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GEORGIA BASIN ACTION PLAN FIVE-YEAR UPDATE



**WORKING TOGETHER
FOR THE
GEORGIA BASIN**

2003-2008





MESSAGE FROM THE GEORGIA BASIN ACTION PLAN STEERING COMMITTEE

We are pleased to present the five-year (2003–2008) update for the Georgia Basin Action Plan. This report highlights a number of the accomplishments of Georgia Basin Action Plan partners as they work to further progress towards environmental, social and economic sustainability in the Georgia Basin and Puget Sound. This report highlights 23 of the more than 100 Georgia Basin Action Plan projects.

The Georgia Basin Action Plan is a multi-partnered initiative whose participants work to improve the state of the environment in the Georgia Basin region of southwestern British Columbia and the Puget Sound region of the northwestern United States. The program's governing partners are the British Columbia Ministry of Environment, Coast Salish Nations, Environment Canada, Fisheries and Oceans Canada and Parks Canada. The Georgia Basin Action Plan also has many project-based partners (see pages 30–31). Begun in 2003, it builds upon work undertaken by its predecessor, the Georgia Basin Ecosystem Initiative.

The Georgia Basin Puget Sound region is being altered by rapid and extensive urbanization, as well as intense agricultural production and resource development. These pressures have had noticeable effects on water quality, habitat quality and availability, migratory birds and air quality in the region. Pressures are increasing with rapid population growth, major infrastructure development and industrial expansion. Restoring and protecting the fragile and complex environment of the Georgia Basin requires that people and organizations work together towards a shared vision of healthy, productive and sustainable ecosystems and communities in the Georgia Basin.

Our work with international partners from the United States illustrates this and acknowledges the fact that water, air and species recognize no borders. Our collaboration with Coast Salish Nations and Tribes has been augmented through participation in the Coast Salish Gatherings. These Gatherings have provided a joint policy dialogue platform on this region for the British Columbia Ministry of the Environment, Coast Salish Nations and Tribes, Environment Canada, Environmental Protection Agency Region 10 and the State of Washington.

Common environmental measures – ecosystem indicators – have been identified between partners on both sides of the Canada–United States border. Ecosystem indicators enable joint monitoring of the state of the environment. Findings from the 2006 *Georgia Basin Puget Sound Ecosystem Indicators Report* are highlighted throughout this publication.

Perhaps the best measures of the success of the Georgia Basin Action Plan lie in the successful implementation of sustainable management practices and policies in the region by numerous organizations, companies, individuals and levels of government, as well as in the value of the Georgia Basin Puget Sound Research Conference, which is held every two years. The 2007 conference attracted over 900 people from around the world and is now considered a premier event on the science conference circuit.

As we close the fifth year of the Georgia Basin Action Plan, our commitment to enhance and build effective partnerships and collaborations continues. Together, we can secure a future where our quality of life remains healthy and abundant for many generations to come.

For more information on the Georgia Basin Action Plan and a complete listing of projects, we invite you to visit our website at www.pyr.ec.gc.ca/georgiabin or to contact:

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WORKING TOGETHER FOR THE GEORGIA BASIN

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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,
the BC Ministry of Environment and
the Coast Salish First Nations.

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

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View of Mount Baker from Pitt Meadows, BC



© Flickr User Rog45

We are healthy when our rivers, streams, beaches and forests are healthy. We need to take care of ourselves in the same way that we take care of our environment. Restoring our environment will restore our health and help heal ourselves.

– Chief Leah George-Wilson, Tsleil-Waututh Nation

WHY THE GEORGIA BASIN?

The Georgia Basin is a region of awe-inspiring natural beauty and biological productivity. Vistas of sea and sky, rugged mountains, evergreen forests and scenic islands all come together to form one of the most spectacular settings in the world. While bountiful and beautiful, the Georgia Basin faces significant threats to its air quality, marine and freshwater resources, species and natural habitats.

Spanning 220 km in length and up to 55 km in width, the unique and ecologically important Georgia Basin region is located in southwestern British Columbia. It encompasses an inland sea that includes Puget Sound, the Strait of Georgia and the Strait of Juan de Fuca, as well as the land around these bodies of water. It is characterized by a temperate climate of warm, dry summers and cool, wet winters.

67% of Canadians want their country to be the leader or amongst the leaders with respect to the environment.

– Environics Research Group, 2007

The Georgia Basin is a major contributor to our regional and national economies. It is a hub of international trade and commerce. Two-thirds of British Columbia's population now lives in the Georgia Basin as does three-quarters of the province's labour pool.

Drawn by the region's spectacular natural beauty and biological productivity, more and more people are living and working in both the Georgia Basin region of southwestern British Columbia and the Puget Sound region of the northwestern United States. Approximately 7 million people now call the Georgia Basin Puget Sound ecosystem home. The 2006 *Georgia Basin Puget Sound Indicators Report* estimates that the population of the transboundary region will grow to 9.4 million by 2025. Increasing population growth is placing stress on the fragile and complex ecosystems that make up the region.



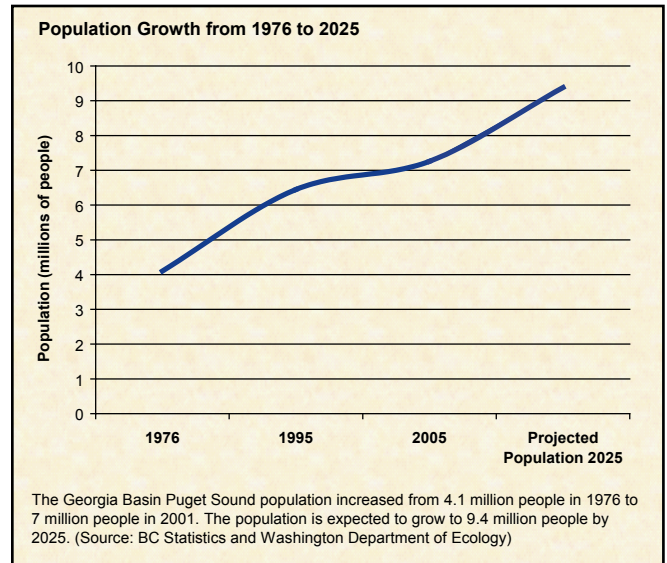
Evidence of environmental degradation in the Georgia Basin is all too abundant. Take, for example, the fact that 86% of streams are lost, endangered or threatened in the Lower Fraser Valley¹, or that 72,000 ha of potential shellfish harvesting areas have been closed throughout the Georgia Basin². More than 63 species of concern are listed in the Georgia Basin Puget Sound marine ecosystem³ and only 5% of the Saanich Peninsula's original Garry Oak habitat⁴ remains.

1 "Wild, Threatened, Endangered and Lost Streams of the Lower Fraser Valley: Summary Report," Fisheries and Oceans Canada, Fraser River Action Plan and Province of British Columbia, 1997, www-heb.pac.dfo-mpo.gc.ca/publications/pdf/229864.pdf, p. 17.

2 "Environmental Trends in British Columbia: 2007," British Columbia Ministry of Environment, www.env.gov.bc.ca/soe/et07/01_population_economic/technical_paper/population_economic_activity.pdf, p. 26.

3 "Listed Species Within the Puget Sound Georgia Basin Marine Ecosystem, including changes from 2002 to 2004," The Seadoc Society: a marine ecosystem health program, www.vetmed.ucdavis.edu/whc/seadoc/pdfs/speciesofconcern.pdf, p. 2.

4 Garry Oak Ecosystems Recovery Team, "What Remains of Garry Oak Ecosystems?," 2008, www.goert.ca/about_what_remains.php, p. 1.



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A RICH NATURAL HISTORY

About 150 million years ago, colliding continental plates created the Georgia Depression including the Strait of Georgia and Puget Sound. Nearly 14,000 years ago, a slow moving, massive river of ice flowed through the Georgia Strait from northern ice fields and formed the Strait of Juan de Fuca. Over time, glaciers retreated, carving hills and valleys, leaving behind rich deposits of gravel, sand, clay and till which formed a wonderfully rich and diverse habitat.

Coast Salish Nations have inhabited the region for over 10,000 years amidst a bounty of salmon, berries, elk, bear, marine mammals and forest resources. Today, the Georgia Basin Puget Sound ecosystem is a remarkable inland waterway.

This diverse and productive ecosystem provides for the long-term viability of our communities, our basic needs, and an exceptional quality of life. It offers sandy beaches, rocky shores, mudflats, tidal wetlands, kelp beds, and submerged reefs which support more than 3,000 species of marine mammals, birds and fish. The Georgia Basin is home to one of the largest salmon runs in North America. Its estuary provides a critical and internationally renowned stopping ground for migrating birds which originate from three continents.



THE SALISH SEA

The Georgia Basin's geographic area closely corresponds with the traditional territory of the Coast Salish People. For thousands of years, the Coast Salish have exercised environmental stewardship over the land and resources of this unique and sensitive ecosystem, a place referred to by the Coast Salish Nations and Tribes as the Salish Sea or Sqaaltses, home.

Partnership with the Coast Salish Nations has helped advance the inclusion of Coast Salish knowledge into Georgia Basin Action Plan initiatives. It has also increased understanding of Coast Salish environmental priorities and facilitated action on issues of specific concern to Coast Salish communities.

When the Creator opened his hands and gave us these gifts of the land and sea, he told us not to abuse them and to share them. History has a tremendous story to tell. If you open your hearts and your minds, maybe, just maybe, you will hear the drums of my ancestors.

