Mainland of BC is one of the most important areas of biodiversity in the province. For example, there are 193 Species at Risk found in the region, compared to the Rocky Mountain Trench at 198, Vancouver Island at 247 and the Okanagan at 281. All other regions of the province have lower levels of rare and endangered species.

# 1.3 Why are private lands important for biodiversity conservation?

Private lands (i.e. non-Crown/public lands) often play a critical role in an area's biodiversity conservation efforts for a number of reasons:

- they host many features with high biodiversity value, such as critical wildlife habitat, endangered plant species and important wetlands;
- they serve as crucial links connecting public parks and open spaces, which maintains ecological corridors across the landscape, including flight paths for migratory birds, home ranges for wildlife, and fish spawning and rearing channels;
- their development often leads to irreversible biodiversity loss, or the need for very expensive restoration work;
- their use can make or break biodiversity conservation efforts on adjacent lands; and
- they generally occur in lowland areas, which are frequently under-represented in public conservation lands.

Furthermore, due to the unique characteristics of private lands compared with public lands, involving private lands in biodiversity conservation can provide opportunities for:

- innovative and collaborative projects and partnerships;
- broadening public understanding of and support for biodiversity conservation; and
- widening business sector participation in, and support for biodiversity conservation efforts.

## 1.3.1 Private lands and biodiversity conservation in BC's Lower Mainland

In BC, private lands play a significant role in biodiversity conservation. For example, they hold tremendously high importance for rare and endangered species. In a recent analysis of BC's Conservation Data Centre's data, 356 Species at Risk occurrences were found on private land, amounting to 55% of all species occurrences officially listed in

BC.<sup>1</sup> This is by far the greatest percentage of Species at Risk occurrences for all types of land tenures in the province. Given this, and the high concentration of private lands in the Lower Mainland of BC, it is not surprising that this region is one of the most significant areas for biodiversity conservation in the province.

Yet, significant and often irreversible loss of biodiversity is occurring in the Lower Mainland, due to a number of factors:

- The region is under immense pressure from population growth, industrial development, intensive agriculture and other types of resource use;
- Urban areas are expanding with roads, subdivisions and commercial developments replacing natural habitat; and
- Eastward of the most densely populated portion of the region, a sensitive airshed, limited developable land base, and numerous river and stream corridors pose challenges in mitigating the environmental impacts of urban development.

Furthermore, with the population of the Greater Vancouver Region expected to reach three million people by 2021, the rate of biodiversity loss threatens to escalate.

Clearly, if we are to conserve biodiversity in the Lower Mainland, significant efforts must be made toward securing private lands for this purpose across the region.

## 1.3.2 What is the securement of private lands?

Securing private lands for biodiversity conservation means ensuring sites are protected for their biodiversity values, for example, wildlife habitat, ecological corridors across the landscape, soil generation, riparian zone productivity, wetland rainwater retention. Securing private land is carried out in a number of ways, using a variety of tools, including:

- purchases or voluntary donations of all or part of the land;
- leases and other forms of contracts;
- voluntary commitments by landowners to use conservation management practices;
- planning designations;
- land development processes; and
- laws and regulations.

The effectiveness of the protection provided depends on such factors as legal force, and the capacity and willingness of individuals and organizations to work together toward common conservation objectives. Sustaining resources and commitment over time is also a critical factor to the success of conservation efforts.

<sup>&</sup>lt;sup>1</sup> The British Columbia Conservation Data Centre (CDC) systematically collects and disseminates information on plants, animals and ecosystems (ecological communities) at risk in British Columbia.

By acting in concert, all levels of government, conservation organizations, academic institutions, landowners and developers can discover the most effective and efficient methods to secure private land for biodiversity conservation.

# 1.4 What does this research provide?

The research report has three areas of focus. First, the research provides a compendium of tools being used by governments, environmental organizations, industry and other actors to secure private land for biodiversity conservation. These tools range from acquisition strategies to stewardship arrangements, from federal guidelines to municipal planning processes, and from federal regulations to local government bylaws and incentives triggered by subdivision applications.

Second, the study contains a number of case studies documenting regional partnerships whose roles include coordinating and leveraging member organizations' resources for securing private land for biodiversity conservation. Three of these partnerships are studied in depth, showcasing their ability to support complex arrangements and successful projects. Nine other partnerships are described in more general detail.

Third, the research provides descriptions and insights into case studies of projects selected for their innovative approaches to securing private land for biodiversity conservation. Many of these projects have local and/or regional governments playing a central role. Nine case studies are documented in detail and their innovative aspects are highlighted. Ten other projects of interest are briefly described.

The geographic focus of the research is primarily, but not exclusively BC: case studies are drawn from other jurisdictions to enrich the information provided, and broaden the study's value.

For readers interested in more information on the tools, partnerships and projects included in this research, electronic links to source documents and additional information are provided to the fullest extent possible.

# 1.5 What are the limitations of the research?

This research report is not intended to provide a comprehensive inventory and description of every tool, partnership and project focused on securing private lands for biodiversity conservation. Rather, its goal is to improve awareness, knowledge and understanding of the variety of mechanisms and programs in existence, and expand ideas for working together productively.

As well, the scope of this research did not include:

- conducting biodiversity inventory or mapping work. However, the reader will find references and links to these tools;
- biodiversity conservation on public/Crown lands and First Nation's reserve land;
- an evaluation of the effectiveness of the tools covered in this report; or
- recommendations to ensure tools and initiatives included in this report achieve their maximum effect.

Given these limitations, it is recognized that a companion study researching some or all of these aspects would be very beneficial. For example, given the vast amount of Crown land in BC, a report on tools and successful approaches for securing these areas for biodiversity conservation is extremely important. Furthermore, a report of this kind could contribute significantly to aligning efforts on public and private lands to achieve optimum biodiversity conservation outcomes.

The report is also limited by the rapid evolution of many of the conservation partnerships and projects documented: "current" case study information and websites will become outdated. Therefore, it is highly recommended that this report become a 'living' document, hosted on a website and updated as necessary.

For readers considering using tools included in this study, please refer to the appropriate legislation and/or policies. For private landowners and developers, seek expert advice from municipal staff, land trusts and conservancies, and your own legal counsel.

Finally, for reasons of time and money, the appearance of the report has yet to be substantially developed, i.e. by using desktop publishing. More work would be required to maximize its potential as a guide or handbook.

# 1.6 How is the report organized?

This research report is divided into 11 sections. An introduction to biodiversity conservation, the critical role played by private land in securing biodiversity conservation, and an overview of this study are provided in Section 1.

Sections 2 - 6 contain a diversity of tools used to secure private land for biodiversity conservation. Following is the particular focus of each section:

- Section 2: title-related tools, involving either the transfer or retention of landownership.
- Section 3: management-related tools, where securement is focused on changing the land use practices on property owned by the private landowner.
- Section 4: land use planning tools, with a focus on regional and municipal tools in use in the Lower Mainland.
- Section 5: tools related to private land development processes, for example, subdivision application processes, regulatory bylaws and permits, etc.
- Section 6: incentives as tools to encourage the use of private land for biodiversity conservation.

Sections 7 - 9 contain the research's case studies; each case includes information on efforts aimed at securing private land for biodiversity conservation. Section 7 details three regional conservation partnerships from BC. Nine other regional partnerships from BC or other Canadian and U.S. jurisdictions are included in Section 8. Section 9 begins by describing and analyzing nine innovative conservation projects, and concludes with short descriptions of eight additional projects and two case study compendiums of interest.

A Glossary of important terms is provided in Section 10. References to key documents are listed in Section 11.

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## 1.8 Key acronyms

CBFWCP - Columbia Basin Fish and Wildlife Compensation Program

- CBT Columbia Basin Trust
- COBTWG Canadian Okanagan Basin Technical Working Group
- CWS Canadian Wildlife Service
- DCC Development Cost Charges
- DPA Development Permit Area
- DP Development Permit
- DUC Ducks Unlimited Canada
- EC Environment Canada
- EKCP East Kootenay Conservation Program
- ESA Environmentally Sensitive Area
- DFO Canada's Department of Fisheries and Oceans
- ENGO Environmental Non- Government Organization
- FBC Fraser Basin Council
- FVRD Fraser Valley Regional District
- GVRD Greater Vancouver Regional District
- HCTF Habitat Conservation Trust Fund
- HSP Habitat Stewardship Partnership
- LEPS Langley Environmental Partners Society
- MOE Provincial Ministry of Environment
- NCC The Nature Conservancy of Canada
- ONA Okanagan Nation Alliance
- PECP Pacific Estuary Conservation Program
- RPGP Regional Parks and Greenways Plan
- SARA Species at Risk Act
- SEI Sensitive Ecosystem Inventory
- SOSCP South Okanagan-Silmilkameen Conservation Project
- TNT The Nature Trust of BC
- TLC The Land Conservancy
- WSP Wetlands Stewardship Partnership

# 2 TITLE-RELATED SECUREMENT TOOLS

A variety of title-related tools are used to secure private lands for biodiversity conservation. These tools can be usefully divided into those used to transfer land title to a new owner, and those used to legally protect a portion of the land, leaving the title in the hands of the original landowner.

Different title-related tools afford varying levels of control over biodiversity conservation over time. The following section provides descriptions of a number of tools, beginning with those where land ownership and title are transferred, and finishing with tools where land ownership and title are retained.

# 2.1 Land ownership and title are transferred

Obtaining ownership and title to land provides the highest level of security for protecting biodiversity conservation in the long-term. Title to land grants the landowner the associated property rights. These rights or interests in the land include the right to enter, occupy, use, lease, sell, and develop a parcel of land within the framework of existing laws and regulations, subject to any conditions registered on the title. A fee simple owner holds all the property rights for a piece of land, which, in terms of biodiversity conservation, is the strongest position for protecting the land over the long-term.

Following are examples of land securement tools used to transfer landownership and title.

# 2.1.1 Acquisitions

An acquisition or purchase of private land is a voluntary tool whose effectiveness and length of biodiversity protection is limited only by the willingness and ability of the new landowner to retain ownership of the land, and to provide the resources required.

In an acquisition, a landowner negotiates with a public agency or conservation organization to determine a sale price based upon the appraised fair market value, and timing of the sale. The agency or conservation organization identifies and secures funding for purchasing the land and organizes real estate transaction details: appraisal of the land's fair market value, environmental assessment, title investigation, and land survey. The closing of the sale constitutes the payment, and transfer of land ownership and title.

In cases where the landowner lives on the property and wishes to remain until death, a **life estate** can be negotiated. The landowner sells the title to the land but retains the right to occupy and use his/her land during his/her lifetime. The landowner or a relative of the landowner becomes a life tenant, and is responsible for protecting the natural features of the land as specified by the new landowner.

#### **Conservation lease**

When landowners want to sell their property but keep living and/or working on the land, acquisitions can be combined with and facilitated by a form of a conservation lease. This type of deal is known as a leaseback arrangement: the landowner sells the land and then immediately leases it back from the purchaser. A leaseback arrangement is useful when the landowner needs to free up the cash invested in the land, but still needs the land for personal or business reasons. Leaseback deals can also provide the landowner with additional tax deductions.

Terms of the lease specify the conservation management measures required by the new landowner and the time period covered. For example, leasing farmland acquisitions back to farmers allows them to continue to use the land for agricultural purposes while involving them in protecting specified environmental features.

The new landowner also benefits from a leaseback arrangement by receiving stable payments for a specified period of time. This can be used for conservation management and/or other securement projects. In addition, since a conservation lease can provide for integrated resource use, the new landowner may be able to receive a portion of the revenues generated.

#### Partnered acquisitions

Partnered acquisitions of land establish a co-ownership of the land. This means that two or more people, corporations, or societies own the property together. Co-ownership arrangements can be made so that each party has an undivided right over the whole property, independent of each party's contribution to the acquisition. For conservation lands, this can ensure protection in perpetuity since all parties share conservation obligations and responsibilities. For example, all parties would have to agree to a sale before it could occur, and land management must be carried out effectively.

#### Web resources

Here Today, Here Tomorrow: Legal Tools for the Voluntary Protection of Private Land in British Columbia

#### http://www.wcel.org/wcelpub/5110/

Environmental organization Evergreen produced a nation-wide survey of urban municipalities in 2001, which includes 12 case studies that profile municipalities who applied innovative strategies for parkland acquisition and stewardship in their cities

http://www.evergreen.ca/en/cg/cg-parkland.pdf

## 2.1.2 Donations

A donation or gift of land is a voluntary transfer of title from a landowner to a recipient without the landowner receiving a benefit, monetary or otherwise. In the case where the recipient is a conservation organization, it can own the property for as long as the organization exists, or until it decides to sell or trade the land to another party. However,

the donor can place terms and conditions on the use of the land that will permanently protect its conservation value, regardless of ownership.

All donations of land are eligible for donation receipts for tax purposes. Donations of ecological or cultural significance are eligible for increased tax benefits (see below for Eco-gifts). In some cases, donations of lands (and residences) that do not have ecological or cultural significance can be sold to raise funds for use in other conservation initiatives.

A donation of land made in a will is a **bequest**. The recipient is usually a conservation organization, and the donor's estate is eligible for tax savings at time of death.

A **life estate** (see section 2.1.1) can also take the form of a donation when the land is given free of charge.

#### Split-receipting

Proposed amendments to the *Income Tax Act* now allow split-receipting: a charitable conservation organization can issue a receipt for a gift even if the donor receives some kind of benefit in return, provided the value of the benefit is excluded from the amount of the receipt. For example, a landowner donates a \$300,000 property but there is an outstanding mortgage of \$100,000 that will be assumed by the conservation organization. This would not constitute a true gift since the landowner would be free of his/her \$100,000 debt – despite the fact that there is both a gift component (the landowners \$200,000 equity interest) and an intention to donate. Under the new rules, which are retroactive to December 2002, as long as there is "donative intent," a charity may issue a receipt for the amount of the donation less the value of any "advantage" received by the donor in return. In the above example, these new rules would allow a receipt of \$200,000 to be issued to the landowner.

#### **Eco-gifts**

If the land being donated possesses high conservation values, it may qualify as an ecogift under Environment Canada's Ecological Gifts Program. This certification makes the land donor eligible to receive enhanced income tax benefits. Eligible recipients of the land include governments and charitable organizations approved by Environment Canada, such as land trusts and conservancies.

To qualify as an eco-gift, the land is assessed for its natural values on such federal and provincial criteria as:

- Diversity and ecological integrity;
- Lack of disturbance to the habitat;
- Degree of threat from development; and
- Presence of imperiled species or features of natural significance.

If accepted, the land becomes certified as "ecologically sensitive", and qualifies as an eco-gift. A donor has up to three years after the transfer of a property to an eligible recipient to request that the Minister of Environment process his or her donation for certification as an ecological gift.

#### Web resources

Green Legacies: A Donor's Guide for BC

• index to sections of the Guide

http://www.stewardshipcentre.bc.ca/green\_legacies\_web/index.asp

• chapter on Gifts of Land or Covenants: Tax and Legal Implications

http://www.stewardshipcentre.bc.ca/green\_legacies\_web/PDFFiles/GiftsOfLandOrCoven ants.pdf

Giving it Away: Tax Implications of Gifts to Protect Private Land

http://www.wcel.org/wcelpub/2000/wrapper.cfm?docURL=http://www.wcel.org/wcelpub/2000/13020.htm

The Canadian Ecological Gifts Program

• general information

http://www.cws-scf.ec.gc.ca/ecogifts/intro\_e.cfm

• 2005 Eco-gift Handbook

http://www.cws-scf.ec.gc.ca/ecogifts/hb\_toc\_e.cfm

Canada Revenue Agency on split-receipting

http://www.cra-arc.gc.ca/E/pub/tp/itnews-26/itnews-26-e.html#P20\_573

## 2.1.3 Land exchange

As contrasted with donations, a land exchange involves benefits beyond tax breaks realized from the transfer of the land title. These benefits include obtaining land of greater use for the recipient, money, or other assets. Benefits are based on the value assigned to each parcel of land. Cash is often used to equalize the values between properties to make up a complete securement agreement.

Land is often exchanged among parties to further conservation ends. For example, a conservation organization owning land of low conservation priority may trade it to secure land in more urgent need of protection. A land trade agreement can be made with a developer who owns land deemed "undevelopable" or is prohibitively expensive to develop, but which possesses high conservation values, e.g., a wetland.

Land exchanges can also be carried out by a government agency using 'surplus' properties no longer needed, e.g., pieces of farmland acquired during highway construction, parcels acquired for a Crown development. Crown land of minor ecological significance can also be traded for environmentally sensitive lands.

#### Web resource

Details of a land exchange between the Government of Ontario and six landowners to protect environmentally sensitive lands in the Oak Ridges Moraine

http://www.mah.gov.on.ca/userfiles/HTML/nts\_1\_21831\_1.html

## 2.1.4 Expropriation

The *Expropriation Act* governs expropriation of land by governments or public agencies throughout BC. Generally, the provincial government has the power to take away land for a public use without the owner's consent if reasonable compensation is paid and if the expropriation is authorized by another provincial law, such as the *Water Act, Gas Utility Act,* or the *Highways Act.* 

Federal laws empower the Canadian government to expropriate land, and local governments and public agencies such as BC Hydro can expropriate land for a public purpose with fair compensation paid.

#### Web resources

BC's *Expropriation Act* http://www.qp.gov.bc.ca/statreg/stat/E/96125\_01.htm

A water licensee's right to expropriate land

http://lwbc.bc.ca/03water/licencing/docs/expropriate.pdf

# 2.2 Land ownership and title are retained

There is a variety of securement tools designed to legally protect a part of a larger land holding which remains the property of the original landowner. Use of these tools place a charge, burden or encumbrance on the land title involved. These tools are used in a number of instances, for example, to take advantage of opportunities where a landowner wishes to retain title to his/her land, but is willing to have a portion secured for conservation. Use of these tools is less costly than outright acquisitions, and still provides a high degree of security for protecting biodiversity on the land covered. The following section provides examples of such tools. Since conservation covenants are a very common and effective method for securing private lands, greater detail is provided.

## 2.2.1 Conservation covenants

A conservation covenant (often known as a conservation easement in the U.S.) is a voluntary, legal agreement between a landowner and a covenant holder. The covenant allows the landowner to permanently protect environmental and cultural features of the land, while retaining ownership and the ability to live on and/or use the land within the terms of the covenant. For example, a landowner might agree to provide protection for

endangered wildlife habitat by prohibiting all future subdivision and development, yet retain existing or replacement dwellings.

A covenant is registered against title to the property under Section 219 of BC's *Land Title Act*. As a result, the covenant lasts in perpetuity, binding all future owners of the land to its terms, i.e. the covenant "runs with the land". The covenant can cover all or part of a property, and can be used to protect heritage buildings and landscapes.

In 1994, the *Act* was amended by the BC Government to allow conservation covenants to be held by individuals or organizations designated by the Ministry of Environment (MOE). Thus, a designated conservation organization can enter into a legally binding agreement with a private landowner. This has led to the formation of many local and provincial land trusts and conservancies in BC. To ensure a covenant is honoured over the long-term, often two conservation entities hold the covenant, e.g., a land trust and a provincial agency, who share the responsibilities.

There are three types of covenants:

- Purchased covenants, where a landowner sells the rights included in the covenant to the holder;
- Donated covenants, where no money is exchanged, but the landowner receives tax benefits; and
- Traded covenants, where the land under covenant is exchanged for other land.

Conservation covenants can be modified by the parties in the future to accommodate necessary changes.

#### Flexibility of use

A conservation covenant stipulates how the landowner agrees to protect the land and its features, and details the covenant holder's responsibilities. For example, covenants can be used:

- to protect sensitive areas in newly subdivided developments;
- to provide buffer zones next to wetlands;
- to protect riparian habitat from logging, clearing or other development;
- to ensure ecologically sound farming or forestry; and
- to protect ecologically sensitive areas on agricultural and forest land.

#### **Obligations and costs**

Because conservation covenants are meant to endure in perpetuity, there are long-term obligations and costs for all parties involved. For the covenant holder, these include the legal responsibility for protecting, monitoring and defending the covenant. The responsibilities of the land owner include abiding by the terms of the covenant which frequently involve management activities, and possibly contributing to an endowment fund to cover ongoing costs of monitoring.

Part of the landowner's cost may include a lowering of the property's value because a covenant generally restricts the use of the land. This can occur, for example, when a covenant prevents the landowner from subdividing or further developing the land.

However, if the land covered by the covenant is designated as ecologically significant, it may qualify as an eco-gift, and thus be eligible for enhanced income tax benefits (see Environment Canada's Ecological Gift Program, section 2.1.2).

#### Accompanying provisions

Covenants usually include a Statutory Right of Way to provide for inspection of the property and restoration work. They also include a Rent Charge, which serves as a mechanism to enforce fines and other remedies if there is a breach to the terms of the covenant. For example, if the landowner destroys a value protected under the covenant, the landowner would pay for the restoration costs.

#### Challenges to effectiveness

The effectiveness of the conservation covenant depends on the strength and enforceability of the specific terms of a conservation covenant and the willingness and ability of the covenant holder to monitor and enforce the terms of the covenant.

In addition there are legislative restrictions that limit the covenants use in BC's Agricultural Land Reserves. In 2002, amendments to the *Agricultural Land Commission Act* changed referrals to required approval from the Land Reserve Commission for covenants that prohibit the use of agricultural land for farming. This could discourage private landowners from protecting ecological values, since the Commission could legally prohibit a voluntary agreement from taking effect. Moreover, this provision could bar a conservation covenant based on the possibility that the land could be used in the future for agricultural purposes, e.g., a valued wetland could be drained and converted to farming.

#### Web resources

Greening Your Title: A guide to best practices for conservation covenants

http://www.wcel.org/wcelpub/2000/13247.pdf

West Coast Environmental Law conservation covenants publications

http://www.wcel.org/resources/publications/default.cfm

## 2.2.2 Conservation easements

An easement is a right granted by a landowner to another to use her/his land in a particular way, generally to cross over the landowner's land without trespassing. Conservation easements involve uses of land that promote conservation, and are similar in nature to a conservation covenant (e.g., voluntary, "run with the land").

Conservation easements can be used by a conservation organization:

- to enter and inspect land under a conservation covenant to ensure the landowner is abiding by the terms of the covenant;
- to secure a corridor of land for recreational purposes, e.g., trails, bike paths; and

• to complete restoration work that crosses over onto a neighbouring piece of property.

#### 2.2.3 Statutory right of way

A statutory right of way includes land or any interest in land secured for the purposes of:

- public rights of passage with or without vehicles; or
- constructing, maintaining or operating any forms of railways, tramways, public utilities or disposal of sewage. For example, under the *Local Government Act*, a statutory right of way may be granted to a local government "for any purpose for the operation and maintenance" of the municipality's undertaking.

Statutory rights of way are an easement over a piece of property. Normally, they serve as a less expensive alternative to the purchase of title to land.

Similar to a covenant, a right of way "runs with the land", and is often established in conjunction with a conservation covenant to enable inspection and restoration work.

#### Web resource

Article on Statutory right of ways

http://www.expropriationlaw.ca/articles/art00600.asp

### 2.2.4 Heritage Conservation Covenant

A Heritage Conservation Covenant is a legal, voluntary agreement between a landowner and covenant holder to protect a cultural feature for a heritage purpose under BC's *Heritage Conservation Act*. The covenant can protect part or all of a heritage property, is registered on title, and can apply to either a natural or built feature.

A Heritage Conservation Covenant can be used as a tool to secure private land for conservation when a landowner also wishes to maintain ecological features on his/her property. As well, a heritage conservation covenant may provide access to additional resources for securing the accompanying land.

#### Web resources

BC government

http://www.mcaws.gov.bc.ca/heritage\_branch/conserve/prtools.htm#pr2

#### City of Surrey

http://www.surrey.ca/Doing+Business/Land+Development+and+Building/Plans+and+Po licies/Heritage+Preservation/Heritage+Protection.htm

## 2.3 Management of secured lands

Whether or not landownership is transferred or retained, once the land is secured it must have appropriate ongoing management or the biodiversity values for which it was secured could be lost. This requires concerted, collaborative management efforts. Sound research, policy, and action are necessary, blending traditional ecological, local community, and western science knowledge.

Management plans or agreements are frequently developed to define the goals, strategies, roles, policies, and land use zones to protect biodiversity on the property. The responsibility for achieving established goals may rest exclusively with one party, or be shared among the land securement partners, e.g., land trusts, private landowners with covenants, government.

## 2.3.1 Management tools

Tools such as Best Management Practices (BMPs) are often used to meet required conservation standards or achieve conservation objectives. Additionally, to ensure long-term, effective management, conservation leases can also be employed. For example, if a conservation organization is the new landowner, it can contract another party to manage the land for conservation purposes, e.g., a local government. If the land is leased to a government body, there are no municipal or rural property taxes.

#### 2.3.2 Web resource

BC's MOE Guidelines and BMPs:

http://www.env.gov.bc.ca/wld/BMP/bmpintro.html

# 3 MANAGEMENT-RELATED SECUREMENT TOOLS

Securing private land for biodiversity conservation in the short-term can be achieved without changes in landownership or to the property's title. Voluntary land conservation management arrangements are effective tools designed to influence management practices on the land to take into account significant ecological features.

This section begins by describing benefits from using land conservation management arrangements. Next, some common examples of this tool are presented, including three from the United States focused on endangered species conservation.

## 3.1 Benefits of land management arrangements

The following section outlines three benefits from the use of land conservation management arrangements. It also briefly discusses the limitations of land conservation management arrangements.

## 3.1.1 Encourages land stewardship and compliance

Land conservation management arrangements provide a low-risk, usually non-legallybinding opportunity for the private landowner to learn about biodiversity conservation and test some practices. Moreover, they can assist the property owner to interpret and comply with applicable laws and regulations. Consequently, these tools are often part of stewardship conservation programs: arrangements often stipulate the management measures to be fulfilled, and they can be tailored precisely to address the needs of the land and law, the willingness/ability of the landowner to participate, and the resources of the conservation organization involved.

Positive experiences with management measures can lay the foundation for a longer term conservation commitment by the landowner, e.g., a sale or donation of land to a conservation organization, or establishing a covenant on the land.

## 3.1.2 Allows for mixed land use

Land conservation management arrangements allow for a mixture of land uses on the same property: environmental protection is complemented by agriculture, forestry, culture, heritage, recreation, etc. The specific conservation measures are often detailed in a management plan which defines the role, policies, land use zones and guidelines necessary to protect the targeted features. Best Management Practices (BMPs) may also be used to set minimum management standards and aid in achieving conservation objectives.

#### 3.1.3 Provides a low cost alternative

For conservation organizations and governments, management measures provide a low cost alternative to land acquisitions, donations or covenants, since:

- purchases and other costs such as property appraisals, legal fees, and sales negotiations are avoided; and
- ongoing ownership costs are not inherited, e.g., restoration, enhancement, invasive plant control, habitat protection.

## 3.1.4 Limitation

Despite the above benefits, land conservation management tools provide less security than title-related tools due to their short-term nature. As well, with the exception of conservation leases, they are not legally-binding.

# 3.2 Conservation leases

Conservation leases are used in a variety of ways, including facilitating the transfer of landownership, and ensuring ongoing conservation land management (see Land ownership and title are transferred, section 2.1; Acquisitions, section 2.1.1; and Management of secured lands, section 2.3). For example, when landownership is retained by the original owners, conservation organizations or governments can lease the land from the property owners, and manage it for conservation values. A landowner interested in protecting her/his land by experts but wanting the future option to sell, might use a conservation lease in this way. A conservation lease can also give a conservation organization access to land for use to generate revenue, e.g., wildlife viewing. The funds can be used for management costs and/or other securement projects.

Conservation leases may also be used if the owner is unwilling to sell, if the purchase price is too high, or as an interim measure if the conservation organization is trying to raise sufficient funds to purchase the property.

The terms of a conservation lease establish the required management measures and the time period covered. Since the lease can last as long as the parties wish, this tool has the potential to provide long-term protection.

Since conservation leases have the effect of law, they often include a damage clause if the tenant fails to carry out his/her responsibilities. However, to encourage co-operation and compliance, leases can be tailored to include measures that allow steps to be taken to prevent breaches, such as allowing the landowner to enter onto the property and rectify a problem. These types of provisions can be useful where an award of damages would not provide an effective remedy, e.g., for the loss of critical habitat.

# 3.3 Contractual arrangements

Short-term, non-binding conservation management measures may be achieved through the use of contracts. For example, stewardship agreements are voluntary arrangements struck between a landowner and a conservation organization, which both proscribe and prescribe certain activities to protect natural features. Stewardship agreements are governed to some extent by the common law or civil law relating to contracts and agreements. Stewardship agreements may also be governed by statutory provisions.

In some cases the landowner agrees to have a conservation organization carry out specific stewardship duties on the land to protect biodiversity values. Other agreements have either the landowner stewarding the land, or the stewardship responsibilities and actions shared between the parties.

# 3.4 Non-contractual arrangements

Non-contractual arrangements allow landowners to enter into agreements that are nonbinding and non-enforceable in nature. These goodwill arrangements can raise the landowner's conservation awareness and influence his/her activity on the land. Generally, these agreements do not contain mechanisms for monitoring, measuring performance, or accountability.

Non-binding arrangements can also allow conservation organization and government staff to work with in a structured way with landowners who want to ensure that their proposed development activities are planned and carried out in compliance with various laws and policies.

# 3.5 U.S. private land conservation management

The U.S. has many forms of private land conservation management arrangements. There are three notable examples which focus on protecting endangered species: Habitat Conservation Plans, Safe Harbor Agreements, and Candidate Conservation Agreements with Assurances. These programs were created through the implementation of the U.S. Endangered Species Act (ESA), and rely on cooperative agreements whereby owners retain many of their property rights in exchange for maintaining habitat for a specific number of species. The programs respond to the urgent need to involve more property owners in species conservation to ensure adequate protection and compliance, and reduce resources demands on federal agencies.

These species management programs are receiving support from federal agencies and a growing number of private landowners. For agencies, this conservation partnership approach has, in some cases, improved compliance and reduced monitoring costs. For property owners, the agreements limit further mandatory changes, providing them with a strong amount of certainty. For both agency staff and private landowners, the programs allow agreements to be tailored to site-specific characteristics, offering greater flexibility than blanket regulations. Thus, these management programs also act as incentives for promoting conservation practices (see U.S. examples, section 6.3).

Following are descriptions of the three programs currently in use in the U.S. and briefly outlines specific criticisms/limitations of the programs.

#### 3.5.1 Habitat Conservation Plan

A Habitat Conservation Plan (HCP) is jointly developed by government agencies and private landowners to help protect endangered species from being harmed by activities on private lands and, at the same time, to protect private landowners from liability under the Endangered Species Act. Sometimes, a private landowner finds out that a planned project (for example, a housing development) may harm or "take" an endangered species. By developing an HCP, the non-federal entity can get the permits it needs to proceed, including permission to "take" endangered species as an incident to the development activity (known as an "incidental take permit").

An HCP outlines what actions the private party plans to take in order to minimize, or mitigate, the impact of his or her actions on the endangered species. Plans can be developed for listed threatened or endangered species, and for other rare species.

Including unlisted species in an HCP can provide for early protection for the species that might keep it from becoming listed in the future.

#### "No Surprises" policy

In an effort to encourage private property owners to protect endangered species and their habitat, federal agencies have developed a "no surprises" policy that can be written into an HCP. This policy promises the private landowner that if an HCP is developed with his/her participation and in good faith and the federal agency later concludes that additional measures (e.g., protection of more land) are needed to protect the endangered species, the federal agency cannot require the private landowner to do anything more than what s/he has already committed to. In other words, the private party who commits to helping to conserve an endangered species does not have to worry about a "surprise" down the road.

#### Permit revocation rule

A private landowner may hold an "incidental take" permit, preventing the individual from being prosecuted if an endangered species is incidentally killed or injured during development activities. However, in response to conservation concerns, the permit revocation rule has been created which allows the U.S. government to revoke incidental take permits, despite the "no surprises" policy, when incidental takes would "appreciably reduce the likelihood of survival and recovery of the species in the wild."

#### 3.5.2 Safe Harbor Agreement

Some private landowners are unwilling to adopt conservation measures that improve habitat for threatened or endangered species on their land for fear that their future development decisions would then be limited by the presence of the endangered species. Safe Harbor Agreements (SHAs) are designed to get around this conflict. The agreements assure landowners who voluntarily improve habitat for endangered species that their future land development will not be limited if they attract endangered species to their property or increase their numbers. For example, a Safe Harbor Agreement may maintain landowner property rights in the context of riparian restoration. SHAs can be applied to individual properties or scaled up to include broader landscapes which encompass a number of landowners, e.g., a watershed.

SHAs have proven especially popular with both small and large landowners who want species-rich forests but fear managing endangered species would lead to cumbersome regulation and the loss of their land's economic value.

## 3.5.3 Candidate Conservation Agreements with Assurances

Candidate Conservation Agreements with Assurances (CCAA) are agreements made between U.S. federal agencies and private landowners. These formal agreements are created to address the specific conservation needs of a particular species, in hopes of keeping it off of the endangered or threatened species lists.

The private parties to these agreements voluntarily commit to manage their land and water to decrease current and future threats to a species, so that the population of that species may grow without federal protection. In exchange, the owners receive assurances from the agency that they will not be required to do more than what they agreed to when they entered into the agreement. This is similar to the "no surprises policy" of a Habitat Conservation Plan.

For a CCAA to be honoured, the landowner's management activities must significantly contribute to eliminating the need to list the identified species. Species covered in a CCAA may include:

- both animals and plants;
- candidates for listing; and
- species already proposed as threatened or endangered.

## 3.5.4 Criticism of the programs

Criticism of the species conservation programs includes the following:

- Landowners can avoid negotiations with federal regulators by registering with the appropriate state agency, which usually holds a blanket Safe Harbor Agreement that can be applied to all private lands within the state's boundaries. Provisions in these types of agreement may not be adequate for species protection.
- For property owners with land holdings separated by large distances, e.g., forest companies, species can be re-located away from their natural range and distribution. Such agreements can allow powerful corporate interests to skirt the ESA and remove species from lands where revenue generation takes priority over protection.
- Agreements may not require property owners with many holdings to succeed in restoring species populations on all their lands.
- The species management programs have been linked with controversial marketbased conservation tools: successful companies providing species management have been issued "conservation credits" which they can trade to other companies who are negatively impacting habitat.

• Meaningful evaluation of these programs will require far more time: it is much too early to tell whether these programs are leading to the recovery of endangered species.

## 3.6 Web resources

The Stewardship Centre for BC's Stewardship Series (18 handbooks, including Stewardship Options: For Private Land Owners in British Columbia; Land Development Guidelines: For the Protection of Aquatic Habitat; Coastal Shore Stewardship: A Guide for Planners, Builders and Developers)

http://dev.stewardshipcanada.ca/sc\_bc/stew\_series/NSCbc\_stewseries.asp?sProv=bc&site Loc=scnBC&lang=en

BC's Ministry of Environment Guidelines and BMPs

http://www.env.gov.bc.ca/wld/BMP/bmpintro.html

A partnership to encourage implementation of BMPs on Ontario's farmlands

http://conservation-ontario.on.ca/news/pdf/2005/Greencover\_media\_releaseOSCIA-CO.pdf

Environmental Best Management Practices for Urban and Rural Land Development in British Columbia - DRAFT

http://wlapwww.gov.bc.ca/wld/documents/bmp/urban\_ebmp/urban\_ebmp.html

Endangered Species Habitat Conservation Planning

http://www.fws.gov/endangered/hcp/index.html

# 4 SECUREMENT THROUGH LAND USE PLANNING TOOLS

Across the Lower Mainland of BC, government land use planning tools provide opportunities to influence and guide the development and use of private land toward biodiversity conservation. Design and application of these tools have often been guided by the provincial and federal governments, *Land Development Guidelines for the Protection of the Aquatic Habitat.* As well, over the past decade, the Smart Growth approach has been gaining influence. Focused on providing on alternative to urban sprawl, Smart Growth principles are designed to create urban development that is fiscally, socially and environmentally responsible.

This section begins with an overview of the Smart Growth approach and then describes regional and municipal planning tools. Tools at the regional level are addressed first since they establish the overarching context and longest time frame within which biodiversity conservation on private lands can be achieved.

## 4.1 Smart Growth

Smart Growth is an approach to urban growth and development that provides an alternative to traditional patterns of urban sprawl. Proponents say, in contrast to urban sprawl, Smart Growth offers a framework for building healthy, durable communities which are environmentally sound, economically robust, and socially desirable.

Smart Growth offers viable solutions to a number of urban development challenges, e.g., traffic congestion, high public infrastructure and service costs, disappearing biodiversity and other environmental values, lack of community cohesion and security. As a result, there is growing convergence of support for the Smart Growth approach among a variety of professions and interest groups, and its strategies are being implemented in regional and local government land use planning.

## 4.1.1 Areas of focus

Smart Growth encompasses a wide variety of urban development issues:

- Housing
- Design
- Environment
- Economics
- Transportation
- Community quality of life
- Health

Some of the areas of study under Environment include:

- zoning issues;
- green infrastructure/watershed protection;
- parks and greenways;
- farmland preservation;
- open space and land conservation;
- water quality and storm/rainwater control;
- sewage treatment; and
- transportation planning and choices.

