Georgia Basin Action Plan

Update 2005

TYNG IT ALL TOGETHER

How do diverse projects involving kids and councillors, cows and conferences come together to preserve the Georgia Basin?

Welcome to the first progress report for the five year Georgia Basin Action Plan (GBAP). GBAP fuses the efforts of the many people who are devoted to conserving and preserving the Georgia Basin. The GBAP partnership supports projects that range from putting on hip waders and leading kids through their community's wetlands, to putting on international conferences that bring environmentalists and researchers together with planners and politicians.

ENVIRONMENT CANADA

GBAP is bridging the gaps between science and policy, and between policy and practice. We are working at many levels to address the Basin's environmental problems and improve the ways we use the land, air and water.

GBAP currently supports 77 projects. Some of them put stewardship tools in the hands of the people. Other initiatives share the scientific knowledge of the Basin's intricate ecosystems, informing decisions made at public gatherings and on farmers fields, in the marketplace and in boardrooms. GBAP spreads the message of good science via community forums and over the Internet, through Best Management Practices and at schools of all types.

ENVIRONMENT CANADA

The 19 projects presented in the following pages offer examples of the action the GBAP partnership is taking to ensure healthy, productive and sustainable ecosystems and communities for the Georgia Basin's future.

Canada

BRITISH COLUMBIA
www.gov.bc.ca

Contents

WORKING TOGETHER FOR THE GEORGIA BASIN

AU TRAVAIL POUR LE BASSIN DE GEORGIA

The Georgia Basin Action Plan is a multi-partnered initiative working to improve sustainability in the Georgia Basin. The partners are Environment Canada, Fisheries and Oceans Canada, Parks Canada, BC Ministry of Environment and Coast Salish First Nations.

This report is available online at: www.pyr.ec.gc.ca/georgiabasin

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Aussi disponible en français

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Message from the Georgia Basin Action Plan Steering Committee

We are pleased to present highlights from the second year of the Georgia Basin Action Plan (GBAP). The projects described in the following pages detail collaborations among governments, business, academia, Coast Salish First Nations, industry and conservationists. The outcome of these projects, large and small, is movement towards sustainability in the Georgia Basin.

As the GBAP partnership grows, so does our capacity to act together and to craft collaborative long-term action plans that balance the needs of our environment, the health of our communities, the robustness of our economy, and the well-being of individuals. Through workshops, stakeholder meetings, consultations, planning processes and projects, we continue to explore together the most sustainable approaches to our collective future in the Georgia Basin.

A common theme running throughout these pages is that of sharing: data, knowledge, tools, and best practices. Our growing understanding of the Basin ecosystem is shared through research conferences and school field-trips, workshops and 'tool kits', on-site visits and the Internet. Science informs stewardship and provides guidance for policies that protect human and ecosystem health.

In the Georgia Basin, Western science can be enhanced by the lessons of Coast Salish Elders, the keepers of a hundred generations' worth of experience in managing ecosystems and resources. This year we are pleased to report that at the Coast Salish Forum we engaged critical stakeholders and made our partnership stronger when four representatives of the Coast Salish First Nations agreed to sit on the GBAP Steering Committee.

Because water, air, and species recognize no borders, we look forward to the new transboundary indicators that will be released this year. Having common environmental yardsticks with our partners in Washington State's Puget Sound will allow us to measure and manage the environmental stresses that our growing populations place on the Basin's air, land, water, and wildlife.

For more information on the Georgia Basin Action Plan, please visit our web site at www.pyr.ec.gc.ca/georgiabasin.

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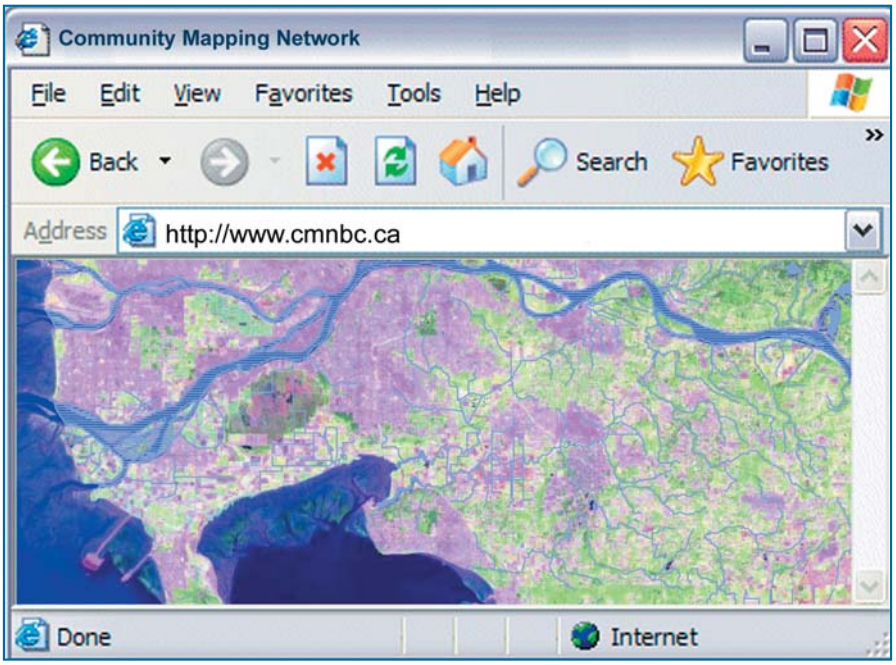


Community Mapping Network website

Community Mapping Network

Partners: Federal, provincial, regional, and local governments, the Real Estate Foundation of BC, environmental organizations, Coast Salish First Nations and academic institutions throughout BC

Community Mapping Network (CMN) is an online knowledge management system that lets users create printable, high quality maps, while allowing them to add information about the environment in their own communities. Among other uses, the CMN Web site was designed to help governments, First Nations, land use planners, developers, businesses and environmental organizations plan sustainable communities and restore degraded fish and wildlife habitats.