– Tom Sampson, Elder, Saanich Nation

Describing the complex, centuries-old interrelationships of nature, the lifecycles of flora and fauna, the seasons, the tides and the winds, traditional knowledge of the Coast Salish People imparts how humans must live in balance with the ecosystem. This holistic approach to sustainability, demonstrated over countless generations, helps provide leadership to the various governments, agencies and organizations working to restore health and well-being to the Salish Sea ecosystem.





Coast Salish Gathering in Duncan, BC, January 2007



© Mark Kiemele

THE POWER OF PARTNERSHIP

The Georgia Basin Action Plan is about harnessing the power of partnerships to translate western science and traditional knowledge into effective, sustainable management policies, practices and actions to ensure a greener, healthier future.

– Mary Beth Bérubé, Manager (2004–2007),
Georgia Basin Action Plan Coordination Office

From 2003 to 2008, participants in the Georgia Basin Action Plan worked to strengthen collective capacity to protect and restore ecosystems, provide economic opportunities and enhance human well-being. The Georgia Basin Action Plan builds upon work undertaken by its predecessor, the Georgia Basin Ecosystem Initiative (1998–2003).

Partnerships such as those spawned by the Georgia Basin Action Plan are essential to promoting conservation education and stewardship of sensitive ecosystems in the region.

– Ron Hamilton, Superintendent, Gulf Islands
National Park Reserve of Canada

The Georgia Basin Action Plan founding and governing partners – the British Columbia Ministry of Environment, Coast Salish Nations, Environment Canada, Fisheries and

Oceans Canada and Parks Canada – have pooled their individual strengths into a collaborative vision and effort to address the environmental challenges confronting the Georgia Basin. In support of this endeavour, these partners, as well as more than 150 project partners, have applied their knowledge, resources and mandates to address the ecological, social and economic challenges confronting the Georgia Basin region.

The Georgia Basin Action Plan is unique in bringing together environmental agencies from all levels of government to set common goals and priorities at the operational level. The benefits of directing shared resources, data and staff towards the most critical issues within the Basin are crucial for true sustainability.

– Brian Clark, Director, Contaminated Site
Management, British Columbia Ministry of
Environment

Together, governing and project partners have undertaken more than 100 projects. These projects include research studies, planning initiatives, monitoring, and outreach and education efforts. The projects help provide

a greater understanding of the challenges facing the natural environment and the stewardship actions that will support the sustainability of the Georgia Basin.

By working together to better manage the delicate balance between the natural and built environment, there is hope that the Georgia Basin can be restored and protected as a home for people, animals, fish and plants.

Collaborative partnerships like those found in the Georgia Basin recognize that one department alone cannot achieve all that is desired, but that we must continue to work with others to support common objectives.

– Paul Sprout, Regional Director General, Pacific Region,
Fisheries and Oceans Canada



COAST SALISH VOICES

Shxweli: Connecting People and the Environment

– from an interview with Joe Aleck, Cheam First Nation

Translated from Halq'eméylem, the language of the Sto:Lo people of the upper Fraser River valley.

Qa:lmets tli' Sto:lo kw'es semikw' te s'ayelexw te shxwelitset wiyoth.

Stó:lō [People of the River] believe that Shxweli is our life force in all of us.

Mekw stam li te s'olh temexw kwelam te shxwelis qas te s'ayelexw.

Everything on S'ólh Téméxw (Our World/Our Land) has a Shxweli, has a spirit and is alive.

Skw a:y kwas xyolhmet li te sts ets esem, qas ye smemeyelh, thetheqet, temexw, qo:, speha:ls qas wa it stl itset te qelqeylt ewete sta awelmet qas ewete xyolhmet the it kw as i a:yels te shxwelis te mekw stam qas the mekw wates.

If we don't look after all the plants and animals, the trees, the land, the water, the air, and if we want to destroy it without thinking and taking care of it, naturally the Shxweli of all things and ourselves will be gone.

Misetset kw es skwo:ythet.

We have a choice to do something.

Tsel ts ehayelh kw es mekw Siyamset li te temexw q eyq eyq elos te ts ets el ey sqwalewel qe eyemstexwes te shxwkw omkw em ewat qo ythet te shxwelis kw e mekw stam qas te mekw wates.

I wish that all our leaders in the country would look at this in a good way and develop their Shxweli in a good way and not destroy it, each other, the land and the environment.

Xyolhmetoxwes te shxwelitset, qas te smestiyexw tli osu me thiyalt cha te ts ets el ey malstiyexw.

We have to take care of our life force, our being, our spirituality, and our soul within us in order to make us a better people.

Ewe is ew loye xyolhmetthet qe xyolhmet te semikw'tset li te temexwtset, swastexwes to sp'oxwelhalemstet qe wetames s'ayelexw li te qo: kw'es maytoxwes te s'ayelexw wiyoth.

We must take care not only of ourselves but of all people and everything on our land, especially our air and whatever is in the water that will help us survive.

Wel olu tsel st oyxw kw els thetstexw wiyoth, te lhawets te qo:tset.

I am very sad to say that it's getting to a state where it's all unhealthy and affecting our survival and the health of our water.

Skw a:y kw es qo:qet the sto:lo tli oqa:ys.

You can't drink the river water any more.

llhtsel chemamt the qo: teli kw e sto:lo li te lalems qas hokwex kw e qeqo:qe qas kwuk qas mekw stam.

I used to pack water from the river to the homestead and use it for drinking and cooking and everything else.

Tli oqa:ys, ewe il qo:qet the sto:lo tli okw es qex mimexwel tetha tli oqa:ys.

Right now, I wouldn't drink the river water because of the level of pollution that's in there.

Iyaqtes te mekw qo: teli kw e mimexwal.

All water quality is being affected by pollution.

Ewat thiytstexwes ye ey mí:set, qe swastexw te sxaxa syó:ys, iyaqtoxwes te s'ayelexwtset qes shxwelitset.

If we don't make the right choices and do the right things in a good way, all of us will be affected in our lives, as will our Shxweli.

Temtam kw eses xyo:lhemet te sp oxwelhalem qas qó:, xyó: lhemetoxwes te malstiyexw.

By taking care of the air and water, you are taking care of human beings.

We it ew loye sta awelmetcha te ta:le, qel tli ostexw.

If we continue to think of the monetary end, that's a downfall.

Kwu:lhithet qas wiyoth kwe'set the'itthet kw'es te sts'elaxwems litset s'ayelexw ye Sto:lo tli'os xyolhemet(thet) semikw'tset yewal, xyolhmetstet the S'olh Temexw...ye smeyeth, ye mokw', ye sth'oqi qas xyolhemet ye chxelcha te smeyeth...

Our Stó:lō destination in life is that first of all we look after each other, we look after S'ólh Téméxw, the animals, the birds, the salmon and all the wild game.

...ewat kw'eset ye'tha s'i:west, totilthet oxwestolem ye mameles skw:ols cha, osu is tw'a kw'es cha thexw te shxwelis talhimeh...

We take those teachings, learn them, share them with the young ones, and look to the seven generations, to teach them how to survive in this life.

To:tilthet kw'es s'i:westolxws tli' Chichelh Siyam qe oxwest semikw' ye s'i:west.

That is our destination in this life – to learn what the Creator has taught us and to share among all people these teachings.

We it sq'eq'omet o' lha tli'ostexwestsetcha.

We can make it better, if everyone would get together.

Ewete xa:ws machi:l qe xa:ws slheq':lexw, qw xwexwilmexwtset to:tithet xa:ws slheq'elexwes or i:westes kwe ey th'iyelhtset, ewe is loye olu xwelmeqwthet qe mekw'malstiyexw, ewe is olu ami:mel mestieqew.

It's not only about the new technology that's coming about, but our people are learning new knowledge for themselves, hopefully for the betterment not only of themselves but for all of mankind.

Eytset misetcha wiyoth.

We have a choice.



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COAST SALISH VOICES

A Long Time Ago

– by Tom Sampson, Elder, Saanich Nation

Translated from SENĆOŦEN, the language of the Coast Salish people of the Saanich Inlet on Vancouver Island.

ŠXENÁNS LE, TFE S, ELELWÁN ŁTE

SĆEĆÁUTW_s LÁES E TFE ILETEN_s TFE TENEW LÁE TFE SÁSU, O TFE SIÁM ŁTE SUWÍKE ŠWELOKE ŠLENĹÁNI ŠWELOKE I TFE NE SCÁLEĆE ŁTE NIĚ ĆE SKÁKELEL, ŁTE

It was once said a long time ago that our people lived alongside the edge of the land down the beach. To our brothers, sisters and our friends, we still believe in this.

NIĚ S, ONESTEN ŁTE EĲ XÁLS TFE Á, LENENEŁ ŁTE TFE SENĆOŦEN SKÁL ŁTE EŁ TUO, LE OLS ONESTEN ŁTE EĲ XÁLS TFE MEQ STÁN TFE CÍK SKELKĹÁLNNEW I TFE TENEW I TFE STELTOLU, I TFE STELETOTELU, I TFE XELOZE I TFE XELEXOZE I TFE TĹÁĚSE KÓ, I TFE SPELAKEN I TFE SMÍET I TFE KÍIŁZ I TFE SPÁĚT I TFE STELKÁYE I TFE WŦEKNEŁ ŠXENÁNS ŁE ĆÁ TFE TENEW I TFE MEQ STÁN JI, SEN LÁE E TFE TENEW

The Creator gave us our homeland and our native tongue, called SENCOTEN, at the beginning of time. The Creator gave us everything, such as the big trees, the earth and the rivers, the little rivers and the lakes, the little lake and the salt water, the flowers and the deer, the elk and the bear, the wolves and the cougars. This is how everything was growing on the earth.