Smart Growth goals are pursued by developing, integrating and applying polices and practices for each of these areas.

## 4.1.2 Principles

The application of the Smart Growth approach is guided by a number principles:

- Preserve open space, farmland, natural beauty and critical environmental areas: preserve areas to enhance environmental, rural economic and cultural values. In particular, support conservation of areas with high ecological and recreational value by channeling new development into existing communities and/or already disturbed areas.
- Encourage infill development: locate new development in already developed areas, utilizing the resources that existing infrastructure offer. Conserve open space and natural resources on the urban fringe by discouraging greenfield (urban periphery) development, and encouraging redevelopment of brownfields (unused industrial lands) and greyfields (aging strip malls and shopping centres). Since these types of property normally involve large tracts of land, their redevelopment can create mixed use developments, e.g., residential, commercial, educational, civic, light industry.
- Encourage a clustered mix of land uses: locate a variety of compatible land uses within proximity of each other to create more self-contained communities, e.g., develop schools, shops, recreation facilities, and light industry in or adjacent to residential areas.
- Encourage compact development: as an alternative to conventional, land consumptive development, allow and encourage higher density development. Measures include reducing minimum lot sizes, building setbacks, minimum parking and paving requirements, right-of-way widths for utility location, and minimum street dedications/size. Allow transfer of development capacity of outlying areas to more centralized areas.
- Encourage high quality building design: require high performance building designs that ensure efficient use of resources, e.g., reduces water requirements, heating and cooling demands, sewage flows, stormwater run-off.
- Make development decisions predictable, fair and cost effective: ensure the active involvement of the private sector and provide effective incentives. For example, structure property taxes, development fees and utility rates to reflect the lower public service costs of clustered, infill development, and focus economic development incentives to encourage businesses to locate in more accessible locations.
- Encourage a mix of housing types and prices: develop quality, affordable housing near employment, commercial and transport centres. Develop second suites, apartments over shops, lofts, location-efficient mortgages and other innovations that help create more affordable housing.
- **Create walkable neighbourhoods**: ensure walking opportunities to places within the community to work, learn, worship, shop and play.
- Foster distinctive, attractive communities with a strong sense of place: encourage physical environments that create a sense of civic pride and community cohesion, including attractive public spaces, high-quality architectural and natural elements that reflect unique features of the community, preservation of special cultural and environmental resources, and high standards of maintenance and repair.
- Ensure community-based, collaborative planning: support a community-based planning process that creates a common vision and sets standards for development and construction which respond to community values, as well as expanded choices in housing and transportation. Collaboration is essential among all stakeholders, e.g., all levels of government, Environmental Non-Governmental Organizations (ENGOs), neighbourhood associations, business associations and developers.
- **Provide a variety of transportation choices**: reduce dependency on the automobile, and encourage/enable use of alternative modes of transport such as bicycling, public transportation and walking.
- Utility management: use on-site storm/rainwater drainage systems. Encourage water conservation and recycling.
- Encourage integration of principles in practice: the interdependence of smart growth principles requires finding appropriate combinations when putting them into practice. In this manner, synergies can be realized and resistance to particular measures can be overcome, e.g. combine infill/higher density development with measures that reduce vehicle use, and with amenities that benefit existing residents.

Overall, Smart Growth emphasizes accessibility, resource efficiency and community livability goals, in contrast to conventional planning, which tends to emphasize mobility, inefficient consumption of resources, and lack of community influence in decision-making.

Smart Growth can be applied in most areas, and is particularly appropriate for those with strong growth pressures. Its strategies are primarily implemented by regional and local governments, although some require provincial support. Developers can implement some Smart Growth design features.

#### 4.1.3 Cost savings

A recent study concluded that infrastructure cost savings due to Smart Growth planning can be in excess of \$5,000 per residential unit in many communities. Economic benefits include:

- major savings in overall road and servicing network costs for urban development in compact, complete communities, especially where development is in the form of infill and densification in established areas with existing unused servicing capacity;
- minor savings in local servicing networks if projects incorporate high performance building features that reduce water requirements, sewage flows and stormwater run-off; and
- potential major savings in municipal-wide networks from reduced service demands associated with high performance design. Reduced requirements for new water supply and storage, sanitary treatment capacity and municipal storm water systems could generate significant savings.

### 4.1.4 New Urbanism

New Urbanism is an urban design movement that incorporates much of the Smart Growth approach. Beginning in the late 1980s and early 1990s, their work has increasingly influenced regional and local planning. New Urbanists aim to reform all aspects of real estate development: they are involved in new development, urban retrofits, and suburban infill. Their urban designs put into practice many Smart Growth principles, including ensuring clustered mixed land uses, a diverse range of housing and jobs, and protection of open space and ecologically significant areas.

#### 4.1.5 Web resources

Smart Growth Network

www.smartgrowth.org

Smart Growth BC

http://www.smartgrowthbc.ca

Victoria Transport Policy Institute

- efficient land use management, <u>http://www.vtpi.org/tdm/tdm38.htm</u>
- Smart Growth Reforms to change planning, regulatory and fiscal practices to support more efficient land use, <u>http://www.vtpi.org/tdm/tdm95.htm</u>

UBC's James Taylor Chair in Landscape and Liveable Environments

• publications on sustainable community design <u>http://www.sustainable-communities.agsci.ubc.ca/orderbody.html</u>

• research, case studies and project updates: <u>http://www.sustainable-communities.agsci.ubc.ca/bulletbody.html</u>

Numerous case studies

- Portland Oregon's Skinny Streets Program (reduced width of subdivision streets and associated rights-of-way) http://www.portlandonline.com/transportation/index.cfm?c=35929
- Skinny Streets and Green Neighbours: Design for Environment and Community <a href="http://www.detourpublications.com/index.php?id=458">http://www.detourpublications.com/index.php?id=458</a>
- Congress for New Urbanism <u>www.cnu.org</u>
- Smart Growth Network <u>www.smartgrowth.org</u>

United States Environmental Protection Act Smart Growth: information on Smart Growth strategies to reduce environmental impacts

www.epa.gov/smartgrowth

# 4.2 Regional Growth Strategy

A Regional Growth Strategy (RGS) is a higher level planning tool in BC that sets out a vision for the development of a region. It is used by all levels of government as the framework for making regional land use and transportation decisions. A RGS also helps other agencies, the private sector and residents understand and align their activities to support a regional government's vision for its future development.

The development of an RGS is guided by a set of provincial goals for regional land use planning set out in BC's *Local Government Act*, which encompass social, economic and environmental issues. These goals are part of a larger framework for developing a RGS which is established in the *Act*. The framework contains such elements as procedures for adopting a RGS by affected local governments, and RGS content. For example, a RGS must contain:

- a minimum, 20-year time horizon;
- social, economic and environmental objectives; and
- a course of action to meet the socio-economic, cultural and health needs of the projected regional population.

# 4.2.1 GVRD's Livable Region Strategic Plan and Green Zone

The Greater Vancouver Regional District's RGS is called the Livable Region Strategic Plan (LRSP). Its primary goal is to help maintain a healthy, productive way of life and provide ecological protection as the region grows and develops. The LRSP's first strategy addresses biodiversity conservation issues in the context of establishing a Green Zone to protect important conservation lands. The GVRD's Green Zone serves two key purposes:

- It defines the limit to urban expansion; and
- It fosters a shared sense of commitment between the region's municipalities to protect the lands within it.

Four types of land make up the Green Zone, based on the submissions endorsed by each municipality:

- Community health lands, such as watersheds and floodplains;
- Ecologically important lands, such as forests, wilderness areas, wildlife habitat and wetlands;
- Outdoor recreation and scenic lands, such as major parks and recreation areas; and
- Renewable resource lands, such as agricultural and forestry areas.

The GVRD's Green Zone strategy also includes a regional Park and Outdoor Recreation System. This system provides a framework for the coordination and planning of major recreational sites and the linkages between them, in order to allow people and wildlife to move more freely across the region.

Changes to the Green Zone may be made at the time that the LRSP is amended.

The LRSP's three other strategies are to:

- build complete communities;
- achieve a compact metropolitan region; and
- increase transportation choice.

The Fraser Valley Regional District's RGS has eight, similar strategies, adding weight to supporting and enhancing the agricultural sector and managing rural lands.

An RGS's legal effect is exercised on all bylaws adopted and works and services undertaken by a regional district, which must be "consistent with" the strategy.

# 4.2.2 Link with local governments

If the regional district and affected municipalities successfully negotiate the terms and contents of a RGS, each local government should, over time, adopt the strategy. This is done by aligning elements of the municipality's Official Community Plan (OCP) with related elements in the RGS. These measures are described in the OCP's Regional Context Statement (see 4.4.1). For example, a municipality may adopt population and housing targets when it is identified in an RGS as an area for concentrating growth in the region. Or a local government's by-laws guiding environmental protection may be influenced by a regional greenways plan established as part of a RGS. Since a RGS is not in itself binding on a municipality, it is through these changes in an OCP or zoning bylaw that a RGS can affect development rights of owners of land covered by the strategy.

#### 4.2.3 Agricultural Land Reserve

The Agricultural Land Reserve (ALR) is a provincial zone in which agriculture is recognized as the priority use. Farming is encouraged and non-agricultural uses are controlled. RGS are expected to plan in accordance with the ALR, and the ALR takes precedence over, but does not replace regional legislation and bylaws that may apply to the land (see Agricultural Land Reserve, sections 4.4.3; Agricultural Land Commission Act, section 5.8.6).

#### 4.2.4 Web resources

Greater Vancouver Regional District's Livable Region Strategic Plan:

http://www.gvrd.bc.ca/growth/lrsp.htm

Fraser Valley Regional District's Regional Growth Strategy:

http://www.fvrd.com/FVRD/About+the+FVRD/Regional+Growth+Strategy/Introduction .htm

# 4.3 Additional regional planning tools

There are a number of planning tools that are designed for regional application, or can be applied at a regional level that help shape the context for biodiversity protection of private lands. A few such tools are described below.

#### 4.3.1 Biodiversity Conservation Strategy for the Greater Vancouver Region

The Biodiversity Conservation Strategy (BCS) for the Greater Vancouver Region is a partnership project under the Georgia Basin Action Plan involving the Greater Vancouver Regional District (GVRD), Environment Canada (Canadian Wildlife Service), BC's Ministry of Environment, Burrard Inlet Environmental Action Program – Fraser River Estuary Management Program, member municipalities, stewardship groups and post secondary institutions. The purpose of the project is to assess biodiversity in the Greater Vancouver Region and develop coordinated strategies and tools for biodiversity conservation that can be implemented by the project partners, private land owners, developers and other interests. The geographical focus of the BCS is primarily on the area within the GVRD, while making broad linkages to areas in the Fraser Valley Regional District (FVRD) and the Squamish-Lillooet Regional District.

The strategy's five broad objectives are to:

- raise awareness of the intrinsic values of healthy ecosystems and the services they provide as a foundation for a sustainable economy and social well-being;
- use scientific information to define core habitats and critical elements of the Greater Vancouver Region's biodiversity network;

- coordinate across political and institutional boundaries to create and maintain an interconnected regional biodiversity network comprised of public and private lands, involving information sharing and monitoring;
- provide a broad complement of tools for biodiversity conservation, restoration and stewardship; and
- integrate biodiversity principles into planning, decision-making and land stewardship at all levels.

The BCS is also connected to the review of the region's growth strategy – GVRD's Livable Region Strategic Plan (LRSP) (see section 4.2.1). Policies for biodiversity conservation developed by the Strategy will be integrated into a revised LRSP and will involve implementation by member municipalities.

Overall, the BCS will provide an overarching vision, policy and planning framework, and coordinated strategies and tools for biodiversity conservation in the Greater Vancouver Region. Partners and stakeholders will have the information and tools necessary to help prioritize resources and conservation efforts, and create regional benefits through local actions.

The project has been underway for several years and significant technical assessments and consultations have occurred during its first 3 phases, including:

- research on the institutional framework for biodiversity conservation in the region, a survey of local biodiversity conservation initiatives and recommended priorities and strategic directions;
- regional habitat and biodiversity mapping;
- a biodiversity conservation strategy case study of the Still Creek watershed, located in Burnaby and Vancouver. Specific strategies for biodiversity conservation were developed as part of an integrated stormwater management plan for this highly urbanized watershed;
- regional habitat fact sheets;
- indicator species and habitat quality research, and
- three stakeholder workshops.

The project is now in the final and most important phase involving the synthesis of background analyses, and consultations with working group and stakeholders to develop priorities, coordinated strategies and actions for the BCS. Project completion is set for 2006.

# 4.3.2 GVRD's Regional Parks and Greenways Plan

The Regional Parks and Greenways Plan (RPGP) provides strategic direction and sets priorities for parks and greenways programs and services in the GVRD. Its time horizon spans beyond the next 10 years. A draft plan is currently receiving input from the public.

The RPGP contributes to the GVRD's Green Zone by protecting and enhancing biodiversity, offering stewardship education programs and providing outdoor recreation opportunities (see GVRD's Livable Region Strategic Plan and Green Zone, section

4.3.2). Through the Plan, important green spaces identified in the Green Zone will be secured, protected and managed for conservation and public use.

The plan also contributes to accomplishing the Green Zone's stormwater and floodplain management objectives where parks and greenways serve as recharge, filtration and natural drainage areas.

The directions and priorities of the RPGP will establish the foundation for preparing a detailed Parks, Greenways and Open Space Systems Plan to guide key operational areas including land acquisitions and community partnerships.

# 4.3.3 GVRD's Sustainable Region Initiative

The GVRD's Sustainable Region Initiative (SRI) provides an overarching framework for all GVRD planning and activities, including the Livable Region Strategic Plan and the RPGP. The SRI was started in 2001 in order to identify:

- public values regarding regional sustainability;
- principles to guide regional development; and
- key actions required to implement the SRI.

A key role of the SRI is to create partnerships among various sectors of society to formulate strategies for achieving sustainability that integrate economic, social and environmental considerations.

Activities in the environmental corner of the SRI triangle are organized by the Environmental Strategic Framework. The objective of the framework is to support the development of a sustainable region that ensures environmental integrity and ecological health. The framework identifies strategies to help integrate economic, social and ecological systems, and provides scope for SRI partners to work with agencies that are involved in regional environmental development.

# 4.3.4 Sensitive Ecosystems Inventory

BC Ministry of the Environment's Sensitive Ecosystems Inventory (SEI) project provides scientific information and support to local governments, communities and other parties working to maintain biodiversity. The purpose of the project is to identify remnants of rare and fragile terrestrial ecosystems and to encourage land use decisions that will ensure the continued integrity of these ecosystems.

A SEI systematically identifies and maps the rare and fragile ecosystems in a targeted region, based on information from aerial photography, and verified by selective field-based investigations. The ecosystem types vary from region to region, according to the natural ecosystems found there. Common ecosystems identified and mapped are forests, woodlands, wetlands, riparian areas and natural meadows and grasslands.

SEI projects are intended for use in a variety of land use planning processes. For example, SEI maps and database information have been used in the preparation of OCPs, parks and greenways plans, and for many other site-specific planning and development

purposes. To date, projects have been completed for East Vancouver Island and Gulf Islands and the Sunshine Coast. Similar mapping projects that combine Terrestrial Ecosystem Mapping with an SEI theme have been undertaken in Central Okanagan, Bella Vista, and South Okanagan.

A Conservation manual has been produced for the SEI for East Vancouver Island and Gulf Islands, which provides guidance on the protection of sensitive ecosystems. Similar guidelines and recommendations have been produced for other SEI projects.

Properties that include SEI sites may qualify as ecologically sensitive land under the Federal Government's Ecological Gifts Program (see section 2.1.2).

# 4.3.5 Web resources

Biodiversity Conservation Strategy for the Greater Vancouver Region

http://www.gvrd.bc.ca/growth/biodiversity.htm

GVRD Parks and Greenways Plan

http://www.gvrd.bc.ca/parks/pdfs/ParksGreenwaysPlan-Draft.pdf

or

http://www.gvrd.bc.ca/parks/planning-and-consultation.htm

GVRD Sustainable Region Initiative

http://www.gvrd.bc.ca/sustainability/about.asp

Sensitive Ecosystems Inventory

http://srmwww.gov.bc.ca/sei/

# 4.4 Municipal planning tools

The *Local Government Act* and the Community Charter empower municipalities to carry out land use planning which can be used to pursue biodiversity conservation involving private lands. Municipalities employ various planning tools to achieve this. At the broadest level is the Official Community Plan that addresses land use issues in general terms. The next level of detail is zoning designations in their various applications. Finally, there are specific planning processes or approaches that help to secure private land for biodiversity conservation. This section describes some of these municipal planning tools.

# 4.4.1 Official Community Plans

As a higher-level plan, the Official Community Plan (OCP) guides the development of all other plans and processes in its area of coverage. The OCP establishes a five-year vision for the development of a community, setting broad goals, objectives and policies, which can address the community's environmental aspirations. In particular, the OCP sets out the form and character of existing and proposed land use and servicing requirements. As a result, one of the primary ways municipalities can protect and conserve biodiversity is to identify the affected areas and designate them accordingly in their OCP, for example, as green zones, environmentally sensitive areas, or environmental development permit areas. Environmental standards can be set using the federal and provincial's 1992 publication *Land Development Guidelines for the Protection of Aquatic Habitat*.

BC's Ministry of Environment (MOE) is currently developing draft Urban and Rural Land Development Guidelines (formerly Best Management Practices) as an update to the *Land Development Guidelines*. The new publication will offer guidelines and recommendations which can be given force through OCPs, in addition to existing federal and provincial legislation.

OCPs derive their power and legal authority from the province's *Local Government Act* (formerly The Municipal Act). They are used by almost all municipalities in BC. Regional districts also use OCPs, and may have multiple OCPs for large geographical areas. Some municipalities also have special OCPs for specific areas of the community, such as areas in need of downtown revitalization.

#### **Regional Context Statements**

The contents of OCPs are influenced by the regional level land use plan it falls under – such as a Regional Growth Strategy – which sets out broad principles and area designations for achieving regional socio-economic and environmental goals (see Regional Growth Strategy, section 4.2). The provincial *Local Government Act* requires municipalities within a regional district to prepare a Regional Context Statement (RCS) following the adoption of a regional growth strategy. The purpose of the RCS is to explain the relationship between local OCPs and the regional growth strategy and, where necessary, to show how the OCP will be made consistent with the regional growth strategy over time. The *Local Government Act* lays out the process for reviewing and adopting a RCS.

Overall, the idea behind RCSs is to have agreements in place between each municipality and its regional district to ensure that the plans for growth and development at the local level are consistent with the objectives and priorities for managing growth at the regional level.

#### Legal power and environmental protection

Policies set out in an OCP gain legal effect when translated into bylaws. The *Local Government Act* states that all bylaws enacted or works undertaken by a local government must be consistent with the OCP. For example, if an area is designated as residential, a bylaw that contemplates incompatible uses for that area – e.g., industrial – could be invalid. In this manner, any new zoning bylaws, capital expenditures or development permits must be consistent with existing OCP designations.

An OCP must contain designations and policy statements on some specific issues related to conservation, such as industrial, agricultural, and recreational land uses, and restrictions on the use of land subject to hazardous conditions or environmentally sensitive to development.

As indicated above, an OCP can be used to identify, map and set policies for environmentally sensitive areas, and parks and greenways, as well as establish policies related to settlement patterns, e.g., housing densities, mixed residential and commercial use zones.

An OCP cannot regulate developments on land it does not control, such as land First Nations or Crown land. An OCP that includes land in the Agricultural Land Reserve is limited in its regulatory effect (see Agricultural Land Reserve, sections 4.4.3 and 5.6, and Agricultural Land Commission Act, section 5.8.6).

#### Changes to an OCP

Amendments to an OCP require public hearings. Since changes can be uncoordinated and numerous, potentially, they could result in an erosion of the environmental protection in the original plan. Some local governments have introduced regulations to control the frequency of amendment processes. For example, Nanaimo hears applications for amendments to its OCP only twice a year. This allows for a comprehensive and integrated evaluation of proposed changes to the landscape.

#### Web resources

Examples of OCPs

- Nanaimo http://www.nanaimo.ca/business/index\_inside.asp?id=311&parent=18&sub\_colle ction=65
- Coquitlam <u>http://www.coquitlam.ca/Business/Developing+Coquitlam/Strategic+Plans/Cityw</u> <u>ide+Official+Community+Plan.htm</u>
- City of North Vancouver <u>http://www.cnv.org/server.aspx?c=2&i=107</u>
- University of British Columbia <u>http://www.ocp.ubc.ca/ocp/plans.html</u>

Environmental Best Management Practices for Urban and Rural Land Development in British Columbia - DRAFT

http://wlapwww.gov.bc.ca/wld/documents/bmp/urban\_ebmp/urban\_ebmp.html

Land Development Guidelines for the Protection of Aquatic Habitat

http://dev.stewardshipcanada.ca/sc\_bc/stew\_series/NSCbc\_stewseries.asp?sProv=bc&site Loc=scnBC&lang=en#ldg

#### 4.4.2 Zoning tools

Zoning is a land use process that divides areas according to allowed use. Land is usually zoned for residential, commercial, industrial, institutional or agricultural uses. Zoning is a key tool for regulating the development of property in a city, town or rural area. The *Local Government Act* provides local governments with broad authority to zone.

When accompanied by zoning bylaws, area zoning puts an OCP into effect. It translates the principles and strategies laid out in an OCP into on-the-ground land use designations. In this manner, zoning can play a strong role in biodiversity conservation of private land and to protect other natural features. For example:

- zoning restrictions designed for protecting biodiversity features can make the land unattractive for development purposes. This land can then be targeted for securement at a later date;
- zoning classifications can make a substantial difference in keeping the cost of targeted land within the budget of a securement project, e.g., rural land vs. industrial development land.

Following are examples of zoning tools also used for biodiversity conservation.

#### **Upzoning and Downzoning**

Upzoning is a rezoning of land to permit developments of greater density. This helps to prevent destruction of habitat and biodiversity by relieving pressures from outward suburban sprawl. Density restrictions and mandatory building setbacks (i.e. minimum front, back and side yards) are changed to allow multiple family dwellings and secondary suites.

Upzoning can also protect or create biodiversity value if the developer benefiting from the increased density must, in exchange, provide specified environmental amenities, e.g., open spaces, wildlife habitat (see also Density Bonuses, section 5.2.1). Upzoning usually encompasses a broad area of land that may include many parcels.

Downzoning rezones land to establish a lower density usage. This tool can be used to reduce or prevent adverse impacts of future developments on biodiversity. For example, land zoned for residential use can be downzoned to parks, recreation and open space.

#### **Comprehensive Development Zones**

Developments within areas designated as Comprehensive Development Zones can be directed to achieve a number of urban development objectives including a mix of land uses, compact/high density, and high performance building and infrastructure design.

#### Spot or Unique zoning

This tool allows the municipality to custom design each site primarily based on ecological features and amenities to be provided in exchange for increased density. The District of Highland on Vancouver Island addresses much of its rezoning and subdivision applications through the use of unique zones.

#### **Smart Growth tools**

There are a number of tools which put into practice the Smart Growth approach. These include cluster development, mixed-use zoning, and high performance building design standards (see Smart Growth, section 4.1).

#### Web resources

Density bonus provisions of the Municipal Act:

http://www.housing.gov.bc.ca/housing/BONUSDN/

Stream Stewardship - A Guide for Planners and Developers

http://www.stewardshipcentre.bc.ca/sc\_bc/stew\_series/bc\_stewseries.asp#ssg

Environmental stewardship in the Municipal Act:

http://www.dfo-mpo.gc.ca/Library/222958.pdf

### 4.4.3 Agricultural Land Reserve

In rural areas, municipal land use planning is expected to be in accordance with BC's Agricultural Land Reserve (ALR), which givers priority to agricultural use. The ALR takes precedence over, but does not replace other municipal legislation and bylaws that may apply to the land (see Agricultural Land Reserve, section 5.6, and Agricultural Land Commission Act, section 5.8.6).

# 4.4.4 Rezoning process

Rezoning occurs as a result of development or densification applications, and offers opportunities for introducing biodiversity conservation measures. For example, a dormant heavy industry area gets rezoned to a higher-end commercial zoning, introducing new environmental requirements. Such rezoning may also increase property values, causing changes in ownership and applications for development. The application process introduces opportunities for a municipality to conserve biodiversity through, for example, the dedication of an environmentally sensitive area, or the shaping of a land parcel to support connectivity along the landscape (see Subdivision review process, section 5.1).

#### 4.4.5 Changes and exceptions to zoning requirements

Similar to OCPs, any change to a zoning bylaw requires a public hearing. If a proposed bylaw affects an interest in property, property owners must have a reasonable opportunity to be heard by the local government. Often zoning bylaws are changed to allow new developments or create exemptions from zoning requirements. A development variance permit, when issued, grants landowners an exemption from otherwise applicable bylaws. These types of permits can significantly change the kind of land use allowed.

If rezoning of an area occurs which violates a pre-existing development agreement with developers, and results in costs to a developer, the municipality may be liable to reimburse those costs.

### 4.4.6 Development Permit Areas

Development Permit Areas (DPAs) add site or area specific development guidelines to existing requirements established by the underlying zoning designation. Section 879 and Section 920 of the *Local Government Act* allows local government to designate DPAs in an OCP for the purpose of protection of the natural environment, its ecosystems and biological diversity. This form of DPA is sometimes known as an Environmental Development Permit Area and constitutes one of the most powerful tools available to local governments for biodiversity conservation.

Areas designated as DPAs cannot be altered, subdivided, or built on without a development permit (DP) issued by a municipality. A DP defines the requirements necessary to address the objectives outlined for the particular DPA.

Though not a protective designation, DPAs trigger procedures that can require measures to protect biodiversity values, e.g., preserving a riparian area, or locating development away from environmentally sensitive areas. Once designated, the effectiveness of DPAs relies on the specificity and comprehensiveness of the requirements in the development permit.

#### **Development approval information**

For a proposed development in a DPA, the *Local Government Act* empowers councils to ask the developers to provide more information on the potential impacts of their projects. This information pertains to effects on various aspects of the community, including "the natural environment of the area affected."

An OCP with DPAs must, by bylaw, establish procedures and policies on the process for requiring development approval information and on the kind of information required. When the DPA is used for conservation purposes, an environmentally sensitive area inventory can be required. These measures are not required if the proposed development is subject to an environmental assessment under provincial or federal laws.

#### Municipal examples of Environmental DPAs

The Municipality of Delta established a new DPA for Streamside Protection and Enhancement in March 2005. It is designed to protect the natural environment along streams from development or alteration of land associated with residential, commercial, industrial and institutional uses. All properties in Delta located within 30 metres of a stream (including rivers, sloughs, ditches and ponds), are included. A development permit is required before a number of activities can occur, e.g., subdivision, construction of building and structures, removal or disruption of vegetation and soils.

The City of Kelowna's OCP has a number of DPAs designated for the protection of environmental features. The City has produced a handbook to address environmental issues as they relate to development on, or adjacent to these DPAs. The handbook is intended for use by landowners, developers, consultants, contractors and utility companies in the following instances:

- Construction of, addition to, or alteration of a building or structure (e.g., Building and Development Permit applications);
- Subdivision applications;
- Alteration of land, for example:
  - □ planning, design and construction of trails, and greenways; and
  - planning, design and construction of infrastructure (e.g., roads, utilities, communications, etc.).

#### Web resources

Delta DPA for streamside protection and enhancement

http://www.corp.delta.bc.ca/EN/main/residents/771/786/streamside\_permit\_area.html

City of Kelowna's Handbook for Environment and Hazardous Condition Development Permit Areas

http://www.city.kelowna.bc.ca/CM/Page440.aspx

# 4.4.7 Environmentally Sensitive Areas

An Environmentally Sensitive Area (ESA) is a land use designation used by a municipality to protect natural features in an area with high values for habitat, flood protection, scenery and/or recreation. ESAs provide a strong tool for biodiversity conservation on private land when established as a zoning designation in an OCP. Municipalities also use such mechanisms as DPAs, setbacks and other zoning bylaws, wildlife management plans, and land securement strategies.

There are no province-wide standards for protecting ESAs, depending somewhat on land tenure. Each local government adopts its own protection policies and standards, frequently guided by the provincial and federal government's 1992 publication, *Land Development Guidelines for the Protection of the Aquatic Habitat.* BC's MOE is currently developing draft Urban and Rural Land Development Guidelines (formerly Best Management Practices) as an update to the *Land Development Guidelines*. The new publication will offer guidelines and recommendations which can be given force through local government bylaws, in addition to existing federal and provincial legislation.

Allowable land uses in ESAs will vary according to the degree of environmental sensitivity, ranging from strict preservation with no public access, to passive recreation and wildlife viewing, to housing development. Infrastructure work is permitted, but must minimize impacts to the environment.

#### Web resources

Municipality of Delta

http://www.corp.delta.bc.ca/EN/main/residents/771/environment\_sensitive\_areas.html

Environmental Best Management Practices for Urban and Rural Land Development in British Columbia - DRAFT

http://wlapwww.gov.bc.ca/wld/documents/bmp/urban\_ebmp/urban\_ebmp.html

Land Development Guidelines for the Protection of the Aquatic Habitat (Stewardship Centre of BC's publications page)

http://dev.stewardshipcanada.ca/sc\_bc/stew\_series/NSCbc\_stewseries.asp?sProv=bc&site Loc=scnBC&lang=en

Pertaining to the protection of riparian and aquatic resources

http://www.dfo-mpo.gc.ca/Library/234216.pdf

#### 4.4.8 Urban containment boundaries

Urban containment or urban growth boundaries are tools used by local government to set boundaries beyond which development should not occur. They are also used to preserve the rural, agricultural and resource lands outside the boundary.

Allowing development within existing serviced areas not only costs municipalities less; it helps to maintain the green infrastructure. Containing urban areas is a no-cost proposition. It involves revising OCP policies and zoning standards.

Urban containment boundaries themselves have no legal force, but are implemented through legal tools, including:

- formal designations in an OCP or RGS;
- zoning bylaws;
- water or sewer servicing limits;
- rural land designations; and
- use of the BC's Agricultural Land Reserves (see section 5.6), and Managed Forests.<sup>2</sup>

#### Web resource

Smart Bylaws – Summary p. 11

http://www.wcel.org/issues/urban/sbg/summary.pdf

BC's Private Managed Forest Land Act and regulations

http://www.pmflc.ca/legislation.html#legis

<sup>&</sup>lt;sup>2</sup> Managed Forest is a BC Assessment property classification established in 1988 to encourage private landowners to manage their lands for long-term forest production. These forests are now regulated by the *Private Managed Forest Land Act* 

#### 4.4.9 Greenways

Guided by policies set out in higher level plans – RGSs and OCPs – local governments use environmental management plans as a tool to protect biodiversity. These plans normally include programs for the acquisition and management of private lands as part of establishing a system of greenways. By planning for greenways, critical links between parks and open spaces can be created at little or no cost. For example, if communities are planned to reserve particular stream corridors for greenways, then tools can be used when development occurs (e.g., cluster development, public dedications of lands) to create those greenways at no cost to governments and without reducing developers' profits. Also purchasing of low-cost rights-of-way long before an area is developed and land prices increase will save municipalities money.

#### City of Burnaby's Greenlinks Program

An example of a greenway program is the City of Burnaby's Greenlinks Program. This program is a joint effort with Douglas College Institute of Urban Ecology, funded by VanCity and the Real Estate Foundation. The program establishes terrestrial greenways between riparian areas by using residential plantings, in park plantings and green streetscapes.

#### Web resources

A Report on Municipal Environmental Initiatives in British Columbia 1999

http://www.polisproject.org/polis2/Discussion%20Papers/98-2MunicipalEnviroInitiatives.pdf

The environmental organization Evergreen has two highly relevant publications:

#### 1. Urban Naturalization in Canada: A Policy and Program Guidebook

This resource provides practical guidelines to help municipalities promote naturalization through their official plans, policies and operating procedures. It also includes case studies from across the country profiling innovative policy approaches

# 2. The Nature of Cities: A Summary Report on Urban Green Space in the Georgia Basin.

A summary report of a survey conducted of municipal officials in BC

http://www.evergreen.ca/en/cg/cg-resources.html

# 4.4.10 Green infrastructure

Green infrastructure includes natural and built features such as streams, trees, greenspace, wetlands, creeks, ditches, stormwater management ponds and green roofs that perform important ecological functions to the region such as managing stormwater, filtering air and water, providing habitat and recreational opportunities and creating a sense of place. Green infrastructure also guides the creation of a regional interconnected network of waterways, wetlands, woodlands, wildlife habitats and other natural areas of significance.

Like the traditional infrastructure (e.g. roads, pipes, lighting), green infrastructure is important to the health and well being of communities.

Proponents recommend that higher level land use plans should be organized around the use the region's green infrastructure, as opposed to a grid of service infrastructure (e.g., roads) which generally has no environmental basis and may not be as cost-effective.

### Fishtrap Creek, Abbotsford

Rapid urban development in Abbotsford required measures to reduce flooding in a densely developed urban neighborhood. Conventional stormwater drainage works would have created loss of valuable fish and wildlife habitat. In response, a series of man-made wetlands were constructed on the upper urban tributaries to Fishtrap Creek to serve as detention/retention ponds that temporarily store excess urban run-off and prevent further environmental damage from stream siltation and soil erosion. The facility was developed into a multi-purpose park with the following features:

- cost effective flood control from the wetlands/storage basins;
- valuable fish and wildlife habitat;
- environmental education; and
- low impact recreation, e.g. waterfowl and bird watching, walking.

### East Clayton Sustainable Community, Surrey

In partnership with a number of organizations, Surrey's Department of Planning and Development are implementing the first phase of their Headwaters Project. The project will develop and showcase sustainable development principles and performance standards in a community neighbourhood environment. The first phase of the project is being carried out in the community of East Clayton, through the implementation of the East Clayton Neighbourhood Concept Plan. Many of the principles guiding the Plan and its application relate to the comprehensive development of green infrastructure throughout East Clayton, e.g., preserving the natural environment and promoting natural drainage systems (see case study, section 9.10.6).

#### Green Infrastructure Partnership

A Green Infrastructure Partnership was formed in October 2003, composed of four organizations:

- BC Ministry of Community Services
- West Coast Environmental Law Research Foundation
- BC Water and Waste Association's Water Sustainability Committee
- Master Municipal Construction Document Association

The Partnership's work plan emphasizes educating stakeholders regarding the benefits of using green infrastructure as an approach to community planning and land development, and facilitating adoption of this approach. The approach is referred to as "design with nature".

The Partnership is also promoting an integrated approach to land development that addresses the need for coordinated change in policies, programs and practices at regional, neighbourhood, site and building scales.

The Partnership is one of six connected initiatives that make up the Water Sustainability Action Plan for BC.

#### Web resources

Fishtrap Creek

http://www.cbainc.bc.ca/pages/landscapearchitecture.htm

East Clayton Sustainable Community

http://www.sustainable-communities.agsci.ubc.ca/projects/Headwaters.html

The Green Infrastructure Partnership: Convening for Action in BC, July 2005 Progress Report

http://www.waterbucket.ca/waterbucket/home/wbcgiindex.asp

U.S. case studies on building green infrastructure for water protection

http://www.tpl.org/tier3\_cdl.cfm?content\_item\_id=915&folder\_id=745

# 4.4.11 Capital Expenditure Plans

A municipality's spending plan is called a Capital Expenditure Plan (CEP), which explains how a local government will pay for all its new capital projects. These plans are mandatory and established by the adoption of a bylaw for a period covering at least 5 years.

The spending plans of local governments for new infrastructure have a critical influence on growth, and as a result, on biodiversity conservation. CEPs can be used as a tool for conservation if they include provisions to:

- improve existing facilities instead of approving new infrastructure;
- place geographical limits on new infrastructure e.g., the District of North Vancouver will not extend infrastructure above a certain elevation;
- restrict new servicing to areas already planned to receive growth, e.g., concentrated development around SkyTrain stations in the Lower Mainland; or
- ensure that developers pay the true costs of new infrastructure required for their developments through development cost charges.

# 4.4.12 Watershed based planning

Watershed based planning occurs within watershed boundaries as these boundaries remain stable over time, are easily recognized and provide natural limits for managing social, economic, environmental and institutional connections. Watershed based planning

recognizes the interdependence of land and resource use in a watershed context, and the need to integrate and coordinate these uses for improved environmental protection.

Watershed based planning can be used in combination with other tools to provide more effective protection of environmental processes and features than that provided by site-specific analysis alone. For example, watershed based planning enables a municipality to maintain floodplains and preserve natural water discharge regimes throughout its urban developments.

#### Web resources

Stewardship bylaws: a guide to local governments

http://www.dfo-mpo.gc.ca/Library/250188.pdf

Organizations involved in watershed based planning at region-wide levels

- The Fraser Basin Council: <u>http://www.fraserbasin.bc.ca/about\_us/faq.html</u>
- The Grand River Conservation Authority (Ontario): <u>http://www.grandriver.ca/index.cfm</u>

# 5 SECUREMENT WHEN DEVELOPMENT OCCURS

Lands cleared and developed for housing, commercial and industrial purposes frequently result in destructive impacts on areas with significant biodiversity values and on the ecosystems that support them, e.g., habitat loss, stopping of natural processes, watercourse diversions, severing of green corridors. Furthermore, no provincial standards or regulations exist to fully protect these areas, and rules governing their development vary widely among municipalities. However, local governments have unique opportunities to secure private land for biodiversity conservation at the time development occurs.