"CMN have come out to community meetings in Hatzic and the Chilliwack River Valley to demonstrate the web page to local groups," says Graham Daneluz, a planner with the Fraser Valley Regional District. "On the spot they took wildlife observations made by community members and uploaded them to the web site."

CMN contains 45 atlases with data from more than 50 watersheds in the Georgia Basin and from selected watersheds in the Okanagan, coastal BC and Washington State.

"The most important thing about the atlases is the people behind them," says Brad Mason of Fisheries and Oceans Canada. "Government agencies were not taking in critical information that can only be gathered with on-the-ground, site-specific, gumboot surveys with GPS. We take all the government data and make it very user friendly and then we allow communities to use it as a backdrop to add their data."

The atlases feature 1:5,000 scale maps of roads, trails, bike paths, property lines, existing land use, municipal services, geology and soil classifications, bio-climatic zones, fish and wildlife habitat, streams, fish habitat constraints, sensitive habitat areas, rare species, parks, protected areas, recreational areas, watershed boundaries, plant communities, bird, mammal, amphibian, insect and vegetative surveys, historical data, maps and aerial photographs.

"As far as I know, CMN is the only organization that's taking a holistic approach to different scales of landscape mapping and integrating all the complexities and information that fall in that," says Rob Knight, an Ecosystems Biologist with the former BC Ministry of Water, Land and Air Protection, now the BC Ministry of Environment. "The commons is more than the land–it's what we know about it. If you don't share the data widely and freely, that in itself is a tragedy of the commons."

CMN Website: www.cmnbc.ca

Harbours Atlas website

Harbours Atlas

Partners: Federal Government, Capital Regional District

The Harbours Atlas is an online mapping and information tool featuring the waters, and watersheds of, Victoria and Esquimalt harbours, Portage Inlet, Gorge Waterway, and Esquimalt Lagoon. The Atlas, designed to assist in environmental decision making, contains an inventory of the biological and physical features of the waterways taken by boat and underwater video camera surveys.

Atlas users have access to over 70 layers of information including sensitive shoreline habitats, native oysters and marine fauna, eelgrass and kelps, land use and watershed information. It can locate and describe environmental and land-use features in relation to property boundaries, road networks and waterways.

"I think you would be hard pressed to find anything like this anywhere else in the world," says Jody Watson, the Capital Regional District Harbours and Watershed Coordinator.

Capital Regional District (CRD) staff are now training the public and government on how to access the database to create and download printable maps that can portray any of the natural, environmental and man made features of Greater Victoria's harbours.

"Our intent is to get all of this environmental information and make it accessible to decision makers as well as the rest of the community," Watson says. "There's a vast array of potential users from municipal staff, planners, harbour managers, engineers and developers, to people interested in stewardship of the shoreline. A lot of community organizations use the site to get maps for planning or applications for funding."

Harbours Atlas web site: www.harboursatlas.ca

Cody Graham

Kids post decals on businesses that adopt Best Management Practices.

Cleaning Up Rock Bay

Partners: Federal and provincial governments, Capital Regional District, the City of Victoria, Burnside Gorge Community Association, the Veins of Life Watershed Society, the Victoria Foundation and the Victoria Times-Colonist

A Business Pollution Prevention Program and a Residential Watershed Pledge Program are reducing the amount of nonpoint source pollution in the stormwater that drains into Rock Bay, one of the most contaminated areas of Victoria's Inner Harbour.

"We're working with industry to reduce contamination and bring back wildlife to this urban waterway," says Jason Lasuik, Community Environmental Coordinator with the Burnside Gorge Community Association (BCGA).

Over 200 Best Management Practices manuals have been distributed to the automotive industry, which makes up 36 percent of the industry in the area. Many contaminants that enter Rock Bay come from the automotive industry, making it the highest potential threat to storm water. The BGCA educates business owners and makes on-site visits to inspect and review businesses' current practices to suggest improvements.

"The response we get from the business community is very positive," says Lasuik. "They're usually surprised to hear that the watershed covers 434 hectares which is about one quarter of the City of Victoria."

There are over 300 households that have taken the Residential Watershed Pledge Program. When people take the pledge they can opt to receive a free at-home visit from the BCGA to find out how they can actively improve the water quality of the bay and harbour by changing or adapting some of their daily activities.

"Once people understand how they have an effect–that they are actually connected to what happens in their waterways–they're usually inspired to make a few changes," Lasuik says.

The BCGA is also teaching watershed awareness at elementary and secondary schools located in the Rock Bay Watershed. The older students are being trained to guide younger students through the awareness program in the future.

For pledge forms and more information see www.restorerockbay.com

From Bowl to Basin

Partners: Environment Canada, Greater Vancouver Regional District, Capital Regional District, University of Victoria, University of Western Washington and the Natural Science and Engineering Research Commission

Prescription drugs and the chemicals from personal care products are affecting fresh water and marine life.

"Municipal wastewater contains the residue from birth control pills, antibiotics and other pharmaceuticals," says Graham van Aggelen, Head of Environmental Toxicology at Environment Canada's Pacific Environmental Science Centre. "When they go into the sewer system they're not too far removed from the how they went into a person. They're still very active."