NIĚ TFE SXÁLS S, ONNESTEN ŁTE TFE SKÁLS SU, EKÁ, TEL ŁTE E TFE MEQ STÁN LÁE TFE TENEW I TFE XELOĆE ŦEU XENÁN ŁTE SNOUEĹ E TFE S, HÁŦEN_s ŁTE SXÁXE S, HÁŦEN_s ŁTE TFE XÁXE SKÁLS SŦ'A_s ŁTE WILNEW TFE MEQ STÁN_s S, ONESTEN ŁTE QENT ŁTE ŁE ĆÁ NIĚ ŁS JÁN SW U, XEXÁŦ HO, ŁTE EWES QENT I EWES SĚS LÁE U SŦIS ŁENS ĆOZES

The Creator gave us the words for us to relate to everything on the land and inside the lakes and the sacred air that we breathe. Everything that was given to us is a sacred belief of our people. We take care of what we treasure highly. If we don't take care of our treasures, they won't be there when we want to use them.

AXEN TFE SKÁL HO, I YÁ, ŠÁM TFE KÓ, I ŁS SOI, TFE LETÁM SU, IĚN ŁTE TFE S, IĚNS S, ONESTEN ŁTE EĲ XÁLS TES ŁE ĆÁ TFE NEŦE SXÁXE SK'AL AXEN HO, ŁTE ŁENET TFE S, IĚN SĆELÁE E TFE TENEW NIĚ SLILS ONESTEN ŁTE TFE TELÁE EĲ SXÁLS ÍY ŁE ĆÁ ŁS QENT_s ŁTE TFE S, ONESTEN ŁTE ŁS U ŦEIT SU XÁXE TELÁE TFE SXÁLS SU, TFE S, IĚN ŁTE TXENIEN TFE MEQ STÁN

It was said when the tide goes out that the table is ready, so then we eat the food. This is a gift from the Creator. It was once said that when we take food from the earth that it is a gift from the Creator. So then we use respect and honour towards everything that was given to us from the Creator.

U, XZIT ŁTE EŁ TFE NEŦE SŦÁĆEL ŁS AXEN LE, TFE WILNEW SU, XTIT TFE S, IĚN ŁTE U, SĆELÁE E TFE SÁSU, KÓ, U, QEN,NEW SEN TFE WILNEW ŁTE ŦIYEKT SE TFE SÁSU, SU, LÁ,TEN TFE SONU,SE SU, PÁŦET SE TFE QÁ,LES SNELNELÁNET SU, OXTEN TFE ŁEKES U, PÁŦET TFE ŁEKES E TFE SNÁNET SU, OX ŁE ĆÁ TFE SQĹÁI, I KELÁT ŁTELUIT E TFE ŁEKES SU ŁTELUIT TFE ŦO,MEN ĆĹET SEMI, NUÁS TFE KİYÁ, MEN E TFE SŦIYEKT SU HÍ, SEN EN SU ĆENET NIĚ ŠXENÁNS LE, ÁITS TFE TENEW E TFE S,ELELWÁN TFE TENEW SU, AXEN ŁE ĆÁ ŁS QEN, NEW TŦA,E ŁKÁCES NÁJUĚC SXEM_s TFE S, OXE NIĚ ŠXENÁNS XETI,TEN_s TFE S, IST TFE S, OXE ŁŦE S, ELĹEW LE, XENAN LE, E TŦÁENEN

We know of a day that it was once said that the people would prepare our food from the beach. I saw our People dig at the beach, then fix the fire, then spread the hot rocks, then add the seaweed, then spread the seaweed on the rocks and then add the Littleneck Clams and then add seaweed on top again that would be like a thick wet blanket. The clam shells were put back in the cooking pit when were finished and then buried level again. That is how our ancestors took care of the land. They said they saw that 500 pounds of clams could be prepared by our elders. That is how it was in the past.

TWE EWENE ŁE ĆÁ E TIÁ SŦÁĆEL S, IĚNS ŁTE EWES XENÁNS EŁS ĆĹ HIF LE, NIĚ ŁS LO E SW ŁE KELKĹILETEN TFE KÓ, I TFE SÁSU, ĆĹÁL I ŦEXTÁNTEN WYELKENISTEN ŁE ĆÁ TFE KİYÁ,MEN E TFE SLÁES ŁS LÁETEN_s LOETE E TFE SLÁES ŁS LÁETEN_s LOETE TFE S, IĚN U, HÁEQ ŁE ĆÁ TFE NEŦE SŦÁĆEL QENET E TFE SKĹÁLNEW ENEN SĹU ĆEK TFE NEŦE SŦÁĆEL LIL U, JELAN,NEW_s HO, CAYEWSET TFE DELDÁLU,_s TŦA,E NIĚ TFE SPWĹEO, EŁ SE TÁĆEL TFE SPWĹEO, SU, ŁĹÁYEXSET TFE DELDÁLU,_s TFE SKĹÁLNEW NIĚ ŁE ĆÁ SĆELÁES TFE SKÁL E ŁENS KÁLTEN E TFE SKĹÁLNEW EŁ SE SLÁLO,SET_s TFE KÓ, I TFE ŠWÁUQ

Today there is no more. We can't prepare our foods as we did in the past. It's not like it was long ago. It is what has happened to the water at the beach. It has become contaminated. It is nearly getting poisoned. When the wind blows the branches are all moving. This type of information provides us with many indicators of what is happening in the ocean and in the skies.

TU, HAEQ SEN EŁ SE NEŦE SŦÁĆEL EŁ SE ŠXENÁNS LE, MEQ STÁN ŠWLÁES LÁE TFE S, ONESTEN ŁTE XENAN E TFE SMIEŦ KÍIEC SPÁ,ĚŦ WŦEKNEĆ I TFE STELKÁYE I LOE ŁE ĆÁ TWE EWENE JÁN U, ĆĹÁL I ŦEU TU, HÁEQ ŁTE ŁE ĆÁ TFE ŠXENÁNS LE, TFE S,HÁŦEN_s ŁTE JÁN_s LE, ŦOĹEN I I, ÍYMET OL E ŁENS HOĹNEW ŁS WUÁES KĹELE,SET OL TFE SELEXSET

I still remember the day when the forest was once full of every kind of creature, such as deer, elk, bear, cougar and wolf. Through the generations, these resources have become depleted. We know of a time when the air was so sweet and beautiful to smell before the air became so polluted.



TELÁE ZE CÁ E TFE SKELÁLNEW LOES ZE DELNIWTEŃ E TFE
FOKEN NIŁ SLÁES TFE SČÁNEW ŽS YÁ, WYELKEN OX E TFE
XÁXES SLÁES ŽS TÁ,s HELISET LÁE TFE STOLU, ŁTE YÁ, ZE CÁ
TIÁ ÁNEŽ TFE XÁXES, ŽS LAES ŽS TÁ,s HELISET TFE SČÁNEW
LOE ZE KEL, KĚLI, TEN OL LOE ZE ŽEXTÁNTEN

*The forest gives flavour to the ocean so that the salmon can
find their way back to the sacred place of birth in our rivers.
Today, the sacred birth places for the salmon have been
destroyed and poisoned.*

LOE ŁTE ZE CÁ QEN,NEW TFA,E SU, TWĚ EWENES U ŁNINEŁ
ZE CÁ WILNEW EŁTÁLNEW ČEOUES TFE SXÁXE ŽILEŽEM U, S,
IŁEN ŁTE I TU, ČEOUES ŁTE EŽ SE XÁXE SČÁ ŁTE TFE ŽEXTAN
TELÁE E TFE TUO, LE, NIŁ ZE CÁ CS ŁNINEŁ TUO, WILNEW
EŁTÁLNEW ALE E TIA TENEW U TUO, AŁE E TIÁ TENEW

*We have seen the birds that live in the sky and the water
disappear due to pollution. Our people used the sacred birds for
food and in our sacred ceremonies. Through the generations we
have seen these resources become depleted.*

U, ŁNINEŁ U, YOŦ U ÁŁE E TIÁ ILEFENS TFE TENEW I TFE SÁSU
I TFE TLÁŁSE KO, U ŁNINEŁ ZE CÁ U YOŦ U ÁŁE E TIÁ ILEFENS
E TFE KO, I TFE XOČE I TFE STOLU,

*We, the SENCOTEN People, knew this land in the very beginning
because we are the first people at the beginning of time. We
have always lived at the edge of the ocean, lakes, and rivers.*

TWÍ ZE CÁ EŽS U, HÁEQ ŁTE I DEDIWIEŁ ŁTE IWOWE EWES
WUA, ENEN U, OČEN ŽS ŽENANET ŁTE TFE ALENENEŽ ŁTE
TENEWs TFE SENCŌFEN WILNEW ŁNINEŁ ZE CÁ TFE WILNEW
ÍY, ŁTE ŽS ŽENANET ŁTE ŽS U, MEQ ŁTE U, ŽENÁNETEN ŁTE
ŽS E QENT ŁTE TFE TENEW I TFE TLÁŁSE KO, I TFE S, HÁŽEN
I TŦU, MEQ STÁN TELÁE KO, I TFE TENEW ŁNINEŁ ZE CÁ E
TFE SENCŌFEN EŁT'ÁLNEW ŽENÁT TFE XEMOLEFEN TELÁE
TFE TWENO, SŽÁCĚL I NIŁ ZE CÁ ŽS YOŦST U ČÁI ŁTE TFE
XÁXE SKÁL EŽ SE MEQ STÁN LOETE ŽEN,NEW I TU, AŁE TIÁ E
TFE ŠXEMOLEFEN