This section presents a number of tools that local governments can use when land is subdivided and/or developed. Many tools are regulatory in nature. The section concludes by presenting off-site habitat compensation tools which can be used to advance biodiversity conservation, and the controversy surrounding them.

# 5.1 Subdivision review process

Landowners who want to divide pieces of land into two or more lots for subsequent development and/or sale must first almost always obtain permission from the local government. Each new parcel of land is given a separate title. Using bylaws, the local government may regulate and require the provision of works and services linked to the subdivision of land. This process provides local governments with a powerful tool to implement biodiversity conservation policies established in their Official Community Plans (OCPs). Subdivision of land is regulated by BC's *Local Government Act, Land Title Act* and *Strata Property Act*.

A landowner submits a plan of subdivision, a legal document, to the municipality's approving officer or other official, e.g., the municipal engineer, or chief planning officer. The officer examines the developer's plan that, among other thing, shows the proposed location of:

- property lines of individual lots;
- parks and other recreational facilities; and
- setbacks from environmental features or hazardous areas.

The officer measures the plan against the work and services required by the municipality, established as development standards and in environmental policies set out in existing bylaws and the OCP.

The officer may reject a proposal based on a number of environmental considerations, e.g., the land could be subject to flooding, erosion, landslide, or it adversely affects the natural environment onsite, or on adjacent sites. The officer can also refuse permission if the project is found to be against the public interest, which includes aesthetic and environmental concerns.

As part of approving an application, the landowner may be required to meet certain conditions within a specified time frame. Examples include:

- greater parkland dedication;
- increased buffers to better protect environmental features;
- retention of vegetation in riparian zones;
- protective barriers for sediment control near streams; and
- relocation of public open spaces.

# 5.1.1 Parkland dedication

During the subdivision process, the landowner may be required to give a percentage of the subdivision lands to the municipality as parkland. The terms of these dedications are established in the *Local Government Act* and OCPs and include the maximum percentages of land to be dedicated to parkland.

In BC, up to 5% of the land being subdivided is dedicated to parkland. Cash in lieu of the land can be substituted to purchase land elsewhere, based on an equivalent market value (a process determined in the *Act* and OCP). The choice between land or cash lies with the municipality, as long as its OCP contains policies and designations for future parks. Otherwise, the decision is with the developer.

Parkland dedications are most effective for biodiversity conservation when an OCP defines parkland as including environmentally sensitive areas.

Dedications of subdivided land are made for other public purposes, including school sites (up to 10%), pathways, access to water (when waterfront is involved), and drainage easements. In some cases these can be used for biodiversity conservation. For example, the local government and school board may enter into an agreement to determine what proportion of the total dedicated land will be used for park purposes and how much for school purposes.

As well, a public land dedication may be required during subdivision or rezoning of bare land strata under the *Land Title Act*. A strip of land not exceeding 7 meters in width along the bank or shore can be taken for the purposes of providing public access. This dedication is in the public interest, facilitated when an OCP identifies the preservation of watercourse and riparian areas as a key community value.

The local government receives the dedicated property, or identifies another party to receive title to the new property, e.g., land trust, conservation organization, parks commission.

Dedication requirements do not apply to:

- consolidation of existing parcels;
- a subdivision where only 1 or 2 additional lots are being created; or
- a subdivision where the lots being created are larger than 2 hectares.

This final exemption is known as the "large lot" exception. The 5% parkland dedication is only triggered upon further subdivisions of less than 2 hectares, yielding smaller parkland areas. Conservation advocates point out that this "large lot" exemption creates smaller and more scattered parks of far less value to the community than if parks had been dedicated upon the original subdivision.

# 5.1.2 Environmental reserve land

Some Canadian provinces have bylaws that expand the capacity of local governments to conserve biodiversity. Municipalities in Alberta and Saskatchewan can require public dedications of environmentally sensitive land in addition to park and school dedications. Known as environmental reserve land, these areas have environmental conditions that may make it unsuitable for development, including steep slopes, swamps, gullies, ravines, natural drainage courses, flood prone areas, or land immediately adjacent to lakes, rivers, streams or other bodies of water. There is no restriction on the amount of land which can be dedicated or restricted as environmental reserve.

The dedication of environmental reserve land can benefit the developer in at least two ways:

- additional costs are mitigated since the land would be difficult, expensive and hazardous to develop; and
- the land can serve as green space adjacent to the development, and thus, create higher value.

#### 5.1.3 Conservation covenants

When protection of a natural feature can be achieved through a conservation covenant, a local government may make the covenant a condition of subdivision. For example, to protect a riparian corridor along a non-fish bearing stream (see Conservation covenants, section 2.2.1).

#### 5.1.4 Web resources

Parkland dedication

http://www.qp.gov.bc.ca/statreg/stat/L/96323\_26.htm#section941

Brief description of Alberta's Environmental Reserve Land (ERL) dedication

http://www.alsa.ab.ca/subdivision.htm#How%20is%20a%20subdivision%20application %20evaluated

Brief description of Saskatchewan's ERL

http://www.municipal.gov.sk.ca/mrd/cpb/cpbsubdivision.shtml

# 5.2 Regulatory bylaws

Local governments can proactively protect biodiversity by adopting regulatory bylaws which require work descriptions, environmental assessments and permits. A number of such bylaws are available. They are most effective when their requirements are consistent with any specific requirements under the subdivision bylaws and development permits.

### 5.2.1 Zoning bylaws

Zoning bylaws – also known as land use bylaws – regulate the land use and density development on property in any given zoning category. The bylaws contain provisions covering:

- shape, dimension and area of land, including minimum lot size;
- maximum building height (and other building dimensions);
- minimum distances between buildings and lot lines or natural features (often called setbacks);
- other development standards;
- permits required before construction can begin; and
- parking requirements.

Municipalities often have a comprehensive zoning bylaw that divides all land into different land use zones, and maps the zoning of each property.

Along with area zoning, zoning bylaws provide added strength to the policies and strategies laid out by a local government in its OCP. Zoning bylaws translate the municipality's biodiversity conservation intentions into a set of regulations, land controls and development requirements. As a result, zoning bylaws can play a significant role in conserving biodiversity involving private land. For example, areas zoned only for large lot sizes can create an economic deterrent to subdivision for residential use. This can help to keep lands as "working lands", i.e. lands used for agriculture, forestry or other resource use.

Following are descriptions of various zoning bylaws that can be used as tools for biodiversity conservation.

#### Setbacks

Zoning bylaws may prohibit particular land uses and/or buildings or structures within a defined area. This tool is commonly referred to as a setback, and is often used to avoid potentially harmful effects on fish habitat. When applied for this purpose, the area to be left protected on either side of a watercourse is called a leave strip. These leave strips create streamside buffers which provide biodiversity protection. For example, when used on agricultural land, streamside buffers act as a filter for contaminants and sediment, and as a result, dirt, excess nutrients, pathogens, and chemicals reaching lakes, rivers, and streams are greatly reduced. Buffers also provide valuable wildlife habitat and shade streams and rivers, helping to maintain the cooler water temperatures that fish and other aquatic species need.

Based on scientific research, the guidelines set 15 metres as the minimum setback for residential/low density development beside fish-bearing waters. A 30 metre setback is recommended for industrial, commercial and high-density development.

Setbacks required for the protection of fish habitat must be either returned to the Crown (when it is salmon habitat and therefore under the jurisdiction of the federal Department of Fisheries and Oceans), dedicated as municipal parks or have a conservation covenant registered against the title to the land (with a fence erected to prevent disturbance). For example, the city of Kelowna has permanently protected all leave strips within a stream protection corridor by using the following mechanisms:

- park dedications;
- transfers to the Crown in the name of the local government;
- rezoning as a protected area or reserve status;
- conservation covenants;
- statutory right-of-ways; and
- building setback areas.

#### **Density bonuses**

Density bonuses allow municipalities to authorize increases in development height and density in exchange for concessions from developers of amenities or housing that benefit the community, such as the dedication of additional parkland. For example, a developer could build more units per hectare than otherwise permitted on a given site in exchange for more land than the standard 5% parkland dedication. This provides an economical way to secure conservation lands compared to purchasing.

Two underlying principles for granting density bonuses are:

- the amenity realized through the bonus must be balanced against the integrity of the neighbourhood receiving the extra density; and
- the amenity received must improve the quality of the community involved. This improvement can affect a specific site, a neighbourhood or a district within a city.

Density bonuses can be implemented in two ways:

- provisions in the area's zoning bylaw, or
- an area is zoned as Comprehensive Development and the provisions are determined on a case-by-case basis, including the allowable increase in density and the amenity to be provided.

Local governments often use a combination of these methods depending on the size of the development site, and the scale and impact of the particular amenity. When a developer cannot provide an amenity at the time of development, then cash-in-lieu, or some other means of securing the contribution is allowed.

The density bonus system is voluntary and is meant to act as an incentive for developers to help municipalities meet their socio-economic and environmental objectives. For example, the City of Surrey has established zoning bylaws that provide for density advantages to developers who set aside at least 15% of their land parcel for significant

open space. Developers who contribute are allowed to count 50% of their undevelopable land – land not otherwise eligible for density credit – toward their allowable density.

#### **Density transfers**

Density transfers – also called transfer of development rights (TDR) – enable the municipality to authorize higher-density development on one site in exchange for protection of natural features on another site (where the same developer owns both sites).

Density transfers allow the municipality to direct development to targeted areas and away from areas requiring biodiversity conservation. A TDR can also help local governments consolidate resources for acquiring more conservation lands.

#### Challenges to density bonuses and transfers

Density bonuses and transfers can provide economical ways to acquire additional parkland and give greater control over which sites are intensely developed and which receive greater protection. However, there are two main challenges:

- they permit development standards to be negotiated on a case-by-case basis, which can result in a piecemeal approach to land use and community planning;
- in the case of density transfers, the community receiving the higher density bears the cost, while often receiving none of the benefits; and
- municipalities have to be very specific about the nature of the amenities to be delivered, including detailed descriptions, diagrams and maps indicating location and size or dimensions.

Furthermore, the usefulness of density bonuses may be waning. With changing lifestyle values, high environmental standards have made buildings more attractive to potential buyers, and hence more valuable to develop. Thus, the market is already rewarding developers who are building to high environmental standards.

#### Special zoning bylaws

There are a number of special zoning bylaws in use, including:

- holding bylaws, delaying development until required conditions are met;
- interim control bylaws, which temporarily restrict development while the municipality studies or reviews its planning policies; and
- temporary use bylaws, permitting certain types of uses for a specified period of time.

#### New "environmental" bylaws

Some opinions suggest local government powers need to be broadened and made more explicit by creating environmental bylaws to protect ecological systems, specifying "habitat" and "wildlife" as values that can be protected by a permit, and by consolidating environmental protection measures into one set of regulations. Initiatives pursuing this broadening of local government powers include:

- Wetlands Stewardship Partnership's model bylaws to conserve green infrastructure by protecting natural wetland and grassland habitat (see the Green Infrastructure Model Bylaw case study, section 7.3.6); and
- City of Calgary's Wetland Conservation Plan, which has established a wetland protection policy that may evolve into a series of comprehensive bylaws (see case study, section 9.10.2).

### 5.2.2 Tree management bylaws

Tree management bylaws can prohibit the cutting or removal of all trees without a permit. They can also specify when, where and what kind of replacement trees are required. These bylaws can be used for a variety of environmental protection measures, e.g., shading of riparian zones, conserving wildlife habitat, erosion control, stormwater management.

#### 5.2.3 Soil removal and deposition bylaws

These bylaws address the removal and placing of fill, and may also establish standards for erosion control techniques. This enables the municipality to minimize the potential impacts of sedimentation, and flooding of watercourses and storm drainage systems. The bylaws can also afford higher protection to environmentally sensitive areas, such as riparian areas and upland areas, by establishing special conditions and standards.

#### 5.2.4 Watercourse and water quality protection bylaws

Municipalities can use this tool to set requirements for requiring riparian setbacks; stormwater management or prohibiting activities which could damage watercourses. The bylaws can also address water conservation, for example, erosion control design and water quality. The bylaws may establish a permitting process for all works on watercourses and wetlands, including the completion of an environmental impact statement. The bylaws can also set out standards of design and construction, such as protection and replacement of vegetation and storm water management works.

#### 5.2.5 Landscaping (or screening) bylaws

These bylaws may be used for promoting environmental values by setting standards for landscaping restoration. It may also establish the minimum level of landscaping required along setback areas from environmentally sensitive areas.

#### 5.2.6 Sewers and storm drains

A local government is given broad powers to establish a system of sewage and drainage work, by, for example, purchasing or constructing the necessary works, including easements and rights of way. Furthermore, the government may regulate the design and installation of drainage and sewer works by contracted parties and require a landowner to install such works.

### 5.2.7 Highway system

A local government has the power to establish highways and to acquire the rights of possession and title for this purpose, including expropriation of land. According to the *Local Government Act*, a highway includes a street, road, lane, bridge, viaduct and any other way open to public use. The breadth of this definition could allow a local government to use this tool as part of creating a greenway system to provide alternative transportation modes (e.g., walking or bicycling) and to conserve biodiversity.

# 5.2.8 Enforcing bylaws

Options for enforcing bylaws are provided in the *Local Government Act*, including ticketing for minor offences, stop work orders when work is not in accordance with a permit, and litigation for major offences.

# 5.2.9 Web resources

Stewardship Centre of BC's Stewardship Series: Stewardship Bylaws: A Guide for Local Government

http://dev.stewardshipcanada.ca/sc\_bc/stew\_series/NSCbc\_stewseries.asp?sProv=bc&site Loc=scnBC&lang=en

The Smart Growth Guide to Local Government Law and Advocacy

http://www.wcel.org/wcelpub/2001/13300.pdf

'Smart' Bylaws, with examples and sample bylaws from different municipalities and regional districts

http://www.wcel.org/issues/urban/sbg/

Case studies of Smart Growth strategies used in urban developments

http://www.wcel.org/issues/urban/sbg/casestudies/

Overview of the City of Calgary's initiative

http://content.calgary.ca/CCA/City+Hall/Business+Units/Parks/Parks+Planning/Calgarys +Wetland+Conservation+Plan.htm

Calgary's Wetland Conservation Plan

http://www.calgary.ca/docgallery/bu/parks\_operations/wetland\_conservation\_plan.pdf

# 5.3 Permits

There are three land use permits that form a key set of legal tools which can effect biodiversity conservation on private land:

- development permits, which limit development in an area designated as a Development Permit Area (DPA);
- temporary industrial or commercial use permits; and
- development variance permits.

The *Local Government Act* authorizes these permits. Whereas development permits are used for environmental protection, the latter two permits can be used to undermine conservation efforts.

# 5.3.1 Development permits

Development Permits (DPs) enable the greatest degree of site-specific measures for biodiversity conservation. Before any development or site disturbance within a Development Permit Area (DPA) occurs, the party involved must apply for and obtain a permit. Each municipality establishes the terms or other criteria by which permits will be issued. These criteria may specify conditions or set standards to protect, restore or enhance specified natural features.

Development permits may also require the dedication of land under the natural watercourses. This authority does not extend to the riparian zone, other designated Environmentally Sensitive Areas (ESAs) or the floodplain.

Local councils have discretion in issuing development permits, but they must follow the guidelines specified in an OCP. If an applicant challenges a refusal to grant a permit, the case can be heard by a court, which has the power to order a council to issue a permit upon judicial review.

# 5.3.2 Temporary commercial and industrial use permits

Zoning bylaws may be temporarily changed by temporary commercial and industrial use permits to accommodate unanticipated industrial or commercial uses. Even though the permit expires after two years, once the new use is established – e.g., a construction project – it may be difficult to terminate. The resulting permanent change in land use may have an adverse affect on biodiversity conservation.

# 5.3.3 Development variance permit

A development variance permit authorizes landowners to use their land in a manner otherwise prohibited by existing bylaws - except those provisions dealing with use and density or a floodplain specification. The change of land use could have damaging effects on the natural environment.

This tool is suited primarily for one-owner-single-use/site situations, with comprehensive zoning bylaw amendments used for more complex situations.

# 5.3.4 Comox/Strathcona Regional District

The Regional District of Comox/Strathcona has Sensitive Habitats Development Permit Guidelines in its OCPs to help review and decide upon development proposals. These guidelines provide a reliable mechanism for decision-making with respect to the approval, modification, or rejection of proposals based on their impact on fish, wildlife, and related habitat areas. The District has a unique "Intergovernmental Partnership Agreement for the Protection of Environmentally Sensitive Areas" with provincial and federal agencies aimed at improving the permitting process and private landowner compliance (see Improving compliance for protecting fish habitat and riparian areas: Commox-Strathcona Regional District, section 9.4).

# 5.3.5 Web resource

Stewardship Bylaws: a guide for Local Government

http://www.dfo-mpo.gc.ca/Library/250188.pdf

# 5.4 Development cost charges

Development cost charges (DCCs) are bylaws that require developers to contribute to new infrastructure development costs, e.g., sewage, water, drainage and highway facilities. Once adopted, the DCC Bylaw is payable by developers at the time of subdivision or when a building permit is required, depending on the type of development and subject to some size exemptions.

DCC funds are expended in accordance with projects identified and costed during the development of the DCC bylaw. DCC's are typically reviewed every year or two to adjust values due to a number of factors, including inflation and increased property purchase values.

# 5.4.1 Biodiversity conservation

DCCs can be a powerful tool for biodiversity conservation. Traditionally, they have contributed to purchasing park land that services, directly or indirectly, the proposed development. More recently, local governments have been collecting DCCs to purchase designated ESAs that are frequently part of greenway or green zone plans.

Indirectly, DCCs rates can be used to provide developers with a 'green' incentive. Rates can be scaled lower according to:

- reduced demand on municipal infrastructure from compact development (i.e. lower infrastructure costs/unit);
- urban versus suburban locations;

- higher development density (e.g., units per acre), less floor space/unit; and
- the use of energy efficient building design.

DCC rates could also provide a disincentive to developing land with high biodiversity values. For example, the biodiversity value of land under development could be quantified by combining the number of species found in a type of habitat and the pressure it is experiencing. This approach takes into account the 'cost' of destroying rare or unique habitat, e.g., the last 10% of a particular habitat, would be much higher than the cost of the first 10%.

The municipality of Mission is using DCCs to secure land for protection of natural values within Cedar Valley, a comprehensively planned 1,000 acre area development that is projected to accommodate over 3600 dwelling units over the next 20-25 years.

# 5.4.2 Web resources

Development Cost Charge Best Practices Guide

http://www.mcaws.gov.bc.ca/lgd/irpd/growth/PUBLICATIONS/dccguide.pdf

Development Cost Charges and Smart Growth:

http://www.wcel.org/wcelpub/2003/14083.pdf

# 5.5 Bare land strata regulations

Under BC's *Condominium Act* the bare land strata owners may by special resolution (75% of all persons eligible to vote) direct the strata corporation to grant a conservation covenant or easement on the common property. Thus, an opportunity exists for local governments to pursue both statutory right of ways and covenants to protect sensitive areas in association with condominium developments.

The strata corporation also has wide authority to pass bylaws for the use and enjoyment of the common property and strata lots. This includes rules and regulations it considers necessary or desirable for the enjoyment, safety and cleanliness of the common property. These powers could extend to the protection of sensitive areas within the common property.

In addition, a public land dedication may be required during subdivision or rezoning of bare land strata under the *Land Title Act*. The developer/owner would have to provide a strip of land not exceeding 7 meters in width along a bank or shore for the purposes of providing public access. This is identified as being in the public interest, and is facilitated when an OCP identifies the preservation of watercourse and riparian areas as an important community value.

#### 5.5.1 Web resource

Planned bare land strata community: Meadow Valley Properties, Thetis Island <u>http://www.trax.bc.ca/mvp/strata/#whatisstrata</u>

# 5.6 Agricultural Land Reserve

If a property is in BC's Agricultural Land Reserve, all development, non-farming uses and subdivisions are subject to the *Agricultural Land Commission Act* (see section 5.8.6). The *Act* was established in 1973 to preserve agricultural land and to encourage the establishment and maintenance of farms as a secure source of food. A Commission, appointed by the Provincial government, established a special land use zone to protect BC's dwindling supply of agricultural land. This zone – called the "Agricultural Land Reserve" (ALR) – was established between 1974 to 1976 through cooperative efforts with regional districts and member municipalities. Local input on an ALR plan was gained through a public hearing process.

Landowners wishing to:

- subdivide, develop or use their land in ways that are not allowed by the *Agricultural Land Commission Act* or associated regulations, or
- exclude their land from the ALR,

must seek approval from the Provincial Agricultural Land Commission (ALC). The ALC is the governing body administering the ALR. It is an independent Provincial agency, whose purpose is:

- to preserve agricultural land;
- to encourage farming in collaboration with other communities of interest; and
- to encourage local governments, First Nations, the government and its agents to enable and accommodate farm use of agricultural land and uses compatible with agriculture in their plans, bylaws and policies.

Applications seeking ALC approval must respond to such issues as how the proposal will benefit agriculture, avoid negative impacts on the potential for farming in the area involved, and relate to the responsibility of the Commission to preserve agricultural lands.

In addition to the *Agricultural Land Commission Act*, local government bylaws regulate the use of ALR lands. If an approval is granted by the Commission, the proponent must still comply with the local government regulations as well as any other legislation that may apply. Proposals approved by local governments may not necessarily be supported by the Commission.

There is no time limit on a Commission's approval and it "runs with the land", i.e. it is transferable to subsequent owners of the land. Exemptions to this would be stipulated as a condition of the approval.

There is no minimum parcel size established by the Commission for lands within the ALR. While local government subdivision and zoning bylaws may establish minimum parcel sizes, the Commission has the discretion to accept these or not.

### 5.6.1 Web resource

British Columbia's Agricultural Land Reserve

http://www.alc.gov.bc.ca/alr/alr\_main.htm

# 5.7 Federal Acts and regulations

A number of federal acts and regulations provide tools for biodiversity protection when private land is being developed. These tools are in the form of land use designation, regulation of specific land use activities, and general environmental protection regulations. The following section provides a brief description of key legislative instruments, which can have significant affect on biodiversity conservation involving private land in BC.

# 5.7.1 Federal Fisheries Act

The *Fisheries Act* provides for the protection of fish habitat. Under this Act, no one may carry out any work that results in the harmful alteration, disruption or destruction of fish habitat, unless authorized by the Minister of Fisheries and Oceans Canada (DFO). The Act also states that no one is permitted to deposit a deleterious (harmful) substance into water containing fish.

Violations to the *Fisheries Act* can result in substantial fines, and/or the risk of imprisonment. If found guilty, then the violator may also be required to cover the costs of restoring the habitat at the site and/or be required to fulfill other court ordered remedies.

The DFO has a mandate to use the regulatory powers in the *Fisheries Act* to protect fish habitat.

# 5.7.2 Species at Risk Act

The *Species at Risk Act* (SARA) was proclaimed in June 2003. It aims to prevent wildlife species from becoming extinct, and to secure the necessary actions for their recovery.

SARA contains prohibitions that make it an offence to carry out activities that may endanger or destroy identified species, e.g. killing, capturing, collecting, trading, and selling. Prohibitions also extend to the damage or destruction of species' residence (e.g., nest or den). Every prohibition applies to all federal lands.

On private land, the prohibitions apply only to aquatic listed species (e.g., fish), and migratory birds listed in the *Migratory Birds Convention Act, 1994* and also by SARA. However, SARA is considered a "safety net" legislation, i.e. it could force a non-federal body to act according to the federal law. In BC, if the province is not exercising its

constitutional responsibility for wildlife and land use to protect listed species on nonfederal lands, then the federal government can step in and take over jurisdiction for that species. Thus, SARA could apply to all lands and listed species in BC. The administrative agreement between BC and Canada lays out how the two governments will cooperate in implementing SARA.

For an identified species at risk, a recovery strategy is mandatory, i.e. planning, environmental assessments, monitoring and reporting of recovery implementation. The law also contains provisions for compensation to affected parties - e.g., private landowners, tenure holders, developers - to ensure fairness where prohibitions to protect critical habitat are applied.

In the Fraser Valley Regional District, 356 Species at Risk are found on private land, amounting to 55% of all species officially listed. This is by far the greatest percentage of species at risk for all types of land tenures. The primary response of the BC Government for protecting critical habitat is Best Management Practices guidelines (BMPs). Significant action on behalf of the landowner or developer is expected and sometimes required. Landowner or developer recovery efforts show personal or professional due diligence against potential future liabilities.

The BC Ministry of Environment (MOE) is also currently drafting guidelines for assessing and mitigating impacts from developments on species at risk. By providing clarity around these issues, the province hopes to speed the approval process for developments and provide local governments with conservation tools.

SARA is one of three elements of the Strategy for the Protection of Species at Risk. The other two are complementary stewardship and incentive programs to promote the development and implementation of species recovery plans, and the federal-provincial/territorial Accord for the Protection of Species at Risk.

# 5.7.3 Canadian Environmental Assessment Act

The *Canadian Environmental Assessment Act* requires environmental assessments where federal government has jurisdiction, e.g, large infrastructure projects such as airports and harbours. The assessment can cover a wide range of potential impacts on natural features caused by federal agencies and/or parties approved to implement federal projects.

# 5.7.4 Canadian Environmental Protection Act

Provisions in the *Canadian Environmental Protection Act* regulate the release of toxic wastes and substances into the environment. This Act is often used to control the quality of municipal wastewater.

# 5.7.5 National Parks Act and Historic Canals Regulations

Projects or works in, or directly adjacent to waters on federal park lands or historic canals must be referred to Parks Canada for their review and approval.

#### 5.7.6 Web resources

Complying with the Fisheries Act habitat sections

http://www-heb.pac.dfo-mpo.gc.ca/habitat\_policy/hab\_law\_article/hablaw\_e.htm

Species at Risk Act and background information

http://www.sararegistry.gc.ca/background/default\_e.cfm

Environment Canada's Species at Risk Website

http://www.speciesatrisk.gc.ca/default\_e.cfm

DFO's summary of the Species at Risk Act

http://www.dfo-mpo.gc.ca/species-especes/aboutAct/aboutAct\_e.asp

Information on the Environmental Assessment Act

http://www.ceaa-acee.gc.ca/013/index\_e.htm

The Environmental Protection Act

http://www.ec.gc.ca/CEPARegistry/the\_act/

National Parks of Canada: legislation and regulations http://www.pc.gc.ca/progs/np-pn/legisla\_regula/index\_E.asp

# 5.8 Provincial Acts and regulations

There are a number of provincial laws and regulations intended to promote biodiversity conservation and, more generally, to protect the environment during development. The following provides a brief description of key laws and regulations and gives examples of their application.

# 5.8.1 Fish Protection Act

Provisions in the *Fish Protection Act* focus on the protection of fish and fish habitat. Those sections covering designations of sensitive streams, recovery plans and prohibitions on new dam construction on specified rivers are in force. Yet to be implemented are sections concerning controls on water use and management that would impact fish and fish habitat.

# 5.8.2 Riparian Area Regulations

Under the *Fish Protection Act*, the Riparian Areas Regulations (RARs) transfers implementation to local governments to protect riparian areas during residential,

commercial, and industrial development. The regulations use a results-based approach to assess whether habitat has been protected or lost.

RARs replaces the Streamside Protection Regulations (SPRs), found in the *Streamside Protection Act*. In contrast to SPRs, the new regulations rely more heavily on government staff and consultants to interpret the regulations.

Many governments are moving to implement RARs, for example, by reviewing and approving environmental assessment reports as part of development applications, and contributing to the monitoring and enforcement of the Streamside Protection and Enhancement Area width and associated streamside protection measures.

There are concerns with the RARs, including:

- protection only extends to fisheries-related watercourses;
- protection may be inadequate since its minimum standards are below those in the SPRs which were found to be effective;
- liability issues for local governments: RARs allow development to go to the high water mark, rather than 'top of bank', opening up the possibility of work in flood plain areas.
- inadequate provision of resources to municipalities to carry out their new reporting, monitoring and enforcement responsibilities;
- lack of usefulness and leadership, since the Union of BC Municipalities had already adopted the SPRs, as local governments found them aligned with their riparian protection objectives;

# 5.8.3 Water Protection Act

The *Water Protection Act* provides regulations that establish prohibitions on bulk water removal from BC, and the diversion of water between major watersheds in BC. It can be used by the Province to ensure surface and groundwater protection and sustainable use.

# 5.8.4 Environmental Management Act

The *Environmental Management Act* (EMA) enables the MOE to establish guidelines and standards for environmental protection where an existing or proposed development or resource use is identified as having an adverse environmental impact – or potential impact.

#### Municipal Sewage Regulation

Under the EMA, permitting and prohibitions relating to the deposit of waste can be established. Various local government bylaws can be designed to implement sewage regulations, e.g., requiring land fills to include pollution prevention measures. Municipalities are required to prepare solid waste and liquid waste management plans. The safe remediation of contaminated sites can provide opportunities for redevelopment of land which would otherwise remain vacant, and therefore can be used for limiting urban sprawl.

#### 5.8.5 Wildlife Management Areas - The Wildlife Act

Wildlife Management Areas (WMAs) can be established under the *Wildlife Act*. Their main goal is to conserve and manage critical wildlife habitat. The land under consideration must be under the administration of the Minister responsible for the *Wildlife Act*, i.e. classified as Provincial Crown Land or private land leased to the Minister.

Lands are designated as a WMA through high-level (Provincial Cabinet) consent, granting the wildlife habitat agency authority over all activities in the area. Only those activities and resource uses which are compatible with wildlife management are allowed. For example, at the South Arm Marshes Wildlife Management Area near Vancouver, part of the land is farmed to provide both agricultural products and wildlife habitat.

WMAs provide comparatively strong environmental protection and enforcement. A strong degree of control can be exerted by the agency responsible for wildlife habitat.

#### 5.8.6 Agriculture Land Commission Act

The province retains control over land use and development for agricultural reserve land through the *Agricultural Land Commission Act*. The law, established in 1973, applies to property owners in the Agricultural Land Reserves (see section 5.6). The Act allows for compatible environmental uses, such as ecological reserves and protection of wildlife habitat, but strong priority is given to agriculture. Landowners wishing to subdivide, develop or use land for non-farming purposes must obtain permission from the body governing the ALR, the Provincial Agricultural Land Commission.

Local governments wishing to include land into or exclude land from the ALR, must also obtain approval from the Commission.

#### 5.8.7 Web resources

Fish Protection Act

http://www.qp.gov.bc.ca/statreg/stat/F/97021\_01.htm

Riparian Areas Regulation

http://www.env.gov.bc.ca/habitat/fish\_protection\_act/riparian/riparian\_areas.html

Water Protection Act

http://www.qp.gov.bc.ca/statreg/stat/W/96484\_01.htm

Description of the Environmental Management Act

http://www.env.gov.bc.ca/epdiv/env\_mgt\_act/

Municipal Sewage Regulation

http://www.env.gov.bc.ca/epd/epdpa/mpp/msrhome.html
Wildlife Act

http://www.qp.gov.bc.ca/statreg/stat/W/96488\_01.htm

BC Agricultural Land Commission

http://www.alc.gov.bc.ca/

BC's Environmental Stewardship Division: Biodiversity Branch

http://www.env.gov.bc.ca/wld/index.htm

# 5.9 Offsite habitat compensation

Opportunities exist for expanding biodiversity conservation on private land when development occurs by using various forms of offsite habitat compensation. These can also be used as incentives to promote conservation management (see Habitat compensation in the Campbell River estuary case study, section 9.7).

Traditionally, landowners in Canada have compensated for habitat loss due to development on their property by carrying out mitigation on a different portion of their site. This often incurred the loss of expensive development land and good alternate habitat was not always available. Offsite habitat compensation was introduced to provide options for mitigating the onsite environmental damage. These options have allowed the developer to:

- directly purchase replacement habitat on another piece of land; and
- directly purchase another piece of land and develop compensatory habitat.

These options were based on government policies ensuring habitat of equal value would be maintained or created, e.g., the federal Department of Fisheries and Oceans (DFO) policy of "no net-loss" of salmon habitat or habitat function. Government policies also limit use of off-site compensation to cases where mitigation opportunities onsite are difficult to achieve, or where there is an opportunity to protect habitat elsewhere that is more ecologically significant.

However, developers have found the costs associated with these options to be high and uncertain, involving restoration, long-term monitoring and maintenance of the habitat to ensure its viability. Faced with rapid urban growth and regulations requiring habitat mitigation or compensation, alternative, cost-cutting arrangements have been explored. These have taken the form of conservation partnerships between developers, conservation organizations and government agencies to share the responsibility for creating and/or maintaining new habitat.

Following are descriptions of four such tools being used in either Canada or the United States. Challenges to the success of these tools are presented last.

# 5.9.1 Fee-based compensation

Fee-based compensation or "in-lieu-fee" allows a developer to pay a determined amount for onsite habitat loss instead of completing the required mitigation work. This fee can be contributed to a conservation program that carries out land purchases. Fee-based compensation can also be used by a developer in lieu of providing a parkland dedication to a municipality during the subdivision process.

As with other forms of offsite compensation, government agencies have policies limiting use of this tool to cases where mitigation onsite is difficult, or there is more ecologically significant land elsewhere that can be protected.

### Key advantages

According to a recent U.S. federal review of fee-based compensation arrangements, the key advantages are:

- Habitat restoration may be less fragmented since financial resources from many isolated projects can be pooled and focused on preserving larger tracts of land;
- Fees are certain and final for landowners; and
- The use of fee payments speeds up the approval process for landowners, especially when habitat conservation plans and conservation banks exist.

### Criticism

Some of the arguments against fee-based compensation include:

- Little or no benefit have been measured for the species involved;
- Fees may be perceived as expensive and set arbitrarily; and
- The process can be time-consuming, complex and expensive.

## Example from the South Okanagan

A privately-owned utility company, Fortis, used fee-based compensation to pay for the habitat loss it created when establishing its infrastructure. Fortis worked with the South Okanagan-Similkameen Conservation Program (SOSCP) - a regional conservation partnership - and the provincial MOE to work out a formula for habitat loss compensation.

The Fortis fee was donated to a member organization of the SOSCP, which, with Fortis' agreement, provided \$25,000 to a legacy fund for ensuring the long-term operations of the SOSCP. The remainder of the fee contributed to the acquisition of priority grassland habitat on adjacent lands.

# 5.9.2 Habitat compensation banks

A habitat compensation bank is an agreed upon mechanism or process where viable habitat is established to provide compensation for future developments requiring compensation. Habitat compensation banks have been used to a limited extent in Canada, for example, by the North Fraser Harbour Commission (NFHC) and federal DFO (see North Fraser Harbour Habitat Compensation Bank case study, section 9.6). The tool has wider application in a number of U.S. states, including Washington, Oregon, California and South Carolina, where it is known as a conservation or mitigation bank.

These banks work on the same basis as fee-based compensation, but provide viable replacement habitat in advance of developments, and expand the role of the market in a structured system of habitat-value exchange involving government-approved actors and standards. The banks operate on the theory that species conservation will be most effective, and people will be most willing to participate in conservation efforts, if everyone benefits.

The compensation bank can be privately or publicly owned land, and is managed for conservation values.

### Habitat credits

In exchange for permanently protecting the land, the bank operator is allowed to sell credits to developers who need to satisfy legal requirements for compensating environmental impacts of development projects. Credits are a term used for a habitat value with an associated cost based on the quality of habitat lost in relation to that being bought, habitat acreage, whether habitat is being preserved or created, and the species involved. The cost of each credit is predetermined by an agreement between the bank operator and governments.

In the U.S., a conservation bank generally protects threatened and endangered species habitat. Credits are established for the specific sensitive species habitat occurring on the site. Mitigation banks are specifically for wetland restoration, creation, and enhancement undertaken to compensate for unavoidable wetland losses. Conservation and mitigation banks and bank operators must be approved by wildlife agencies.

The total cost to the landowner will vary according to the number of credits that the government agency decides must be purchased, and the cost of the credits. The landowner selects the final mitigation arrangement after negotiations with government authorities and the conservation bank.

### Selecting the habitat bank

Criteria for identifying and selecting habitat banking sites include:

- Need (i.e. where is the habitat most required);
- Availability of sites for habitat development;
- Method to be used for creating the habitat;
- Feasibility and cost of creating the habitat, (e.g., high costs would make subsequent costs for habitat compensation credits to developers prohibitive);
- Possibility of achieving multiple uses;
- Compatibility with existing uses and designations; and
- Ownership, (i.e., upland owners may not wish to have fish habitat developed in front of their properties due to potential limitation on their future activities).

## Advantages

Proponents list the advantages of habitat compensation banks as:

- providing excellent functional habitat once it is established, regardless of its use by developers for compensation purposes;
- offering landowners economic incentives to protect natural resources;
- saving developers time and money by providing them with the certainty of preapproved compensation lands managed by a reliable conservation organization;
- ensuring "no-net-loss" of habitat or loss of habitat function occurs, since compensation goes toward maintaining a viable habitat/wetland before impacting the existing habitat on the developers land;
- providing advantages of scale: larger habitat areas are created as opposed to several smaller projects, which generates cost savings (smaller projects are more expensive to create on a per unit basis), and yield greater ecological benefits;
- allowing many projects requiring small areas for compensation to be covered;
- consolidating financial resources and biological expertise to provide a more focused approach; and
- complementing government policies, e.g., no net loss, integration of environmental and economic considerations to create sustainability.