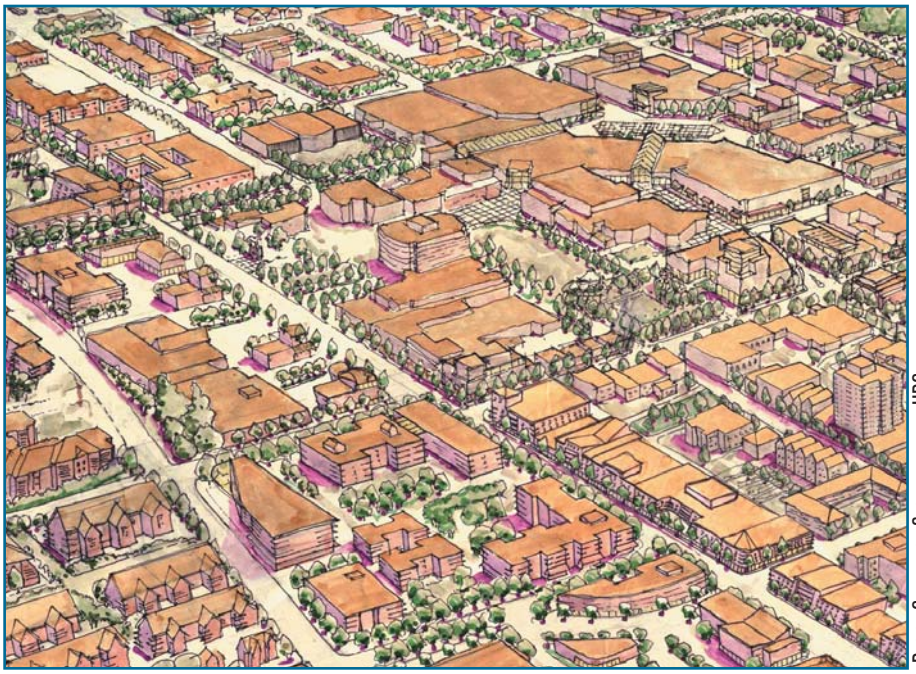
Sewage treatment plants are designed to treat human waste, not drugs and the fragrance compounds from shampoo, deodorants, soap, etc.

"There's documented evidence to suggest that pharmaceuticals and personal care products are Endocrine Disrupting Chemicals (EDCs)." van Aggelen says.

The endocrine system is responsible for delivering preprogrammed messages to an animal's key functional systems such as the central nervous system, growth patterns, sexual development, the fight or flight response, and the metamorphosis of some fish in the transition from fresh water to sea water. EDCs affect these signaling processes.

Researchers have found that one effect of the contaminants on the salmon they are studying is the feminization of male fish; birth control pills and some pharmaceuticals cause the endocrine system to produce female characteristics. The list of suspected EDCs in the marketplace grows by about 100 a day.

One of the areas under study is in the Fraser River, where the Annacis Island treatment plant discharges. Annacis is one of the most modern treatment facilities in BC, so if there are effects to fish caused by the effluent there, the problem will likely occur at other operations.



Design Centre for Sustainability at UBC

Maple Ridge: the First Smart Growth on the Ground Community

Partners: GBAP, City of Maple Ridge, Smart Growth BC, UBC Sustainable Communities Program and the Real Estate Institute of BC

Maple Ridge is revitalizing its downtown, combining Smart Growth principles with the objectives of the City's Official Community Plan to lay the foundations for redeveloping the historic area. Maple Ridge is the first project of the Smart Growth on the Ground (SGOG) initiative, a partnership between the UBC Sustainable Communities Program, Smart Growth BC, and the Real Estate Institute of BC.

"Partnering in this kind of thing is really important," says Maple Ridge Mayor Kathy Morse. "We can take advantage of Smart Growth BC's expertise. Plus we're very interested in trying to plan well and manage growth."

Residential development is the main reason that 43.5 hectares were taken out of the Agricultural Land Reserve in Maple Ridge between 2000 and 2003.

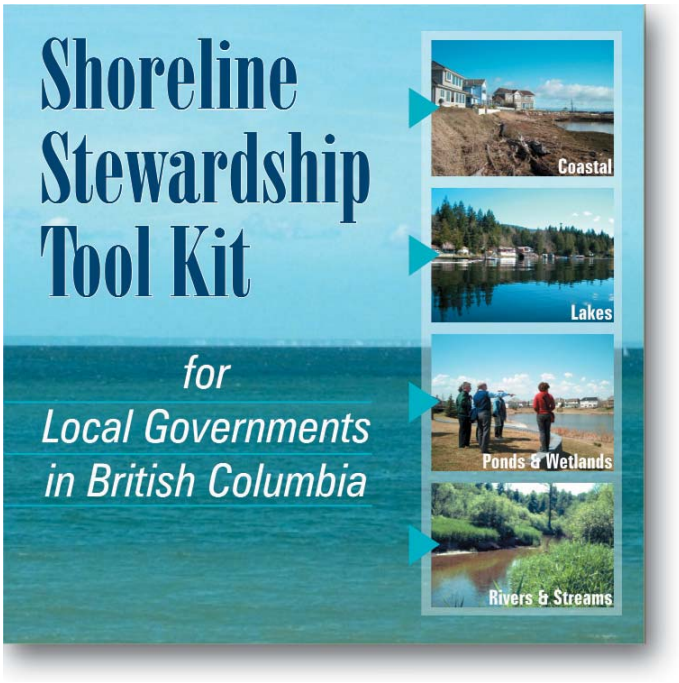
Similar growth pressures face communities throughout the Georgia Basin. Environment Canada, through GBAP, supports initiatives like SGOG that address environmental issues to achieve healthy, productive and sustainable ecosystems and communities.

"GBAP is driven by the need to deal with growth pressures," says Zita Botelho, GBAP Program Coordinator. "A significant driver of that pressure is population growth and development–land use ultimately–which has an impact on air and water quality, habitat and species, and overall community sustainability."

SGOG held four workshops early in 2004, where citizens wrote a list of design instructions for a charrette that was held in June, 2004. A charrette is a planning event that brings representatives from the community together with designers, planners and other experts.