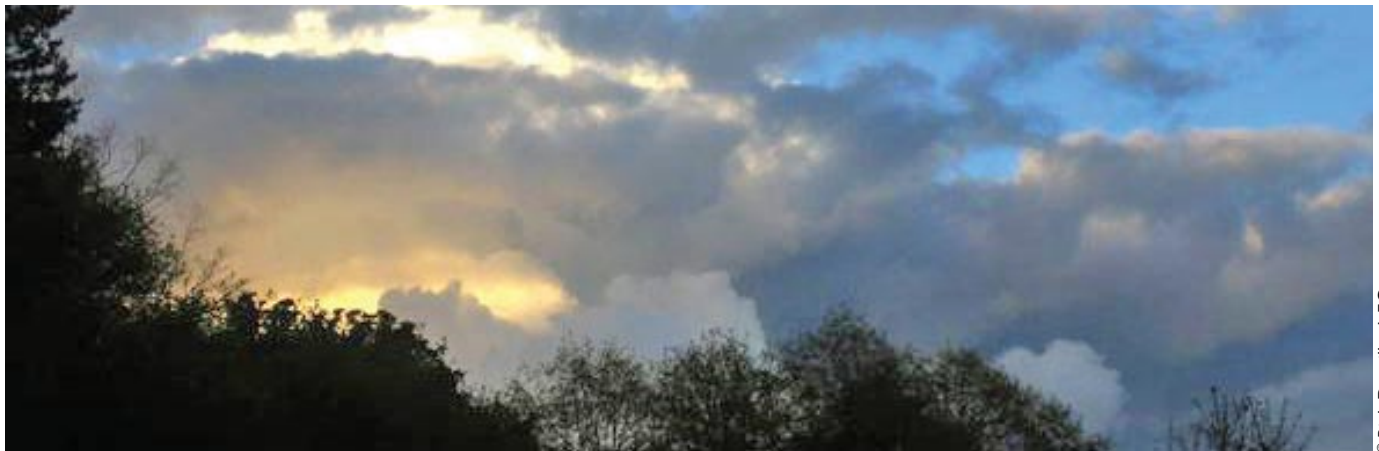
*Today, we look at our homeland. It has brought great sadness
and despair to our hearts. We have seen our way of life
disappear and be destroyed, maybe never to be seen again
in our lifetime by ourselves and our children and the future
generations to come. We can only hope and pray it is not too
late to save our homeland, the land of the SENCOTEN people.
We as people must now pull all our efforts together to save
the land, the water, the air and all our other natural resources.
We as the SENCOTEN people hold the sacred trust given to
us at the beginning of time and now we give thanks to the
Creator for all. This we have received and continue to hold it
in sacred trust.*

Sustainable development is a continually evolving concept based on the integration of social, economic and environmental concerns, and may be achieved by, among other things:

1. the integration of the environment and the economy;
2. protecting the health of Canadians;
3. protecting ecosystems;
4. meeting international obligations;
5. promoting equity;
6. an integrated approach to planning and making decisions that takes into account the environmental and natural resource costs of different economic options and the economic costs of different environmental and natural resource options;
7. preventing pollution; and
8. respect for nature and the needs of future generations.”

Auditor General Act, section 21.1, Government of Canada, 1995

Source: Environment Canada’s Sustainable Development Strategy 2007-2009,
www.ec.gc.ca/sd-dd_consult/SDS2007/preface_e.htm



© Rick Drouillard, EC

— AIR —

The air we breathe is critical to our health and to the health of all plants and animals in the Georgia Basin. Air quality in the region is an issue that transcends borders. In recognizing that cooperation generates much better opportunities to improve air quality, all levels of government in the Georgia Basin, both in Canada and the United States, are working together as neighbours to develop common strategies to deal with air pollution.

Air pollution ranks among the top environmental priorities for Canadians.
— Ipsos Reid, 2006

UNDERSTANDING HEALTH IMPACTS — HEALTH AND AIR QUALITY STUDY

Partners: British Columbia Lung Association, British Columbia Ministry of Environment, Environment Canada, Fraser Valley Regional District, Health Canada, Metro Vancouver

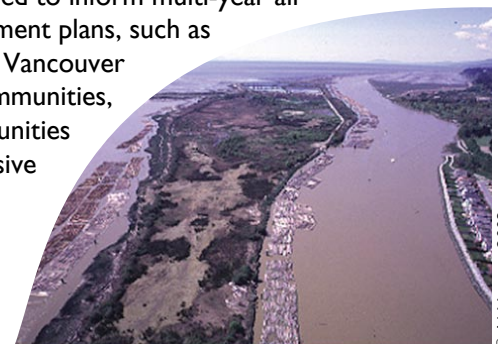
Air pollution, particularly fine particulate matter and ozone, can seriously harm human and wildlife health. Both pollutants are known to increase illness and premature death.

The health and air quality study project sought to determine the health consequences of poor air quality in the lower Fraser Valley. The study found that the potential benefits from reducing fine particulate

Poor air quality costs nearly \$223 million each year in health care spending in the Lower Fraser Valley.
— British Columbia Lung Association website

matter were greater than the benefits from reducing ozone concentrations. It was estimated that a 10% reduction in fine particulate matter over a 10-year period (e.g. 2010–2020) in the lower Fraser Valley would produce a health care cost savings of up to \$1.19 billion.

This study makes a strong case for developing cost-effective air management policies that improve ambient air quality in the lower Fraser Valley. It underscores the need to make further efforts to achieve cleaner air, even in areas that meet existing air quality standards. This study will be used to inform multi-year air quality management plans, such as those in Metro Vancouver and in local communities, to assist communities to achieve massive human health benefits and health care cost savings.



Fraser River, BC

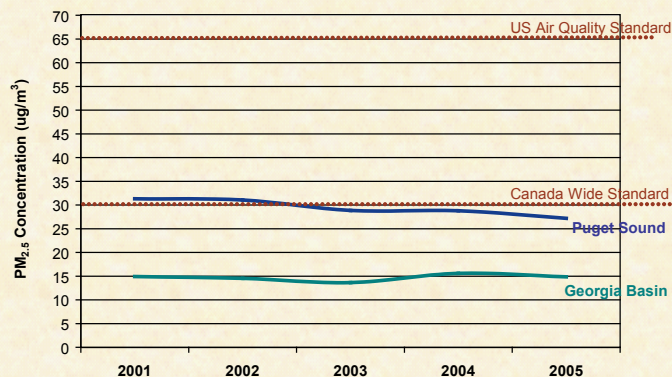
© Al Harvey, 2003



For more information, visit the British Columbia Lung Association website at www.bc.lung.ca/airquality/outdoor_airquality.html.

UNDERSTANDING POLLUTION IMPACTS – SALMON WIND-DRY FISHERY

Average PM_{2.5} Concentrations from 2001 to 2005



All measured communities in the Georgia Basin Puget Sound currently meet established standards for PM_{2.5} levels. Achievement of standards is based on the annual 98th percentile 24-hour ambient measurements averaged over 3 consecutive years.
(Source: Environment Canada, National Air Pollution Surveillance Network)

Airshed Planning and Management – International Airshed Strategy

Partners: British Columbia Ministry of Agriculture and Lands, British Columbia Ministry of Environment, Environment Canada, Fraser Valley Regional District, Health Canada, Metro Vancouver, Northwest Clean Air Agency (United States), Olympic Region Clean Air Agency (United States), Puget Sound Clean Air Agency (United States), Stó:lō Tribal Council, Swinomish Indian Tribal Council (United States), Tsawwassen Nation, United States Environmental Protection Agency, United States National Park Service – Air Resources Division, Washington State Department of Ecology

The Georgia Basin Puget Sound International Airshed Strategy aims to improve the management of the transboundary airshed. The strategy has led to improved information sharing, emission reduction efforts and the adoption of best management practices. In the Georgia Basin, we now have some of the best air quality information in the world. For more information, visit www.pyr.ec.gc.ca/airshed.

Partners: Coast Salish Sea Initiative, Environment Canada, British Columbia Ministry of Environment, Stó:lō Research and Resource Management Centre (Stó:lō Tribal Council and Stó:lō Nation), Swinomish Tribe

“Stó:lō” means “People of the River.” The traditional territory of the Stó:lō lies in the lower Fraser River watershed. As part of their traditional practices, the Stó:lō use wind-drying as a method of preserving sockeye salmon fillets. The wind-dry salmon fishery is a significant cultural practice thousands of years old.

The salmon wind-dry fishery involves preserving salmon by hanging fillets over wooden racks. The salmon is then dried by open exposure to the warm winds which blow through the Fraser River canyon. The canyon extends approximately 7 km upriver from Yale, British Columbia.

The wind-dry fishery drying season takes place in mid-July and typically lasts 10 to 20 days, depending on drying conditions. On the dry-rack, a batch of salmon can usually be fully wind-dried in about a week.

Until now, very little has been known about the transport and fate of ozone and other pollutants within the Fraser River canyon.

To find out, the Stó:lō Tribal Council and the

Stó:lō Nation developed and implemented, with the help of the British Columbia Ministry of Environment, a pilot project to explore the interrelationship between local air quality and the wind-dry salmon fishery.

The results of the study indicated two important, related findings: first, that pollutants from the Lower Mainland are making their way to, and moving through, the Fraser

The study provided new information on air quality and environmental conditions in the Fraser River Canyon for which we had no previous information. Now we have some baseline data from which to assess changes in the conditions of air quality in this culturally significant part of the region.

– Dave Schaepe, Co-Manager and Senior Archeologist, Stó:lō Research and Resource Management Centre



River canyon; and second, that small amounts of air-borne particles are attaching to the wind-dry salmon while it dries. The small amounts of air-borne particles are not posing a threat to the condition of wind-dried salmon as a food source. No detectable pesticides were found in either fresh or dried fish. These findings bode well for the continuation of the Stó:lō wind-dry fishery in the Fraser River canyon and provide base-line data for comparative studies in the future.