# Examples from BC

Two case studies of successful and innovative habitat compensation banking are provided in Section 9: Innovative Conservation Projects: The North Fraser Harbour Habitat Compensation Bank (9.6), operated since 1993 by the North Fraser Habour Commission in partnership with the DFO; and the Campbell River estuary habitat compensation project (9.7), started in 2000 involving Merrill & Ring Timber & Land Management, DFO, the Nature Conservancy of Canada, and the District of Campbell River.

# 5.9.3 Grass banking

Grass banking is a land management strategy that exchanges desirable grazing grass for conservation work. For example, grass could be traded with a landowner in exchange for establishing a conservation covenant on his/her land. Another trade may involve the restoration of degraded grazing lands under public or private ownership. The land growing the grass for exchange may be public or private.

Though the grass bank model is relatively new, it is gaining acceptance in the U.S.

A value is applied to the healthy grasslands, and then the value is utilized, traded and saved to increase conservation values on a broad, landscape level. Grass banks have been used to:

- secure conservation covenants that protect open space, conservation values, and traditional agricultural lifestyles;
- reintroduce fire in maintaining healthy grassland ecosystems;
- improve rangeland quality and forage quantity;

- rehabilitate important wildlife habitat; and
- improve water quality through stream stabilization and restoration of riparian vegetation.

Several themes are common among grass banking efforts. The first is the collaboration of groups that have not traditionally worked closely together, including ranchers, environmentalists, public land managers, private foundations, and scientists. Secondly, there is the shared goal of rehabilitating and preserving grassland ecosystems and establishing their sustainable use.

# 5.9.4 Biodiversity conservation credits

A system of biodiversity conservation credits is an idea based on the experience with greenhouse gas emission credits. In this version, conservation credits would be earned, purchased or traded to encourage land use decisions beneficial to biodiversity conservation.

A biodiversity conservation credit could be earned by:

- a substantial contribution of money;
- a donation of ecologically significant land;
- a significant biodiversity conservation effort involving resource/habitat restoration, enhancement, or creation; or
- achieving maximum standards with land use and resource management practices.

The credits could be made economically attractive to a landowner or company if, for example, they provided an advantage when renewing a Crown land tenure, or if they could be accumulated and exchanged for tax credits or other benefits, e.g., in the development application process.

# 5.9.5 Challenges

Critics of offsite habitat compensation claim:

- it encourages/excuses environmental damage;
- it perpetuates the destruction of irreplaceable habitat; and
- it forms part of a failed "no net-loss" policy, which has measured little or no benefit for the species involved.

As well, advocates of "selling nature to save it" promise mutually beneficial results for buyers, sellers, and for nature. However, there are a number of challenges facing models where biodiversity features are commoditized and traded:

- "Green markets" may distribute environmental costs and benefits unequally across space.
- The practice may encourage and/or excuse environmental damage.

- The use of these tools may not replace habitat loss and function, let alone lead to environmental gains.
- For resource-based models such as grass banks, land or the resource must be identified that are sufficiently high quality to enable it to support an exchange program. If the land/resource use is private, funding must be secured for its purchase or lease. If the land/resource use is public, advocates must satisfy a range of regulatory requirements that may vary from region to region and from agency to agency. As well, the use of land or resources may not be environmentally sustainable over time.
- The process can be time-consuming, complex and expensive, and increase in complexity with additional restrictions and decision-making.

# 5.9.6 Web resources

Conservation and mitigation banks:

http://www.dfg.ca.gov/hcpb/conplan/mitbank/mitbank.shtml

http://ceres.ca.gov/topic/banking/banking\_report.html

Grass banking:

http://www.redlodgeclearinghouse.org/waysandmeans/grassbanking.html

# 6 INCENTIVES FOR APPLYING SECUREMENT TOOLS

Despite the availability of a diversity of tools to secure private land for biodiversity conservation, their use is often lacking. In many cases, private landowners fear loss of control over the use of their land or inadequate financial compensation if biodiversity values are identified in the present or, as a result of their conservation efforts, in the future. In other cases, there is confusion over the assortment of tools, and uncertainty as to how to best apply them. To help overcome these and other obstacles, a number of government and partnership initiatives have been created to provide various incentives encouraging the use of biodiversity conservation tools. These programs fall under one or more of the following six categories:

- property tax benefits
- income tax credits
- direct funding
- technical assistance, including education and conservation planning
- certifications and awards
- regulatory streamlining.

For a selection of studies being carried out in the U.S. on the feasibility assessment, design, and implementation of economic incentives aimed at achieving conservation goals see the websites listed in section 6.1.4.

This section describes a number of incentives, including examples from the United States. The section concludes by drawing attention to the important work being done to provide economic valuations of biodiversity values; these efforts could have direct impact on incentive systems.

# 6.1 Financial incentives: tax relief

Financial incentives in the form of tax relief can be 'the carrot' in a larger conservation program that includes enforceable biodiversity conservation through land protection. Tax preferences are often used as a compensation tool for the removal or denial of economic opportunity.

# 6.1.1 Encouraging land donations

The federal *Income Tax Act* provides favourable income tax treatment for gifts of land. Donations of ecologically sensitive land or interests in ecologically sensitive land are eligible for increased benefits. Favourable treatment includes the provision of a tax credit or deduction to donors and a reduction in the taxable capital gain realized on the disposition of the property.

Ecological gift provisions under the federal *Income Tax Act* encourage landowners to make donations of ecologically sensitive land to government or to registered non-

governmental organizations in exchange for income tax benefits. These provisions are delivered through Environment Canada's Ecological Gifts Program (see section 2.1.2). Private and corporate landowners who donate ecologically significant land or a partial interest in such land (e.g., using a covenant) receive a tax credit based on the value of the gift and the net income of the donor.

Currently, 25% of any capital gain considered to have arisen from the disposition of the property as an ecological gift must be included in the donor's income for the year in which the gift was made. It is believed that eliminating the capital gains tax altogether will make an already effective tool even more effective.

Eco-gifts can help balance potential losses in a property's market value as a result of land use restrictions imposed by a conservation covenant, easement or statutory right of way.

# 6.1.2 Property tax exemptions

A municipal council may grant a tax exemption for riparian, parkland and/or wetland property secured with a conservation covenant in favour of the municipality. For example, a private enterprise could create a public park on the privately owned land, in exchange for re-zoning and reduced taxes on the land. These measures provide an alternative to assessing property taxes based on the highest and best development use. Similar tax exemption provisions exist for heritage properties.

Exemptions from paying property transfer taxes may also benefit certain biodiversity conservation efforts. For example, no tax is payable on a transfer of land to a regional district or a municipality, a "registered charity", or a "designated educational institution" (where the land will be used for an educational purpose).

# 6.1.3 Preventing abuses of the system

To prevent problems with using tax incentives, a number of measures can be taken. For example, tax preferences can be granted only for land zoned for protection, and strict development restrictions could apply.

As well, provisions could be made to recoup all or some of the money saved through a tax break if the land is developed, through 'rollback' taxes, paying the difference in value due to development, or 'early withdrawal' penalties. These, however, may not provide a disincentive because of potential profits to be gained from land development.

## Criteria to determine eligible lands

A tax preference initiative would have to be aligned with agricultural land policies to avoid the possibility of owners transferring prime agricultural land into the conservation land category to avoid the requirements to farm the land, thereby removing good farmland from production.

## Quantifying the amount of the tax preference

Tax breaks could be awarded according to a public benefit rating system, for example, based on the amount of incremental restriction (e.g., zoning, covenant) placed on the land above and beyond that of similar land elsewhere.

Tax preferences could also be tied to income levels and to the graduated provincial income tax, i.e. the higher the income, the smaller the tax break.

# 6.1.4 Web resources

Feasibility assessment, design, and implementation of economic incentives aimed at achieving conservation goals: Defenders of Wildlife:

http://www.defenders.org/

Green Legacies: A Donor's Guide for BC:

• index to sections of the Guide:

http://www.stewardshipcentre.bc.ca/green\_legacies\_web/index.asp

• chapter on Gifts of Land or Covenants: Tax and Legal Implications

http://www.stewardshipcentre.bc.ca/green\_legacies\_web/PDFFiles/GiftsOfLandOrCoven ants.pdf

Giving it Away: Tax Implications of Gifts to Protect Private Land

http://www.wcel.org/wcelpub/2000/wrapper.cfm?docURL=http://www.wcel.org/wcelpub/2000/13020.htm

The Canadian Ecological Gifts Program

• general information

http://www.cws-scf.ec.gc.ca/ecogifts/intro\_e.cfm

• 2005 Eco-gift Handbook

http://www.cws-scf.ec.gc.ca/ecogifts/hb\_toc\_e.cfm

Canada Revenue Agency on split-receipting

http://www.cra-arc.gc.ca/E/pub/tp/itnews-26/itnews-26-e.html#P20\_573

# 6.2 Incentives for conservation management

Various incentives exist to encourage the management of lands for biodiversity conservation. These are both financial (e.g., tax breaks, subsidies) and non-financial (e.g., material and technical support, certification and awards programs). The following section outlines a few examples and includes various ideas for conservation management incentives from the United States.

## 6.2.1 Private land management

Various programs exist to provide tax incentives for private land management to motivate conservation decisions in the present and future. For example, managed forest land is taxed at a lower rate than land that is unmanaged (no acceptable forest management commitment). This land must be included in the Forest Land Reserve, with an approved management commitment.

# 6.2.2 Delta's Greenfields Program

Many forms of agricultural subsidies exist to compensate landowners for taking environmentally sensitive land out of agricultural production or employing conservation practices on land in production. One example is the municipality of Delta's Greenfields Program (also known as the Grasslands Set-aside Program).

Greenfields is a farm stewardship program which subsidizes private landowners in consideration of the social benefits of following alternative agricultural practices. Farmers are offered the opportunity to leave a field sown in a specific mix of native grasses and clover for a period of time (one to five years). The purpose is to restore the soil's surface organic matter and structure while providing habitat for wildlife. Greenfields is currently administered by the Delta Farmland & Wildlife Trust, with financial support from Environment Canada, the Delta Agricultural Society, the Investment Agriculture Foundation of BC, the McLean Foundation, Ducks Unlimited Canada and the British Columbia Waterfowl Society. Funds from Environment Canada are part of the compensation resulting from the construction of the third runway at Vancouver International Airport.

The program funds 550 to 650 acres (220 to 260 hectares) annually, at \$330/acre (\$815/hectare). This makes it economically feasible for farmers to leave lands uncultivated, when faced with the option of leasing the land and having no long-term investment in it.

Greenfields participants are also exploring other land conservation techniques including:

- relayed cropping, where the next generation of crops are already growing under or between the maturing crop; and
- using liquid pesticide spreaders to kill wireworm instead of spreading pellets (for potato growers), which was killing birds. Ducks Unlimited Canada is paying growers part of the costs to convert to liquid spreaders.

Lessons learned to date from the program include:

- Prioritize areas within each land parcel for set asides and for ongoing activities to ensure overall production of each parcel is not negatively affected;
- Secure ongoing funding to sustain the program;
- Specify the management priority for the land, given many choices often exist. This may imply variation in the area set aside;

- Tailor the program to meet local needs, for example, by scaling the level of compensation to the size of the area set aside (rather than only providing standardized amounts);
- Where a compensation scale exists, it should be related to the negative impact on agricultural production from environmental measures; and
- Rules for land use/stewardship must be developed with the farmers to meet all interests.

# 6.2.3 Green Shores certification

Green Shores is an approach to coastal design and development issues emphasizing sustainable use of coastal ecosystems. It provides local governments, planners, builders, developers and people living and working near the Pacific Coast with information, case examples and updates related to the Green Shore's approach.

Over the longer term, Green Shores is envisioned as a voluntary certification program for coastal shore developments for individual shore properties, new and redeveloped areas and coastal communities. It is hoped the approach will provide an incentive for coastal landowners (or land managers) to minimize impacts of planned developments or restore coastal ecosystem function near existing developments. For example, governments may create tax incentives for "Green Shore Certified" properties.

The Green Shores certification procedure would provide an independent rating of proposed conservation or restoration activities. Properties that exceed minimum criteria would be designated as "Green Shore Certified". Rating categories being considered are for structure, drainage, terrestrial vegetation, intertidal/subtidal habitats, and connectivity.

Green Shores is based on four principles:

- 1. Coastal Processes: Preserve the integrity or connectivity of coastal processes.
- 2. Coastal Habitat and Species: Maintain or enhance habitat diversity and function.

3. Water and Sediment Quality: Address methods to minimize or reduce pollutants to the marine environment.

4. Reduce Impacts on Shorelines: Reduce cumulative impacts to the coastal environment.

The technical foundation of the approach is set out in the guidebook: Coastal Shore Stewardship: A Guide For Planners, Builders and Developers on Canada's Pacific Coast.

Currently, Green Shores is running three pilot projects to analyze what the best or most effect options are for delivery. The projects are:

- Sidney Waterfront, Victoria: looking for alternative approaches to infilling and riprap construction;
- Coho Drive, Courtenay: assessing the need for and alternative approaches to protecting residential waterfront; and
- Selkirk Street, Victoria: restoring a seawalled waterfront property a community demonstration project.

### 6.2.4 EcoStar awards

The EcoStar Community Environmental Awards were developed in 2000 by Vancouver Island's Capital Regional District and community sponsors to recognize the commitment and contributions of individuals, organizations, groups and businesses to environment conservation. For example, the 2005 awards recognize achievement in the following categories:

- Climate change
- Conservation and restoration
- Drinking water stewardship
- Environmental education
- Pollution prevention
- Sustainability
- Urban watershed protection
- Waste reduction

### 6.2.5 Additional incentives

Certain financial incentives could be provided to manage lands for biodiversity conservation. For example, income tax credits on the cost of enhancement projects, and for cost-sharing for materials.

Other incentives include providing technical assistance for projects through stewardship programs, and streamlining regulatory approval for land use when conservation plans are included.

### 6.2.6 Web resources

#### Delta Greenfields Program

http://www.pyr.ec.gc.ca/EN/Wildlife/habitat/stewardship.shtml

#### Green Shores

http://www.stewardshipcentre.bc.ca/stewardshipcanada/mi\_scnBCGreenShores/mi\_scnB CGreenShores.asp

EcoStar awards

http://www.crd.bc.ca/ecostar/

# 6.3 U.S. examples

The following are ideas of incentives for private landowners to carry out habitat preservation. These have been compiled by the Defenders of Wildlife, a U.S. national environmental organization.

## 6.3.1 Tax incentives and disincentives

Ideas for financial and tax incentives include:

- Local and state property taxes paid on lands providing habitat for endangered, threatened and candidate species and for significant biodiversity would be offset by an annual federal tax credit. Landowners would develop a Habitat Management Plan in cooperation with the U.S. Fish and Wildlife Service;
- Federal tax credits for expenses assumed for improving or creating new habitat for endangered, threatened and candidate species;
- Income tax deductions for revenue from lands managed to support endangered species;
- Tax penalties for converting wildlife habitat to some other use; and
- Prohibition on the use of federal subsidies and tax benefits for activities causing the loss or degradation of endangered species habitat.

# 6.3.2 Endangered Species Act's Habitat Conservation Plan

The Endangered Species Act provides for residential and commercial development within an area that has endangered or threatened species habitat whenever a Habitat Conservation Plan (HCP) is submitted and accepted by U.S. Fish and Wildlife Service (see Habitat Conservation Plan, section 3.5.1).

# 6.3.3 Cooperative Conservation Plan

Rural agricultural landowners, who are not interested in developing their land, with contiguous or nearly contiguous property would be able to form cooperatives to accomplish the same goals as the Endangered Species Act HCP without having to participate in an HCP. The cooperative would operate as a wildlife management cooperative.

# 6.3.4 Habitat transaction method

The objective of this method is to preserve habitats sufficient to sustain species and/or populations addressed by a HCP.

A process is established for measuring the conservation value of all the land in the planning area covered by the HCP. Any landowner who agrees to conserve or restore habitat within the planning area receives credits based on the conservation value that the landowner adds to the reserve system. Landowners who receive credits for conservation actions may either use the credits to develop elsewhere within the planning area or sell the credits to any other landowner who needs credits to compensate for project impacts.

# 6.3.5 Biodiversity Trust Fund

This proposal suggests that the "takings" provision of the Endangered Species Act be complemented and eventually replaced by a biodiversity trust fund. The trust fund would provide landowners with incentives to protect endangered and threatened species and ecosystems. The fund would be supplied by a percentage of public land user fees each year.

The fund would have to improve biodiversity or protect endangered or threatened species. Eligible activities for funding would include purchase of land, purchases of conservation easements, paying landowners to use certain habitat preservation practices and paying "bounties" to landowners whose land provides breeding habitat for threatened or endangered species.

# 6.3.6 Web resources

The Defenders of Wildlife Biodiversity Partnership:

- Reports and evaluations of incentive programs <u>http://www.biodiversitypartners.org/incentives/index.shtml</u>
- Criteria for effective habitat incentive programs http://www.biodiversitypartners.org/incentives/criteria01.shtml

# 6.4 Valuation of biodiversity conservation

A growing amount of research is focusing on the economic valuation of biodiversity values. These studies are beginning to provide us with a way to quantitatively measure biodiversity conservation efforts to integrate this into our economic models and policy decisions. For example, analyses are being made of market and non-market economic impacts associated with habitat and species conservation.

Other initiatives focus on complex statistical analyses of ecosystem services, and calculate dollar values of trees and vegetation. One example is CITYgreen, a software model developed by American Forests that evaluates ecosystem services provided by trees including stormwater infrastructure savings, air and water quality benefits and carbon sequestration and storage. CITYgreen can assist land use planners and policy makers. For example, the software helps:

- engineers to estimate the impact of tree loss on stormwater management costs;
- developers to save money on erosion control and stormwater management;
- regulatory agencies to measure the air quality benefits of greenspace.

Evaluation of the socio-economic benefits of conserving and enhancing biodiversity is also taking place. For example, a report prepared for the Biodiversity Conservation Strategy for the Greater Vancouver Region presents a socio-economic analysis of biodiversity for the region.<sup>3</sup> The case studies examined include examples of:

- integrated stormwater management;
- forest conservation areas; and
- municipal tree protection.

The study also highlights a number of initiatives, such as riparian greenways, the management of agricultural practices for the conservation of biodiversity, and wetland area conservation. Estimates of socio-economic benefits provided by biodiversity are aimed at supplementing conservation policy decision-making, which is usually based on concern for the maintenance of species and biophysical functions, as well as in response to pressures from stakeholder groups. Such information may play a key role when evaluating and making trade-offs associated with different development and management options, or when communicating the benefits of biodiversity.

The kinds of initiatives described above have the potential for supporting changes to property tax assessments, and shaping incentive systems that promote biodiversity conservation on private land.

## 6.4.1 Web resources

Convention on Biological Diversity: world wide case studies and references on the economic valuation of biodiversity http://www.biodiv.org/programmes/socio-eco/incentives/valuation.asp

Defenders of Wildlife economic evaluation of biodiversity conservation

http://www.biodiversitypartners.org/econ/index.shtml

### American Forests CITYgreen

http://www.americanforests.org/productsandpubs/citygreen/

Biodiversity Conservation Strategy's report: *Socio-Economic Values of Biodiversity in the Greater Vancouver Region*. Gustavson Ecological Resource Consulting, 2002

http://www.gvrd.bc.ca/growth/biodiversity-reports.htm

<sup>&</sup>lt;sup>3</sup> Socio-Economic Values of Biodiversity in the Greater Vancouver Region. Gustavson Ecological Resource Consulting, 2002

# 7 CONSERVATION PARTNERSHIPS: CASE STUDIES OF REGIONAL PROGRAMS

Regional conservation partnerships allow for conservation planning and activities to be conducted on a broader landscape level. Resources can be focused on areas with the highest conservation priority, and the role of surrounding areas can be addressed. Regional conservation planning can avoid fragmentation of areas, duplication of efforts, waste of resources, and dilution of impact. This approach is valuable for securing private land for biodiversity conservation, where program costs are often high, numerous and disperse sites are frequently involved, and coordination of partners' efforts and resources is key.

BC has many examples of regional conservation partnerships. This section begins by presenting three detailed case studies: the East Kootenay Conservation Program, the South Okanagan-Similkaeen Conservation Program, and the relatively new Wetlands Stewardship Partnership which offers a different approach to coordinating and structuring conservation efforts.

# 7.1 East Kootenay Conservation Program

The East Kootenay region covers over three million hectares, and is predominantly mountainous. Valley bottoms make up a small component of the landscape, but possess the best habitat and biodiversity values in the region. Valley bottoms are almost entirely held by private owners. They are predominantly ranchers or farmers. This land is exposed to strong development pressures from growing populations and resource use.

During 2001, conservation organizations, First Nations, government agencies and industry came together to create a more effective way to conserve private land. Workshops produced a vision, mandate and goals for a regional conservation partnership, which would focus on coordinating and facilitating private land conservation. This new entity would not directly implement projects, and so, not compete for resources with its partners. As well, the size and complexity were to be kept as small as possible, to avoid creating a bureaucratic entity.

A temporary Steering Committee (SC) was appointed at the final workshop and tasked with getting the new regional partnership operational. The members of the Committee were the key conservation entities in the region: BC's Ministry of Environment (MOE), Columbia Basin Trust (CBT), BC Hydro's Columbia Basin Fish and Wildlife Compensation Program (CBFWCP), Environment Canada's Canadian Wildlife Service (CWS), and Parks Canada. In April 2002, the government agencies on the SC contributed money to fund a program manager, and the East Kootenay Conservation Program (EKCP) was officially launched.

# 7.1.1 Mandate, strategic direction and roles

Following is an explanation of the EKCP's mandate, strategic direction and roles.

### Purpose

The EKCP's purpose is to coordinate and facilitate securement and stewardship activities on private land to sustain biological diversity and ecological process, support economic and social well-being, and support the adoption of environmental stewardship.

## Goals

The EKCP has 4 strategic goals:

1. Set conservation targets for key habitat on private land.

2. Coordinate biodiversity conservation efforts on private land (and water) and integrate with provincial and federal crown land.

3. Improve access to financial and technical resources necessary for project implementation.

4. Create mechanisms to:

- improve communication and accountability within the partnership;
- identify common conservation priorities; and
- promote landowner stewardship.

### Activity areas

The Program has three activity areas for working in the region:

- stewardship,
- securement (acquisitions, covenants, etc.), and
- outreach.

There are two areas focused on internal operations:

- funding coordination, and
- support and coordination for partners.

### Roles

The Program carries out a number of roles, including:

- promoting information and data sharing among partners;
- establishing common conservation priorities for acquisitions and stewardship projects;
- setting common conservation targets for key habitats on private land;
- coordinating and leveraging financial and technical resources among partners during the development of collaborative projects, a key role in improving implementation;

- vetting projects for partners (the program manager carries out initial assessments of candidate lands for securement);
- leveraging funding for partners by endorsing their projects with a "letter of support";
- vetting projects for funding bodies, since ECKP endorsement indicates high priority for the region;
- building working relationships with private landowners;
- providing structure for pursuing strategic areas of focus, i.e. sub-committee teams; and
- providing information and technical assistance to the Regional District of the East Kootenay promoting the integration of conservation values into development.

The EKCP does not engage in advocacy, funding or implementing conservation projects.

# Accountability: habitat targets

The level of achievement of habitat targets on private land is the Program's main method of accountability. Targets have been set for acquisitions, covenants, and voluntary stewardship activities according to a number factors, including:

- priority habitat associations (e.g., grassland/dry forest, wetland, riparian);
- high biodiversity (broad range of species and/or habitat types);
- species and ecological systems at risk (provincial, national, global);
- connectivity and corridors;
- imminent risk of conversion to an inappropriate land use;
- unique features (e.g. Hot spring, hoodoo, heron rookery, mineral lick, spawning site);
- archaeological and cultural values; and
- cost and fundraising potential.

The targets have been established for a 10-year time period. For example, the Program has committed to acquiring 1,600 hectares/year until 2012.

# 7.1.2 Governance and organizational structure

The EKCP's governance and operating structure are described in this section. The Program was started 18 months after the South Okanagan-Similkameen Conservation Program, and learned from some of their difficulties with respect to organizational size and structuring of partner involvement.

# Governance

The EKCP is not a legal entity, and in creating a partnership agreement uses a less formal approach than a Charter or Memorandum of Understanding (MOU). A prospectus, *A Statement of Cooperation* and *What it Means to be a Partner* have been developed which both:

- provides partners with a common vision, mandate, history and role clarity; and
- creates a structure that satisfies the requirements of its major funders.

There is also a general outline for Steering Committee member responsibilities.

### Partners

There are 41 partners in the EKCP. These include representatives from conservation organizations, sports groups, all levels of government, and the cattle and forest industries. The mining industry has not been at the table, despite being a big landowner in part of the region. However, mining companies are beginning to express an interest in participating.

The Program has found that the large partnership base allows for an ebb and flow of participation and resource contributions, ensuring enough capacity to maintain momentum and activities.

### **Steering Committee**

The Steering Committee (SC) is made up of any partner wishing to take a greater interest and involvement in the EKCP. There is a yearly Annual General Meeting (AGM) to give partners the opportunity to join. The SC's Chair and Vice Chair are also selected at the AGM.

Currently, there are 18 organizations sitting on the SC, representing conservation groups, land trusts, industry and all levels of government. The SC meets as required. Its agenda normally includes updates from the Securement and Stewardship Teams, and strategic level decision-making.

### Program manager

The Program's manager has a background in forestry and range management, and has worked extensively with ranchers and private landowners in the region for 20 years. His roles are numerous and varied:

- The manager builds productive working relationships by maintaining and improving communication flow amongst the partners, and with private landowners;
- He encourages conservation by providing a one-stop shop for private landowners who might be interested in stewardship or long-term land securement;
- The manager holds an institutional memory for the region, with a breadth and depth of regional conservation information greater than other individuals;
- He vets proposals and property by first screening candidate for alignment with EKCP objectives;
- He assists partners in developing and improving their conservation programs;
- The manager maintains continuity among the partners by meeting with and orientating new representatives of member organizations; and
- He facilitates informed decision-making by synthesizing and analyzing reports and information for partners, and providing these in the form of briefing papers, summaries of technical reports, etc.

### Securement Team

The Securement Team is composed of six members, selected on the basis of experience with private land acquisitions and covenants. Present membership includes BC Hydro's CBFWCP, Nature Conservancy of Canada, The Nature Trust of BC, The Land Conservancy of BC, CWS, and MOE. Membership can be expanded based on a track record in these operational areas.

Meetings are as required, and are closed to all but members since confidential matters about private land sales are discussed.

A project leader approach is used to implement projects. First, potential properties are brought to Team meetings where they are evaluated and prioritized for action. Once selected, the individual partners decide if the project fits into their mandate, objectives, and ability to fundraise for it. If approved, an agency or conservation organization becomes the project lead – often the same organization that was the original project proponent. The project lead spearheads the implementation and works exclusively with the landowner.

### **Stewardship Team**

The Stewardship Team coordinates landowner contact programs in the region. It focuses on matching capacity with needs on the ground by coordinating and leveraging members' resources. The team works closely with the Securement Team to take advantage of appropriate opportunities to shift property from private stewardship to secured conservation land.

## 7.1.3 Operational costs and funding

The EKCP's annual operating costs from 2001-2004 ranged from \$85 - 105,000/year:

- \$65 70,000 for the program manager
- \$10 15,000 for operations
- \$10 20,000 in-kind support, i.e. administration, office and meeting space, communications, and technical support (GIS mapping).

Funding for EKCP's first 2.5 years was provided by CWS, CBT, MOE, Ducks Unlimited Canada, and Parks Canada.

Each year, the program manager explores financial contributions from partners, and writes funding applications. In-kind donations are also made by partners, e.g., office space, accounting responsibilities, GIS-mapping.

Presently, BC's Habitat Conservation Trust Fund (HCTF) and CWS provide 50% of the funding for the Program. The remainder comes form other partners and sources. When funding becomes available for coordination activities or for developing efficiencies and synergies, the EKCP can join with one of its partners possessing non-profit status.

# 7.1.4 Challenges

Key challenges for the EKCP are outlined below.

## Funding

Multi-year funding from diverse sources is difficult for the EKCP to secure for various reasons, including: partners' budgets are variable; the EKCP must avoid competing with its partners; and limitation of non-legal status.

## **Role clarity**

In the first two years, some partners struggled with understanding the core role of the EKCP, i.e. coordination and communication. They expected the Program to achieve results on the ground, e.g., restore a creek, negotiate an acquisition or covenant. This led to some dissatisfaction in the early years, since the Program had to focus the vast majority of its time on building relationships amongst the partners, and with the private landowners.

Presently, some partners still want the EKCP to engage in activities outside its mandate, e.g., advocacy, and implementing projects. However, after three years of experience and education, most partners understand the Program's roles.

## Public outreach

The Program needs to improve the general public's awareness and understanding of its role in strengthening and expanding conservation efforts.

# Capacity

The Program has been successful in raising its profile amongst landowners, however, both the Program and the partners lack the capacity to respond to all inquiries being received. For example, presently, the EKCP has a list of 28 properties of interest for acquisitions - 20 have come from private landowners themselves. This far exceeds the combined capacities of EKCP partners.

# 7.1.5 Keys to success

A number of factors have contributed to the success of the EKCP, including:

- an on-going commitment by the partner organizations and their individual representatives to the EKCP's collaborative vision and 10-year strategic plan;
- an adherence to the EKCP mandate, i.e. leveraging funding, not providing funding; developing projects, not implementing them; providing technical information, not carrying out advocacy;
- a simple and responsive organizational structure;
- a large partnership base providing stability in participation and resource contributions over time;
- a program manager capable of building productive working relationships among partners, and with private landowners;

- the facilitation of information sharing and building trust among parties throughout the region by holding workshops, etc;
- a reputable ranking and endorsement process for projects seeking funding;
- policies ensuring transparency in operations as much as possible;
- good working relationships with the Regional government, i.e. regional planners and politicians;
- effective orientation for new representatives of member organizations when changes in personnel occur; and
- the sharing of responsibilities among partners for the running of the Program, e.g., providing financial and administrative systems, office space.

# 7.1.6 Case study successes

After almost four years of operation, the EKCP has realized a number of achievements. Following are a few examples.

### Collaboration in regional land use planning

Conservation concerns were, in general, poorly integrated into the region's land use planning involving private lands. Since its inception, the EKCP has focused on building a good working relationship with the regional and local governments. For example, the Program provided the regional district with a Geographic Information System layer of all the conservation properties in the region. It provided greater detail than what district planners possessed, and allowed for the inclusion of wildlife values and connectivity concerns into planning. This general information sharing was not occurring to the same extent when individual organizations talked with the regional district. Currently, the Program is becoming more involved in land use decisions affecting private land conservation. For example, the Program is providing district planners with new information concerning GIS mapping of conservation properties, heron rookery locations for example, as input to the region's growth strategies and Official Community Plans.

### Information sharing

Through the EKCP's efforts, partners have been sharing critical conservation information that has improved efficiency, built capacity, and saved time and money. For example, if one partner provides another with a property profile (as part of a securement proposal), this can save the second partner from \$5 - 10,000. Coordination of stewardship efforts also avoids costly duplication and reduced resources from overlap.

The ECKP has also been instrumental in promoting information sharing with and amongst other actors in the region. For example, at an annual workshop sponsored by the EKCP, Tembec Forest Company gave the head planner for the regional district important GIS information on unique habitats, which he could apply for protection purposes during subdivision planning. In another case, one of the EKCP's partners identified great blue heron rookeries on private land in the region. This information was passed on to the regional district for conservation and protection planning.

### Land securement and building a stewardship ethic

The EKCP is often in competition with developers for prime conservation land. Since these developers often have considerable finances that are readily available, the EKCP has to be creative. The following illustrates one such creative approach used to secure high priority ranch land.

During 2003 and 2004, Bovine Spongiform Encephalopathy (BSE), or "Mad Cow Disease," hit East Kootney's ranching and agricultural community hard. Existing financial difficulties were compounded by the ban on Canadian products. In the winter of 2003, a rancher approached the EKCP looking for help to keep his land and ranching business. The alternative was to sell his land to developers, which was lakefront property of high value. The Securement Team examined the case, and confirmed that the property constituted a high conservation priority. The Team also agreed that, under proper management, the property could continue to contribute economically and socially to the family and the wider community. One of the Team partners took on the role of project lead.

The rancher needed cash and not a tax break on his income; a donated covenant by itself was not an appropriate tool. Negotiations between the EKCP project lead and the rancher led to the purchase of two of the rancher's lots which were of high conservation value, and the donation of a covenant on the rancher's remaining titles. The sale of the lots generated taxable income for the rancher, which the donated covenant helped to lower.

The conservation covenant restricts subdivision development on those lots covered. The lease is long-term, and the EKCP partner is working with the rancher on a management plan for the two lots, which will balance conservation values and agriculture use.

## 7.1.7 Web resource

http://www.ckfrp.com/downloads/EKCPweb.pdf

# 7.2 South Okanagan-Similkameen Conservation Program

The South Okanagan-Similkameen area of British Columbia has unique habitats of international importance, with watersheds forming a key north-south corridor with the United States. The corridor is important for wildlife, fish, other aquatic organisms and ecosystem adaptation to alterations such as climate change. Notably, the region is host to many unique species and a very high number of species at risk. In the late 1990's, the Federal government identified this region for conservation projects primarily focused on protecting species at risk and their habitats.

The end of the 1990s and the year 2000 saw conservation organizations and government agencies in the region coming together to establish a fresh approach to coordinating their efforts. The key agencies involved were Environment Canada's Canadian Wildlife Service (CWS), BC's Ministry of the Environment (MOE), BC's Habitat Conservation Trust Fund (HCTF), The Nature Trust - BC (TNT), Nature Conservancy of Canada

(NCC), and The Land Conservancy - BC (TLC). Negotiations led to the formation of the South Okanagan-Similkameen Conservation Program (SOSCP) on July 2, 2000. 19 government and non-government organizations became the first partners.

The establishment of the SOSCP and the impetus for a landscape approach was driven in large measure by the federal government's desire to effect recovery of endangered species: funding for the SOSCP's first 3 years of operation came from federal species at risk money, and the Program's geographic boundaries were drawn up according to habitats and ranges of species at risk. However, the Program was not designed specifically to recover species at risk: it aimed to influence the management of the landscape in a broad, sustainable manner. This was meant to prevent more species from becoming at-risk, and to ensure the maintenance of both the area's rich biodiversity, and its critical north-south ecological corridor. It was felt this approach would also benefit species currently at risk and lead to recovery.

# 7.2.1 Mandate, strategic direction and roles

The SOSCP's mandate, strategic direction and roles are described below.

## Purpose

The SOSCP's purpose is to coordinate and facilitate securement, conservation management and stewardship activities on Crown and private land to maintain species diversity while finding a balance between conservation, human needs and the economy.

# Goals

The SOSCP's eight strategic goals are established in its strategic plan for 2005 - 2008. The Strategic Plan reiterates strategic components of the Program developed in earlier years, and complements the Program Prospectus by providing details on each of the strategic goals outlined in that document. Following are the strategic goals, with the associated strategic operational area identified in parentheses:

- 1. Provide scientific information for planning, priority setting, implementation of conservation actions, and evaluation of program and project effectiveness (Science).
- 2. Develop short, medium and long-term conservation plans, including detailed plans for riparian/wetland areas and other priority habitats, and land use and conservation plans for reserve lands in collaboration with First Nations (Planning).
- 3. Acquire and manage properties of high conservation value, including identifying and prioritizing (Securement).
- 4. Promote and enhance management of privately owned land of high value to priority habitats and regional biodiversity, focusing on stewardship activities (Stewardship).

- 5. Foster increased conservation awareness, involvement and commitment of residents and visitors to the South Okanagan-Similkameen areas (Outreach).
- 6. Influence local, regional and provincial government land use decisions and build their capacity to integrate conservation interests consistent with the attainment of the landscape goals of the SOSCP. For example, to ensure habitat conservation is achieved through local government processes, provide local and regional governments with useful scientific information and tools when they are developing land use plans and zoning bylaws, and conducting development review processes and monitoring (Land Use Planning).
- 7. Promote the understanding and use of aboriginal peoples' knowledge of and respect for the land, including supporting the recovery and use of good conservation practices on and off-reserve using Traditional Ecological Knowledge (Traditional Ecological Knowledge).
- 8. Improve the knowledge base for reporting on achievement of conservation goals in the South Okanagan-Similkameen area (Evaluation).

These goals are assigned to the Program's six implementation teams (see below). However, the planning function is undertaken by each team, the program manager and the Executive Committee.

The program also has a Business Plan for 2005 - 2006 which updates and redefines Program goals and performance indicators, outlines an evaluation strategy to measure progress, and addresses issues of importance for maintaining the health of the partnership.