"Typically in a community, density is a negative word and it doesn't seem to be for the vast majority of the people that are coming out to the workshops," says Jodie Siu of Smart Growth BC. "They understand that a higher density will create a vibrant downtown and support local businesses."

The entire plan is available at: www.sgog.bc.ca/content.asp?contentID=125



Conservation in Action: Tool Kit Helps Protect Shorelines

Partners: GBAP, the Real Estate Foundation of BC, the Vancouver Foundation, and community-based conservation groups

Living By Water developed a tool kit in 2004-2005 to help local governments work with shoreline residents to protect the shorelines of creeks, lakes and the ocean. Living By Water (LBW) is a partnership project led by the BC. Federation of Naturalists. The scoping project and the pilot program to complete the Shoreline Stewardship Tool Kit CD was funded by GBAP.

"We've pulled together case studies and tools to help local governments," says Sarah Kipp of LBW. "That includes communications and outreach, what we call 'Conservation Action Marketing', which is an approach to encourage people to change their behaviours. If a planner is doing a site visit and they want someone to retain their riparian area, the Tool Kit gives them tools for talking with shoreline residents, and to motivate them to protect a riparian area or manage their runoff in different ways."

The economic, social and ecological values of shorelines can be substantial. From a legal perspective they are one of the most complex parts of the landscape. The tool kit includes legal case examples as well as photos of erosion and soft engineering ways of dealing with it. It also includes powerpoint presentations and access to resources such as the book *On the Living Edge*. Another section covers boating restrictions for people who want to change boating use on lakes. Archaeological due diligence to help planners identify heritage sites is another important aspect of the tool kit; many of our cultural heritage sites are situated on shorelines.

The next phase of the project is to distribute the CD tool kit. LBW plans to create a DVD version of the tool kit with video clips.

"It's something that's always going to be in development," Kipp says. "There's always going to be more learning that can be incorporated. The feedback we've had is that planners appreciate the help to make their jobs easier because they are overloaded."

Copies of the Shoreline Stewardship Tool Kit are available by writing to shorelines@jetstream.net

Proposed National Marine Conservation Area

Public Input to Proposed National Marine Conservation Area

Partners: Federal and provincial governments, Coast Salish First Nations, Islands Trust, Capital Regional District, commercial fishers and recreation tourism organizations

A feasibility study is being conducted to determine whether a new National Marine Conservation Area (NMCA) should be established in the southern Strait of Georgia. NMCAs protect and conserve representative marine areas, including rare and endangered species, while allowing people to use the area in a wise and ecologically sustainable manner. The study area covers about 900 square kilometers of marine waters around the southern Gulf Islands. A wide range of marine species thrive in the rocky reefs, lush kelp beds, protected bays, estuaries and fast water channels of this ecosystem.

A feasibility study identifies and develops a shared vision for the conservation and management of the area. The study team is gathering information about water quality, the protection of marine habitats, the restoration and maintenance of marine biodiversity and ecologically sustainable use.

"In addition to ensuring the long term conservation of this marine ecosystem, we're very interested in providing for a sustainable commercial fishery and a strong recreation and tourism sector in this area, as well as other forms of activities and commerce that take place," says Bill Henwood, Project Manager for the study. "There are a number of provisions that an NMCA could bring to the area that aren't there now. For example there would be no seabed mining, or oil and gas exploration or development in an established NMCA."

Determining the level of public support is a key goal of the feasibility study. Parks Canada is hosting information sessions, open houses, public meetings, and workshops to hear from communities, and all levels of government. In January 2005, with the support of the Coast Salish Sea Initiative, Parks Canada and Coast Salish leaders began discussing the values and process for the NCMA study.

"We've heard great support for the concept of an NMCA and the feasibility study so far, and there is a lot of interest in what we're coming up with," Henwood says. "In some quarters there's cautious support, and that is to be expected. People are still waiting to hear what the full implications of an NMCA would be for recreational boating and fishing, and commercial fishing as well."

The study is slated to be done by 2007.

For more information on the feasibility study see: www.pc.gc.ca/progs/amnc-nmca/cnamnc-cnnmca/dgs-ssg/index_e.asp#4

Gulf Islands National Park Reserve

Partners: Parks Canada, the Islands Trust and the Capital Regional District

ENVIRONMENT CANADA

Gulf Islands vista

In April 2004, the Province transferred approximately 90 parcels of land to Parks Canada that had been acquired jointly through the Pacific Marine Heritage Legacy Program. The parcels, spread over 15 islands and many islets in the southern Gulf Islands, became part of Gulf Islands National Park Reserve.

Further land acquisitions in 2004-2005 totalled 180.9 hectares, including parcels with lakes, ponds, wetlands, Garry Oak woodlands, Douglas-fir forest, and a watershed area for one of the only active salmon creeks in the southern Gulf Islands. On Saturna Island the acquisition included the donation of one parcel, the purchase of another and a land swap/donation; two properties were bought on South Pender Island and another parcel was donated on North Pender Island.

In early 2004, management planning of the Gulf Islands National Park Reserve began with a public involvement and consultation process related to the development of Interim Management Guidelines. This process included 11 information sessions, a newsletter outlining approximately 30 critical issues and possible management directions to address them, and seven focus group workshops with a variety of local stakeholders and area businesses. The Hul'qumi'num Treaty Group Advisory Committee and the Park Advisory Committee have provided ongoing input. Public consultation open houses on the Interim Management Guidelines are planned in the greater region in the spring of 2005.

Several research and management projects and partnerships have been established through this first year of operation including marine and terrestrial plant studies, removal of non-native invasive plants, archaeology projects, and species at risk critical habitat research.