Salmon drying

© Matt Mueller, matt@muellerworld.com

WORKING TO PROTECT CHILDREN – SCHOOL BUS EMISSIONS REDUCTION PROJECT

Partners: British Columbia School Districts, Environment Canada

Children are more susceptible to the effects of air pollutants than adults. This is because children breathe more air relative to their body weight than do adults and



© Transport Canada

because their lung systems have not yet fully developed and matured.

In order to reduce children’s exposure to air pollutants, Environment Canada partnered with British Columbia School Districts beginning in March of 2006 to launch a coordinated campaign to reduce school bus idling. Idling is the operation of a vehicle’s motor while the vehicle is not in motion.

The campaign is designed to achieve a reduction in the idling time of school buses and an associated reduction in diesel exhaust emissions. It builds on a successful 2005 retrofit project that reduced emissions from 550 British Columbia diesel school buses.



Rutland Elementary School in Kelowna, BC

© Rheannon Wylie, EC

Environment Canada has already provided more than 1,500 “No Idling” signs and other related resources to British Columbia School Districts and will continue to do so.



Coast Salish Gathering in Duncan, BC, January 2007



© Mark Klemmele

— COMMUNITY —

As the population in the Georgia Basin and Puget Sound continues to rise, managing the impacts of growth in ways that meet the social and economic needs of the region's communities while protecting the environment is a complex challenge. Through the Georgia Basin Action Plan, many partnerships have been created, allowing the participants to build community awareness and capacity, provide tools to guide and inform local decision-making processes, and report on their collective progress.

Canadians feel that the environment is the number one issue on which the federal government should focus.

– Government of Canada Corporate Communication Survey Results for British Columbia, December 2007

Population Health – The population in the region is expected to increase 41% by the year 2031, which is above the provincial average. This will drive urbanization pressures and place increasing demands on natural resources.

– Georgia Basin Puget Sound Ecosystem Indicators, 2006

SPEAKING WITH ONE VOICE – COAST SALISH GATHERINGS

Partners: Cowichan Tribes, Environment Canada, United States Environmental Protection Agency Region 10, Hul'qumi'num Treaty Group, Indian and Northern Affairs Canada, Parks Canada, Swinomish Indian Tribal Community, Tulalip Tribes

The Coast Salish Gatherings that have been held on the Jamestown S'kllam Indian Reservation, Washington (2005), Cowichan/Duncan, British Columbia (2007), and Tulalip, Washington (2008), have provided a forum for Coast Salish Nations and Tribal leaders in both Canada and the United States to collaborate and speak with "One

Voice" on environmental issues and actions affecting the Salish Sea. The gatherings are not a form of government-to-government consultation, but rather a culturally appropriate process for an open dialogue to advise policy makers. An important aspect of each gathering has been the rekindling of relationships of the Coast Salish Nations and Tribes through traditional practices and the honouring of the Coast Salish Elders and their gallant efforts to protect the Coast Salish lifeways.

At the gatherings, leaders have talked about the need to incorporate Salish science and include Salish scientists – "the knowledge keepers" – in discussions that inform





environmental management efforts. At the 2007 gathering, Terry Williams, Commissioner of Fisheries and Natural Resources, Tulalip Tribe, remarked to the audience, “Our tribal traditional knowledge will give science a foundation to work from. We’re good planners. We’ve been planning for 10,000 years!”

What we’re doing here is declaring war on pollution.
– Chief Gibby Jacob,
Squamish Nation

We’re at a critical time as people of this earth. The scientists are telling us we have a deadline to meet. Are we already too late?
– Honourable Steven Point,
Lieutenant Governor of British Columbia

In his address, Ray Harris of the Hul’qumi’num Treaty Group noted, “We are all connected to the land. I am heartened by the efforts that the governments of British Columbia, Washington State, Canada and the United States are making to help ensure our

cultural connection to the land continues long into the future. Only by working together will we truly be able to renew our ancient relationship with the land.”

The leadership at the 2008 Coast Salish Gathering in Tulalip, Washington, adopted a prologue and mission statement, as well as a working Coast Salish Environmental Action Plan. Coast Salish Gathering leadership also endorsed a water quality monitoring project which will be integrated into the Annual Canoe Journeys through the Salish Sea.

For more information on the three Coast Salish Gatherings please visit the Coast Salish Gathering website at www.coastsalishgathering.com.

TRACKING THE HEALTH OF OUR ENVIRONMENT – ECOSYSTEM INDICATORS

Partners: Environment Canada, National Estuary and Regional Geographic Initiative Programs (United States), Puget Sound Action Team (United States), United States Environmental Protection Agency, Washington State Department of Ecology

The Georgia Basin Puget Sound Ecosystem Indicators project began in 1999 when Canadian and American government

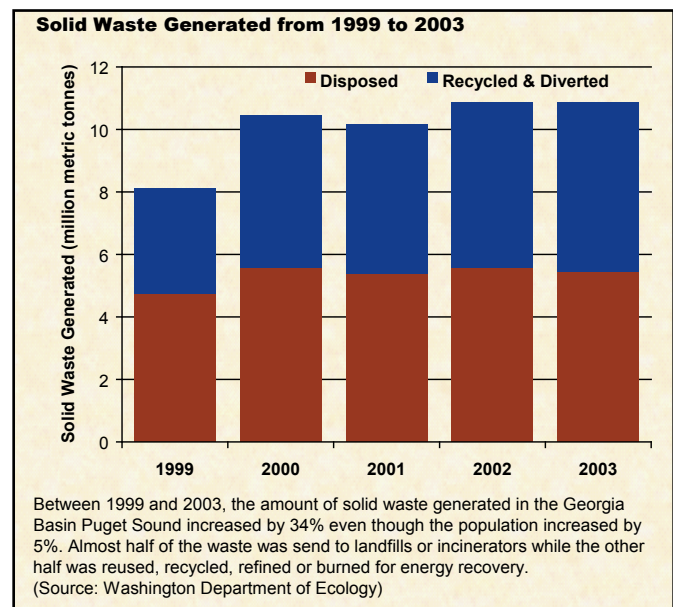


Steller Sea Lions

© Tom Middleton, PWF

agencies joined forces to track and report on the state of the Georgia Basin Puget Sound environment. Transboundary ecosystem indicators represent the social, economic and environmental complexities of the Georgia Basin Puget Sound ecosystem in a succinct way. The indicators are based on comparable, mutually accepted data and analyses for the ecosystem, both on the Canadian and American sides of the border.

A common understanding of where we are relative to where we want to be helps us take manageable steps to improve the ecosystem health of the Georgia Basin Puget Sound ecosystem. Given that the same indicators are measured over time, trends can be established. This allows a determination to be made as to whether





environmental conditions are improving and whether management decisions need to be revisited.

In the 2006 *Georgia Basin Puget Sound Ecosystem Indicators* report, the ecosystem health of the region was reported through nine indicators:

1. Population Health
2. Urbanization and Forest Change
3. Solid Waste and Recycling
4. River, Stream and Lake Quality
5. Marine Water Quality
6. Shellfish Harvesting Areas
7. Air Quality
8. Marine Species at Risk
9. Toxins in Harbour Seals

Highlights of these indicators are presented throughout this publication. For more information and complete details of each indicator, please visit the United States Environmental Protection Agency Puget Sound Georgia Basin Ecosystem website at www.epa.gov/region10/psgb/indicators/index.htm.

DEVELOPING TRANSBOUNDARY SOLUTIONS – GEORGIA BASIN PUGET SOUND RESEARCH CONFERENCES

Partners: Environment Canada, Puget Sound Partnership

Environment Canada and the Puget Sound Partnership (formerly the Puget Sound Action Team, United States) have co-hosted three Georgia Basin Puget Sound Research Conferences to date. The 2007 conference

attracted over 900 delegates from around the world.

It is time for science to transcend political boundaries and to recognize the importance of local and traditional ecological knowledge, including tribal and First Nations knowledge.

– Elin Miller, Regional Administrator, United States Environmental Protection Agency

The Georgia Basin Puget Sound Research Conferences focus on the status of the transboundary Georgia Basin Puget Sound

2007 Georgia Basin/Puget Sound Research Conference in Vancouver, BC



© Kim Stallknecht

region, pressures on the ecosystem and responses to emerging issues.

The Georgia Basin Puget Sound Research Conference series is now recognized by stakeholders as the pre-eminent interdisciplinary research conference in the transboundary Georgia Basin Puget Sound region because of its focus on science, policy and action.

Conference participants include scientists, Coast Salish Nations and Tribal government leaders, resource managers, community leaders, policy-makers, environmental and sustainability advocates, educators and students. They all share a passion for making sure the Georgia Basin region

remains one of the healthiest, most prosperous and most beautiful in the world.

Without explicitly conserving science at the highest level of policy-making, we risk our civilization.

– Daniel Pauly, Professor and Director, Fisheries Centre, University of British Columbia

For information on the 2009 Puget Sound Georgia Basin Ecosystem Conference, please visit the website at www.psgbconference.org.

What we do with the knowledge that has been shared will be critical to the long-term health of the Salish Sea.

– Pradeep Khare, Regional Director General (2007–2008), Pacific and Yukon Region, Environment Canada



APPROACHING DEVELOPMENT THE SUSTAINABLE WAY – SMART GROWTH ON THE GROUND

Partners: Design Centre for Sustainability at the University of British Columbia, Real Estate Institute of British Columbia, Smart Growth BC

Smart Growth on the Ground is a one-of-a-kind program. It helps communities prepare more environmentally responsible neighbourhood plans. These neighbourhood plans are based on principles of sustainability, including sustainable land-use, transportation and urban design. Extensive follow-up ensures that plans become a reality.