## Development of habitat priorities and goals

In 2000, SOSCP partners set conservation targets for the area's four major habitat types: Wetland/Riparian, Grassland/Shrub-steppe, Rocky Terrain, and Coniferous Forests. These targets were established by looking at how much habitat remained on the landscape, and deciding together what was achievable over the next 5 - 10 years. Targets included the amount of land of each major habitat type to be conserved, the tenure, and described the form of habitat conservation to take place, e.g., stewardship, acquisition, management. However, as the Program has matured, it has been reconsidering aspects of this goal and target setting processes. For example, as explained in the Business Plan, the Program is:

- setting goals for all 61 habitat sub-types identified through Terrestrial Ecosystem Mapping, and then reassembling those targets back to the four main types;
- applying a more rigorous approach to setting goals for the 61 habitat sub-types to ensure enough retention to maintain all current ecological functions of the landscape;
- only targeting habitats of the highest priority for conservation; and
- including a fifth major habitat type: Lakes, Rivers and Streams (in response to a greater focus on recovery of species at risk).

The SOSCP's current priority habitats are Wetland/Riparian and Grassland/Shrub-steppe.

## Roles

The SOSCP's has a number of roles, including:

- promoting information and data sharing among partners;
- establishing common conservation priorities for acquisitions and stewardship projects;
- identifying and developing opportunities for effective cooperative action;
- setting common conservation targets for the region's key habitats;
- coordinating and leveraging financial and technical resources among partners;
- vetting projects for partners and for funding bodies;
- leveraging funding for partners by endorsing projects;
- building working relationships with a wide range of parties in the region;
- providing structure and processes for pursuing strategic and business planning as a whole, and action planning in implementation teams; and
- providing a mechanism for planning and policy liaison with local governments.

The SOSCP does not engage in advocacy, nor funding or implementing conservation projects.

## Accountability

The SOSCP's Business Plan proposes an evaluation strategy for overall program assessment, including such areas as conservation and team success, organizational health, and species and habitat diversity.

The Business Plan also proposes a method for evaluating the work of the implementation teams based on targeted outcomes.

# 7.2.2 Governance and organizational structure

The SOSCP's governance model and organizational structure are described in the following section.

## Governance

The SOSCP is not a legal entity, and has no formal Memorandum of Understanding (MOU). It uses the following documents for establishing an agreement among the partners:

### Statement of Cooperation

This document serves as a guide for what the partners' conservation beliefs are. It contains a general statement of shared principles, goals, challenges and process achievements to date. This format was used – rather than an MOU – since it better captures the intent of the Program, and avoids inferring commitments that partners may not be able to honour.

### What it Means to be a Partner

This brief indicates the kinds of agreements an organization must adopt to become a partner. For example, an organization must commit to SOSCP's vision and goals, harmonize their activities in pursuit of the Program's goals, and take direction on roles and responsibilities based on approved plans.

### Program Prospectus

The Prospectus provides a framework for collaboration on future initiatives. The Program's purpose and goals are laid out, as well as its key principles, strategic operational areas, and criteria for measuring the Program's achievements.

### Partners

The SOSCP has a broad partnership base. As of 2005, there are 35 partners. These include representatives from environmental groups, all levels of government, and industry. First Nations participation is critical, since one-third of the land in the south Okanagan belongs to First Nations.

The SOSCP's broad partnership base supports a Steering Committee, Executive Committee, program manager, and a number of implementation teams.

### **Steering Committee**

Representatives from each of the SOSCP's partners form its Steering Committee (SC). However, since a "steering committee" is usually considered a sub-group of the whole, the SOSCP is changing the Committee's name to "Partners Committee", to better reflect that it is in fact the committee of the whole.

The Committee has a Terms of Reference (TOR) for how it is to conduct its business. It meets four times per year, including an Annual General Meeting in the fall. The Committee collectively sets a strategic direction for the Program and reviews progress toward goals and objectives. Decisions are also made on the organization, implementation, and administration of the SOSCP. Meetings also provide a forum for sharing updates on subcommittee work, and may be accompanied with a symposium on current topics to stimulate thinking on the SOSCP's future direction.

While providing widespread representation, the SC was found to be inefficient for decision-making on operational issues or for providing the Program Manager with guidance on strategic issues. Thus, an Executive Committee was formed.

### **Executive Committee**

An Executive Committee was formed in the fall of 2004, linked with the creation and implementation of the Program's business plan. The Executive consists of a Chair (serving two years), Vice Chair, Past Chair, the Chairs of each of the six implementation teams (subcommittees), and two Steering/Partners Committee representatives elected at one of its meetings. Some senior-level representatives from member organizations are involved.

The Executive meets once every two months, and focuses on issues related to implementing the Strategic Plan and the Business Plan, development of operational policy, and the management of human and financial resources.

The Executive Committee has a TOR, which contain bylaws and policies that include operating principles, conflict of interest guidelines, communications policies, and procedures for managing meetings. The Executive Committee's goals are to:

- develop annual Action Plans to secure and manage key habitats;
- support and encourage sustainable land use practices and decisions;
- jointly consider long-term planning issues including recovery plans for species at risk;
- share scientific information and TEK; and
- continually monitor progress and address emerging challenges.

#### Program manager

The Program has had three managers, each with strong qualifications in conservation work in the region. The program manager is full time, and the Program's only staff person. Normally, he is under contract with one of the funding partners acting as banker.

The roles of the manager include:

- maintaining the partnership and continuing to build productive working relationships;
- developing the strategic direction for approval by the Executive Committee and Steering/Partners Committee;
- maintaining and increasing program supporting including looking for new partners;
- working to secure long-term funding and support for the Program and partners;
- vetting proposals and potential properties for securement;
- assisting partners to develop and improve their conservation programs;
- maintaining continuity among the partner representatives; and
- facilitating informed decision-making.

#### Implementation teams

Six implementation (subcommittee) teams were formed to carry out the Program's eight strategic goals. Brief descriptions of the teams follow, including their link to the SOSCP's strategic goals:

#### Science Team

Strategic Goal 1

This team's focus is on developing species and habitat conservation priorities and prescriptions based on the best science available. The team also designs evaluations of conservation efforts to encourage partners' use of adaptive management.

### Habitat Securement Team

### Strategic Goal 3.

There are 7 members of the Habitat Securement Team: TNT, TLC, NCC, Ducks Unlimited Canada (DUC), MOE, CWS, and the Okanagan Regional Wildlife Habitat Conservation Fund. The team's goal is to strategically identify, prioritize and acquire key lands and interests in land, and ensure their appropriate management. Team members have the capability to acquire and hold covenants on land.

The team uses a lead partner model when pursuing and implementing a securement project, i.e. usually one of the team members is selected to take a lead role, depending on their interest and capacity (time and funds available). Priorities are set by key habitats, with opportunities playing a big role, i.e., when private land is put on the market. Opportunities can be brought to the team by members, individual owners, or other SOSCP partners, such as the stewardship team, which is out working with land owners. Typically, the team supports one - four acquisitions a year.

### Stewardship Team

### Strategic Goal 4.

The team's goal is to enhance and promote land stewardship by landowners, land managers, and interested community groups. The team coordinates habitat stewardship initiatives, develops and promotes a variety of stewardship incentives, and promotes existing and new stewardship tools in cooperation with the Outreach Team. The team also conducts an inventory of stewardship activities and runs a gap analysis, identifying areas needing conservation attention, but not yet included in existing stewardship programs. With the Habitat Securement Team, they have created a common and coordinated strategy of landowner contact and protocol for landowner inquiries.

#### Outreach Team

#### Strategic Goal 5.

The team's goal is to strengthen the conservation ethic in residents and visitors alike to protect the biodiversity of the region. Outreach activities focus on awareness raising, education, fostering participation in SOSCP, and community capacity building.

#### Ecologically Sustainable Land Use Team

### Strategic Goal 6.

This team provides conservation information, tools and other support to those who advise on and make decisions about land use and resource management. The team has been focusing on providing the Regional District and local governments with sound technical advice during planning and referral processes in order to promote effective conservation on private lands.

#### Traditional Ecological Knowledge (TEK) Team

### Strategic Goal 7.

The TEK Team promotes the collection, understanding and use of the people's traditional and spiritual connection with the land. This information will be used to assist in the

conservation of reserve lands and to ensure that traditional knowledge and practices are available to all Partners in the development and implementation of the SOSCP strategies.

# 7.2.3 Operational costs and funding

The annual operating costs for the Program are similar to those for the EKCP, i.e. in the range of \$90 - 105,000 per year. The MOE provides free office space, computers, and communications. Other partners also make contributions in the order of \$20,000 - 25,000. Administration costs have generally run about 8% of total costs.

With respect to funding, for the first three years of the Program (2000 - 2002), the Habitat Stewardship Partnership (HSP) provided approximately \$100,000 each year. This money met program coordination costs, including the program manager's position. In 2003, HSP funding was reduced to approximately \$75,000, and partner contributions increased to around \$25,000. Subsequently, the HSP funding criteria changed to focus on specific projects for the recovery of species at risk, away from biodiversity conservation. By 2004, HSP did not provide any funding to the SOSCP. It was replaced by funding from the Canadian Wildlife Service (approximately \$50,000) with other SOSCP partners providing the rest. To cope with this funding challenge, the SOSCP also reduced its budget. Following this, The Real Estate Foundation contributed \$107,000 over three years to assist with the funding shortfall.

Each year since 2003, the program manager spends time securing financial and in-kind contributions from partners, and writing funding applications. Presently, the SOSCP has a funding base of approximately \$35,000 from the Real Estate Foundation.

In-kind donations from partners often take the form of office space, computer support, accounting responsibilities, and GIS-mapping.

To diversify its funding base, the Program established a Conservation Legacy Fund with the Community Foundation of the South Okanagan. This endowment started with \$10,000 in 2002/3, coming from partners' voluntary contributions. Since that time, additional dollars have been contributed by a grant from TNT, \$25,000 from Fortis BC (a private utility company) for habitat compensation due to one of their developments (see Fee-based compensation, section 5.9.1), and the rest by supporting the Meadowlark annual fundraising auction. The endowment presently has \$37,000.

# 7.2.4 Challenges

Key challenges for the SOSCP follow.

## Funding

Securing multi-year, stable funding is a major challenge for the SOSCP. Its options are limited by its non-legal status, and mandate to avoid competition with its partners. Furthermore, according to the former program manager, it will require 5 - 10 years to see significant, on-the-ground results from the SOSCP's coordination and facilitation work, which is often too long for many funders.

## **Role clarity**

Because the establishment of the Program was funded by species at risk programming, some groups joined the partnership believing a key role of the SOSCP was to fund projects. When they found out this was not the case, they left, creating some difficulties with continuity and getting the Program operational. This occurred with smaller conservation groups.

Another challenge is that some SOSCP partners want the Program to expand its roles beyond coordinating/leveraging resources and facilitating communications. There is a tendency to want the Program to become an entity in itself, delivering conservation on the ground.

### **Program focus**

The SOSCP had been dependant on funding from species at risk programs. Over the years, as the funding criteria became more restrictive, the SOSCP has had to concentrate on supporting partners' efforts in this area. Broader biodiversity conservation initiatives, e.g. protection of non-listed species or environmentally sensitive areas, have not received funding and so, little attention by the Program. As a result, the Program has been limited in generating new project and funding opportunities beyond species at risk recovery.

### **First Nations involvement**

First Nations' participation in the SOSCP has not been strong. This is due to capacity issues, and the perception among some Nations that the federal government is trying to use the partnership to avoid direct, government-to-government consultations on land and resource use. Some Nations not participating in the SOSCP also view it as limiting their ability to access funds, since their projects do not have the partnership's endorsement.

## Ensuring effective and representational decision-making

The Program has become more operationally efficient with the formation of the Executive Committee. However, it will need to ensure the transfer of some responsibilities from the Steering/Partners Committee to the Executive will not diminish the representation of partners' interests in decision-making.

## Linkage with local governments

The Program has had difficulties in building trust with local governments and the Regional District. Original perceptions about the environment and the SOSCP have had to change. When the SOSCP first formed, the South Okanagan was a relatively poor area (e.g., low income) in BC: the emphasis was on growth, not the environment. Local governments were not interested in the work of the SOSCP. However, over the last five years, the situation has changed significantly. Environmental issues now receive much more attention, and the SOSCP has earned a reputation as a credible group.

## **Partnership relations**

The SOSCP is a large partnership representing a diversity of organizations with often differing perspectives. The Program continually works on improving communication and

relationships among its partners to maintain a productive and collaborative working environment.

# 7.2.5 Keys to success

There are a number of aspects of the SOSCP which have contributed to its successes:

- A long-term commitment from the partner organizations and their individual representatives to a cooperative approach to conservation;
- Staying within its mandate, i.e. leveraging funding, not providing funding; developing projects, not implementing them; providing technical information, not engaging in advocacy;
- Adding an Executive Committee to become more efficient;
- Designing and using tools to coordinate and support securement and stewardship initiatives, e.g., Summary Reports of property, mutual land owner contact protocols and shared database;
- Building cooperation amongst partners and the implementation teams. For example, the Science Team identified key habitats based on ecologic criteria, which has been compared with stewardship plans and operations. Gaps indicate future programming needs, while overlap provides additional incentive and justification for planned or existing efforts;
- Broadening its scope to include conservation in the aquatic environment through the Okanagan River Restoration Initiative (see case study 9.5);
- Establishing and maintaining a large partnership base that provides resources and the capacity to maintain momentum and activities;
- Building productive working relationships amongst partners, and with parties in the region;
- Providing events and opportunities for information exchange and building trust;
- Establishing a reputable ranking and endorsement process for projects seeking funding;
- Building good working relationships with local government and Regional District staff and elected officials (the Program now assists by providing key technical information);
- Beginning to diversify its funding by establishing the Conservation Legacy Fund;
- Maintaining the transparency of its operations; and
- Establishing the sharing of responsibilities among partners for the running of the Program, e.g., providing financial and administrative systems, office space.

## 7.2.6 Case study successes

The SOSCP has had a number of successful projects. Following are two examples.

### **Industrial development**

In a recent case, a group of industrial developers was going to acquire land that had been identified as habitat for species at risk. The group approached the SOSCP manager searching for ways to mitigate the loss of this habitat. The securement team took up the case, and a project lead was selected. The ensuing negotiation between the lead organization, the Program Manager and the developers led to a 3:1 money for habitat loss agreement: for every acre of habitat loss due to the development, funding would be provided for the purchase of three acres of similar habitat.

### Leveraging funds for securement of significant wetland

An owner of an ecologically significant wetland wanted to sell all the lots constituting his property and would not accept a partial sale. The conservation organization in contact with the owner did not have sufficient funds to carry this out. The securement team took up the case and selected a project lead. The project lead teamed up with the first organization to pool funds and develop a proposal for the outstanding amount. The provincial and federal representatives on the securement team championed this proposal with their respective agencies, and the outstanding funds were secured. The SOSCP's securement team provided an effective mechanism to identify what was needed to take advantage of the opportunity, and efficiently coordinate a successful, multi-agency response.

# 7.2.7 Web resource

http://www.soscp.org/

# 7.3 Wetlands Stewardship Partnership

The Wetlands Stewardship Partnership (WSP) was formed in the fall of 2002 to improve the conservation of wetland ecosystems in British Columbia. Specific concerns focused on gaps in the enforcement of existing regulations, and on the inadequacy of conservation policies and practices in the face of increasing threats from urbanization and resource use. Three entities spearheaded the formation of the WSP: Ducks Unlimited Canada (DUC), Environment Canada's Canadian Wildlife Service (CWS) and the BC Ministry of Environment (MOE).

Based on recent analyses, the WSP partners identified three regions in the province facing the most significant wetland loss or threat: the Okanagan, the East Coast of Vancouver Island, and the Greater Vancouver Regional District (GVRD). These areas were prioritized for WSP action. Organizations operating in these areas with a region or province-wide conservation mandate were invited to join the WSP.

The WSP is guided by its *Wetland Action Plan*, a multi-year strategic plan for conserving and managing wetlands. Emphasis was placed on creating objectives and actions that would remain flexible enough to permit changes in response to arising opportunities and operational constraints. Implementation of the plan began in 2005.

# 7.3.1 Mandate, strategic direction and roles

The WSP's mandate, strategic direction and roles are briefly described below.

# Purpose

The WSP's purpose is to maintain, restore and protect wetland ecosystems, including estuaries, in B. C. It is dedicated to working collaboratively with government and non-governmental organizations to implement the *Wetland Action Plan*.

# Goals

There are six goals laid out in the Wetland Action Plan:

- 1. Promote and participate in strategic planning processes in British Columbia that encourage the conservation of wetlands.
- 2. Work effectively with all level of government to promote the effective use of existing tools and promote stronger policies and legislation in support of wetland conservation.
- 3. Develop and promote the use of a wetland information base to assist in the implementation of plans, planning processes, legislation and policy.
- 4. Improve the development and delivery of public education and stewardship programs that encourage the conservation of wetlands.
- 5. Support the securement of priority wetlands through fee simple acquisition, conservation covenants and Crown Land reservations.
- 6. Support the restoration and enhancement of existing wetlands and, where appropriate, the creation of artificial wetlands.

# Activity areas

The Partnership has four key activity areas which flow from its goals:

- Improving policy and legal frameworks;
- Providing practical information and guidelines, e.g., Best Management Practices;
- Conducting a provincial Conservation Risk Assessment (mapping and inventory); and
- Improving public education and stewardship outreach.

# Roles

The Partnerships key roles are:

- to coordinate partners' resources and efforts;
- to promote collaboration with all levels of government, environmental nongovernmental organizations and industry sectors;

- to stimulate discussion on options to conserve wetlands;
- to determine appropriate actions to be taken; and
- to implement activities that will have positive, enduring results.

The WSP does not engage in funding wetland conservation projects.

### Accountability

The WSP works to a five-year strategic plan (part of the *Wetland Action Plan*), with annual work plans being developed each year to ensure the completion of actions required in the short, medium (2-to-3-year) and long (4-to-5-year) terms.

The long-term goal and ultimate measure of the WSP's success will be improved conditions and status of BC's wetlands. In the interim, progress on completion of yearly action plans act as the main accountability mechanism.

## 7.3.2 Governance and organizational structure

A description of the WSP governance and organization structure follows. Regarding its structure, WSP has adopted a simple form to carry out its work: a Committee, lead agency coordination (providing a project manager), and subcommittees on an "as needed" basis.

### Governance

The WSP is not a legal entity. Partners commit to the vision, mission, goal and objectives established in the *Wetland Action Plan*.

### Partners

The WSP is presently composed of the following organizations/sectors:

- CWS
- MOE
- DUC
- BC Hydro
- Federal Department of Fisheries and Oceans
- First Nations
- BC's Ministry of Agriculture and Lands
- BC's Ministry of Forests and Range
- Federation of BC Naturalists
- Nature Conservancy of Canada
- Union of BC Municipalities

## Committee

All 11 members of the WSP form the organization's Committee, and the representative from DUC presently sits as the Committee's Chair.

The Committee's decisions are consensus-based, and it meets 3 - 4 times per year, supplemented by frequent communication among member agencies.

## Lead agency coordination: project manager

The partnership uses a lead agency coordination model, where one of the Committee's member organizations provides the staff and resources necessary to carry out the duties of the project manager, i.e. coordination and administrative support. Currently, the MOE is the lead coordinating agency, providing a staff member who devotes time to the Partnership's project management. To fulfill his roles, the project manager is required to be on the leading edge of wetland conservation management and science. His roles include:

- proposing initiatives, projects and annual work plans in the context of adaptive management;
- serving as the principal contact for WSP; and
- carry out administrative duties, e.g., setting meetings and agendas, minutes, developing and managing contracts, keeping members informed on relevant issues, conducts research.

# **Education Subcommittee**

Education is one of the Partnership's strategic areas. An education sub-committee was formed in the fall of 2003 to assess whether existing education programs were addressing the WSP's other priority areas: policy, practical guidelines, and Risk Assessment (mapping and inventory). Once its report was produced, the subcommittee was disbanded.

# **Policy Subcommittee**

A policy subcommittee formed in 2004 to develop an effective method for assessing the benefits and value of wetlands based on biological, hydrological and socio-economic criteria. The evaluation was to apply at provincial, regional and local scales. Findings from this process could be incorporated into recommendations to decision makers on the most appropriate use for the existing wetland, based on a full range of functions and values.

The subcommittee decided to base their work on an existing document, the *Wetland Evaluation Guide*, a national publication written and produced in 1991 by CWS and Wildlife Habitat Canada. The subcommittee set out to revise this Guide by creating an easier-to-use version, with more objectivity and added background information specific to BC. An initial draft has been field tested, and more extensive field tests will be conducted before finalizing a BC-revised *Wetland Evaluation Guide*.

Once a process and plan were established for revising the Guide, the subcommittee was disbanded. The WSP's project manager currently oversees continued development and implementation of the Guide.
## 7.3.3 Operational costs and funding

The total operating costs for the WSP are approximately \$175,000 per year. This figure includes funding for contracts for product development and for the project manager.

The WSP receives project-specific funding and in-kind support from its partners. The Project Manager is paid in part by a DUC contribution to the MOE, and by the Ministry itself. The MOE also provides office space and travel costs.

# 7.3.4 Challenges

Key challenges for the WSP follow.

## Implementing the Wetland Action Plan

The greatest challenge facing the WSP is implementing its Action Plan and integrating the actions into other initiatives. An orderly framework is required for the Province. Stakeholders and communities need to understand the overall picture, how initiatives are linked, and what organizational and individual roles will be. Such clarity is especially important for community outreach purposes. The WSP is hoping the proposed Provincial Water Strategy may provide a potential framework, and are looking at the Water for Life Strategy in Alberta as a potential model.

## Wetland Mapping and Inventory

In some parts of the Province – especially the north – the mapping and inventory of wetlands is severely lacking. Classification and inventory work will likely require a multi-year project. A similar exercise undertaken by the Grassland Conservation Council for BC's grasslands – which constitute less than one percent of the provincial land base – required approximately three years to finish. Given that wetlands comprise about six percent of the provincial land base, a comprehensive wetland inventory is expected to require at least three years or more. The setting of initial baselines is particularly important for measuring the success of the WSP's efforts.

# 7.3.5 Keys to success

The WSP has realized success in its initial operations due to a number of key factors:

- The WSP membership has been kept to an administratively manageable size;
- The WSP has achieved a broader representation of interests by involving organizations in issue sub-committees;
- The partnership has moved from a government-driven process to a stakeholderdriven and consensus building process;
- The WSP has used issue subcommittees to effectively coordinate and focus efforts. For example, the education subcommittee identified gaps in existing educational programs addressing WSP's priority areas, and it recommended methods to fill those gaps using existing programs and organizations; and

• The partnership has made innovative and effective use of projects. For example, the WSP is drafting a Best Management Practices guidebook for conserving BC's wetlands, and is aiming for a March 2006 publication. In addition, the WSP has been developing model bylaws for municipalities and regional districts for protecting green infrastructure (see following case study).

# 7.3.6 Case Study: the Green Infrastructure Model Bylaw

An emerging concept in municipal planning is to plan development based on the "green infrastructure" of natural areas, rather than on an arbitrary grid of service infrastructure, such as roads. Green infrastructure includes natural and built features such as wetlands, grasslands, streams, trees, ditches, creeks, stormwater management ponds, watersheds, and green roofs. Green infrastructures provide specific ecological services such as water supply, flood control, water treatment, stormwater conveyance and erosion control.

### Purpose and creation of the Model Bylaw

The Green Infrastructure Model Bylaw is designed to provide local planners and lawmakers throughout the province with the practical tools for conserving green infrastructure through the protection of natural wetland and grassland habitat.

The model bylaw was drafted by the Environmental Law Clinic, Faculty of Law at the University of Victoria in collaboration with the WSP and the Grasslands Conservation Council of BC. The initiative was achieved with the support and contribution of the Real Estate Foundation of BC, Environment Canada and the MOE.

## Implementing the Model Bylaw

Local governments are already employing various protection tools, but the model bylaw package has selected the most effective provisions and included them in one comprehensive package. The provisions have been designed for implementation: local governments would either adopt the comprehensive package or choose applicable portions when considering revisions of a particular type of bylaw.

The following implementation priorities have been suggested:

- identify and safeguard green infrastructure;
- contain urban areas;
- create compact complete communities;
- create incentives for sustainable development; and
- infiltrate and control the volume of stormwater/rainwater.

In addition, the protection of wetlands and grasslands needs to form part of comprehensive drinking water legislation. Communities that have protected wetlands will be well positioned to comply.

#### Presentation to the Union of BC Municipalities

The model bylaw was presented to the Union of BC Municipalities at its annual convention, September, 30, 2005. The bylaw was included in a package of information that included:

- the integrated set of bylaw provisions that maintain Green Infrastructure and protect sensitive areas;
- model provisions for Regional Growth Strategies, Official Community Plans, Development Permit Areas, Zoning, Tax Exemptions, Environmental Assessment, Stormwater Management and other regulatory tools;
- two booklets explaining the importance of protecting community wetlands and grasslands; and
- a PowerPoint presentation on the municipal services provided by wetlands and grasslands, e.g., water supply, water treatment, stormwater infrastructure and flood control services.

Suggestions from municipalities for improving the bylaw model have been integrated, and a new version is being circulated amongst stakeholders for review.

# 7.3.7 Web resources

Wetlands information

http://wlapwww.gov.bc.ca/wld/wetlands.html

Backgrounder on the Model Green Infrastructure Bylaw:

http://www.ducks.ca/province/bc/news/2005/050930b.html

City of Calgary's Wetland Conservation Plan and Policy:

http://content.calgary.ca/CCA/City+Hall/Business+Units/Parks/Parks+Planning/Calgarys +Wetland+Conservation+Plan.htm

# 8 ADDITIONAL CONSERVATION PARTNERSHIPS

There are a plethora of conservation partnerships in BC and beyond whose roles and activities incorporate securing private land for biodiversity conservation. The following presents brief descriptions of a range of these partnerships.

# 8.1 Grasslands Conservation Council of BC

BC's grasslands provide critical habitat for more than 30% of the province's threatened or endangered species on less than 1% of the provincial land base. 39% of grasslands are privately held, 9% are in Indian Reserves, and 47% are under crown grazing tenure. The majority of this area, covering 95% of BC's grasslands, is working rangelands. BC's grasslands are facing increasing pressures from urban expansion, subdivision and development, abusive recreation practices, invasive weeds, forest encroachment and inappropriate land management practices. In response to this threat, the Grasslands Conservation Council of British Columbia (GCC) was formed. The GCC is an alliance of organizations and individuals with a common commitment to the conservation and stewardship of BC's grasslands.

The GCC is the only organization of its kind in BC. It has broad support from a wide range of organizations and individuals, including the ranching community, environmental organizations, government agencies and First Nations.

# 8.1.1 Mandate, strategic direction and roles

The following describes the GCC's mandate, strategic direction and roles.

# Purpose

The GCC mission is to:

- foster greater understanding and appreciation for the ecological, social, economic and cultural importance of the grasslands throughout BC;
- promote stewardship and sustainable management practices that will ensure the long-term health of BC's grasslands; and
- promote the conservation of representative grassland ecosystems, species at risk and their habitats.

# Goals

The following are the GCC's three program areas and associated goals:

• Conservation of Grassland Ecosystems: To encourage the establishment of representative and critical grassland areas that are designated for protection or special management due to their ecological importance for the long-term maintenance of grassland ecosystem health. These areas may include corridors, modified grazing benchmarks, ungrazed benchmarks, protected areas and parks.

- Grassland Stewardship and Sustainable Ranching:
  - to maintain and restore grasslands
  - □ to improve society's understanding and appreciation of the importance and sensitivity of grassland ecosystems.
  - to keep working ranches working by encouraging stewardship activities, information exchange and partnerships and supporting ranching culture and practices that are ecologically, economically and socially sustainable.
- Education and Outreach: To increase awareness, understanding and appreciation of the ecological, social, economic and cultural importance of British Columbia's grasslands among a wide range of individuals and organizations, and to ensure that this knowledge is applied through behaviour change on the ground.

The GCC has developed a comprehensive five-year strategic plan to guide and measure the delivery of these three programs, as well as its organizational development from 2003 to 2008.

## Roles

GCC's key roles include:

- representing grasslands interests;
- facilitating collaborative partnerships;
- providing education and outreach; and
- conducting and sharing important research.

## 8.1.2 Governance and organizational structure

The GCC's governance and operating structure are outlined below.

## Governance

The Council was established as a society in August 1999, and as a Registered Charity in December 2001.

## Members

The GCC aims to be an interest-based, rather than sectoral-based organization. Membership is diverse, including all those affected by, or involved in the achievement of the GCC mission. Members represent themselves as individuals, drawn from government, range management specialists, ranchers, agrologists, grasslands ecologists, First Nations, environmental groups, recreationalists and other interested individuals.

## **Board of Directors**

The GCC has a 21 member, volunteer Board of Directors. Directors come from a variety of backgrounds drawn from the GCC's diverse membership, e.g., grassland ecologists, range management specialists, government, ranchers, and environmental groups. In October, 2005, Chief Art Anthony from Neskonlith First Nations became the first

aboriginal member to join the Board. The Board provides the GCC with credibility and continuity for the governance and management of the GCC's affairs, as well as ensuring the effective implementation of the GCC mission.

## **Executive Committee**

10 Board of Directors constitute the GCC's Executive Committee. It oversees the day-today operation of the GCC, providing leadership and direction to the Executive Director, and monitoring progress of GCC activities.

# GCC staff

The GCC has an Executive Director who oversees four staff: a financial officer, Stewardship Program Coordinator, GIS Coordinator, and a Development Officer. The Council has a volunteer base which assists in the implementation of programs.

The GCC uses campaign or project subcommittees to address board issues and policy issues, and to develop and implement GCC projects. Regional committees provide a voice on grassland issues and conservation needs from each region.

The GCC has established guiding principles to steer its development and the delivery of its programs. These reflect its inclusive, collaborative approach to member participation, decision-making and public representation.

# 8.1.3 Current operations

Presently, the GCC is carrying out a number of key operations in collaboration with its partners and members. They are briefly described according to program area.

## Conservation of Grassland Ecosystems

This program is aimed at identifying priority grasslands around the province for conservation and stewardship. The program will also develop conservation and stewardship recommendations. This work is based on an earlier four-year process to map British Columbia's grasslands. The mapping was completed in April, 2004 and presented in the report, "Grasslands of British Columbia".

## Grassland Stewardship and Sustainable Ranching

Projects under this program include:

- An initiative which helped to develop a strategy for the registration and licensing of all off-road vehicles in BC. The strategy includes management issues related to trails, conservation and stewardship, enforcement, safety, and education. The GCC participated as a member of the Off-Road Coalition of BC. This process is unique in Canada and the Pacific Northwest. A strategic document presenting options has been approved by the Coalition, and sent to the Provincial Government;
- "Establishing Strategic Directions Mitigating the Fragmentation and Development of BC's Grasslands". This project addresses the fragmentation and development of grasslands. Activities are focused on examining how the legislative framework, conservation issues, socio-economic aspects, and land use

planning and decision-making processes interrelate. A recent workshop led to the prioritization of objectives for the strategic directions document to focus implementation efforts;

- Efforts to develop best management practices for recreational activities on grasslands; and
- An initiative to develop a standardized, qualitative monitoring procedure with tools for ranchers to assess range conditions and grassland ecological trends. A methodology has been developed for specific grassland zones and distribution is soon to occur.

#### Education and Outreach

Initiatives under this program include:

- maintaining the GCC website, which provides important information on both the organization and on grasslands and grassland conservation in general;
- publishing the BC Grasslands Magazine twice a year; and
- providing various forms of educational support and public information.

#### Partners

In developing and implementing its programs, the GCC works with a wide variety of conservation organizations, professional associations, ranchers, government agencies, land trusts and academic institutions. Some of these partners include:

- Agriculture and Agrifood Canada
- BC Cattlemen's Association
- Canadian Parks & Wilderness Society BC
- Ducks Unlimited Canada
- Environment Canada
- Gerard Guichon Ranch Ltd.
- Fraser Basin Council
- South Okanagan-Similkameen Conservation Program
- East Kootenay Conservation Program
- Union of BC Municipalities
- BC Ministry of Environment
- Society for Range Management
- Forest Research and Extension Partnership
- The Land Conservancy of BC
- University College of the Cariboo
- Rocky Mountain Trench Natural Resources Society

## 8.1.4 Operational costs and funding

The GCC's expenditures for 2004 were approximately \$481,000. Recipient areas with approximate dollar amounts were:

- Organizational Development and Capacity Building: \$30,000
- Education and Outreach: \$66,000
- Grasslands Stewardship and Sustainable Ranching: \$145,000
- Conservation of Grasslands Ecosystems: \$176,000
- Programs Planning and Coordination: \$66,000

Since inauguration in August 1999, the GCC has had very limited core funding. This continues to be a challenge, associated with capacity limitations. The GCC relies on annual project funding to deliver its programs. One of the Council's key goals is to establish a stable, diversified funding base through such measures as developing key partnerships, increasing the number of individual and corporate members, increasing private and corporate donations, and tasking the Development Officer to co-ordinate and implement fundraising strategies and activities.

The GCC's revenue for 2004 was approximately \$468,000. Key revenue sources with approximate dollar amounts were:

- Grants (Foundations, government agencies, associations): \$440,000
- Donations (individual and corporate): \$4,800
- Donations-in-kind: \$5,000
- Memberships: \$8,200
- Event registration and sales: \$7,000

## 8.1.5 Web resources

www.bcgrasslands.org

The Options Report for registering, licensing and managing off-road vehicles:

http://www.orvcoalitionbc.org/4436.html

# 8.2 Invasive Plant Council of BC

The Invasive Plant Council (IPC) of British Columbia was formed in 2004 as a result of a key recommendation contained in the *Invasive Plant Strategy for British Columbia*. The strategy was produced in 2003 through the leadership of the Fraser Basin Council.

## 8.2.1 Mandate, strategic direction and roles

The following describes the IPC's mandate, strategic direction and roles.

#### Purpose

The IPC's purpose is to build cooperation and coordination to protect the province's environment and minimize negative social and economic impacts caused by the introduction, establishment and spread of invasive alien plants.

#### Goal

The IPC's main goal is to build cooperation and coordination for the management of invasive plants in the province. Its key strategies are established in the *Invasive Plant Strategy* (see website for details).

### Roles

The IPC intends to achieve its goals through a number of roles, including:

- recommending changes in legislation and Best Management Practices to improve invasive plant management;
- helping to define roles and reporting mechanisms for a range of groups, including the public;
- conducting a gap analysis for local delivery agents and lands not addressed, using a proactive action plan for key issues in sensitive areas and developing emergency preparedness plans, as required;
- developing a process, in cooperation with local government and regional weed committees, to determine a minimum acceptable level of invasive plant management in British Columbia that will meet the *Invasive Plant Strategy*'s goal;
- producing a list of invasive plant species requiring management and identify key invasive plant species from different Ministry programs;
- coordinating education and information programs, e.g., to strengthen public awareness, provide a clearing house for publications, enable sharing of technical information;
- promoting the establishment and maintenance of a centralized, coordinated and current invasive plant inventory with mapping capability and an online reporting system for invasive plant management; and

• developing early detection and risk assessment strategies for new invasive plant species in British Columbia, including producing a "provincial invaders list" for key species in areas of concern and identifying levels of action needed.

The IPC does not fund or implement programs or the use of products to control invasive species. The Council does not engage in advocacy: it seeks to change/strengthen relevant policies and planning processes by providing research and technical expertise to decision makers.

# 8.2.2 Governance and organizational structure

The Council's governance and structure are described below.

## Governance

The Invasive Plant Council (the Council) is a Registered Society. The Council uses a Memorandum of Support to gain the endorsement of members for the Invasive Plant Strategy's goal. Signatories agree to participate in the Council's activities and help build a cooperative, province-wide invasive plant management program.

## Members

Presently, there are over 100 members, with an emphasis on individual, not sectoral representation. The Council is aiming for knowledge-based participation, rather than political interest-based. Representatives are from a wide range of perspectives, including all orders of government, land- and water-based user groups, resource-based businesses and industries, utilities, non-government organizations and interested individuals.

# **Board of Directors**

There is a 17-member Board of Directors, appointed by Council members from their respective categories (i.e., the provincial government council members appoint their two directors). Province-wide geographic membership is sought from the 12 categories. Five independent seats within the industry category are proposed to adequately cover the forestry, mining, agriculture, utilities and transportation sectors to reflect their degree of activity in operational control treatments. As well, representation by local government and regional weed committees is sought to improve planning and implementation of member projects at the local level.

Following are the present Board Directors:

- Federal government (2 directors)
- First Nations (2)
- Provincial government (2)
- Local government (2)
- Forest industry
- Mining
- Agriculture
- Utilities

- Transportation
- Regional weed committees (2)
- Conservation and wildlife
- Recreation and tourism

#### Subcommittees

To carry out these and other roles detailed in the strategy, the Council's Board of Directors has established five subcommittees: communications, research, technical/inventory, funding and regulatory. Members at large with relevant knowledge and expertise participate on the subcommittees. Three subcommittees have been active:

#### Communications Committee

This committee has established a website, initiated the newsletter series and begun an assessment of the existing informational materials and resources on invasive plant management.