For more information on Gulf Islands National Park Reserve go to www.pc.gc.ca/pn-np/bc/gulf/

CABIN Training

Partners: Environment Canada, National Water Research Institute and the former BC Ministry of Water Land and Air Protection

CABIN (Canadian Aquatic Biomonitoring Network) provides stream assessment tools for the province, municipalities and stewardship groups to collect similar data so that it can be analyzed and compared. CABIN is a national program to assess the biological health of fresh water in Canada.

Stewardship groups are being trained to gather water quality information in their communities by sampling bugs living in the stream bed. Volunteer stream monitors are a valuable asset for measuring the success of urban watershed management in the Georgia Basin. The program held three workshops during the last three years that trained 43 people from 29 groups, including provincial and municipal agencies.

"We're looking at how invertabrates like stoneflies, mayflies, caddisflies, and worms respond to nonpoint source pollution," says Stephanie Sylvestre, an Environmental Studies Scientist with Environment Canada. "The bugs are important because they're food for fish. If they're not there then the fish don't have much to feed on. Also, they don't move along the length of the stream like the fish do. The bugs are exposed to site-specific problems that fish might be able to swim away from. The other good thing about the bugs is that a large number of species have a range of responses to environmental conditions. For example, worms are tolerant of high nutrients and depleted oxygen, while stoneflies are not."

Craig Logan, NWRI

Benthic invertabrates found in healthy streams

"I think the main thing I took away from the course was another strong scientifically-defensible tool for stewardship groups to be able to apply in their own watersheds, the ones they know and love," says Patrick Lilley of Trinity Western University. "With the move by governments to work with citizens for long-term ecological monitoring, CABIN is a great way for local stewardship groups to diagnose problems in their watersheds and work towards solutions with local stakeholders."

Information about CABIN and access to the sampling protocols can be found on the website at www.pc.gc.ca/pn-np/bc/gulf/

Coastal Management Plan Harmonizes Conflicting Demands

Partners: Federal and provincial governments, the Powell River Regional District and the Sliammon First Nations

Provincial Coastal Management Plans are being developed to diversify and expand the economies of many of BC's coastal communities. In the Georgia Basin, the Malaspina-Okeover Coastal Plan was completed in 2004 and encompasses approximately 1,800 hectares of marine waters and 61 km of shoreline along Malaspina, Okeover, Lancelot, and Theodosia Inlets.

The plan addresses land and resource conflicts, and protects the environment to benefit the economic future of the community. It supports a range of economic activities including shellfish aquaculture, log handling and storage, and public and commercial recreation. It also considers upland uses including resource harvesting and residential development.

"We went into this plan with the objective of casting the net as broadly as possible to come up with a comprehensive vision of the area," says Rob Paynter, the Manager of Coastal and Marine Programs for the former BC Ministry of Sustainable Resource Management. "We want to know as much as we possibly can about the different aspects of the ecosystem. We look at how the different kinds of biological values influence, and are subsequently impacted by, the human uses in the area. Then we seek input through open houses, receive recommendations from a public advisory committee and hold discussions with key sectors and interested parties."

BC MINISTRY OF SUSTAINABLE RESOURCE MANAGEMENT

The Malaspina-Okeover Plan encompasses traditional territories of both the Sliammon and Klahoose First Nations. Provincial staff held several discussions with the Sliammon First Nation regarding development of the plan which encourages all tenure applicants to develop working relationships with the Sliammon. The Klahoose First Nation chose not to participate in the planning process although they did review the final draft of the plan.

"Over the course of our coastal planning initiative, we have moved from a model focused on provincial planning requirements to one that more effectively addresses the interests of local communities, area First Nations and Fisheries and Oceans Canada as well," Paynter says. "Every time we undertake a new plan, we seek to learn from the one before. It's a template that continues to evolve."

To see details of the Malaspina-Okeover Coastal Plan go to:
http://srmwww.gov.bc.ca/rmd/coastal/north_island/malaspina/index.htm


ENVIRONMENT CANADA

The NPS pollution model shows that what goes down the drain at home runs into the rivers and, eventually, the ocean.

Promoting Environmental Stewardship

Partners: Federal government, the Fraser River Discovery Centre, Vancouver Aquarium, Scouts Canada, Young Naturalists Club of BC and the David Suzuki Foundation

The Aquatic Science Section Staff of Environment Canada (EC) promote environmental stewardship in schools and at community events throughout the Georgia Basin.

"Environment Canada conducts environmental studies and scientific research to find out what's going on, then delivers that information to the public so they can make educated decisions about the environment," says Gail Moyle, a Technical Planning Coordinator with EC. "Some of the audiences that we focus on are the kids and young adults who will ultimately be affected by these decisions."


ENVIRONMENT CANADA

Gail Moyle of EC teaches kids about life in the estuary.

One of the best ways to reach their audience is to lead kids on field trips where they can learn and get excited about wildlife, estuaries and environmental stewardship in their own communities.

"Kids can watch TV, they can go to the Internet, they can do all sorts of virtual learning–and it's good–but I really think that the hands on learning is what's going to bring the greatest appreciation for the environment," Moyle says. "All the kids have to do is look around and they'll see gulls, ducks, eagles, and herons feeding in the estuary. The kids can make the food web connections. If things are coming down the creek that aren't good for these creatures then their health won't be good in the future."

In 2005, EC staff have been leading field trips with the Estuary Explorers, a young naturalists organization. They use the "Discover Your Estuary" book and other material produced by EC as a guide to exploring the Fraser River Estuary.

Other stewardship projects inform both kids and adults of environmental issues, ecological connections in the environment, and human impacts through award winning tools like the Interactive Pollution Model.

"The model brings something to people that's relative to their own lives," Moyle says. "We show them how we're all affecting the environment with our nonpoint source pollution, and what we can do about it. It's not just telling people what's wrong. We're trying to suggest some ways that we can all work together to make things better."