The program relies on input from a variety of people in a community, including residents, youth, developers and planners.

Participants must take into account factors such as an aging population, rising fuel costs, climate change, urban growth and other social challenges.

The Smart Growth on the Ground team plans to change the way development is done in British Columbia and help even more communities envision and build for sustainable development.

– Shana Johnstone, Smart Growth on the Ground Outreach Coordinator, Smart Growth BC

The Smart Growth on the Ground team works with one community at a time. The first Smart Growth on the Ground community in the Georgia Basin was Maple Ridge. Maple Ridge chose to focus its plan on its historic town



© Martin Mullian, EC



© George Derksen, EC

centre, where substantial investments had been made in civic facilities. Developing green buildings with built-in energy and water efficiencies and increasing the amount of downtown residential space were key strategies used to reduce pressure on outlying agricultural and natural lands.

The fast-growing community of Squamish, the second Smart Growth on the Ground community in the Georgia Basin region, has directed its efforts towards redeveloping the community's downtown area. Elements of the plan include concentrating civic and educational initiatives in the downtown area to anchor the downtown, creating a transit hub and strengthening the network of trails in the community. Oliver has also been a partner in the Smart Growth on the Ground project. The Oliver town council endorsed the Smart Growth on the Ground Concept Plan in July 2007 and is now developing a work plan to implement it.

A third-party evaluation of the processes and outcomes in the three communities has been completed by the Social Planning and Research Council of British Columbia. These findings provide key considerations for future projects and all municipalities working towards more sustainable growth.

Smart Growth on the Ground is continuing its work with British Columbia communities, engaging its fourth partner community this spring.

For more information please visit the Smart Growth on the Ground website at www.sgog.bc.ca.



COLLABORATING ON POLLUTION PREVENTION – THE SHARED WATERS ALLIANCE

Partners: A Rocha Canada, British Columbia Ministry of Agriculture and Lands, British Columbia Ministry of Environment, City of Blaine, City of Surrey, Corporation of Delta, Fisheries and Oceans Canada, Drayton Harbor Community Oyster Farm (United States), Drayton Harbor Shellfish Protection District (United States), Environment Canada, Fraser Health Authority, Friends of Semiahmoo Bay Society, Little Campbell Watershed Society, Puget Sound Action Team (United States), Semiahmoo Nation, Township of Langley, University of British Columbia, Washington State Department of Ecology, others depending on the initiative

Spanning more than 250 km², Boundary Bay’s waters encompass four major habitat zones: estuaries, intertidal mudflats, eel grass beds and salt marshes. The bay – a globally significant site for migrating and wintering birds along the Pacific Flyway – is experiencing increasing environmental stress due to urbanization and agricultural land uses.

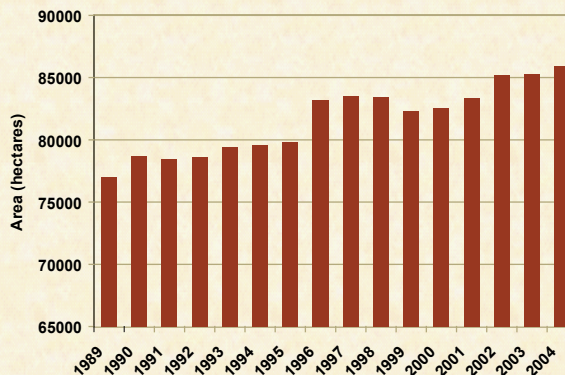
The Shared Waters Alliance was formed in 1998 to raise awareness about contamination in Boundary Bay and address the ongoing closure of shellfish harvesting.



Andie Menzies and Geoff Menzies, Manager of the Drayton Harbor Community Oyster Farm, working the oyster beds

© Margaret Cuthbert, www.birdsonthebay.ca

Commercial Shellfish Areas Closed to Harvest from 1989 to 2004



The area closed to commercial shellfish harvesting has increased in the Georgia Basin Puget Sound. The area of monitoring in the Georgia Basin has also increased over time, improving the likelihood of detecting contaminated areas. Despite the closures, there was a net increase in harvest areas within the Puget Sound between 1995 and 2004 because of upgrades to shellfish harvest areas. (Source: Environment Canada’s Marine Water Quality Monitoring Program and Puget Sound Action Team)

Over the years, the Alliance has developed into a cutting-edge cross-boundary partnership of governments, First Nations and Tribes, and community groups from Canada and the United States. “Nature has no borders” is a sentiment that resonates with the Shared Waters Alliance. Working together to protect and restore Boundary Bay, the Alliance is now an international working group. Its approach has been based on collaboration, resource pooling and information sharing.

The Alliance acts collaboratively to identify contamination sources and to develop and promote pollution prevention initiatives. Reducing contamination levels in tributaries and the bay itself is a goal of the alliance. To that end, the group has conducted watershed studies to identify main sources of contamination. The most recent study involved watershed characterization of a key tributary, the Little Campbell River.

For more information please visit the Shared Waters Alliance website at www.sharedwaters.net.



GETTING BUSINESS ON BOARD – SANDHILL DRAINAGE PROJECT

Partners: *District of Central Saanich, Environment Canada, Peninsula Streams Society*

Businesses in the Keating Industrial Park on Vancouver Island are setting a positive example of sustainable corporate citizenship. By participating in the Sandhill Drainage Project, a business-friendly approach to pollution prevention, Keating area businesses are helping to reduce the quantity of contaminants entering regional water systems.

The Sandhill Drainage Project aims to increase awareness of business practices that have a negative impact on the environment and educate business owners about pollution prevention practices that lead to more environmentally responsible operations.



© Martin Mullian, EC

Under the project, businesses are encouraged to identify and reduce contaminants entering the storm drains and sewage systems from their business operations. A reduction of contaminants helps protect fish habitat. Participating businesses receive community recognition for their positive environmental contributions.



Logging on Vancouver Island, BC



© Gina Yarrin



© Tom Middleton, PWF

— LAND —

Pressures on the natural environment from population and economic growth result in pollution. Pollution is challenging the ecology of the Georgia Basin. Many species communities in the region are at risk of disappearing. Partners in the Georgia Basin Action Plan are working to address the issues that have placed species in this vulnerable position. Partnerships have been established among various levels of government, landowners, non-government organizations and local communities to reduce the impacts of poor land-use practices and unsustainable development on the Georgia Basin and its inhabitants.

88% of Canadians believe Canada's natural heritage and environment is important to our overall quality of life.
– Ekos Research Associates, 2005

Solid Waste and Recycling – The amount of waste generated by each individual was 34% greater in 2003 than in 1999. Rates of recycling increased by 13%, however the amount of solid waste sent to landfills also increased by 16%.

Urbanization and Forest Change – Between 1992 and 2000, urbanization increased in low elevation watersheds and shoreline areas. Up to 19% of the total drainage area of 58 watersheds in the region was covered with impervious surfaces. This is significant because research shows that once watersheds have roughly 10% of their drainage area in a nonporous condition, there is a higher potential for physical, chemical and biological damage to water quality and associated aquatic life.

– Georgia Basin–Puget Sound Ecosystem Indicators, 2006

TOXIC TIMES – UNDERSTANDING HOW CHEMICALS AFFECT OUR ENVIRONMENT

Partners: Capital Regional District, Environment Canada, Metro Vancouver, Natural Sciences and Engineering Research Council of Canada, University of Victoria, Western Washington University

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

contains residues from personal care products, birth control pills, antibiotics and other pharmaceuticals. When these biologically active residues go into the sewer system, they negatively affect freshwater and marine life.

There is documented evidence to suggest that pharmaceuticals and personal care products are endocrine disrupting chemicals. These chemicals are substances that interfere with the normal performance of the hormones of the endocrine system. The endocrine system is instrumental in regulating metabolism, growth, development and reproduction. The list of suspected endocrine disrupting chemicals in the marketplace grows by about 100 a day.



In collaboration with Health Canada and several Environment Canada research and development laboratories, researchers have developed the capabilities to analyze for selected pharmaceuticals, personal care products and antibiotics suspected of being responsible for endocrine disruption. Researchers have found that an effect of the endocrine disrupting chemicals on salmon in the Georgia Basin is the feminization of male fish.

One of the areas currently under study is located in the Fraser River where the Annacis Island sewage treatment plant discharges. The treatment plant on Annacis Island is one of the most modern treatment facilities in British Columbia. If the fish show notable effects caused by the effluent there, the problem likely occurs at other less modern sewage treatment operations.

During the duration of the Georgia Basin Action Plan, researchers have met quarterly with senior officials from Metro Vancouver and the Capital Regional District to report on the outcomes of this research. Environment Canada staff have been able to inform senior municipal managers of the impacts of pharmaceutical and personal care products on the environment. This has resulted in the establishment of new measures by local governments. Prior to this research, very little data was available on the impact of waste water effluent and pharmaceutical products in Georgia Basin watersheds.

BUILDING A SUSTAINABLE AGRICULTURAL INDUSTRY – FRASER VALLEY SOIL NUTRIENT SURVEY

Partners: Agriculture and Agri-Food Canada, British Columbia Agriculture Council, British Columbia Ministry of Agriculture and Lands, British Columbia Ministry of Environment, Environment Canada, individual farm operators

High land values require farmers to produce products of high value and increase livestock densities to remain in business. To increase the

The BC Agriculture Council places a high priority on environmental farm management and planning. We see this as a key element in the prosperous, sustainable future of BC agriculture benefiting both agriculture and the environment and maintaining the confidence of consumers.