### Funding Committee

The Committee has produced a funding strategy for invasive plant management and the Council's operation.

## Regulation Committee

This Committee has begun summarizing the existing legislation relating to invasive plant management to identify legislative gaps and barriers.

# 8.2.3 Funding

The Council has formed a multi-party Trust Fund to provide stable, long-term, independent funding. It is used to finance coordination, research priorities, outreach, and other related Council functions and activities. It does not draw from funds for operational invasive plant management. It is managed and administered at arms-length from government, and not subject to the provincial government's annual budgeting process.

Contributions to the trust fund are voluntary. Contributors could include the federal and provincial governments, industry, non-government organizations and research groups. It is hoped this voluntary approach to funding will help to create 'buy in' to the strategy and support for the Council's role.

# 8.2.4 Web resource

http://www.invasiveplantcouncilbc.ca/index.htm

# 8.3 Fraser Basin Council

The Fraser Basin Council (FBC) was established in 1997 as a non-governmental, not-forprofit, charitable, non-partisan organization. Its mandate is to educate on the need for economic, environmental and social sustainability of the entire Fraser Basin, and provide opportunities to discover mutually acceptable solutions to sustainability challenges.

The Council's predecessor, the Fraser Basin Management Board, was created in 1992 by the federal, provincial and local governments to address sustainability issues and develop a strategic plan for the sustainability of the Fraser Basin. The Board created a draft Basin Plan, and, based on the feedback received, they developed the Charter for Sustainability; the strategic plan for the Fraser Basin guiding the actions of the Fraser Basin Council.

### 8.3.1 Mandate, strategic direction and roles

The following describes the FBC's mandate, strategic direction and roles.

#### Purpose

The FBC's primary purpose is to implement the Charter for Sustainability. The Charter establishes the FBC's vision, principles, and goals. It is a good faith agreement by residents and organizations of the Fraser Basin to work towards the social, economic, and environmental sustainability of the Basin. It is not a legally binding document nor does it interfere with any existing laws, agreements, treaties or policies.

#### Goals

The FBC's Charter for Sustainability outlines four strategic directions to guide the Council in achieving its vision. Each direction features goals and suggestions on how those goals can be achieved. The four directions are:

- Understanding Sustainability;
- Caring for Ecosystems;
- Strengthening Communities; and
- Improving Decision Making which guide the goals and suggested actions outlined in the document.

#### Roles

The key role of the FBC is to facilitate and bring together interests throughout the Fraser Basin to jointly solve sustainability challenges. The Charter's watershed management approach directs the FBC to consider the needs of the entire Basin rather than those of any single jurisdiction, interest, organization or individual. As such, the FBC advocates for the sustainability of the entire Basin, and not for one position or solution.

Associated FBC roles include a catalyst for solving inter-jurisdictional issues, a conflict resolution agent, and a sustainability educator.

## 8.3.2 Governance and organizational structure

A brief description of the FBC's governance and organizational structure follows.

#### Governance

The FBC is a Registered Society with charitable status. It focuses on being a public/private sector partnership.

The FBC's Charter for Sustainability outlines twelve important principles on how the FBC and its partners, directors and staff will conduct business. Some of these are: mutual dependence, accountability, equity, adaptive approaches, coordinated and cooperative efforts, open and informed decision making, managing uncertainty, aboriginal rights and title.

### **Board of Directors**

The FBC uses a model of collaborative governance delivered through a 36 member Board of Directors:

- 22 Directors from the four orders of government:
  - □ 3 from the federal government;
  - **a** 3 from the provincial government;
  - □ 1 from each of the eight regional districts in the Basin; and
  - □ 1 from each of the Basin's eight First Nations language groups.
- 14 Directors from the non-governmental sector:
  - 2 from each of the Basin's five geographic regions Upper Fraser, Cariboo-Chilcotin, Thompson, Fraser Valley and Greater Vancouver-Squamish-Pemberton;
  - 1 Basin-wide representative for each of the three dimensions of sustainability (economic, social and environmental); and
  - □ an impartial Chair.

Directors representing the four orders of government are appointed to the FBC by their governments. Non-governmental Directors are invited by the FBC to participate and are appointed for a term of three years (with possible re-appointment for one additional term).

The Board oversees the work of the FBC and sets strategic priorities. Its meetings are open to the public and occur three times a year in February, June, and October.

The diversity of the Board of Directors has been a key factor in the success of the Council. Past and current Directors include environmental advocates, mayors and regional district directors, senior federal and provincial government officials, First Nations leaders, senior executives from the forest, mining and transportation industries, entrepreneurs, farmers, ranchers, fishers, doctors, lawyers and scientists.

### Staff

Support for the Board is provided by an Executive Director and 15 staff members with expertise in group facilitation, life sciences, planning, communications and business. Regional presence and voice is provided through Regional Committees and offices in each of the Basin's five sub-regions.

#### Subcommittees

The Board undertakes all of its business through both standing and task committees and makes all of its decisions by consensus. When consensus cannot be reached, the FBC's constitution has a clause that provides for mediation and, if mediation fails, a vote in situations where consensus cannot be reached on a given issue. Since the formation of the FBC, there has never been a need to invoke this clause.

# 8.3.3 Operations

The FBC is involved in both regional and basin-wide projects that impact the social, economic and environmental sustainability of the Fraser Basin. Presently, the FBC is involved in resolving some 50 issues. The FBC initiates and takes the lead on some projects, and works in partnership with other organizations on others. The role of the FBC in these initiatives is to facilitate dialogue, act as a jurisdictional and conflict resolution agent, seek comprehensive solutions, and move objectives to action.

The FBC's project implementation partnerships are with a large and diverse group of governmental and non-governmental organizations, Crown corporations, First Nations, and community groups. These partnerships range from co-hosting workshops and co-sponsoring publications to working jointly toward the development of integrated management plans.

FBC operations have led to many accomplishments, detailed in the newsletters, Annual Reports and other reports released by the Council (see below for website).

# 8.3.4 Funding

The FBC's funding initially came from federal, provincial, and local governments. Currently, the FBC is working to become financially self-sustaining, aiming to have equal private and public support.

The FBC has recently acquired charitable status, allowing it to fund-raise, and has set out specific strategies and actions, including the establishment of a "Sustainability Fund" (an endowment fund).

# 8.3.5 Web resource

http://www.fraserbasin.bc.ca/about\_us/faq.html

# 8.4 Land Trust Alliance of BC

The Land Trust Alliance of British Columbia (LTABC) was founded in 1997 by member land trusts. These groups wanted an umbrella organization that would help form an effective, structured network with which to build a strong land trust community.

## 8.4.1 Mandate and roles

A brief description of the LTABC's mandate and roles are presented below.

#### Purpose

The LTABC provides education, training, research and services, which support land trusts, conservancies and other agencies, organizations and individuals implementing stewardship and conservation work. Its key activity areas are education, research, member services and organizational development.

#### Roles

The LTABC functions in some ways as an umbrella professional association for land trusts and conservancies. It provides a number of services to its members, including:

- education and training on tools, techniques and best practices for conservation;
- Ecological Gifts Appraisal Assistance Program: through support from the Canadian Wildlife Service, Ecological Gifts Program, grants up to \$3000 are made for appraisal and other related legal costs for registering an Eco-gift (as covenant or in fee simple);
- codes of practice;
- research on conservation issues of concern to members;
- research on organizational tools and techniques to build capacity and fundraising ability;
- networking opportunities;
- publications to raise the profile of land trusts and conservancies amongst the public;
- information to decision-makers on tax support needed to assist land trusts and landowners; and
- assistance and support for the organization, storage and retrieval of conservation information and documents.

## 8.4.2 Governance and organizational structure

The LTABC's governance and organizational structure are sketched out below.

#### Governance

The LTABC is a charitable non-profit society.

## Members

Currently, the LTABC has 82 members.

Members are required to pay annual fees, ranging from \$50 for an individual to \$1,000 for a provincial/federal land trust organization (honorary members pay no fee). Voting organizations are those which are, in the opinion of the Council, constituted as Land Trust/Conservancy organizations and who conform to the Standards of Practice as defined by the Land Trust Alliance of BC.

#### **Council and Executive Director**

The LTABC has a 7-member Council (i.e. the society's Board), and an Executive Director which provide strategic guidance

## 8.4.3 Operational costs and funding

The LTABC's annual operating budget is approximately \$150,000. Revenue from 2004 was over \$150,000, generated from a variety of sources including grants (mainly from foundations), fees for service (a Canadian Wildlife Service-funded national survey on monitoring covenants/easements/servitudes), training fees, memberships, sales and donations.

# 8.4.4 Web resource

http://www.landtrustalliance.bc.ca/

# 8.5 Pacific Estuary Conservation Program

The Pacific Estuary Conservation Program (PECP) is a partnership of government and conservation organizations created to coordinate their efforts in protecting environmentally valuable estuaries along the BC coast. It was formed in 1987, when Ducks Unlimited Canada (DUC) and The Nature Trust (TNT) of British Columbia agreed to engage in a three-year partnership dedicated to this purpose.

Since its establishment, the PECP has been recognized as one of the most successful coastal habitat conservation programs in Canada. To date, the program has acquired over 2,000 hectares of private land on or around wetlands (e.g., shorelines, inter-tidal habitats), and has supported the designation of about 56,000 hectares of Crown lands for wildlife habitat. The program has also won an international RAMSAR award recognizing its significant achievements. The RAMSAR Convention is an intergovernmental treaty which serves as an official vehicle for achieving wetland conservation and sustainable land use on a global scale.

## 8.5.1 Mandate and roles

Following is a brief description of the PECP's mandate and roles.

#### Purpose

The goal of the PECP is to conserve and ensure the long-term sustainable use of estuary habitat through land acquisition, creation of nature reserves and stewardship of privately owned lands.

#### Roles

The PECP seeks to magnify the effectiveness of conservation efforts by enabling partners to:

- focus and coordinate their energies on top-priority projects:
- pool their financial and technical resources;
- set common priorities and goals; and
- avoid duplication of effort or competition between groups over significant pieces of conservation property.

## 8.5.2 Governance and organizational structure

The Program's governance and organizational structure are described below.

#### Governance

The PECP operates under formal terms of reference that were first developed as a Memorandum of Understanding between the original partners. These terms set out the frequency and purpose of meetings, and a formal system of rules and accountabilities.

#### Partners

As the PECP proved itself successful over time, it has attracted more partners. Presently, there are eight member organizations:

- DUC
- TNT
- Environment Canada (Canadian Wildlife Service)
- Fisheries and Oceans Canada
- BC Ministry of Environment
- Habitat Conservation Trust Fund
- Nature Conservancy of Canada
- The Land Conservancy of Canada

#### **Steering Committee**

The PECP's Steering Committee is composed of representatives from each partner organization. The Committee approves properties to be acquired and site-specific management plans, and promotes land stewardship.

The Committee generally meets three times a year to identify priority properties.

#### Lead agency coordination

The PECP began with a coordinator to help establish the Program. However, it later switched to a lead agency coordination model where member organizations share the secretariat role to support the Steering Committee.

#### Lead agency project management

Under the PECP, partners agree to pool funds, expertise, and staff resources. Initially, partner organizations contributed money to create a common pool of funds. Operations were then dependent on the identification of projects all partners could agree to, and subsequent approval of spending from the common pool of funds. This process gave every partner a certain percentage of each project. However, it also created operational challenges when unanimous support could not be obtained due to differences in partners' mandates and particular priorities.

In response to these problems, the PECP adopted a lead agency project management model. With this approach, a lead agency develops a securement and management plan based on its negotiations with the parties involved, and presents the results to the PECP Steering Committee in a Summary Report. The report also includes a list of all potential benefits to be realized. The partners review the report, using a rating system based on biological resources and level of development threat. Organizational mandates are also brought into the equation. Each partner approves, abstains or - in the case of strong opposition - vetoes the report/project. Abstentions have been used when political sensitivities or considerations concerning purchases were involved.

If a partner approves the project, they then have the option of committing their dollars. Only those contributing funds have their name recognized individually in subsequent communications (e.g., newsletter publications). Once the project receives approval, the lead agency is then responsible for implementation and reporting back to the partnership.

The PECP has found the lead agency model to be efficient and productive for a number of reasons, including:

- each partner can find their own appropriate balance between autonomy and collective action;
- the use of the partners' expertise and connections are used directly in developing projects; and
- it is cost effective compared with hiring a coordinator.

# 8.5.3 Operations

The Program is presently carrying out six to eight land acquisitions per year.

#### Pacific Coast Joint Venture

The PECP is also the main delivery program for land securement and enhancement for the Pacific Coast Joint Venture in BC – a Canada-U.S. joint venture working to secure, restore or enhance priority coastal wetlands, major rivers and adjacent uplands. The geographic focus of PECP-Pacific Coast Joint Venture projects are the Fraser River delta and the east coast of Vancouver Island, two areas with the majority of the province's population and where most of the uplands and freshwater wetlands are privately owned.

### **Future focus**

The PECP is presently discussing expanding its geographic scope to include all lands in the province, and changing its name to reflect this.

# 8.5.4 Operational costs and funding

Initially, each PECP partner contributed funds to a common pool. Approximately \$100,000 per year was used to pay for a coordinator and office expenses. Other expenditures were used for project-specific acquisitions, often leveraged with other funding sources.

Since switching to the lead agency model, expenses are limited to paying for costs associated with land securement negotiations, e.g., property assessments, legal services.

Pacific Coast Joint Venture funding allows PECP to access U.S. dollars, dependent on matching requirements both in the United States and in Canada.

# 8.5.5 Web resources

http://www.ducks.ca/province/bc/partners/pecp/index.html

http://www.nrtee-trnee.ca/eng/programs/Current\_Programs/Nature/Natural-Heritage/Documents/PECP-Case-Study\_E.pdf

# 8.6 South Coast Conservation Program

The South Coast Conservation Program (SCCP) is a new initiative of the BC Ministry of Environment (MOE), created to deliver the Ministry's Lower Mainland species at risk programs.

## 8.6.1 Mandate and strategic direction

The SCCP's mandate and strategic direction are sketched out below.

#### Purpose

The primary goal of the SCCP is to coordinate and facilitate the implementation of recovery programs that will maintain and restore species at risk and their habitats.

#### **Key focus**

The need for this program arose due to demands from local governments for a coordinated approach to species recovery. Since comprehensive regulations governing species at risk recovery projects do not exist, local governments want a coordinated approach to provide greater certainty.

In response, the SCCP will focus on merging single species strategies and approaches into a multi-species action plan. For example, plans are to group species into habitat guilds/niches, e.g., riparian species. It is hoped this will simplify the situation for land users and regulators. This approach will also be especially useful in cases where there are conflicting management prescriptions for different listed species requiring trade-offs.

## Objectives

Presently, the SCCP has four objectives:

- To use direct legal and regulatory mechanisms where appropriate;
- To increase program effectiveness and enhance partnerships;
- To address information gaps through research or information review; and,
- To increase public and professional awareness to promote effective stewardship.

## 8.6.2 Governance and organizational structure

The SCCP's governance and emerging organizational structure are described below.

#### Governance

The SCCP is not a legal entity. The MOE is presently developing a charter for the Program, which will detail how the SCCP hopes to deliver species at risk conservation.

#### Partners

The three main partners are the MOE, The Land Conservancy of BC and the Abbotsford Land Trust Society.

#### **Emerging structure**

The SCCP's operating structure is presently being formed. One idea being considered is to create a core committee of 5 - 10 members to direct SCCP's operations, composed of all levels of government and scientists. Industry may be part of this group, represented by, for example, the Ministry of Forests and a large umbrella organization such as the Urban Development Institute. Other stakeholder groups would be involved through subcommittees, formed to develop the SCCP's objectives, implement activities. This structure would be similar to the fresh water, non-sport fish recovery team based in Victoria.

# 8.6.3 Operations

To date, a stewardship subcommittee has been formed and delivered various workshops to introduce the SCCP.

The MOE has been developing the Program's charter, and contributing to provincial guidelines for species at risk recovery programs.

## 8.6.4 Web resource

http://www.sccp.ca/

# 8.7 The BC Conservation Lands Forum and the BC Trust for Public Lands

During 2004 - 2005, the BC Conservation Lands Forum was established in response to the need to improve the securement and management of land and water for biodiversity conservation on a provincial scale. Four conservation organizations spearheaded the creation of the Forum: Ducks Unlimited Canada (DUC), The Land Conservancy (TLC) of BC, Nature Conservancy of Canada (NCC), and The Nature Trust (TNT) of BC. This new partnership of conservation organizations and government agencies has been developing its governance and operations throughout 2005 and into 2006.

A major impetus for the creation of the Lands Forum was the formation of the BC Trust for Public Lands by the provincial government. On October 6, 2004, the Province made a one-time contribution of \$8 million to establish the Trust, which will operate for the next five years. Disbursements from the Trust are meant to support improved conservation planning, and more efficient acquisition and management of private land with high conservation values. These disbursements require matching dollars from the conservation sector: non-government partners will, with cash and in-kind contributions, match the Province's investment at a rate of 3:1 over the five year life of the trust agreement.

One of the reasons for the establishment of the BC Conservation Lands Forum is to advise the trustee for the Trust - Scotia Private Client Group, a division of Scotiabank – on the use of trust funds.

## 8.7.1 Mandate and roles

A brief description of the Conservation Lands Forum's mandate and roles follows.

### Purpose

The goal of the BC Conservation Lands Forum is to increase the efficiency and effectiveness of public and private efforts to secure and manage land and water for biodiversity conservation throughout the province.

## Roles

The Forum has a number of roles:

- To coordinate and facilitate efforts aimed at securing and managing lands and waters for biodiversity conservation;
- To pool and leverage member organizations' resources;
- To realize synergies;
- To advise on the use of the funds from the BC Trust for Public Lands in support of its mandate;
- To ensure its operations complement, support, and strengthen existing and future regional partnerships
- To coordinate priority setting; and
- To identify shared interests and opportunities, and arrange partnerships to accomplish shared goals.

# 8.7.2 Governance and organizational structure

The Conservation Lands Forum governance and structure are briefly described below.

## Governance

The Conservation Lands Forum was created through a formal agreement between DUC, TNT, TLC, NCC, BC's Ministry of the Environment (MOE), BC's Habitat Compensation Trust Fund, Pacific Salmon Foundation, and the Union of BC Municipalities.

Other non-government groups and local governments with conservation interests can join the Forum.

## Lead agency coordination

There is no over-all coordinator for the Forum: secretariat work is shared among the member organizations. Only the Conservation Planning Tools Committee has hired a coordinator to help in coordinating and developing a biodiversity plan for BC.

## **Management Board**

The Management Board has senior representatives from each of the Forum partners, and elects a Chair. Each Board member has one vote, and all voting members are required to

constitute a quorum. Each member holds veto power: a resolution is passed based on "yes" votes or abstaining.

The Board ensures that the Forum's objectives are met and the long-term investments in the protection of biodiversity values are effective. The Board overseas the Forum's six working committees.

### **Working Committees**

There are four working committees related to the Forum's land securement work. Each of the Forum partners can appoint a representative to each committee.

#### Land Securement Committee

This Committee facilitates securement by sharing information, establishing common priority listings of land securement opportunities, and arranges or facilitates the arrangement of partnerships to acquire targeted sites. The Committee evaluates and prioritizes projects according to a set of common criteria developed by the Conservation Planning Tools Committee.

Key tasks and duties of the Committee include coordination of financial, technical, and reporting and communication aspects of land securement.

There is no coordinator for the committee since members are presently only carrying out 6-8 negotiations throughout BC and the lead agencies – supported by other parties and contractors – are delivering the program.

#### Land Management Committee

The Committee facilitates and supports the management of secured conservation lands by identifying and implementing sustainable solutions for funding, and carrying out management requirements arising from statutory or contractual obligations, public safety concerns and ecological needs. The Committee will also prioritize properties for management, develop management standards, coordinate management activities and determine use of revenue from leased and licensed conservation lands. The Committee may also identify potential economic opportunities consistent with management plan objectives.

#### Innovative Policy Committee

This Committee recommends legal, regulatory and policy reform to improve incentives and streamline processes to facilitate transfer, lease or donation of land to conservation organizations for public purposes. The Committee may also pursue other policy initiatives to protect natural resources and biodiversity, e.g. biodiversity credits, mitigation banking.

#### Stewardship, Education and Outreach Committee

This Committee supports the development of new tools and initiatives to fill gaps in existing outreach and stewardship initiatives. Regional and local delivery mechanisms will be promoted to broaden support for biodiversity conservation on private land.

#### **Independent Working Committees**

There are two independent working committees, both administered by the Board:

#### Conservation Planning Tools Committee

This Committee is developing and implementing a biodiversity strategy for the entire province. This body acts as a science committee by providing the best scientific information in decisions involving resource trade offs, and during the identification of priority biodiversity conservation areas.

The Committee has provided the Land Securement Committee with criteria for project selection.

This Committee is the only entity within the Forum to hire a coordinator. This person is helping to coordinate and develop a biodiversity plan for BC.

#### Data Sharing Committee

This Committee is tasked with creating a formal framework for data exchange important in province-wide biodiversity conservation work.

## 8.7.3 Operations

In 2005, the Land Securement Committee approved the spending of \$1.2 million dollars. This leveraged \$7 million from other organizations and agencies in land acquisition partnerships. For example, the Trust helped fund an acquisition in the Greater Vernon area, North Okanagan. In April, 2005, \$375,900 was committed to purchasing 50 hectares of undeveloped wetland with significant waterfowl/migratory bird habitat on the south shore of Swan Lake. The Trust's funds were combined with five partners:

- Greater Vernon Services Commission
- Canadian Wildlife Service
- DUC
- North Okanagan Naturalists
- Bishop Wild Bird Foundation

Currently, three of the Forum's committees are active: the Land Securement Committee, Land Management Committee, and the Conservation Planning Tools Committee. It is anticipated that the remaining committees will become operational in 2006.

## 8.7.4 Web resources

http://www2.news.gov.bc.ca/nrm\_news\_releases/2004SRM0036-000815.htm

Swan Lake purchase:

http://www.ducks.ca/province/bc/news/2005/050418.html

# 8.8 Toronto and Region Conservation Authority

In response to concerns about drought and deforestation in the late 1920's and 1930's, the Province of Ontario passed The Conservation Authorities (CA) Act in 1946. This legislation embodies three fundamental principles:

- Municipalities become involved in resource management projects through local initiatives;
- Cost-sharing between the Province and the member municipalities; and
- The use of watershed units as the logical basis on which to develop rational and integrated resource management programs.

The CA Act permits municipalities in a watershed (or watersheds) to form a Conservation Authority to conserve and manage natural resources. The Act established conservation authorities as a body corporate, and as such, they are not-for-profit. The Authorities were set up as public-private partnerships, and their research and professional staff focus on every facet of water conservation and natural habitat protection and management. Presently, Ontario has 38 Conservation Authorities covering almost all of Southern Ontario and the more heavily populated sections of Northern Ontario.

# 8.8.1 The Toronto and Region Conservation Authority

In 1957, the Metropolitan Toronto and Region Conservation Authority was formed. In 1997, it changed its name to the Toronto and Region Conservation Authority (TRCA), reflecting the amalgamation of the former cities and borough within Metropolitan Toronto.

The Authority's area of jurisdiction includes 3,467 square kilometres: 2,506 on land and 961 water-based. This area is comprised of nine watersheds, and there are six participating or member municipalities.

In 2004, the population within TRCA's jurisdiction was approximately 4.3 million, close to one-third the population of Ontario.

# 8.8.2 Mandate, strategic direction and roles

A brief description of the TRCA's mandate, strategic direction and roles follows.

# Purpose

The legislative mandate of the Conservation Authority, as set out in the CA Act is to establish and undertake programs designed to further the conservation, restoration, development and management of natural resources - other than gas, oil, coal and minerals - for the nine watersheds within its area of jurisdiction.

The mission created by the TRCA states that it works with a diversity of governmental and non-governmental partners to ensure that human settlements are built upon a natural foundation of healthy rivers and shorelines, greenspace and biodiversity, and sustainable communities.

### Goal

The TRCA fulfills its mandate by advocating and implementing programs that:

- improve the quality of lands and waters within its jurisdiction;
- provide for the acquisition of conservation and environmentally hazardous lands;
- contribute to public safety from flooding and erosion; and
- enhance the quality of life in its watershed by using its lands for regional recreation, heritage preservation and conservation education.

# Objectives

Following are the TRCA's general objectives under four strategic areas of operations:

## Healthy Rivers and Shorelines

• To restore the integrity and health of the regions rivers and waters.

## Regional Biodiversity

• To protect and restore a regional system of natural areas that provide habitat for plants and animal species, improve air quality and provide opportunities for the enjoyment of nature.

## Sustainable Communities

• To facilitate broad community understanding, dialogue and action toward integrated approaches to sustainable living and city building that improves the quality of life for residents, businesses and nature.

## Business Excellence

• To pursue continuous improvement in the development and delivery of all programs through creative partnerships, diverse funding sources and careful auditing of outcomes and effectiveness.

# Roles

The TRCA's key roles are:

- to provide protection, enhancement, and regeneration of natural resources on a watershed basis;
- to make available sound environmental information and advice to promote good land management practices;
- to support community action on environmental projects;
- to ensure outdoor recreation opportunities on 13,000 hectares of open space, forest lands, and Conservation Areas; and
- to provide conservation education and heritage programs through outreach.

## 8.8.3 Governance and organizational structure

Following is a brief outline of the TRCA's governance and organizational structure.

#### Governance

In addition to being a not-for-profit corporation, the TRCA became a charitable organization in 1976.

As with all conservation authorities, the TRCA does not report directly to any provincial ministry. However, land acquisition, sales and some land use issues require approval from the Minister of Natural Resources.

The public may attend meetings of any of the Authority's directors, committees or advisory boards, and may submit briefing papers regarding proposals.

#### **Board of Directors**

The activities of the TRCA are governed by a Board of Directors. The CA Act establishes the composition of boards, ensuring adequate representation from their member municipalities.

Presently, there are 28 TRCA Directors, drawn from all levels of government across its jurisdiction.

Other than issues set out in the CA Act or other legislation, such as Ontario's fill regulation, the TRCA's Board decisions are governed by policies they have set out for themselves.

#### **Executive Committee**

To carry out delegated responsibilities, the Authority elects an Executive Committee. The Executive has a Chair, Vice Chair and eight members drawn from the Directors. It undertakes day-to-day management decisions, including the administration of key regulations.

#### **Advisory Boards**

The TRCA appoints three Advisory Boards to implement delegated responsibilities:

- The Watershed Management Advisory Board;
- The Sustainable Communities Advisory Board; and
- The Business Excellence Advisory Board.

The three Advisory Boards make recommendations on those matters defined in their Terms of Reference (see website below). The Advisory Boards consider matters assigned to them as provided for in the Rules of Conduct for the Authority, and as described in their Terms of Reference.

# 8.8.4 Operations

Since its formation, the TRCA has developed and delivered programs for the protection of its watersheds and management of renewable natural resources. Working on a watershed basis, rather than municipal boundaries, has been a key strength.

During the past year, Ontario has tasked conservation authorities with the majority of the work being done in source protection planning.

## 8.8.5 Operating costs and funding

For 2004, TRCA's total expenditures were more than \$44 million. Areas of expenditures and approximate amounts were (in millions):

- conservation and education programming: \$12.8
- conservation land management, development and acquisition: \$11.1
- watershed management and health monitoring: \$7
- watershed stewardship: \$6.4
- corporate services: \$4.3
- environmental advisory services: \$2.8.

Revenue for TRCA came from a variety of sources. Many reflect the corporate nature of the Authority (e.g., asset management, collection of development fees). Much of the money from other government bodies is for program or project-specific work. Following are the largest sources of revenue (in millions):

- municipal levies: \$20.4
- user fees, sales and admissions generated by the TRCA: \$10.6
- Toronto Waterfront Revitalization Corporation: \$3.5
- facility and property rentals: \$2.14
- The Conservation Foundation of Greater Toronto: \$1.6
- Provincial government grants: \$1.59
- Federal government grants: \$1.37
- donations and fundraising: \$1.12
- TRCA contract services: \$0.95
- transfer payments from the Provincial Ministry of Natural Resources: \$0.85.

## 8.8.6 Key challenge

One of the key challenges facing the TRCA is budgetary pressures. For example, member municipalities are finding it more difficult to provide the required investment. In response, the TRCA and Ontario's other conservation authorities have been approaching the Provincial Government, requesting a re-investment in conservation authorities close to levels achieved in 1997. Delivering source protection programs through the authorities is a move in this direction.

## 8.8.7 Web resources

General information on the TRCA

http://www.trca.on.ca/corporate\_info/

TORs of the three advisory committees

www.trca.on.ca/corporate\_info/board\_committees/default.asp?load=terms\_reference

# 8.9 Conservation Authorities Moraine Coalition

The Oak Ridges Moraine (ORM) is a ridge/height of land that runs from the Niagara Escarpment across the northern edge of the Greater Toronto Area stretching 160 km and crossing 32 municipalities. The Moraine is the headwater for 35 river systems that flow south through the Toronto region and into Lake Ontario, and north into Georgian Bay and a number of lakes and other water bodies. As such, it supplies drinking water to more than 250,000 people, and supports related agricultural, industrial, commercial and recreational uses. It also constitutes an unbroken wildlife corridor stretching 160 kilometres in lenght with an average width of 13 kilometres. This unique concentration of environmental, geological and hydrological features makes the ecosystem of the Oak Ridges Moraine vital to southern Ontario.

However, the Moraine is a key focus for the rapid urban development occurring in the Greater Toronto Area. More than 90 percent of the land is privately owned, with a population of more than 100,000. This situation is posing considerable threats to significant features and ecological functions of the moraine, and to the creation of healthy, sustainable communities within the region.

#### **Establishing the Coalition**

In 1999, nine Conservation Authorities across the ORM united as the Conservation Authorities Moraine Coalition (CAMC) to advocate for and protect the ORM along its entire length. The Coalition was formed in response to the need for a comprehensive policy, planning and management approach geared to sustaining the health of the entire Moraine. The boundaries of the nine Authorities collectively cover the entire Moraine, and together they own 10,000 hectares - or 5% - of the Moraine. This gives the CAMC responsibility for the largest and most strategically located tracts of land protecting the headwaters of the 35 river systems originating in the Moraine.

#### Legislative change

Pressure from the CAMC and the public led to an extensive consultation process by the Ontario Government on the future of the Moraine and the complex land use issues involved. The outcome was a package of strategies, including legislation, and regulations. *The Oak Ridges Moraine Conservation Act* was passed on December 13, 2001, with the purpose to protect 100 percent of natural and water resource features on the Moraine,

preserve agricultural land, and focus development in approved settlement areas. A clause in the legislation would prevent sensitive core and linkage areas from being diminished.

# Policy and planning impact

In April 2002, the Ontario Government released the Oak Ridges Moraine Conservation Plan as a regulation under the *Act*. The Plan outlines a strategy and associated policy structure for the long-term preservation of the Moraine by providing land use and resource management direction for the 190,000 hectares of land and water within the Moraine. Municipal planning decisions must conform with the Plan, which takes precedence over municipal official plans, and sets minimum standards. The Plan also required all affected municipalities to bring their respective local land use policies and development standards into conformity with the Plan by October 2003. The Plan's objectives are linked to the Province's *Smart Growth* initiative.

# 8.9.1 Mandate, strategic direction and roles

Following is a brief description of the Coalition's mandate, strategic direction and roles.

# Purpose

The CAMC's purpose is to:

- advance the science and understanding of the Oak Ridges Moraine; and
- work toward government, agency and community support for the conservation and protection of the form, function and linkages of the Oak Ridges Moraine.

# Goals

The CAMC has established the following goals:

- To define and protect the natural heritage and water resource systems of the Oak Ridges Moraine through watershed studies and monitoring;
- To support an accessible trail system;
- To ensure effective stewardship services on the Oak Ridges Moraine; and
- To build partnerships to provide education, information and land securement opportunities on the Oak Ridges Moraine.

# Roles

The CAMC plays a number of roles:

- To coordinate and leverage the resources of the nine Authorities to improve ORM conservation efforts;
- To influence provincial policy and help shape municipal planning decisions through the Authorities' traditional advisory responsibilities to the municipalities, and by bringing to bear the full force of its collective holdings and scientific expertise;
- To develop a long-term Oak Ridges Moraine Land Conservation Strategy geared to protecting the natural features and functions in the Moraine, including the

headwaters. It will target natural features for acquisition and conservation such as significant wetlands, fish habitat, forests and woodlands, valley lands, habitat of endangered and threatened species, wildlife habitat, important natural landscape features and the land areas that link these features right across the Moraine;

- To facilitate the sharing of information and knowledge among the partners to develop consistent technical standards and organize technology transfer. This will give the Coalition a good base from which to monitor the overall health of the Moraine and the rivers that originate in it. The sharing of information will also be used to target significant land features for acquisition;
- To provide technical data to feed into Provincial policy making and municipal planning, for example, from detailed watershed studies on fish, vegetation, water quality, and flows and levels;
- To support the individual Conservation Authorities in advising their municipalities and regions on how to act consistently and in concert with their neighbouring municipalities and regions to protect natural features they share;
- To support the start up of various ORM-related projects led by member Conservation Authorities, i.e. seed money for "on-the-ground" projects; and
- To advocate, along with its partners and others, for an Oak Ridges Moraine Trail.

# 8.9.2 Governance and organizational structure

Following is a brief description of the Coalition's governance and operating structure.

## Governance

The CAMC is best described as an association of Conservation Authorities concerned about the protection and management of the Oak Ridges Moraine. It is comprised of the general manager/chief administrative officer of each of the nine member Conservation Authorities.

The Coalition operates on a consensus basis, with a provision for voting if necessary. To date, this has rarely been used.

The CAMC meets approximately eight times per year. In addition to CAMC members, several Conservation Authority staff members attend all meetings.

## Staff: lead agency coordination model

The CAMC has one full time, and two part time staff. The CAMC coordinator is one of the part time staff. He is a senior planner and a full time employee of one of the member Conservation Authorities. The Coordinator devotes approximately 20% of his time to Coalition business, providing coordination, secretariat, partnership building, and policy/planning functions.

The CAMC's full time staff member is a senior hydrogeologist. He is the project manager for a large, multi-year, inter-regional groundwater study organized and overseen by the CAMC.

The CAMC's other part time staff member is an ecologist. This person is a full time employee of a member Authority, and provides approximately 10% of time to the Coalition coordinating ecological planning and management.

### Subcommittees and meetings

The Senior Planner convenes subcommittees on an ad hoc basis as directed by the CAMC to deal with emerging issues.

The Ecologist convenes regular quarterly meetings with his counterparts from member Conservation Authorities to deal with such issues as natural heritage systems criteria & modeling, and invasive species strategies.

# 8.9.3 Operations

An overview of the Coalition's operations follows.

## Land securement

With the assistance of more than 30 organizations, plus private landowners, the CAMC:

- permanently protects more than 140 hectares of habitat, by acquiring two large parcels of land, in the Central Lake Ontario watershed; and
- permanently protects an additional 75 hectares of land through four conservation easements and eight land acquisitions by Toronto and Region Conservation Authority.

The CAMC is also assisting the Ontario Government to fulfill its commitment to secure and protect almost 440 hectares of environmentally sensitive land on the Moraine. This is being accomplished through land donations and exchanges for provincially owned developable lands off the Moraine, in particular the agricultural land held by the provincial government in the Pickering area.

## Stewardship

As a founding member of the Oak Ridges Moraine Stewardship Partners Alliance, CAMC is involved with many related initiatives, such as generating a Long Term Stewardship Strategy for the ORM, and developing a program/strategy to contact landowners and monitor projects consistently across the moraine.

With the assistance of conservation organizations and private landowners, the CAMC has restored over 56 hectares of wildlife habitat through the completion of 35 projects. The CAMC also provides annual funding to a member conservation organization to coordinate stewardship projects across the ORM.

## Watershed planning, policy and outreach activities.

The Oak Ridges Moraine Conservation Plan requires that municipalities with lands extending onto the Moraine conduct watershed plans, and then incorporate the results into their official plans. As a result, the CAMC and its members have been actively involved in:

- managing the watershed plan process and undertaking required technical studies on behalf of the municipal partners;
- producing a study to translate directives (recommendations, objectives, targets, etc.) commonly found in watershed planning documents into policies and standards that can be incorporated into Regional and Local Official Plans and Zoning By-laws. Thus, the study describes model municipal planning policies. The policies deal with ground and surface water, terrestrial and aquatic natural heritage, landforms, and infrastructure, and were designed with the Greater Toronto Area (GTA) in mind (see below for website: "Watershed Planning: from Recommendations to Municipal Policies: a *Guidance Document*");
- facilitating the field-testing of the *Guidance Document* by the CAMC's partners; and
- defending the ORM Conservation Plan policies at Ontario Municipal Board hearings.

In 2004, CAMC members reviewed and commented on ORM-related provincial policy initiatives and technical documents. The CAMC also participated in planning and promotional activities led by some of its partners.

## Groundwater and hydrogeological activities

The CAMC has been involved in a large, five-year inter-regional groundwater program with a number of municipalities that focuses on data management, geological understanding, numerical groundwater modeling, policy development and information sharing with professional associations. The CAMC/YPDT (York, Peel, Durham, Toronto) Groundwater Study has been a major success, receiving international recognition.