The model is displayed at schools and community events like the Lillooet First Nation's Science Fair and in Kootenay and Yoho National Parks for the "Wonder of Water" in celebration of the UN International Year of Freshwater. A large scale model was built with volunteers at the Fraser River Discovery Centre in New Westminster.

Interactive Pollution Model Web site:
www.pyr.ec.gc.ca/EN/IPM/

Discover Your Estuary EC Web site:
www.pyr.ec.gc.ca/EN/DYE

White haze over the Fraser Valley.

The High Cost of Air Pollution

Partners: Federal and provincial governments, Fraser Valley Regional District, Greater Vancouver Regional District and the BC Lung Association

In 2004, the health effects and the related costs of reduced air quality in the Lower Fraser Valley were identified. Researchers have not found a lower threshold for air quality impacts on public health, which indicates that any amount of air pollutants, even in low concentrations, is harmful to human health.

"What that means is that we need to continue our efforts to improve air quality; not simply to achieve current air quality standards, but to make ongoing efforts to clean the air," says Martin Mullan, a Senior Air Quality Planner with Environment Canada. "Through the BC Lung Association, the partner agencies are looking for new, collaborative ways to protect human and ecosystem health which supports the Canadian Council of Ministers of the Environment program for continuous improvement of air quality. We know that the air quality in the Georgia Basin is good compared to most places in North America, but we also know that air pollution in our airshed is still causing health and environmental impacts."

Health impacts range from eye, nose and throat irritation to lung/heart disease and cancer. Therefore, reduced air quality places a burden on the health care system. Indirect costs to society include lost productivity in the workplace, lost wages due to sickness and reduced quality of life due to effects such as reduced visibility from air pollution.

"If we can show that there are direct savings to the health system when we slightly increase our efforts to reduce air pollution then that's a great justification to do it," Mullan says.

The BC Lung Association has released a report that estimates air quality impacts in the Lower Fraser Valley airshed now and makes a projection up to 2020. The airshed includes the Greater Vancouver Regional District, Fraser Valley Regional District in BC and Whatcom County in Washington State. The results of the report were presented to health practitioners, businesses, students, and the public at a health and air quality workshop in March 2005, and at the 2005 BC Clean Air Forum held on Earth Day.

The report is available online at: www.bc.lung.ca/services/services_air.html

ENVIRONMENT CANADA

On good air days Mount Baker is seen for miles.

Best Management Practices for Lower Fraser Valley Farms

Partners: Environment Canada, Fraser Valley Regional District, Greater Vancouver Regional District

An emission inventory of agricultural sources in the Lower Fraser Valley was conducted and a series of Best Management Practices (BMPs) were developed in 2004 that will potentially reduce or prevent air pollution from agricultural operations.

Air emissions from agriculture sources in the Lower Fraser Valley are projected to grow steadily and significantly to 2025. The two pollutants of primary concern in the airshed are ground-level ozone and fine particulate matter which contribute to smog formation and poor visibility. Ozone and fine particulate can be formed through reactions among pollutants from sources such as manure, pesticides and farm machinery. Fine particulate can also come from vehicle and marine vessel exhaust, and agriculture burning, and has significant health effects.

"A lot of the BMPs that are identified in the report are quite straightforward and have been proposed or implemented elsewhere," says Natasha Essar, an Air Quality Planner with Environment Canada. "For example, we looked at manure management practices and crop rotation which could be feasibly implemented both from an economic and environmental perspective."

Other recommendations included: Management of riparian areas and field margins, changing the feed for dairy and poultry operations, improved fuel storage, and dust control. In many cases the biggest barrier to implementing the BMPs is not cost, but resistance to changing traditional farming practices.

"The reception from the industry has been fairly good and we're hoping that this work will help us to identify opportunities to work with our partners and the agriculture industry to address these issues in the future," Essar says.

PARKS CANADA

Restoring Garry Oak by removing non-native plants.

Saving Garry Oak Ecosystems

Partners: Federal, provincial, regional and local governments, Coast Salish First Nations, non-governmental conservation organizations, academia and private enterprise

The Garry Oak Ecosystem Recovery Team (GOERT) is a conservation partnership that has developed a comprehensive, holistic strategy to recover and restore decimated Garry Oak ecosystems. The ecosystems harbour 119 identified species at risk listed either federally or provincially.

All of Canada's Garry Oak ecosystems are in the Georgia Basin: on southeastern Vancouver Island up to Comox, the Gulf Islands and a couple of isolated pockets in the Fraser Valley. Less than five percent of the original habitat remains in a near-natural condition. Habitat loss, fragmentation, invasion by exotic species and other factors pose serious threats to these ecosystems.