– Steve Thomson, Executive Director, British Columbia Agriculture Council

productivity of their lands, many farmers in the Fraser Valley have turned to intensive farm management practices. Such practices include the use of large quantities of fertilizers, which can lead to an excess of nutrients relative to crop requirements.

To examine the implications of excess soil nutrients, the Fraser Valley Soil Nutrient Survey was undertaken during the 2005 cropping season.

Under the guidance of the British Columbia Nutrient Management Working Group, the survey set out to answer questions like, “Is the accumulation of nutrients in the Fraser Valley soils resulting in current or near-future agronomic or environmental problems?”

Over 115 farmers and landowners allowed access to their fields for the collection of soil samples. The survey confirmed that the valley is, in fact, challenged by regional concentrations of soil nutrients above optimal levels.

Government agencies will use the results of the survey to produce a baseline data set. Such research will contribute to the development of sound public policies that promote sustainable agricultural practices in British Columbia and enhance the current environmental stewardship practices of producers.

48,700 kg of obsolete and unwanted agricultural pesticides were safely disposed of in 2006 through the Survey of Pesticide Use in British Columbia project.



Research scientist taking a forage grass field soil sample in Agassiz, BC

© George Derksen, EC



Blueberry field located in Fort Langley, BC, using a cover crop as a beneficial management practice

© George Derksen, EC



PROMOTING ALTERNATIVE APPROACHES – THE STEWARDSHIP CENTRE FOR BRITISH COLUMBIA

Partners: BC Hydro, British Columbia Ministry of Environment, British Columbia Water and Waste Association, District of Squamish, Fisheries and Oceans Canada, Fraser Salmon and Watersheds Program, Habitat Conservation Trust Fund, Pearson Ecological, Real Estate Foundation of British Columbia

Stewardship is an ethic. It recognizes the need to conserve and restore ecosystems for current and future generations of all species. It is a commitment to act in an environmentally, socially and economically sustainable manner and inspire others to do the same.

The Stewardship Centre for British Columbia – recently registered as a not-for-profit organization – is made

up of government and not-for-profit organizations and other interests whose missions support and advance stewardship activities in British Columbia. The Stewardship Centre does this by providing a centre for information exchange, communications and outreach, and by fostering partnerships and collaborations among stewardship participants.

The vision of the Stewardship Centre is to build a stewardship ethic in British Columbia that in turn will help create and maintain a culture of environmental

Over the course of one year (2005–2006), the Stewardship Centre recorded 1.1 million hits to its website by over 20,000 unique visitors.

stewardship. To achieve its vision, the centre supports a wide range of activities and resources for local governments and stewardship organizations.

The *Green Bylaws Toolkit for Conserving Sensitive Ecosystems and Green Infrastructure* (www.greenbylaws.ca) is a recently released resource that helps local and regional governments protect green infrastructure in their jurisdictions; the toolkit includes case studies and example bylaws from British Columbia that have supported maintaining healthy ecosystems at a local and regional level. *Species at Risk and Local Government: A Primer for British Columbia* (www.speciesatrisk.bc.ca) is now available online and provides information on species at risk, their habitat and remediation methods. The Stewardship Centre has also recently launched the Green Shores Project (www.greenshores.ca), which encourages coastal planning and design that enhances habitat function, minimizes pollutants, and reduces cumulative impacts, while connecting people with the coastal environment. These are just a few of the activities in which the centre is involved.

For more information, please visit the Stewardship Centre website at www.stewardshipcentre.bc.ca or contact the coordinator at 1-866-456-7222.

DEVELOPING FOR SUSTAINABILITY – GREEN ROOFS

Partners: British Columbia Institute of Technology, City of White Rock, Environment Canada, Natural Sciences and Engineering Research Council of Canada

Development in the Georgia Basin region may look a whole lot greener in the future thanks to regional research on the use of green roofs. Green roofs are engineered rooftops. These engineered rooftops incorporate soil and vegetation, which allow them to absorb rainfall and reduce problems with run-off in urban areas.

In 2003, with support from the Georgia Basin Action Plan and

Monitoring the performance of green roofs is critical to filling in knowledge gaps and objectively evaluating green roofs as a sustainable approach to future development in the Greater Vancouver Region.

– Kerly Acosta, Research Faculty, British Columbia Institute of Technology



© Joseph Lin, www.greencitibc.ca

Celebrating spring beneath cherry tree blossoms in Vancouver, BC



© Bronwen Geddes, EC

other partners, the Centre for the Advancement of Green Roof Technology constructed a demonstration green roof at the British Columbia Institute of Technology, Downtown (Vancouver) Campus. This project compared a conventional roof to two types of green roofs.

The operation and monitoring of the British Columbia Institute of Technology green roof launched the Regional Infrastructure Network to support the evaluation of green roofs as a sustainable approach to future development in the Metro Vancouver region.

In 2006, the Centre for the Advancement of Green Roof Technology, with support from the Georgia Basin Action Plan, began monitoring green roof performance on the City of White Rock's Operations Building.

The resulting information will provide current, comparable baseline data for green roof performance in the Georgia Basin. It will also inform discussions about a broader implementation of this storm water source control.

For more information please visit the Centre for the Advancement of Green Roof Technology website at www.commonsonline.bc.ca/greenroof.



Green roof where Fairmont Waterfront hotel chefs grow plants, herbs and flowers for use in the hotel restaurant

© Kim Sealknecht

GIVING FISH A CHANCE – MOUNT WASHINGTON MINE SITE REMEDIATION

Partners: Mining Association of British Columbia, Environment Canada, Fisheries and Oceans Canada, British Columbia Ministry of Energy, Mines and Petroleum Resources, British Columbia Ministry of Environment, Natural Resources Canada, Pacific Salmon Foundation, TimberWest, Tsolum River Restoration Society, which includes local community and Coast Salish Nations

A small open-pit copper mine operated on Mount Washington, near Courtenay, British Columbia, from 1964 to 1967, when it went bankrupt. By 1986, copper-loaded acid rock drainage from mine waste had virtually eliminated the valuable fisheries of the Tsolum River. The Tsolum River historically had salmon runs valued at over \$2 million per year.

In 2003, a unique partnership was formed. The local community, government and industry came together to seek long-term solutions to the mine's impacts and to rehabilitate the Tsolum River watershed's ecosystem and fisheries.

The Tsolum River Partnership funded and completed an innovative wetland project designed to protect the Tsolum River over the short term (up to 10 years), while a longer-term solution was developed. In 2006, the partnership hired a consulting firm to outline the options for remediation and restoration for the mine site. Options were presented to the Tsolum River Partnership in December 2007.

A mine remediation plan is now in place. The partnership hopes to obtain the financial support required to see the restoration project through to completion and restore the river to its original health and productivity.



COOPERATING FOR CONSERVATION – BLACK OYSTERCATCHERS

Partners: BC Parks, Environment Canada, Laskeek Bay Conservation Society, Pacific Wildlife Foundation, Parks Canada

Scientists working in three coastal parks are learning more about black oystercatchers. Considered indicators of intertidal community health, black oystercatchers are large, long-living shorebirds. There are about 10,000 black



© Tom Middleton, PWF

oystercatchers in the world. They live along the Pacific coast from the Aleutian Islands to Baja California where they feed on intertidal macro invertebrates like limpets and mussels.

Oystercatcher populations are vulnerable to natural and human disturbances. This is because they are confined to a narrow band of shoreline habitat. Major threats include predation of eggs and young by native and introduced predators, coastal infrastructure development, human disturbance, vessel wakes, and larger scale impacts, such as oil spill contamination and global climate change. The Black Oystercatcher Conservation Action Plan (www.whsrn.org/shorebirds/conservation_plans.html) is guiding efforts towards a better understanding of these birds.

Coastal Waterbird and Beached Bird Surveys
www.bsc-eoc.org/volunteer/bccws/ and
www.bsc-eoc.org/volunteer/bcbeachbird

Bird Studies Canada coordinates two bird surveys, which engage skilled citizen scientists to monitor trends and mortality in coastal bird populations, identifying priority areas and actions for the conservation of both birds and habitats. These ongoing projects have enlisted the expertise of over 450 volunteers since 1999 and generated well over 160,000 records from more than 10,000 surveys at approximately 200 sites within the Georgia Basin. The projects demonstrate how Georgia Basin Action Plan funding has leveraged an enormous in-kind contribution from British Columbians, and one of the most important, current datasets on the internationally important populations of birds that depend on our coastlines.

Scientists were relieved to learn that nesting populations of the black oystercatcher in the Georgia Basin are relatively stable. Research expanded in 2007 to look at movement between populations and between winter and summer habitats. Some birds in each area have received coloured leg bands and radio tracking devices to help scientists detect seasonal movements.

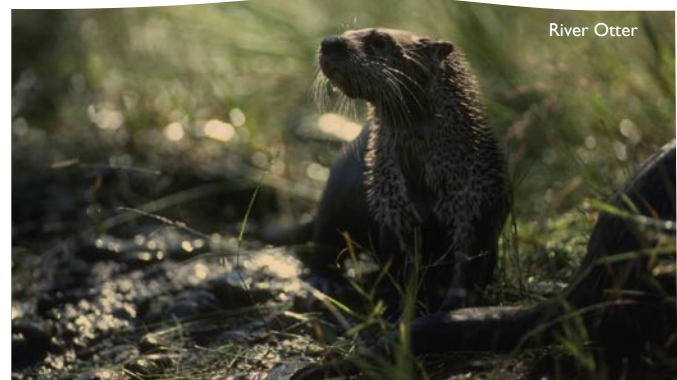
ANALYZING POLLUTION IMPACTS – RIVER OTTER STUDY

Partners: British Columbia Ministry of Environment, Capital Regional District, Environment Canada, Simon Fraser University, University of California, Davis Campus, University of Wyoming

Pollution of aquatic ecosystems is a major threat to river otter populations, yet until recently, little effort has been made to monitor environmental containment levels in wild otters.