## Research

The Coalition participates in a number of projects to advance the science and understanding of the ORM and ensure its protection in the future. For example, the CAMC provides funding for a research officer in a partner conservation organization to conduct work for the CAMC.

# Natural Heritage Activities

The CAMC has been advancing partnerships and natural heritage science by:

- developing principles for Aquatic Natural Heritage Conservation and Restoration in the ORM;
- working with the Ministry of Natural Resources and Conservation Authorities to produce detailed regional mapping for the entire ORM at the community series level of Ecological Land Classification;
- serving on a committee to generate a Restoration Strategy for the ORM. This will help the ORM Foundation prioritize funding for stewardship projects;
- presenting workshops to municipal planners on the methodologies used to define natural heritage features in official plans; and

• participating in the development of an Invasive Species Strategy for the ORM and in the review of the draft Ontario Biodiversity Strategy.

#### Communications

CAMC communications is handled by staff from a member Conservation Authority (generally from the Conservation Authority who is CAMC chair for that year). This arrangement was first approved in 2005, and is now ongoing.

#### **Project partners**

Following is a partial list of the Coalition's project implementation or funding partners:

- ORM Municipalities
- Nature Conservancy of Canada
- Ontario Nature (a provincial-wide environmental NGO)
- ORM Foundation (funds organizations to deliver land securement, stewardship, research and outreach projects, and supports cooperation and coordination of parties involved in ORM conservation. Website listed below)
- The Province of Ontario
- Academic Institutions
- Various Private Sector Agencies, Foundations and Corporations
- Ontario Geological Survey
- Geological Survey of Canada
- ORM Stewardship Councils
- ORM Land Trust
- Landowners
- Oak Ridges Trail Association.

# 8.9.4 Operating costs and funding

The CAMC's annual budget is \$40,000, an amount that has stayed constant since its inception in 2000. This amount covers 20% of the Senior Planner's salary, for the 20% of his time he dedicates to CAMC business.

Annual funding comes from member Conservation Authorities. Their Boards - comprised of elected municipal politicians – use a funding formula proportional to the size and resources of each Conservation Authority, as well as how much of their watershed is actually on the ORM:

- The largest member (also the largest in Ontario), pays 25%, i.e. \$10,000 annually;
- Four Conservation Authorities contribute at 12.5% (\$5,000); and
- Four Authorities contribute at 6.25% (\$2,500).

The annual budget is allocated as follows:

- Approximately \$20,000 covers the Senior Planner's salary, benefits and CAMC-related expenses for mileage and meetings;
- \$5,000 supports the ecologist in his coordination of ORM ecological issues for the CAMC;
- \$2,000 supports CAMC communications efforts by a communications staffer at another Conservation Authority;
- \$6,000 annual support to the research officer of the ORM Foundation, in her role of coordinating stewardship projects across the ORM as well for specific research work for the CAMC; and
- approximately \$8,000 \$10,000 to use as seed money for contributions to various ORM-related, "on-the-ground" projects led by individual Conservation Authorities.

The CAMC coordinator's home Conservation Authority provides office space, phone, accounting, etc. Administrative functions, e.g., mailouts, workshop/seminar organization are carried out in collaboration with the other member Conservation Authorities.

The CAMC's Senior Hydrogeologist is the project manager for, and funded by the CAMC/YPDT Groundwater Study, which has funding of approximately \$400,000 per year for 5 years. The project is equally funded by each of the municipal partners on an annual basis through the municipal capital budget process.

# 8.9.5 Areas of successes

The CAMC has realized a number of successes. Three key examples follow.

## Influencing policy and law

Within the first 2 years of the CAMC, a provincial Act to protect the ORM was passed by the legislature (*The Oak Ridges Moraine Conservation Act*). This was far more and far earlier than what the Coalition initially expected to achieve. Originally, member Conservation Authorities were hoping for recognition of the ORM in the Provincial Policy Statement. Instead, the Coalition achieved a legislated Act to protect the ORM and a comprehensive, effective, official plan to do so (the Oak Ridges Moraine Conservation Plan: a regulation under the *Act*).

# The CAMC/YPDT Groundwater Study

The CAMC/YPDT Groundwater Study has been a major success for the CAMC and has received praise from international geoscientists. It significantly helped to put groundwater issues on the municipal government agenda, assisted by the Walkerton crisis. The Study has resulted in amendments to official plans for Wellhead Protection Areas policies and mapping, increased requirements for the study and protection of groundwater during the land development process and contributed to the recently released draft Clean Water Act, 2005, which is the implementing legislation for Source Water Protection planning.

#### **Coordinated stewardship projects**

Despite initial coordination difficulties, the CAMC partners have launched three major stewardship and restoration projects. These projects are developing a coordinated and consistent landowner contact and outreach program to foster stewardship on the ORM. Numerous CAMC meetings led to an agreed-upon strategy, criteria and partnership requirements for funding of the projects. Inter-agency coordination was required to access funds created by the Province in conjunction with the legislation and the Oak Ridges Moraine Conservation Plan.

## 8.9.6 Key challenges

One of the CAMC's early challenges was to react to the new legislation and the Oak Ridges Moraine Conservation Plan by switching focus from advocating for protection to actual implementation of the legislation and the Plan through the planning process. This was done in part by the Senior Planner/Coordinator convening a subcommittee to analyze the Plan and determine the most effective roles for member Conservation Authorities. Once roles were defined and agreed upon, initial training was conducted. Follow-up training is currently being planned.

Another challenge was developing the working relationship among member Conservation Authorities. "Silos" had to be broken down, particularly on stewardship and restoration projects. As noted above, the CAMC achieved the coordination and co-operation required, and three major project area partnerships are now underway.

#### 8.9.7 Web resources

The CAMC

http://www.trca.on.ca/corporate\_info/conservation\_authorities/

Watershed Planning: from Recommendations to Municipal Policies: a *Guidance Document* 

http://www.trca.on.ca/corporate\_info/conservation\_authorities/WS\_Plan\_to\_Municipal\_P\_olicy-Final-July7-2005.pdf

#### Oak Ridges Moraine Foundation

http://www.ormf.com/fipv.html
# 9 INNOVATIVE CONSERVATION PROJECTS

The following section provides case studies of projects that have included the innovative use of tools and/or partnerships to conserve biodiversity on private land.

The section begins with nine case studies presented in detail, highlighting each project's innovative aspects. The section concludes with overviews of eight additional projects, and references to two case study compendiums.

# 9.1 Silverdale Creek Wetlands, Mission, BC

The Silverdale Creek Wetlands is 46 hectares (112 acres) of rare estuary wetland habitat situated in the Fraser Valley community of Mission. The wetlands provide important salmon rearing habitat, and are considered to be the most environmentally sensitive property within Mission's municipality. The area also provides habitat for waterfowl and wildlife species.

# 9.1.1 Acquiring Silverdale Wetlands

The Silverdale Creek Wetlands project was initiated in 2001 by the Stave Valley Salmoniod Enhancement Society (SVSES). The group had operated a salmon hatchery upstream for over 20 years, and more recently has focused on stream and habitat restoration.

Faced with the infilling of nearby wetland properties for a new industrial park development, the SVSES contacted the Pacific Salmon Foundation to help bring together a number of key government and funding bodies to examine the situation. A number of agencies and organization decided to work together and identified seven key parcels of common interest.

# Key partners

The key partners in the project were Ducks Unlimited Canada (DUC), the Municipality of Mission, and SVSES. Mission took a great interest in the Silverdale Wetlands, since its securement would form a key component in their land use conservation strategy: to acquire approximately 1,100 acres of land within the Silverdale Creek linear corridor. With the acquisition of the Silverdale Wetlands, over 60 percent of this parkland corridor area would be in public ownership. DUC recognized the value of the wetlands, and drew on funds through the North American Wildlife Management Plan.

An offshore investor (a land holding company) was the landowner and expressed a willingness to sell: the Mission Official Community Plan had created a number of environmental restrictions on the land that made it less attractive to develop.

As the project grew and drew favourable attention, other entities expressed interest in joining. For example, the BC Ministry of Environment identified the wetland as the number one acquisition priority in the Lower Mainland based on its biodiversity values. As well, Fraser Valley University expressed an interest in constructing an environmental

satellite classroom for the University's environmental education program. Longer term hopes were to establish an educational centre on adjacent land. Mission School District also expressed an interest in hosting outdoor programs on the land for special needs students. The partnership saw these expressions of interest as opportunities to maximize the potential for the wetland by including educational and community goals with environmental goals.

Other project partners involved in developing the project were:

- Canadian Wildlife Service
- BC Ministry of Transportation
- BC Ministry of Agriculture and Lands
- Union of BC Municipalities
- Habitat Conservation Trust Fund
- Nature Conservancy of Canada
- The Nature Trust of British Columbia
- The Land Conservancy of British Columbia
- The Pacific Salmon Foundation.

Local public support for the wetland project was generated and organized by a local streamkeeper group, Mission of Streams.

#### Challenges

The project faced last minute challenges: from the time the partnership signed the deal, to the time of the actual closing, the zoning for the area was changed from rural agricultural to industrial by Mission. This created an increase of over 15% on the assessed value. Lack of communication among District departments resulted in the reclassification, but pressure from the funding partners succeeded in maintaining the original purchase price.

#### Achievements

The wetland was finally purchased for \$1.2 million in September, 2005. The cost was split between DUC and the District of Mission. DUC accessed matching funds from the BC Trust for Public Lands (approximately \$350,000). The dual ownership structure legally brings together two distinct and separate organizational mandates for the purposes of guaranteeing the protection of the wetlands over time.

The wetlands will receive protection from buffer zones and development restrictions to preserve its ecological value. The partnerships with Fraser Valley University and the Mission School District could lead to a long-term institutional presence that could assist with site management and monitoring.

Additional benefits have arisen from securing the wetland: the purchase has brought with it a public focus on natural habitat, and a desire to protect habitat. Presently, there is an increased interest in buying and protecting more land for habitat protection, connecting green spaces and creating trail networks. This rise in Mission resident's interest and involvement in conservation can make sure local politicians enforce stipulated buffer zones (set asides) for Silverdale Creek on developments upstream and downstream of Silverdale Wetlands.

# 9.1.2 Ongoing management

DUC has leased their portion of the property to the District of Mission. Under the terms of the lease, Mission will manage the wetland for conservation values according to the management plan being created in collaboration with DUC and SVSES. The District will work with SVSES to carry out management activities on the ground. "Friends of the Wetlands" – a citizens' advisory group – has been formed to advise on management policies, including habitat restoration and protection measures. SVSES chairs the committee.

# 9.1.3 Keys to success

A key factor in the development, and ultimate success of the project was the dedication and expertise of one of SVSES' directors, Jim Taylor. His dedication, persistence and attention to relationship building and maintenance helped the project overcome various challenges. For example, on two separate occasions financing arrangements that would have 'sealed the deal' fell through at the last minute due to organizational mandates and political sensitivities. Taylor kept the partners focused and motivated. He also kept project partners engaged during long and difficult negotiations with the landowner.

Another key factor in the project's success was the convergence of political conditions with the project's timing. Strong development pressures on Mission lands had given rise to vocal community concerns to protect the environment and had raised developers' desires to establish a community plan process. Facing municipal elections in November, 2005, Mission Council wanted to become more environmentally active, and be seen as more engaged.

Other factors that led to the success of the project were:

- a strong shared vision to protect the wetlands;
- outcomes that met partners' shared and individual interests;
- the ecological significance of the area;
- consistent, dedicated efforts from a streamkeeper group with on-the-ground credibility;
- the use of a pragmatic approach to working with partners, which allowed for the building and maintenance of positive relationships;
- the building of trust over time through the completion of specific tasks/responsibilities;
- the significant role played by the Municipality of Mission;
- the establishment of a broad based partnership that included key government agencies, such as the federal Department of Fisheries and Oceans;
- the establishment of a dual ownership structure, which will provide stronger protection over time;

- the building of positive momentum based on small successes during the project's development, such as greater data sharing of among partners;
- consistent messaging on the project's vision and progress to citizens and politicians;
- an agreement to create a collaborative management plan, which will include environmental, educational and community goals to maximize the potential for the wetland; and
- an initiative to form a citizen's advisory group to help guide site management.

## 9.1.4 Innovative aspects

There are a number of innovative aspects to the Silverdale Wetlands project:

- A significant role was played by the local government;
- There is potential to strengthen ongoing site management by creating institutional stability through academic partnerships;
- A 'conservation multiplier effect' was generated by securing the wetlands: there has been an increase in Mission resident's interest and involvement in conservation; and
- There are plans to include educational and community activities to maximize potential benefits from securing the wetlands.

# 9.1.5 Web resource

http://www.ducks.ca/province/bc/news/2005/050925.html

# 9.2 Codd Wetland, Pitt Meadows, BC

Codd Wetland is located in the northeast corner of the District of Pitt Meadows, within the Alouette River watershed. The property encompasses just over 250 acres. The wetland is the last and largest freshwater intertidal wetland in the Lower Mainland, and it is recognized as one of the largest freshwater inland wetland habitats on BC's west coast.

The Codd Wetland provides some of the most ecologically significant habitat in the Lower Mainland, and is one of the region's last remaining undyked floodplain wetlands. It provides habitat for 191 species of birds, mammals and amphibians, including both red (endangered) and blue (vulnerable) listed endemics. The area is also a key part of the Pacific Flyway for birds and provides one of the three known nesting sites in the Lower Mainland for the Greater sandhill crane.

Codd Wetland is located two kilometers downstream from Blaney Bog Regional Park Reserve, a 92-hectare area established in 2000. Blaney Creek connects the two areas, and protecting Codd Wetlands ensures a continuous waterway for many important species of salmon that use both areas for spawning and rearing winter habitat.

# 9.2.1 Acquiring Codd Wetland

Codd Wetland was owned by the Aquilini Investment Group - a private land development corporation - and slated for industrial cranberries. This development would have had severe environmental impacts on the wetland's species and their habitats. The Pitt Polder Preservation Society, a conservation organization, spearheaded the campaign to stop the development and preserve the wetland. Starting in late 2000, the challenge for the Society was to find partners to develop an approach that would secure the land.

## Key partners

The Society first approached the Municipality of Pitt Meadows seeking support and funding. The Council then wrote to the Greater Vancouver Regional District's (GVRD) Parks department to ask for their involvement. In the fall and winter of 2003, the GVRD evaluated the property and decided it was as an excellent opportunity to expand the GVRD's regional park system. This was due to the wetlands common watercourse with Blaney Bog and the fact that Blaney was already a Regional Park Reserve.

The GVRD then sought ways to leverage its dollars, and helped to bring Ducks Unlimited Canada (DUC), the Province and The Land Conservancy (TLC) of BC into the growing partnership. In addition to common objectives, each partner was able to identify individual benefits. For example, DUC saw the opportunity to physically connect Codd Wetland with an adjacent property the organization had under lease, which they were already managing for wetland values.

Though salmon habitat was involved, the federal Department of Fisheries and Oceans did not get involved. The agency judged the current status of the riparian area to be intact, and potential future threats would be avoided by implementing regulations to establish appropriate setbacks.

The Katzie First Nation, who had supported the protection of Blaney Bog, was approached by the Preservation Society early on, and endorsed the Codd Wetland initiative.

## Achievements

The Province took the lead in conducting the negotiations while GVRD worked behind the scenes with the landowners. Aquilini were interested in building on their participation in conservation initiatives: they were the owners of Blaney Bog, and had a positive experience working with GVRD in securing that property. The owners agreed to become part of the partnership by making a cash donation towards the project which reduced the amount of money needed for the purchase, from \$4.5 million to \$3.8 million. The owners took a tax receipt of \$700,000 based on the land's qualification as an eco-gift, according to Environment Canada's Ecological Gifts Program.

On May 31, 2004, an on-site public ceremony officially announced the purchase of the Codd Wetlands. 104.5 hectares of wetland and waterways were acquired. The financial contributions of the various partners were:

- Provincial Government \$1.3 million
- GVRD \$1.3 million

- DUC \$800,000 (on behalf of the Pacific Estuary Conservation Program partners)
- TLC \$200,000
- Pitt Meadows \$200,000
- Aquilini Investment Group \$700,000

Each partner holds an undivided interest in the land proportional to their investment. A key aspect of this arrangement means all partners have to agree on selling the land, and the conditions of sale, if this ever becomes an option in the future.

The Province secured their interest in the land by buying a portion of the land and registering it as Provincial Crown land. BC then leased their land to the GVRD under a long-term agreement to manage it as regional park land. The lease is to be renewed after 25 years. The GVRD then bought the remaining interest in the land.

# 9.2.2 Ongoing management

GVRD Parks was asked on behalf of the partners to manage the sight, and is the designated management agency. After the land was acquired, the partners spent a couple of meetings developing and ratifying a set of principles and directions to guide the management and use of the wetlands in the interim before a management plan was in place. These principles still guide the GVRD's management of Codd Wetlands, and some of the key directions are:

- No public access. Where appropriate, wildlife viewing may be provided from adjacent upland areas;
- All project partners will collaborate to identify management and enhancement opportunities; and
- Land management should maintain existing values and even restore and enhance such values.

As an Ecological Conservancy Area, the priority for this site is ecological protection, not public use.

The GVRD will prepare the area's management plan, establishing a planning team to consider and address such issues as encroachment, trespassing, land use on neighbouring properties, public education and awareness, invasive species inventory and control, management for species at risk, fish habitat, and water access. As there is already sufficient habitat for the needs of wildlife, no restoration or enhancement proposals are contemplated at this time.

This staged approach to designing and implementing management of the site has given each partner a starting point for working together over the long-term. It also provides an opportunity for each partner to engage in activities on site that are relevant to their mandate. For example, TLC can be involved in site clean-up, removal of invasive species, etc., and DUC could participate in future habitat enhancement when deemed necessary. Since Codd Wetland includes only the wetland and waterways and is surrounded entirely by private lands, GVRD will attempt to secure adjacent lands to provide limited public access for wildlife viewing and interpretation. Upland areas were not judged to be threatened, and thus, not included in the acquisition.

# 9.2.3 Keys to success

There were a number of factors that led to the success of this initiative:

- A critical mass of partners was created to share the costs and the benefits;
- There was solid First Nations and local public support;
- The local government provided support early on: the District of Pitt Meadows was the first to make a financial commitment;
- A number of common objectives were identified and met by the partners;
- Each partner was able to identify individual organizational objectives and meet those;
- The landowners were convinced to be part of the partnership by making their cash donation through the Eco-gift program;
- Commitment to the partnership was secured through the dedication of funds;
- A good working relationship with the owners existed and was built upon;
- The partners' undivided interest in the land registered on title creates strong legal conditions for ensuring the wetlands remain protected in perpetuity; and
- Interim principles to guide management were jointly established, including provisions for the future participation of partners.

## 9.2.4 Innovative aspects

Securing the Codd Wetlands involved a number of innovative measures:

- The land owners were part of the partnership, and profiled as "part of the solution";
- Multi-agency collaboration was achieved;
- A staged approach was used to establish the area's management; and
- The land ownership structure established an undivided interest in the land, which has created a shared and ongoing relationship among the partners bound by legal requirements.

# 9.2.5 Web resources

http://www2.news.gov.bc.ca/nrm\_news\_releases/2004WLAP0029-000448.htm

http://www.gvrd.bc.ca/parks/EcologicalConservancyAreas.htm

# 9.3 Incorporating wildlife habitat protection into municipal decision-making: Langley Environmental Partners Society

Langley Environmental Partners Society (LEPS) was formed in 1993 as a partnership among community groups, educational institutions, First Nations, and local and senior government agencies. Its mission is to protect and restore the Township of Langley's natural environment through education, cooperation and action. One of its key roles is to provide a bridge between the municipal government, local volunteer stewards and private landowners in order to better develop and carry out stewardship activities.

The success of LEPS stems from its origins. During the early 1990's, the founder of LEPS - an Environmental Coordinator working for the Corporation of the Township of Langley - recognized the important role conservation partnerships could play in responding to the adverse environmental impacts occurring within the municipal boundary. Key players within the region were identified and brought together to both encourage municipal involvement in stewardship efforts, and to engage the community through volunteer efforts.

# 9.3.1 Wildlife Habitat Conservation Strategy

Over the years, LEPS has gained a positive reputation for innovative and collaborative stewardship work. In 1999, the organization recognized the accelerating threat to wildlife habitat and biodiversity in Langley, and in response launched the "Wildlife Habitat Conservation Strategy" project. Its goal is to put in place effective municipal policies and procedures that will ensure the long-term protection of critical wildlife habitat and the continued viability of Langley's wildlife and biodiversity.

To date, LEPS has completed the first three phases of the project:

- Documenting habitat status; accomplished through habitat mapping and interpretation of all the Township's lands;
- Identifying habitat requirements: identifying the habitat needed to maintain healthy wildlife populations; and
- Habitat goal setting: identifying what needs to be preserved and/or restored to support wildlife populations.

In carrying out these activities, LEPS obtained input from scientists, planners, developers, farmers and the community. Products generated so far include:

- a comprehensive interactive database on Langley's 264 vertebrate species;
- themed maps of 13 different land cover classifications;
- wildlife habitat objectives for 78 focal species; and
- the Willoughby Habitat Status Report: a detailed analysis of wildlife habitat in Willoughby.

# 9.3.2 Willoughby Habitat Status Report

Willoughby Habitat Status Report was completed in March, 2004. The Willoughby area was chosen for this in-depth analysis because of the intensive development occurring there and the opportunity it presented to modify development practices by providing detailed information about wildlife habitat needs.

The Willoughby Report provides recommendations for development that were presented to the Township Council. The following tools and measures have been included in one of the neighbourhood plans produced for the area; the Northeast Gordon Estate Neighbourhood Plan:

- Wildlife underpasses;
- A wildlife corridor;
- Wildlife patches; and
- The protection of significant trees.

On January, 9, 2006, the Council gave third reading to the Plan, clearing the way for its adoption.

The Willoughby Report also serves as a template for further regional habitat status reports.

# 9.3.3 Next project phase

Over the next two years, an important window of opportunity exists to establish principles to ensure that development in Langley incorporates the protection of wildlife habitat and biodiversity. LEPS is responding to this challenge with the next phase of the Conservation Strategy: "Integrating Wildlife Habitat Conservation into Growing Communities (IWHCGC)". This initiative aims to integrate conservation measures – based on the wildlife habitat objectives – into the policy and procedures of Langley's government. This goal will be accomplished through a number of actions:

- 1. Led by municipal staff, an analysis of the Township's policies and programs will be undertaken to determine if and how conservation objectives can be integrated at the municipal level. This will include an assessment of the sustainability of this idea from social, economic and environmental perspectives.
- 2. A communications strategy will be developed and implemented to improve the understanding of the needs of wildlife for municipal staff, developers, Council and the general public, and to identify effective methods to protect, enhance and/or restore habitat. Materials will include the results of the wildlife habitat mapping. It is hoped this will contribute to informed decision making at all levels, thus, facilitating municipal adoption of habitat objectives.
- 3. Community outreach programs will be developed to raise importance of habitat conservation and support implementation of habitat objectives.

4. The integration of conservation objectives into Township Best Management Practices, policies, Integrated Stormwater Management Plans and Official Community Plans will be finalized.

Langley Township has included this next phase of the strategy in the 2006 workplan. The Township will define the terms of reference required. LEPS hopes that municipal staff from engineering, planning and parks (and perhaps finance) will be involved in the development of this phase.

## 9.3.4 Innovative aspects

There are several innovative aspects to this project:

- The cooperative approach used to develop the strategy involved a variety of stakeholders, including government, conservation organizations, experts and communities;
- A diversity of municipal departments are involved: Langley Township's Community Development Department, the Engineering Department and the Parks and Recreation Department have been working together to establish objectives and ways of attaining them;
- The importance of protecting biodiversity and wildlife habitat are explicitly acknowledged in the Northeast Gordon Estate Neighbourhood Plan and tools are included to achieve this protection, including:
  - □ guidelines to protect contiguous wildlife corridors;
  - wildlife underpasses where wildlife corridors cross a main road in the Township; and
  - incentives to protect wildlife habitat (density bonuses).

## 9.3.5 Web resources

#### LEPS

http://www.leps.bc.ca/index.html

Willoughby Habitat Status Summary Report

http://www.whc.org/documents/WilloughbyHabitatStatusSummaryReport-June2004.pdf

Northeast Gordon Estate Neighbourhood Plan

http://www.tol.bc.ca/The\_News/Planning\_Development\_&\_Stewardship\_News/Northeas t\_Gordon\_Estate\_Neighbourhood\_Plan/

# 9.4 Improving compliance for protecting fish habitat and riparian areas: Commox-Strathcona Regional District

The Intergovernmental Partnership Agreement for the Protection of Environmentally Sensitive Areas provides an excellent example of governments working in collaboration to improve environmental protection.

The Partnership Agreement is in the form of an MOU between the Ministry of Environment (MOE), the federal Department of Fisheries and Oceans (DFO) and the Comox/Strathcona Regional District (CSRD). The Agreement essentially provides a "one window" approach for assessing development permits by coordinating the examination and input of all three departments on potential habitat impacts. This is achieved by allowing CSRD staff to visit permit sites and represent the interests of all three partners. The Agreement was first signed in 1995 and is renewed periodically.

The impetus for establishing the partnership came from a need to improve on-the-ground conservation outcomes, which were falling short of desired results. The standard paper referral process used to assess development permits was not effective, and the DFO and MOE lacked the capacity to provide sufficient on-site coverage. Thus, the partners established an agreement, which provides sufficient direction for CSRD staff to carry out field work on behalf of all three partners. This has created a more efficient and effective delivery of permit application environmental assessments arising from subdivision or rezoning requests.

# 9.4.1 The Partnership Agreement

The Partnership Agreement establishes a cooperative framework for conducting environmental assessments. Its focus is on protecting fish habitat and riparian areas, although the MOE has extended its application to heron rookeries and eagle-nesting trees.

The Agreement lays out the purpose of the environmental assessments: to support water management and pollution prevention approvals, licenses and permits, along with the protection of designated aquatic, fish, and wildlife habitats. The assessment process is designed to fulfill a number of objectives:

- Increase trust among the signatories;
- Replace existing agency-by-agency referral approach;
- Boost the effective use of resources;
- Secure a greater sharing of information and technical support;
- Foster the development of a shared resource database;
- Create a dispute-resolution mechanism to address any unresolved conflicts;
- Use existing legislation; and
- Result in no increased costs to any signatory.

The Agreement also sets out federal and provincial guidelines, standards, and criteria to be used when reviewing development proposals and assessing permits.

## 9.4.2 Implementing the Agreement

Key aspects of implementing the Partnership Agreement are described below.

#### Sensitive Habitat Atlas

As a first step in implementing the Agreement, the three member organizations worked together to create a Sensitive Habitat Atlas. The Atlas identifies Environmentally Sensitive Areas in the CSRD, identifying zones of concern for each and/or all partner pertaining to sensitive fisheries, ecosystems and wildlife habitats. The Atlas provides a technical basis for regional and local government planning, and for environmental assessments of permits. The information database can be expanded, for example, to include marine estuaries, marine foreshores and areas associated with groundwater recharge.

CSRD works with the Comox Valley Project Watershed Society - a watershed stewardship group - and their affiliates to update and provide new information for the Atlas. DFO and MOE vet and approve the data.

#### Site visits

When District staff review development applications and assessing permits on-site, they use the guidelines, standards, and criteria stipulated in the partners' agreement, as well as the District's Sensitive Habitats Development Permit Guidelines (in the Comox/Strathcona Official Community Plan).

District staff put considerable effort into using site-visits to foster stewardship among landowners and developers, and to encourage the conservation of identified features. Conversations often involve explaining the purpose of the development permits and the goals of the environmental assessment. However, site visits are recorded to provide future evidence of consultation if legal actions are required.

In complex situations, Regional District staff call in the MOE and DFO to make a group decision. Any unresolved issues are forwarded to a joint decision-making, dispute-resolution committee comprised of appropriate managers.

#### Partners' review session

There is a regular review session (approximately once a year) where the partners meet to audit some applications, as well as to create a team atmosphere confirming all are working towards the same goals. These sessions also provide new personnel from the MOU partner organizations to meet others involved in fisheries protection.

Originally, the review sessions were 3 - 4 times a year. However, due to the establishment of good working relationships and communications, areas that might have formally created tensions between the partners now no longer exist or do not evolve into more serious issues.

# 9.4.3 Achievements

There have been a number of beneficial results generated by the Agreement:

- The partners' efforts at building relationships and understanding with property owners and developers have led to a substantial improvement in protecting environmental values when private land is developed in the district. These improvements are due to:
  - the joint identification and resolution of on-site problems; and
  - a significant enhancement in the quality of the environmental studies and reports carried out by applicants;
- Partners have a mechanism to identify areas of mutual concern and plan coordinated responses, e.g., water and erosion management, ground water quality, marine foreshore protection, landowner environmental education; and
- Partners can respond more efficiently to on-site compliance problems or the need for more effective protection measures.

# 9.4.4 Innovative aspects

This intergovernmental project has a number of innovative facets, including:

- the degree of cooperation between the three levels of government to protect the environment during private land development;
- the educational/stewardship approach to assessing development permits and implementing required actions; and
- the production of the Sensitive Habitat Atlas, one of BC's first detailed inventories and maps of sensitive environmental areas.

## 9.4.5 Web resource

http://wlapwww.gov.bc.ca/vir/pa/rdcs\_2000mou1.htm

# 9.5 The Okanagan River restoration initiative

The 1920s and 1940s saw the Okanagan Valley devastated by flooding. Flood control measures were implemented in the 1950s, leading to extensive channelization and dyking of the Okanagan River. This led to significant environmental damage, compounded by huge water extraction, inadequate management of groundwater, urban encroachment, and the building of dams and weirs. Presently, almost 90% of inland fish habitat and over 80% of riparian habitat have been lost. In many sections, the watercourse bears greater resemblance to a ditch than a river.

However, on the positive side, the Okanagan is an excellent candidate for a major habitat restoration initiative. The annual return of significant numbers of sockeye (one of only 2 significant remaining populations in the Columbia drainage basin) to the Okanagan River system also reinforces the potential of such a program. Such an initiative has the potential to:

- improve flow regimes;
- enhance off channel habitat;
- improve fish passage;
- restore riparian habitat; and
- improve wildlife habitat for endangered species.

# 9.5.1 The partnership

In 2002 and 2003, the Okanagan Nation Alliance (ONA), the federal Department of Fisheries and Oceans (DFO), and the BC Ministry of Environment created the Canadian Okanagan Basin Technical Working Group (COBTWG). The working group deals with technical issues associated with management of salmon and resident fish stocks and their associated habitat requirements in the Canadian portions of the Okanagan River basin.

At approximately the same time as the formation of the COBTWG, the South Okanagan-Similkameen Conservation Program brought its member organizations concerned about riparian habitat along the Okanagan River together with the COBTWG. The parties agreed to work together to improve both riparian and fish habitat, creating the Okanagan River Restoration Initiative. The initiative is supported by a Project Committee, consisting of representatives from:

- COBTWG
- The Land Conservancy of BC
- Ducks Unlimited Canada
- Canadian Wildlife Service
- Okanagan Region Wildlife Heritage Fund Society (ORWHFS)
- The Nature Trust of BC (TNT)
- South Okanagan-Similkameen Conservation Program (SOSCP)
- Osoyoos Oxbows Restoration Society

# 9.5.2 Operations

Discussions among the partners centered on ways to satisfy each member's needs. They reached agreement by focusing on a dyke setback in a portion of the river identified as having good potential for fish and riparian habitat restoration. The dyke setback would allow room for the river to rebuild a meandering channel and fully functional floodplain. The effort was referred to as a proof of concept initiative: partners set out to prove that dykes could be pushed back to restore fish and riparian habitat. This restoration method has proved successful in many countries and is functioning well in a short portion of the

Okanagan River originally constructed with set back dykes. Nevertheless, the concept of relocating existing dykes for habitat restoration is untried in the region.

## Identifying and securing target sites

As a first step, the ONA and DFO set out to identify desirable sections of the river. Restoration is impractical in many portions due to extensive development or low river gradients producing slow water flows, which are unfavourable to salmon. The partners identified a 1 - 2 km section of river north of Oliver possessing the desirable characteristics. This stretch of river was also adjacent to and downstream from a seminatural portion.

SOSCP partners then found two willing sellers owning adjoining properties within the identified section of the river. Negotiations led by TNT resulted in the acquisition of one kilometres of river front and 11 acres of land behind the dyke. Once it is "re-meandered", this one kilometre stretch of river is expected to spread, seeking out natural paths and creating new vegetation that will provide for endangered species.

# Current and future activities

The ONA and DFO are now conducting hydrological studies as part of designing a meander pattern to create the best possible riparian and fish habitats. To the extent possible, the channel design will reclaim the historic oxbows in the area. A complementary riparian habitat design will be generated indicating where particular features can be created. As well, the existing bike path and walkway along the dyke will be relocated, and plans are to use the project as an opportunity to educate people on the benefits of restoration.

In collaboration with the U.S. Colville Confederated Tribes, the ONA has also been providing historic and current technical information and analysis into the development of the trans-boundary Okanogan/Okanagan Sub-basin Plan.

Future project operations will continue to focus on engineering studies. Final plans will require approval from many government agencies due to a number of issues created by the dyke set back including community safety issues among others.

# 9.5.3 Funding

Habitat Conservation Trust Fund provided \$210,000 to the ORWHFS to secure the Nemes and Lougheed properties. The Ministry of Transportation provided another \$200,000 toward the purchase of two adjacent hectares from its Environmental Enhancement Fund.

Monies for the actual work still have to be raised. \$250,000 - \$300,000 will be required to carry out the detailed hydrological studies. Costs for the project could be anywhere between \$300,000 and \$600,000. The actual re-engineering component will be significant, costing in the millions of dollars.

The initiative is also able to tap into U.S. funds for fish habitat compensation. American authorities are seeking new methods to improve fish habitat and fish production in light of the failures of fish hatcheries.

# 9.5.4 Keys to success

A number of factors are supporting the project's success to date, including:

- the identification of common and complementary interests and creation of strategies to fulfill these;
- the active participation of each member organization, bringing valuable expertise and resources to the table to help implement the initiative; and
- the right timing for the land acquisitions: willing sellers were found owning property within the stretch of river identified as holding good restoration potential.

# 9.5.5 Innovative aspects

The project has a number of innovative aspects:

- The initiative has been designed to meet common and particular interests for each member organization;
- A bridge has been successfully formed between terrestrial and aquatic-focused organizations and agencies; and
- The use of dyke set backs for fish and riparian habitat restoration is a unique approach to this region.

# 9.5.6 Web resource

http://www.obtwg.ca/initiatives.html

# 9.6 North Fraser Harbour Habitat Compensation Bank

On October 15, 1993, the North Fraser Harbour Commission (NFHC) and the federal Department of Fisheries and Oceans (DFO) signed a Memorandum of Understanding (MOU) laying out the procedure for operating the North Fraser Harbour Habitat Compensation Bank. This bank was a precedent setting component of an earlier agreement signed by the two parties in September 1988 (the North Fraser Harbour Environmental Management Plan) because it was the first habitat compensation bank to be approved by DFO in Canada. The MOU also established the conditions for determining habitat credits for the bank. The original MOU remained in effect for a five-year trial period, but has been extended indefinitely, conditional to the ongoing approval of both the NFHC and DFO.

# 9.6.1 Site identification and habitat construction

In consultation with the DFO, the NFHC completed construction of the first habitat banking site in May 1993 at the Fraser Lands Riverfront Park in Vancouver. It includes

over 5,000 square metres of intertidal marsh. A second habitat bank was later constructed in Burnaby, as part of a joint initiative between the NFHC, the municipality of Burnaby and DFO, with financial contributions from the Fraser River Action Program. This area is much smaller, less than 400 square metres of marsh.

The sites were monitored for a period of three years to ensure their stability and viability. Measures were made of:

- site stability;
- vegetation establishment;
- sedge height, density and biomass;
- soil characteristics; and
- fertility.

# 9.6.2 Establishment and use of the banking system

After three years, monitoring showed that the sites had similar values to adjacent natural marshes. At this stage, habitat banking credits were available for use by qualifying developers. The cost of the credits has been set by the NFHC at \$90/m<sup>2</sup>, based on the costs to develop viable habitat. Developers applying to purchase habitat credits have to meet the following criteria:

- Impacts must be unavoidable after efforts have been made to reduce impacts through consideration of alternate sites, projects or component redesign, mitigation, etc; and
- Development projects must be within Management Reaches 1 or 2, as specified in the MOU, except under special circumstances.

When approved, developers purchase habitat credits from the NFHC.

The NFHC is responsible for ensuring the habitat remains viable and secure. Monies from the sale of the habitat credits are used by the NFHC to maintain existing banks or to develop new banking sites. Restoration or maintenance activities are undertaken by the NFHC or the purchaser of the credits to maintain the value of the credits. The NFHC can also include the costs of remedial works in subsequent habitat banking developments. The only remedial measure presently needed is the cleaning out of stranded logs, which is carried out by the forestry company responsible.