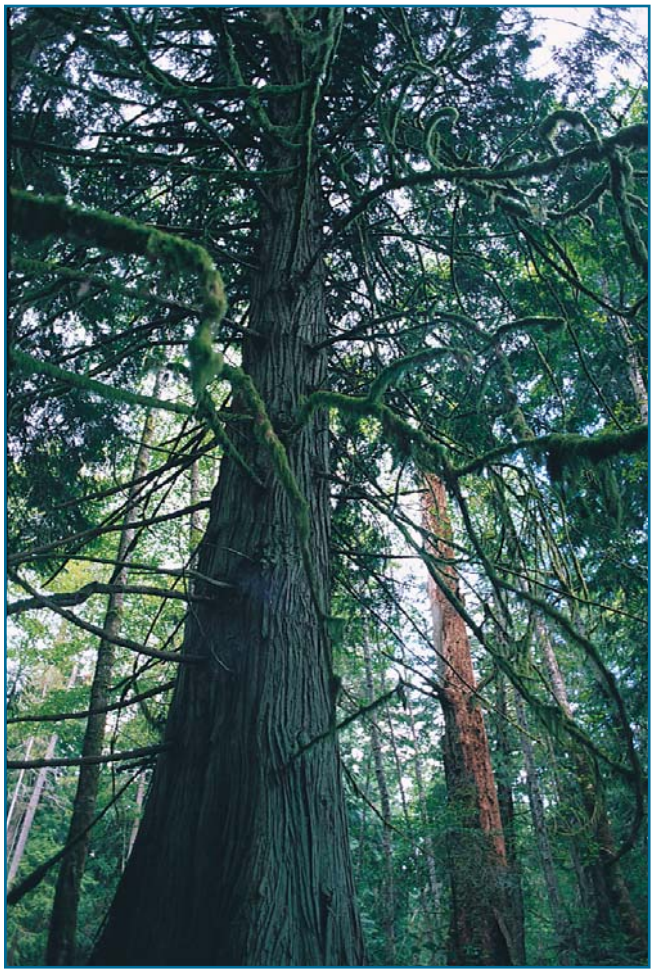
"We're losing more Garry Oak ecosystems than we're gaining which has been the trend for the last century or more," says Parks Canada's Brian Reader, who chairs GOERT. "We're trying to turn that tide and reverse the decline and start to secure, acquire or restore the remnant parcels. It's a huge initiative that will take us into the next century if we hope to be successful in it."

GOERT is conducting outreach and education programs to motivate public and private stewardship activities, and works with regional governments to provide biological and technical information about the ecosystems. GOERT has outlined the steps needed to protect and restore Garry Oak ecosystems and is developing an information base that includes the biology and ecology of the plant and animal species at risk.

"We've been working on active restoration on a number of sites," Reader says. "This is probably the biggest recovery planning program under the Species at Risk program."

Reader, through his work with Parks Canada, is restoring 54 hectares at Fort Rodd Hill National Historic Site by removing invasive non-native shrubs and planting thousands of native plants that were grown from seed collected on the site. Parks Canada is also restoring eight small islets in the Gulf Islands National Park Reserve that are beautiful examples of Garry Oak and associated ecosystems.

GOERT website: www.goert.ca



A giant in Greater Victoria's shrinking forest.

Mapping Greater Victoria's Trees

Partners: Federal, provincial, regional, and local governments, Habitat Acquisition Trust, the development, forestry and conservation communities, arborists and landscape architects

The Urban Forest Stewardship Initiative is taking the first step to preserve Greater Victoria's remaining forests. One of the Initiative's projects is mapping trees in the Capital Regional District (CRD) to record the cover and quality of forest.

"We know we've got a beautiful city but we also know we're losing urban forests at a rapid rate," says Jennifer Eliason, Executive Director of Habitat Acquisition Trust (HAT). "We'll be able to distinguish between individual 'boulevard' trees and semi-intact urban forests where there are native ecosystems still functioning."

In 2004 and 2005 HAT hosted public forums to get public input on the draft Urban Forest Stewardship Strategy.

"We want feedback to involve as many people and organizations as possible so it's relevant to a broad array of groups," Eliason says. HAT is also reaching out to local governments to plan the CRD's forests of the future.

www.hat.bc.ca/projects/urbantree.htm

Online Stewardship Information

Partners: Federal, provincial, regional, and local governments, environmental organizations, Coast Salish First Nations, industry and universities

The Stewardship Centre for British Columbia is a "one stop shop" or online clearing house for stewardship resources in BC The Centre provides easy access to information and Best Management Practices needed to care for the land, water and biodiversity resources of BC in a responsible manner. The Centre is a place where anyone–from a homeowner to a local government–can find other people in similar situations, and learn from each other's experiences through Stewardship Series guides and case studies.

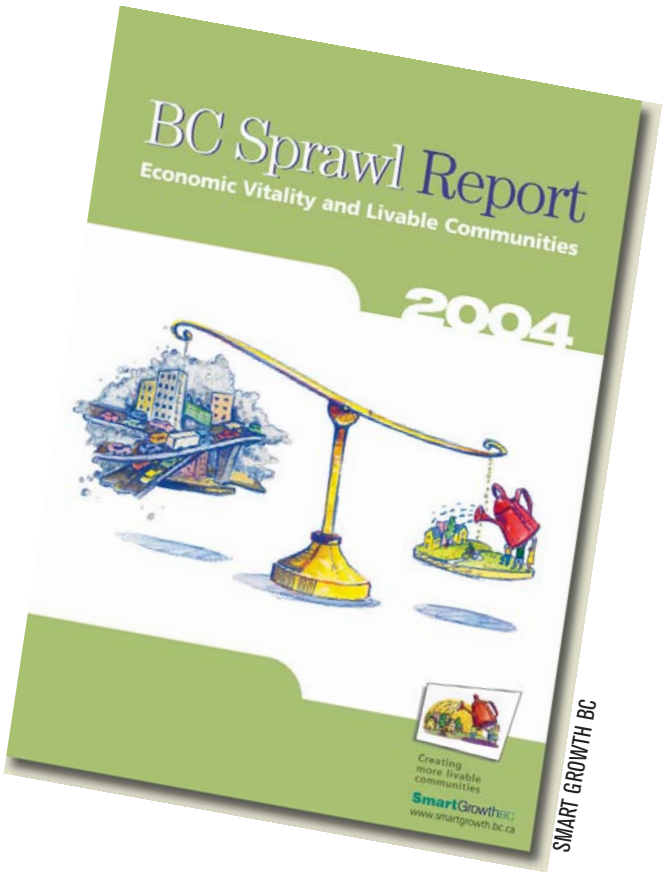
"We envision the Stewardship Centre as a place where anyone can come to do stewardship related business, whether it is creating new projects, or connecting people," says Jessica Bratty of the Fraser Basin Council.