To date, one project involving the building of a bridge has used the bank. A major transportation development for the Vancouver area (Richmond-Airport-Vancouver: RAV) will also use the bank in the future. Both areas will require only a small amount of the compensation land, reflecting a strength of habitat banking: many small areas requiring compensation can be covered by banking. This in turn helps developers since creating compensation habitat for small areas is very expensive to create on a unit basis compared to larger areas.

The large NFHC bank sites have also provided high quality habitat for fish and waterfowl for over 10 years, leading to a net gain in productivity for salmon, waterfowl and shorebirds.

# 9.6.3 Challenges

The bank has faced challenges during its development and operations. For example, the DFO was initially not interested in habitat banking when the NFHC first proposed it. Even though it was in the DFO's future plans, it required three proposals before they accepted it. However, once approved, DFO became one of the bank's strongest proponents. The DFO has used the bank as a cutting-edge example of implementing their national fish habitat policy, since it has set a precedent for a new way to achieve 'no net loss'.

As well, DFO was initially opposed to the use of banking credits for the RAV development, saying RAV impacts would fall outside the approved geographical area stipulated in the MOU. However, the NFHC was able to persuade them to accept, based on NFHC staff knowledge of the intent of the MOU's management initiative and understanding of when flexibility would be of benefit.

# 9.6.4 Innovative aspects

The banking project has many innovative features, which include:

- a new, effective way to achieve a 'no net loss' policy;
- a bank based on sound scientific data that supports habitat equivalency;
- organizational flexibility, when necessary, on the part of DFO and NFHC in interpreting certain provisions of their MOU, allowing for optimum use of the banking system, while maintaining its intent; and
- an award of excellence to the NFHC by the American Association of Port Authorities for the North Fraser Harbour Environmental Management Plan, helping to make the Harbour Commissioners more environmentally aware and promoters of sustainable port development.

# 9.6.5 Web resource

North Fraser Port Authority

http://www.nfpa.ca/05environment/05habitat.html

# 9.7 Habitat compensation in the Campbell River Estuary

The Old Mill Pond Restoration project in the Campbell River Estuary on Vancouver Island is an example of the benefits of incorporating habitat compensation into a broader estuary restoration plan.

Georgia Basin Holdings (a Merrill & Ring Timber & Land Management company) was planning to develop a multipurpose log sorting and handling facility at its Menzies Bay property, located approximately 12 km north of Campbell River on Vancouver Island. The 34.7 hectare property had been previously logged, and in 1996, the ComoxStrathcona Regional District supported the property's development by zoning the site industrial: "...intended to provide land and water for industrial operations." The proposed development also received the Regional District's support because it qualified as a new water-dependent industry site. These sites were required to replace industrial lands transferred to conservation uses in the Campbell River estuary.

In 1999, Merrill & Ring contracted specialists to conduct a biophysical inventory of the Menzies Bay site. Based on the habitat surveys, the proposed fill area required to support the site's waterfront industrial development was determined. A series of meetings were then held with federal Department of Fisheries and Oceans (DFO) biologists to determine appropriate habitat mitigation and compensation. Since on-site mitigation and compensation options were limited, it was decided that developing habitat compensation in the Campbell River estuary offered superior opportunities.

# 9.7.1 Site identification and habitat construction

During 2000-2001, Merrill & Ring, in association with DFO biologists, investigated sites for developing habitat compensation within the Campbell River estuary. A former log storage and handling site – Old Mill Pond – held by the Nature Conservancy of Canada (NCC) was chosen.

Consequently, in January 2002, DFO authorized the construction of the new log sort facility in Menzies Bay, and required the construction of a 430 metre long salmon rearing channel, 340 linear metres of riparian plantings, and 7360  $m^2$  of intertidal marsh in the Campbell River estuary. Merrill & Ring and DFO then worked together to construct over 8300  $m^2$  of intertidal marsh and full riparian planting along the banks of the rearing channel, both well above the requirements of the DFO authorization.

During construction, a DFO rearing channel project was combined with the Merrill & Ring construction of intertidal marsh compensation. The excavated soil from the channel was used to construct marsh benches. This saved DFO thousands of dollars in soil transport and disposal costs.

Merrill & Ring and DFO also worked with NCC and the District of Campbell River on other aspects of the project. The result was the successful restoration of Old Mill Pond into a high quality habitat for fish, waterfowl and wildlife. The Pond now serves as compensation habit.

# 9.7.2 Keys to success

A number of features have led to the project's success so far, including:

- the cooperation between Merrill & Ring and DFO during construction of the habitat;
- the collaboration between all parties during the planning and administration of the project; and
- the fact that all parties benefited from the restoration:
  - □ the project proponent, Merrill & Ring obtained their compensation;

- □ NCC gained improved habitat lands;
- DFO secured a rearing channel and marsh benches for considerably less money than if the projects were constructed separately; and
- □ the District of Campbell River and the public have furthered their efforts to conserve and promote recreation in the Campbell River estuary.

# 9.7.3 Innovative aspects

The project has a number of innovative aspects:

- A habitat compensation project was incorporated into a broader estuarine restoration plan;
- A habitat compensation project was employed to realize multiple benefits, rather than used as a punitive measure or a regulatory requirement;
- There has been a strong degree of ongoing, multi-party cooperation;
- Effective, and cooperative use was made of DFO staff and private sector expertise and funding;
- The project served as a catalyst for the smaller communities involved to develop more sustainable environmental and recreational management.

# 9.8 Coordinating local governments: Northern California's 5 counties project

This program is an innovative local collaboration aimed at the long-term recovery of salmon and steelhead in Northern California. It has become a model for local California governments that need to develop programs to meet Endangered Species Act regulatory requirements.

In 1997, five Northern California counties agreed to collaborate on a proactive response to the listing of salmon under the federal Endangered Species Act, forming the Five Counties Salmonid Conservation Program (5C). The goal was to contribute to the longterm recovery of salmon and steelhead in Northern California by:

- identifying options for improving county plans, policies, and practices for providing or enhancing fish habitat;
- identifying areas where counties might be vulnerable to challenges under the ESA; and
- upgrading training programs, monitoring, and reporting procedures.

## Key partners

The key partners involved in the 5C are Del Norte, Humboldt, Mendocino, Siskiyou, and Trinity Counties; National Oceanic and Atmospheric Administration (NOAA) Fisheries; California Departments of Fish and Game, Transportation, Regional Water Quality Control Board, Coastal Conservancy; environmental and non-profit organizations; private consultants.

# 9.8.1 Results and accomplishments

The 5C has provided a coordinated approach for using the technical skills of its participants and for leveraging financial support from numerous funding sources. Following are some of its accomplishments:

- 39 fish migration barrier removal projects have been completed, restoring more than 100 miles of habitat. An additional nine projects, opening 17 miles of habitat, were constructed in the summer of 2005, with nine more projects, opening 19 miles of habitat, being designed or already scheduled for development in 2006;
- Six pilot sediment reduction projects were finished and one scheduled for 2005;
- 5C secured and administers more than U.S.\$3,580,000 in funding;
- The partners are developing methods to streamline permitting procedures (Endangered Species Act, Clean Water Act, and California Fish and Game Code);
- The collaboration drafted A Water Quality and Stream Habitat Protection Manual for County Road Maintenance in Northwestern California Watersheds;
- The Project kept an estimated 95,200 cubic feet of sediment out of streams via restoration projects; and
- Watershed-friendly road designs and training were developed.

Future work includes incorporating land use incentives into county general plans, designing and building storm water retention basins in county facilities, and restoring and enhancing urban streams.

# 9.8.2 Innovative aspects

The 5C is an effective model of collaboration among governments and stakeholders. Collaboration among the counties has reduced maintenance costs, avoided potential fines, and facilitated resource sharing.

# 9.8.3 Web resource

www.5counties.org

# 9.9 Coordinating endangered species recovery: Puget Sound Shared Strategy

Puget Sound's salmon populations and harvests have fallen for decades despite actions taken by governments, Tribes, and industries. Chinook salmon, summer chum, and bull trout are all listed under the Endangered Species Act (ESA). Federal agencies usually write endangered species plans. However, Puget Sound regional leaders felt a new approach was needed to recover Puget Sound salmon. The Shared Strategy initiative was created to build on local efforts already underway.

Shared Strategy aims to develop a science-based, locally supported salmon recovery plan by working in cooperation with citizens, local and tribal governments, environmental, and business interests. This effort at inclusive participation is made possible by the Washington State Legislature's support for local and regional decision-making.

#### Key partners

Some of the Shared Strategies' key partners are National Oceanic and Atmospheric Administration (NOAA) Fisheries, the federal government's Fish and Wildlife Service (FWS), Olympic National Park, 15 Puget Sound Treaty Tribes; Puget Sound counties and communities, conservation organizations, Puget Sound ESA Business Coalition, the agricultural community, and Washington State Departments of Fish & Wildlife, Natural Resources, and Ecology. Funding is primarily from NOAA and FWS.

## 9.9.1 Organizational structure, governance and roles

The Shared Strategy project is housed in the non-profit organization, the Puget Sound Salmon Forum (PSSF). The PSSF was established specifically to provide the legal and policy basis for developing and implementing the Strategy.

The PSSF has a Board of Directors, Development Committee, Executive Director and four staff.

## Board of Directors

The six-member Board of Directors holds formal responsibility for the PSSF, and assists with funding approaches. In cooperation with the Development Committee, the Board also oversees the implementation of the Shared Strategy process.

#### Development Committee

The Development Committee sets the policy direction for implementation of the Strategy process. It also directs the development of the proposed recovery plan, and develops and directs strategic approaches to short-term issues and actions raised by the Strategy's membership network (the Shared Strategy Council). The Committee represents all levels of government, tribes, businesses, and conservation groups across the region.

## Executive Director

The PSSF's Executive Director and four staff facilitate regional recovery processes by providing assistance to watershed-oriented conservation groups and organizations.

#### Shared Strategy Work Group

The Shared Strategy Work Group is drafting the recovery plan consistent with direction of Development Committee and input from the Board of Directors and Shared Strategy Council. The Group also provides advice on policy issues for the Development Committee.

# 9.9.2 Partnerships

Partnerships supporting the work of the Shared Strategy are created through the Shared Strategy Council. As well, the Technical Recovery Team generates key scientific information to support the Shared Strategy's efforts. These initiatives are described below.

#### **Shared Strategy Council**

The Council is the network being created by the work of the Strategy. Presently, the Council has over 1000 members. Members include representatives from federal, tribal, state and local governments, agriculture, timber, building and fishing industries, private landowners, environmental and conservation organizations and individuals interested in salmon recovery. Council members receive monthly e-bulletins and are invited to participate in the Strategy's regional conferences. The Council serves as a forum to share information on salmon recovery amongst partners, foster participation of watershed groups and local jurisdictions, encourage joint problem solving, and ensure that the final recovery plan is effective.

## **Technical Recovery Team**

This team is an independent scientific body convened by the National Marine Fisheries Service to develop technical de-listing criteria and guidance for salmon recovery planning in Puget Sound. Its roles include identifying research, monitoring, and evaluation needs, and serving as science advisors to groups charged with developing measures to achieve recovery goals.

# 9.9.3 Results and accomplishments

To date, the PSSF has assisted fourteen watershed groups and one nearshore marine group in developing local recovery plans. Shared Strategy partners are focusing on rolling local recovery plans into one plan for federal review. The plan:

- identifies key elements of a recovery plan and assesses how current efforts support it;
- sets recovery targets and ranges for Chinook populations in each watershed;
- identifies watershed-level actions needed to meet targets;
- determines if identified actions will lead to recovery, and if not, makes adjustments; and
- secures commitments to complete the plan and implement agreed-upon actions.

#### 9.9.4 Innovative aspect

An innovative aspect of this initiative is the Shared Strategy's goal: to create a regional endangered species recovery plan by identifying local initiatives, sharing information, and building joint agreements for action from the ground up.

## 9.9.5 Web resource

www.sharedsalmonstrategy.org/

# 9.10 Additional case studies

Following are brief descriptions of additional case studies whose operations incorporate aspects of securing private land for biodiversity conservation.

# 9.10.1 Englishman River, Vancouver Island

The Englishman River lies on the east coast of Vancouver Island near Parksville. It is a valuable steelhead and salmon producing river system, possesses a diversity of riparian and estuarine habitats, and providing critical habitat for migratory birds and migration corridors for wildlife.

The Englishman River is also one of the most endangered rivers in the province, due to logging, agriculture and development. Fish stocks have dramatically declined, and there is an increased reliance on the river as a water source from the growing towns nearby.

Since 1981, conserving the Englishman River has been a process of securing habitat piece by piece, beginning with the estuary and moving upstream along the river. One of the keys to success has been the ability to form innovate partnership arrangements. For example, The Nature Trust and the Pacific Estuary Conservation Program worked closely with forestry companies (Weyerhaeuser, TimberWest, Pacific Forest Products) and a land developer (Englishman River Land Corporation) to acquire significant conservation properties. Working with the provincial and local governments, this securement has been a catalyst for the creation of a provincial Wildlife Management Area, regional parks and other conservation areas.

Success has also been achieved through the innovative combination and use of conservation tools such as fee simple acquisitions, donations of land, conservation covenants, eco-gifts, and leasing arrangement to ensure ongoing conservation management.

#### Web resources

http://www.naturetrust.bc.ca/casesupport/support\_englishman\_river.pdf

http://www.ducks.ca/province/bc/projects/coast/english.html

## 9.10.2 City of Calgary Wetland Conservation Plan and Policy

In May 2004, the City of Calgary's Council approved the Wetlands Conservation Plan making Calgary one of the first municipalities in Canada to adopt a wetland protection policy. The policy defines priorities and best practices for wetland protection.

Procedures will be established within the City's development approval process that provide for timely identification of wetland habitat and its environmental significance. In the coming months, Calgary Parks will be working to develop a detailed implementation plan for the policy. The implementation will include developing detailed wetland mitigation and evaluation procedures as well as research and monitoring programs to ensure that the protected wetlands remain sustainable and healthy. Updated information will be posted on the website as it becomes available.

#### Web resources

Overview of the initiative

http://content.calgary.ca/CCA/City+Hall/Business+Units/Parks/Parks+Planning/Calgarys +Wetland+Conservation+Plan.htm

Calgary's Wetland Conservation Plan

http://www.calgary.ca/docgallery/bu/parks\_operations/wetland\_conservation\_plan.pdf

# 9.10.3 Elbow Valley Constructed Wetland, Calgary

In 1997, the City of Calgary completed a massive effort to effectively treat stormwater, the second-biggest pollution source in the Bow River bioregion. The size of the Elbow Valley constructed wetland is 20,000 square metres, with a wetland surface area of 5,000 square metres, and a wetland storage capacity of 2,300 cubic metres. The approximate construction cost totaled \$400,000. The main uses of the wetland are:

- as an experimental site to test the survival rates and water treatment effectiveness of different plant species;
- to conduct research into stormwater control and management;
- to provide an outdoor teaching centre which includes an educational pavilion;
- to provide bird and wildlife habitat; and
- for passive recreation includes a boardwalk and interpretive signage.

## Web resource

http://www.riparia.ca/projects/elbow\_valley.htm

#### 9.10.4 Dockside Green, Victoria

Dockside Green is an 11.6 acre site located in the middle of the City of Victoria, adjacent to the Upper Harbour and Downtown. It is being built according to the highest environmental standards possible - the Platinum rating of the Leadership in Energy and Environmental Design (LEED) system of the Green Building Council. The site must first be cleaned up and the new development includes plans for on-site power generation and sewage treatment plants, as well as 1.3 million square feet of floor space to be built over 10 years. There will be 1,000 housing units, including almost 100 affordable housing units, a greenway, plazas, trails and walkways.

The partner companies won the contract for development of the site based on a triple bottom line assessment - strong ecological, social and economic performance. These companies aim to demonstrate the viability of sustainable social, economic and environmental development by incorporating innovations in land use, water, air, energy, design, waste management and smart building technologies. Development will also ensure a broadly representative residential community that includes a range of income brackets and ages.

This mix of uses is what makes the Dockside project unique. There have been ecoresidential and eco-industrial developments but the incorporation of such a wide range of uses within one development is rare. For example, waste resulting from one use will provide the nutrients for other uses. Holistic, closed loop thinking and design will have the effect of improving and potentially compounding the economic, environmental and livability benefits and attributes of all uses by all occupants in the development.

Dockside Green will offer a number of amenities, including:

- a waterfront walkway;
- pedestrian lookout pier & small boat launch;
- north / south trail connection through the middle of the site;
- large plaza/ community amphitheater/stage in Dockside Village;
- east/west greenway linkages;
- Victoria Sustainability Center/community assembly;
- market assisted housing;
- public art;
- extensive tree planting;
- historical, Aboriginal and environmental signage;
- shoreline enhancement and restoration;
- water features and creek running through the site;
- a community advisory group; and
- a carshare program and mini-transit; and

#### Web resource

#### http://www.docksidegreen.ca/

#### 9.10.5 UniverCity, Burnaby Mountain

On November 30th, 1995, after approximately two years of negotiations between the Province of BC, Simon Fraser University (SFU) and the City of Burnaby, an MOU was signed between SFU and the City of Burnaby, transferring approximately 332 hectares of SFU-owned land lying outside its Ring Road to the City of Burnaby for use as a park. In return, the university received approvals to build a new community surrounding the campus, named UniverCity. Amendments were subsequently made to Burnaby's Official Community Plan to include the Simon Fraser University Official Community Plan

UniverCity is being built as a model of a sustainable complete/mixed use community, integrating residential, commercial and academic uses. The development will encompass approximately 65 hectares (160 acres) of land. Comprehensive design guidelines have been put in place to ensure the development is compatible with the design and character of the existing campus and natural setting. State-of-the-art "green building" technology and healthy housing principles are being used to promote high quality construction, improved indoor air quality, as well as resource and energy conservation measures. Throughout the projected two decades of development, all construction will use the best practices of environmental stewardship, and protect the aesthetic and heritage values of Burnaby Mountain.

UniverCity has particular, innovative aspects. For example, to guarantee the long-term availability of affordable housing for students and low-income individuals and families, legal covenants on title are being used. This will ensure secondary suites will always be available for rent. UniverCity is also restricting business to those that are individually owned: there are no national, or international chains.

UniverCity is governed by the Simon Fraser UniverCity Community Corporation or SFU Community Trust, a wholly owned subsidiary of Simon Fraser University. The Corporation's Board of Directors receives advice from a Community Advisory Committee chaired by an internationally renowned expert in sustainable development. The Committee includes representatives from the campus community, and neighbouring interest groups.

In July 2005, the Cornerstone, the first mixed-use building in the centre of the UniverCity development, received three awards from the BC Hydro's Power Smart program recognizing its environmental sustainability and 'green' features. These features include geothermal heating and cooling of retail and office spaces, water conserving two-flush toilets and waterless urinals, a ventilation system which recovers heat from building exhaust, and a green roof.

#### Web resources

http://www.univercity.ca/index.html

Cornerstone award

http://www.sfu.ca/mediapr/news\_releases/archives/news07060501.htm

## 9.10.6 East Clayton Sustainable Community, Surrey, BC

As part of Surrey's commitment to the Greater Vancouver Regional District's "Livable Region Strategic Plan" to manage growth and development, in January 1999, Surrey's Department of Planning and Development entered into a multi-partnership agreement to create the Headwaters Project. The Headwaters Project will develop and showcase sustainable development principles and performance standards in a community neighbourhood environment. The first phase of the Project will be carried out in the community of East Clayton, through the implementation of the East Clayton Neighbourhood Concept Plan. Once fully implemented, the Headwaters Project and the East Clayton Neighbourhood Concept Plan will represent the first time sustainability principles have been used in BC as the basis for developing a new suburban community.

The East Clayton area includes 250 hectares of land in northeast Surrey, situated upland of the region's Agricultural Land Reserve. The site also drains into three of the area's most significant water bodies. The Neighbourhood Concept Plan is guided by and applies seven sustainable planning principles:

1. Increase density and conserve energy by designing compact walkable neighbourhoods. This will encourage pedestrian activities where basic services (e.g., schools, parks, transit, shops, etc.) are within a five- to six-minute walk of homes.

2. Provide different dwelling types (a mix of housing types, including a broad range of densities from single-family homes to apartment buildings).

3. All residences will be designed to promote social interaction.

4. Ensure that car storage and services are handled at the rear of dwellings.

5. Provide an interconnected street network, in a grid or modified grid pattern, to ensure a variety of itineraries and to disperse traffic congestion; and provide public transit to connect East Clayton with the surrounding region.

6. Provide narrow streets shaded by rows of trees in order to save infrastructure service costs and to provide a green environment.

7. Preserve the natural environment and promote natural drainage systems (in which storm water is held on the surface and permitted to seep naturally into the ground).

Many of these principles will create a community organized around using green infrastructure. Among the features East Clayton will offer are:

- the provision of housing for over 13,000 people;
- efficiencies and synergies between decreasing site infrastructure costs and dependence on cars;
- unit costs less than 20 30% of a standard home in the same area;
- secondary suites;

- close proximity to work;
- home-based work opportunities; and
- a "Rapid Bus" to connect all residents to major employment, shopping, and cultural centers to the east and west.

The next steps for the project include developing detailed design and engineering standards for the first development site in the community, and demonstrating "green" building and energy systems technologies. The project also plans to create a site design manual that will serve as a tool to develop new sustainable communities.

#### Web resource

http://www.sustainable-communities.agsci.ubc.ca/projects/Headwaters.html

# 9.10.7 Southeast False Creek, Vancouver

In 1991, Vancouver City Council directed that Southeast False Creek (SEFC) be developed as a residential community that incorporates principles of energy efficient design in its area plan and explore the possibility of using SEFC as a model "sustainable community." Since that time, numerous public consultations, technical reports and environmental planning have culminated in the Southeast False Creek Official Development Plan By-law and two accompanying Council Reports (Financial Strategy and Sustainability Targets and Indicators). These were approved by Vancouver City Council at a Public Hearing on March 1, 2005 and enacted on July 19, 2005.

The site is composed of approximately 80 acres (32 hectares) of former industrial land near downtown Vancouver. The majority of the land, approximately 50 acres (20.2 hectares) is owned by the City, and over 30 acres (12.1 hectares) is privately owned land.

SEFC will be a mixed-use community, with a focus on residential use, developed at the highest density possible while meeting livability and sustainability objectives. This complete community will ensure goods and services within walking distance and housing that is linked by transit and in proximity to local jobs. The public realm in SEFC, which includes open space, parks, streets, and pathways, will connect the entire site and link adjacent neighbourhoods. Movement within the site will be through a network of paths and streets designed for pedestrians, cyclists and transit.

Housing will comprise of 2,353 units for 4,949 people on City-owned land, with family housing a priority. Housing may also be included for an additional 8,575 people in the private lands area, with live-work space as a priority.

Parks and open space will be required to meet ecological objectives, including reestablishment of wildlife habitat, and private and community gardens will be encouraged.

In some areas of the site, demonstration projects in advanced environmental technologies, such as renewable energy supplies, water management, green building design and urban agriculture may be explored.

The guiding principles established for SEFC are:

- Implementing Sustainability: SEFC should promote the implementation of sustainable development principles in an urban setting;
- Stewardship of Ecosystem Health: The SEFC plan should improve the health of the False Creek Basin and encourage resource conservation and waste reduction;
- Economic Viability and Vitality: SEFC development should ensure viability without subsidy and encourage a vibrant and vital community; and
- Social and Community Health: SEFC should be a liveable, complete community supporting social networks and enhancing the quality of life for all in the neighbourhood.

Implementation of the SEFC development is pending. Currently, there are pressures from Vancouver's new mayor and Council to reduce the amount of affordable/non-market housing originally allocated for the site. Their objective is to increase the amount of market-housing, citing municipal funding shortages.

#### Web resource

http://www.city.vancouver.bc.ca/commsvcs/southeast/index.htm

# 9.10.8 Prairie Crossing, Grayslake, Illinois

Prairie Crossing is the critically-acclaimed 'Conservation Community' that was designed to combine responsible development, the preservation of open land and easy commuting by rail. It is now considered a pioneering example of designing communities to support a better way of life.

## Web resource

http://www.prairiecrossing.com/pc/site/index.html

# 9.10.9 Municipal strategies for parkland acquisition and stewardship

Evergreen is a national non-profit environmental organization with a mandate to bring nature to cities through naturalization projects. In 2001, Evergreen conducted a nationwide survey of urban municipalities, and have created a publication that includes 12 case studies profiling municipalities who applied innovative strategies for parkland acquisition and stewardship in their cities:

http://www.evergreen.ca/en/cg/cg-parkland.pdf

# 9.10.10 Urban Greening Partnerships

The environmental organization Evergreen has a collection of case studies on-line that examines various ways municipalities, community groups, institutions and corporations are implementing innovative nature projects. Case studies include diverse initiatives such as hydro corridor greening, urban agriculture, rooftop gardens and heritage seed preservation:

*Cities in Nature: Case Studies of Urban Greening Partnerships* <u>http://www.evergreen.ca/en/cg/cg-resources.html</u>

# 10 GLOSSARY

#### Acquisition

Land acquisition is a process in which a public agency or nonprofit land conservation organization purchases all the ownership rights to the land from a willing seller.

#### Amenity

An amenity is generally understood to be something that enhances the desirability of a property such as a view, open space, wildlife habitat, environmentally sensitive area, access to the water or parkland.

#### **Best Management Practices**

Best Management Practices (BMPs), or other codes of practices, are a systematic collection of principles or rules describing accepted or desirable professional or operating practices in relation to a particular topic or activity. They are used voluntarily and are meant to have widespread application. BMPs for biodiversity conservation are used to set minimum standards and guide achievement of conservation objectives.

#### Biodiversity

The variability among living organisms from all sources including terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems.

#### **Comprehensive Development Zones**

This type of zone promotes the integration of land uses when developing an area by permitting one or more land use classifications. A CD zone is based on a comprehensive development plan. Also known as mixed use zoning.

#### **Conservation covenant**

A voluntary, written agreement registrable against title to land under section 219 of the *Land Title Act* made between a landowner and a covenant holder covering all or part of a parcel of property in which the landowner agrees to protect the land as provided in the covenant.

## Critical habitat

The habitat that is necessary for the survival or recovery of a listed wildlife species and that is identified as the species' critical habitat in the recovery strategy or in an action plan for the species.

## **Crown land**

Land owned by the Crown. Also known as public land. Crown land may be held by either the federal or provincial government.

#### Dedication

Dedication is a legal term that refers to a developer/property owner providing a portion of their property to the municipality for such purposes as park space, Environmentally Sensitive Area or even to provide for a wider road in front of their property. Typically dedication pertains to a specific property that is under development application review.

#### Density

The amount of residential, commercial or industrial development allowed on a property. Commonly measured in dwelling units/acre or floor area ratio (the ratio between the total floor area to be built on a site, and the size of a site).

#### **Density bonus**

An incentive to developers to build additional units in exchange for public amenities, e.g., parkland, affordable housing, underground parking. Established in zoning bylaws.

#### **Development cost charges**

Bylaws that enable local governments to recover from a developer some of the costs for the provision of municipal infrastructure and parks created by the new development.

## **Development Permit Areas**

Areas designated in an OCP to which special regulations apply. A Development Permit Area (DPA) may be designed to protect environmental features, and control residential and commercial developments. Development Permits are required for any project proposed in a DPA.

#### Easement

A right of use over the land of another. Often used to permit passage across private land without the charge of trespassing. For conservation purposes, can be use to protect natural features such as riparian corridors, or allow passage over private land to access these features, or to monitor stewardship agreements.

## Ecological gift or eco-gift

A gift of land or a conservation easement, covenant, or servitude on land that is certified as ecologically sensitive by the federal Minister of the Environment or the Minister's designate in accordance with the provisions of the federal *Income Tax Act*, and that otherwise meets the requirements of the Act that give rise to special tax benefits.

#### Ecosystem

An interdependent and dynamic system of living organisms with their physical and geographical environment.

## **Environmentally Sensitive Areas**

A significant landscape or area which forms part of the natural and cultural heritage of a municipality and which requires planning and management measures to protect it from adverse development and other land use impacts. These areas may include watersheds, watercourses, aquatic habitats, marine foreshore and nearshore, mature and old growth

forests, wildlife trees, habitat, rare woodlands, and special land forms such as cliffs and coastal forms.

# Estate

(1) An interest in land. (2) All the property of which a person had the power to dispose by will.

## Fee simple estate (or interest)

The estate in fee simple is the largest estate or interest in land known in law and is the most absolute in terms of the rights that it confers. The largest possible bundle of ownership rights in a piece of land including the right to exclusive possession of the land, the right to use the land, and the right to dispose of the land.

Absolute ownership, unencumbered by any other interests or estate, subject only to the limitations imposed by the governmental powers of taxation, expropriation, police power, and escheat.

Following are four main features of ownership of land in fee simple. The owner has:

- the unfettered right to dispose of the land,
- the right to exclusive possession of his or her land,
- the right to use the land in the ways that he or she wants, subject only to the laws governing land use,
- the right to divide up the bundle of ownership rights and distribute them to others.

## Gift

A transfer of property without consideration, that is, without the expectation of any benefit, advantage, right or privilege in return.

## Green infrastructure

Natural and built features such as streams, trees, ditches, creeks, wetlands, greenspace, stormwater management ponds, watersheds, and green roofs. The use of green infrastructure – rather than on an arbitrary grid of service infrastructure such as roads – is an alternative organizing principle for municipal planning.

## **Green Zone**

Lands designated by municipalities for no intensive urban development within the Liveable Region Strategic Plan, the region's official growth strategy. It includes ecologically significant lands, renewable resource lands (agriculture and forest reserve), community health lands (e.g. drinking watersheds) and scenic and recreation lands.

## Greenways

Linear corridors of undeveloped land, natural vegetation or open space that connect green spaces and open areas into a green network. They may be miles wide or as narrow as a footpath; they often follow natural corridors along rivers, streams and ridgelines, but can also go across flatlands. They may be abandoned railway lines, remnant natural areas or developed areas that have been restored to their natural state. In connecting a

community's parks, beaches, school grounds, rights-of-ways forests, farms and other open spaces, a whole is made greater than the sum of its parks<sup>4</sup>.

#### Habitat

The particular type of local environment occupied by an individual or a population.

#### Habitat Conservation Trust Fund

A BC Government legislative trust established under the provisions of the Wildlife Act.

#### Infill development

The use of vacant land and property within a built-up area for further construction or development, especially as part of a neighborhood preservation or limited growth program. Existing buildings or fully or partially retained.

#### Interest in land

A right to have an advantage from some aspect of the land. One or more of the ownership rights of land. A conservation covenant or an easement is an interest in land.

#### Land Trusts

Organizations that purchase and hold land for the purpose of preserving/protecting conservation values and advancing stewardship.

#### Mixed-use zoning

Areas designated to accommodate a full and diverse range of uses for their inhabitants. These uses normally include residential, commercial, school, civic and retail. Development in the zone prioritizes quality of life, e.g., pedestrian friendly, green spaces, reduction of car use.

## **Private land**

Land owned by private individuals or corporations rather than the Crown.

## Property

Under the *Income Tax Act*, property of any kind whatever, whether real or personal, including a right of any kind, a share of the capital stock of a corporation and the work in progress of a business that is a profession.

## **Property tax**

Property tax is a tax levied on real property by either the province or a local government. It is based on the assessed value of the property. The revenue from property tax supports schools, hospitals and local government, including local services such as police, fire and waste removal services. The assessed value of property for property tax purposes is intended, in most cases, to be the fair market value of the property.

<sup>4</sup> Sandborn, 1996

Securing Private Lands for Biodiversity Conservation: Tools and Partnerships Peter Abrams Consulting Services and Dovetail Consulting Inc February, 2006

#### Property transfer tax

Property transfer tax is tax payable on the transfer of an interest in real property. The amount of property transfer tax varies with the value of the interest in the property and is based on the fair market value of the property at the time of transfer.

#### Recovery

The restoration of a species to a viable, self-sustaining population level, able to withstand random events and other environmental variables.

#### Riparian area

The land adjacent to the normal high water line in a stream or lake whose soils or vegetation are influenced by the presence of the channelized or ponded water. For the determination of streamside protection measures, the riparian area is sometimes defined as 30 metres from the top-of-bank on each side on a stream or around a lake.

A riparian ecosystem is a transitional zone between aquatic environments and uplands that are drier. A typical riparian area hosts plants such as rushes, sedges, grasses, shrubs and deciduous trees. In the riparian area leading to the bog proper, alder, hardhack, maple, Indian plum and blackberries line the path.

#### Species

A group of closely related organisms which are capable of interbreeding, and which are reproductively isolated from other groups of organisms; the basic unit of biological classification.

#### Split receipting

The process where a receipt for a donation is divided between the amount of the advantage received by the donor from the recipient and the amount that is a gift and eligible for a tax credit.

#### **Streamside Protection Measures**

Regulatory or voluntary measures to protect and enhance riparian areas so that these areas can provide natural features, functions and conditions that support fish and other riparian values such as wildlife habitat and slope stability.

#### Tax credit

An amount calculated under the *Income Tax Act* which is subtracted from tax otherwise owing.

#### Title

The legal right to the possession of property, especially real property, or the evidence of the right such as title deeds

#### Watercourse

An area which collects and drains water, i.e., lakes, rivers, streams, and wetlands.
## 11 KEY REFERENCES

- Bochner, S. (2000). "Smart Growth Tools for Transportation," *ITE Journal*, Vol. 70, No. 11, November 2000, pp. 26-29.
- Coriolis Consulting Corp. (2003). Do Development Cost Charges Encourage Smart Growth and High Performance Building Design? An Evaluation of Development Cost Charge Practices in British Columbia.
- Curran, D. (2003). *Smart Bylaws Summary*. Vancouver: West Coast Environmental Law Research Foundation. <u>http://www.wcel.org/issues/urban/sbg/summary.pdf</u>
- Curran, D. and M. Leung. (2000). *Smart Growth: A Primer*, Victoria: University of Victoria, Eco-Research Chair.
- Ewing, R. (1996). *Best Development Practices*, Planners Press, Chicago; <u>www.planning.org</u>
- Findlay, B and A. Hillyer (1994). Here Today, Here Tomorrow: Legal Tools for the Voluntary Protection of Private Land in British Columbia, Vancouver: West Coast Environmental Law Research Foundation. <u>http://www.wcel.org/wcelpub/5110/</u>
- Hillyer, A. and J. Atkins (2005). Voluntary Tools for Short Term Protection of Critical Habitat: Species at Risk Act, Draft for DFO
- Hillyer, A. and J. Atkins (2005). Greening Your Title: A Guide to Best Practices for Conservation Covenants, Second Edition, Vancouver: West Coast Environmental Law Research Foundation. <u>http://www.wcel.org/wcelpub/2000/13247.pdf</u>
- Hillyer, A. and J. Atkins (2004). *Giving it Away: Tax Implications of Gifts to Protect Private Land*, Vancouver: West Coast Environmental Law Research Foundation. <u>http://www.wcel.org/wcelpub/2000/wrapper.cfm?docURL=http://www.wcel.org</u>/wcelpub/2000/13020.htm
- Hillyer, A. and J. Miller. *Appraising Easements, Covenants and Servitudes: Guidelines* for Valuation. Forthcoming.
- Nolan, L, Rolfe, C. and K. Grant (2001). The Smart Growth Guide to Local Government Law and Advocacy: A project of the Institute for New Economics and Smart Growth British Columbia: Vancouver, B.C: West Coast Environmental Law Research Foundation.
- North Fraser Harbour Commission and Department of Fisheries and Oceans (1993). Memorandum of Understanding Concerning Procedures for Operation of the North Fraser Harbour Habitat Compensation Bank.
- Sandborn, C. (1996). *Green Spaces and Growth: Conserving Natural Areas in B.C. Communities.* Commission on Resources and Environment, B.C.
- Stewardship Series (2002 and updates 20004) *Green Legacies: A Donor's Guide for B.C.* Victoria: Habitat Conservation Trust Fund. <u>http://www.greenlegacies.ca/</u>

- Trohimovich, T. (2001). *Pricing Growth & Financing Smart Growth*, 1000 Friends of Washington. <u>www.1000friends.org</u>
- Tupelo Land Management Consulting (2003). Creating a BC Trust for Public Lands to Encourage and Facilitate Private Land Donations, Victoria, Options Paper for Ministry of Sustainable Resource Management and Ministry of Water, Land and Air Protection.
- United States Environmental Protection Agency (2001). Smart Growth Index (SGI) Model, U.S. Environmental Protection Agency www.epa.gov/smartgrowth/sgipilot.htm
- Victoria Transport Policy Institute (2005). Smart Growth: More Efficient Land Use Management, TDM Encyclopedia, <u>http://www.vtpi.org/tdm/tdm38.htm</u>
- Victoria Transport Policy Institute (2005). Smart Growth Reforms: Changing Planning, Regulatory and Fiscal Practices to Support More Efficient Land Use, TDM Encyclopedia, http://www.vtpi.org/tdm/tdm95.htm
- Webb, C. (1996). Environmental Stewardship in the Municipal Act: A Synopsis of Local Governments' Powers, Vancouver: Fisheries and Oceans Canada.
- Williams, G. (2006). Restoration of Old Mill Pond, Campbell River Estuary: Incorporating Project Compensation into a Broader Estuarine Restoration Plan, personal communication.