Recently, an Interim Steering Committee was formed to broaden the governance of the Centre from government agencies to include non-government stewardship and conservation organizations. In addition, partnerships have been developed with the BC Water and Waste Association and the Community Mapping Network, to provide additional information to users of the Stewardship Centre.

Currently there are several new projects underway at the Centre including the Green Shores Pilot Projects, which will provide examples of alternative approaches to sustainable coastal design for developers, landowners, and local governments. Another new project is a Stewardship Series document entitled the "History of Stewardship in BC." Initial discussions are also underway to determine interest in developing a Nature Based Tourism and Recreation Stewardship Guide which will focus on best practices for stewardship in the tourism and recreation industry.

The Steering Committee also supports the development of "communities of interest" which are hosted on independent web pages. An example is the Water Bucket project (www.waterbucket.ca), which provides tools and resources for water based stewardship. Another site under development will provide information about Pacific Salmon. Discussions are also underway to determine the feasibility of an Aboriginal Lands and Stewardship community of interest.

For more information visit www.StewardshipCentre.bc.ca



Land Information BC

Partners: All levels of government, industry, businesses, non-government organizations, and academia

Land Information BC serves the people of BC by providing leadership in spatial and geographic information.

Land Information BC provides a single window to land and resource information, products and services for business, industry, academia, governments and the public. This information is delivered through partnerships, agreements and alliances with other businesses, industry and governments. Through easy access to natural resource, land ownership and legal interest information, Land Information BC supports economic opportunity and development efforts, various levels of planning, First Nation opportunities and Treaty negotiations, business and citizens activities through e-services and the protection and stewardship of provincial resources. It provides users with easy access to over 400 layers of information that can be customized for screen or print, including a provincial atlas of natural and man-made features; land ownership, tenures and boundaries; and vegetation, fisheries, wildlife, and ecology. Over the longer term, Land Information BC will be broadened to enable the integration of social and economic information.

"Land Information BC provides access to information that will guide resource stewardship and the sustainable use of natural resources," says Dugald Smith, Operations Manager with Land Information BC. "We want to make sure that decisions makers are provided with objective, science-based information."

Land Information BC is available at: http://srmwww.gov.bc.ca/g/libcfacts.html

Georgia Basin/Puget Sound Research Conference

Partners: Georgia Basin Action Plan, Puget Sound Action Team

The Georgia Basin/Puget Sound Research Conference brought over 800 academics, consultants, students, Coast Salish First Nations and tribal government representatives, resource managers, community leaders, policy makers, scientists and conservationists together to share science and information about the condition and management of the region.

The theme for the international conference was "Science for the Salish Sea: a sense of place, a sense of change." It was held in Seattle on March 29-31, 2005. Participants listened to presentations from scientists and politicians, and joined in discussion panels, workshops, stakeholder-led meetings, and poster sessions. Approximately 300 technical papers and 100 posters were presented during the event.

"It was an excellent event to bring people together from both sides of the border to recommit and re-energize our collective efforts to save Puget Sound and the Georgia Basin," says Brad Ack, Director of the Puget Sound Action Team. "We heard a lot of interesting, and in some cases startling, science about what's happening to our shared resource. We talked about the things that we need to do, and must do, in order to protect this shared resource. We generated a lot of positive momentum to redouble our efforts to do the work that's needed."

The conference provides opportunities to share research, issues of concern and to share experiences and Best Practices to tackle those issues of concern.

"We share a marine ecosystem, species, habitats and air, and we share common problems," says David Fraser from Environment Canada and Conference co-chair. "So it is critical that we find a way to come together regularly to discuss and implement shared solutions. Through the Georgia Basin Action Plan we hope to continue supporting transboundary dialogue, and transboundary solutions, and we look forward to the next Georgia Basin Puget Sound conference in 2007."

"We share a marine ecosystem, species, habitats and air, and we share common problems."
David Fraser, Conference Co-Chair

"We've found that we're simply not working at the right scale," Ack says. "While we have done a lot of excellent work over the years, the scale of the problem is outpacing the scale of our efforts. So we're committed to redoubling and scaling up. We're very committed and excited and hopeful about working with our Canadian partners on this."

Conference proceeding will be available in the summer of 2005 through the Georgia Basin Coordination Office or the Puget Sound Action Team.

Coast Salish Chiefs join Georgia Basin Action Plan Steering Committee

Partners: Federal and provincial governments, Coast Salish First Nations

Chief Ed Mitchell hosted the Coast Salish Forum on the Pauquachin Reserve on Vancouver Island on March 22, 2005. Most of the Georgia Basin/Puget Sound region is the traditional territory of the Coast Salish people.

At the forum, four chiefs volunteered to serve on the Georgia Basin Action Plan steering committee.

"Some of the chiefs considered it a historical meeting because they've been asking for more representation at higher levels," says Phil L'Hirondelle, Environment Canada's First Nations Liaison. "This means that Coast Salish First Nations, along with partner organizations will, together, set the direction for the Georgia Basin Action Plan Framework for Collaboration. It's a new beginning for us."

Elder Tom Sampson chaired the forum that was attended by Coast Salish chiefs from Vancouver Island, the Lower Mainland and the Fraser Valley. Joining them were representatives from the federal and provincial governments, the U.S. Environmental Protection Agency and the Swinomish Tribe in Washington State. Discussions ranged from salmon farming to treaty negotiations and how the chiefs would like to protect rivers in a more holistic manner.

ENVIRONMENT CANADA

"We belong to the land, the land does not belong to us."

Coast Salish belief

"There are opportunities at many levels and we have here a renewed focus and energy to develop them and move forward together," said Mary Beth Bérubé, Manager of GBAP.

One early opportunity is at a conference in November 2005 which will showcase environmental and related best practices on Coast Salish First Nations lands in the Puget Sound and Georgia Basin.