Through the Georgia Basin Action Plan, and in collaboration with the Capital Regional District and other partners, a pilot project was undertaken to analyze the impacts of aquatic pollution on the river otter.

River otters are an ideal species to use to monitor localized environmental contaminants in marine ecosystems such as the Pacific Northwest. This is because of their top predator status in the near-shore environment, high site-fidelity and long life. Pilot project results to date indicate that marine-foraging river otters



River Otter

© Corel Corporation



near Victoria have elevated levels of polychlorinated biphenyls (PCBs).

Scientists are hopeful that the study results will provide new levels of knowledge and understanding about the impacts and significance of aquatic pollution in marine ecosystems.

RESTORING CREEK AND COMMUNITY – LYALL CREEK HABITAT RESTORATION

Partners: Fisheries and Oceans Canada, British Columbia Ministry of Environment, British Columbia Ministry of Transportation, Parks Canada

What began with the efforts of a few passionate locals has now blossomed into a project attracting widespread attention. As local school children assist the Lyall Creek Enhancement Society with the release of chum salmon fry in early spring, partners work with local residents to improve habitat conditions. Partners continue to study and restore the natural freshwater system, a system rapidly becoming a rarity in the Southern Gulf Islands.

The Lyall Creek watershed is unique to the Southern Gulf Islands. This creek will serve as a benchmark and a template to which other creek systems will be compared.

– Todd Golumbia, Ecologist, Parks Canada

Often described as a gem, Lyall Creek is a magical place. The “backbone” of Saturna Island, this 4-km creek flows into Lyall Harbour and is home to sea-run cutthroat trout, chum and coho salmon.



© Health Canada

A sizeable portion of this watershed has been set aside and protected as part of the Gulf Islands National Park Reserve of Canada since May 2003. With additional properties near the mouth of the creek managed by the Saturna Island Parks and Recreation Commission, much of this watershed will remain protected. Private property owners appreciate Lyall Creek and are proud to have this gem in their backyards.

For further information on habitat restoration at Lyall Creek, visit the Parks Canada Gulf Islands National Park Reserve of Canada website at www.pc.gc.ca/pn-np/bc/gulf/natcul/natcul5c_e.asp.



© Tom Middleton, PWF

— WATER —

The well-being of humans, animals, birds, fish and plants depends on the quality of our water. In order for our ecosystem to function effectively, we need to keep our waters clean and improve overall water quality. To address this challenge, Georgia Basin Action Plan partners have worked to clean up and prevent pollution in the Georgia Basin. This has been done by protecting the basin’s waters from non-point source pollution, developing management processes for liquid waste, stormwater and agriculture, monitoring watersheds and addressing shellfish recovery.

Marine Species at Risk – The number of marine species listed as at risk in the Georgia Basin Puget Sound increased steadily from 60 species in 2002 to 63 species in 2004 and 64 species in 2006.

Shellfish Harvesting Areas – Areas closed to shellfish harvesting because of poor water quality have increased over time. Expansions in monitoring activities prompted many such closures, but also led to the opening of many previously untested areas.

Marine Water Quality – Between 1999 and 2004, the majority of marine stations from the mouth of the Juan de Fuca Strait to the northern end of the Strait of Georgia were characterized as being sensitive to pollution.

River, Stream and Lake Quality – In 2003, physical and chemical measures of water quality suggested the majority of sites are well within water quality guidelines. However, between 64% and 90% of sites are demonstrating environmental stress or biological impairment.

Toxins in Harbour Seals – Levels of the persistent chemical polybrominated diphenyl ethers measured in harbour seals and Pacific herring were exponentially higher in 2003 than in 1984.

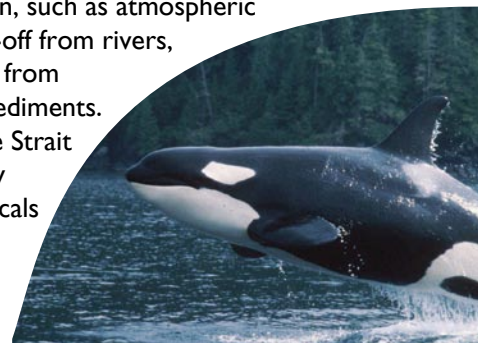
– Georgia Basin–Puget Sound Ecosystem Indicators, 2006

STUDYING CONTAMINATION – TOXINS IN KILLER WHALES

Partners: Capital Regional District, Environment Canada, Fisheries and Oceans Canada, Metro Vancouver, Simon Fraser University

In 2001, it was declared that the southern resident killer whale population had the unwelcome distinction of being the world’s most contaminated marine mammals. Levels of contaminants in these local whales exceeded even those of the St. Lawrence River’s beluga population.

Where were these pollutants coming from? Attention at the time focused on wastewater dischargers, but there was almost no information about other possible sources of contamination, such as atmospheric deposition, run-off from rivers, or even release from contaminated sediments. And once in the Strait of Georgia, how were the chemicals making their way to the whales?



© DFO



To respond to these questions, Georgia Basin Action Plan partners undertook studies to examine the annual quantities of particular contaminants being delivered to the Strait of Georgia from the Fraser River, smaller rivers and wastewater treatment plants. Concentrations in air, water, bottom sediments, fish and invertebrates were also measured to determine the total amount. Mathematical models are now being used to calculate contaminant levels and determine food web bio-accumulation.

CLEANING UP – BOAT HULL MAINTENANCE BEST MANAGEMENT PRACTICES PROGRAM

Partners: BC Marine Trades Association, British Columbia Ministry of Environment, Canadian Power and Sail Squadrons, Capital Regional District, Environment Canada, Fisheries and Oceans Canada, Georgia Strait Alliance, Harbour Authority Association of British Columbia

Toxic copper-based anti-fouling paints are widely used as an effective means to prevent biological growth on vessel hulls. To remain effective, these paints need to be re-applied every two to three years. When the hulls are being prepared for repainting, the generated waste, which can be lethal to aquatic life, often ends up in the aquatic environment.

Environment Canada, with support from a variety of partners, is working to address improper disposal of anti-fouling paint waste through the Boat Hull Maintenance Best Management Practices Program.



Example of a boat being powerwashed on a tidal grid facility that has a collection system for anti-fouling paint waste

© Iona To, EC

Program activities include workshops that bring together facility owners to share ideas on how to manage anti-fouling paint waste in a sustainable manner, posting signs at many boatyards highlighting the toxic effects of anti-fouling paint waste on aquatic life, informing facility owners of possible *Fisheries Act* violations and fines, and providing general hull maintenance environmental best management practices.

Many boatyards across British Columbia are upgrading their facilities to prevent anti-fouling paint waste from entering the aquatic environment. Numerous facilities have now installed containment systems that collect contaminated pressure-wash water and paint residues. On-site wastewater treatment systems have also been installed. Some boatyards are choosing to discharge the treated effluent into sanitary sewers where they meet the requirements of regional/municipal sanitary sewer bylaws, while others are re-using the treated water for pressure washing.

BUOY, OH BUOY – WATER QUALITY MONITORING IN THE FRASER RIVER ESTUARY

Partners: British Columbia Ministry of Environment, Canadian Coast Guard, Environment Canada

Water quality sampling is not as easy as one might think in a difficult environment such as the Fraser River estuary. A state-of-the-art water quality monitoring buoy was launched in November 2007 to collect continuous



Fraser River, BC

© Al Harvey, 2003



water quality information from the Fraser River estuary year-round. This provides new and ongoing information about the water quality status of one of the most important freshwater habitats in the province.

The buoy's sensors measure acidity and alkalinity, conductivity, water temperature, air temperature and wind speed and direction. When water is flowing out from the Fraser River, the sensors detect low water salinity. Pumps are then activated to fill sample bottles, which are later retrieved by scientists. The water samples are collected for chemical analyses of dissolved salts, trace metals and trace organics, including pesticides.

Midnight sampling excursions on the river are no longer needed, thanks to the new buoy. Information collected through the buoy's sensors can be accessed in real time at the Environment Canada water quality website. The web page also includes hourly images from the buoy webcam and the option to have data sent to a Blackberry wireless device, for anyone who requires up-to-the-hour data.

For more information please visit the Environment Canada Pacific and Yukon Water Quality Monitoring Program website at www.waterquality.ec.gc.ca.

Six new water monitoring stations have been added to the federal-provincial water quality monitoring network under the Georgia Basin Action Plan, bringing the total number of monitoring stations in the region to 12. For further information and maps, visit the Environment Canada Pacific/Yukon Water Quality Monitoring Program website at www.waterquality.ec.gc.ca.

MANAGING THE NATURAL AND BUILT ENVIRONMENTS – WATER BALANCE MODEL

Partners: British Columbia Ministry of Agriculture and Lands, City of Surrey, District of Metchosis, District of North Vancouver, Environment Canada, Metro Vancouver

The principle behind this tool is simple: land development and watershed protection can be compatible. The Water Balance Model promotes an approach to managing the natural and built environment as integrated components of the same watershed.

Comox, Vancouver Island



© Mike Martin

The Water Balance Model is increasingly applied by municipal governments and developers in the Georgia Basin and across the country to assess the effectiveness of storm water management techniques and to make informed decisions. The Water Balance Model is an effective tool to minimize the impacts of urban development on the aquatic environment.

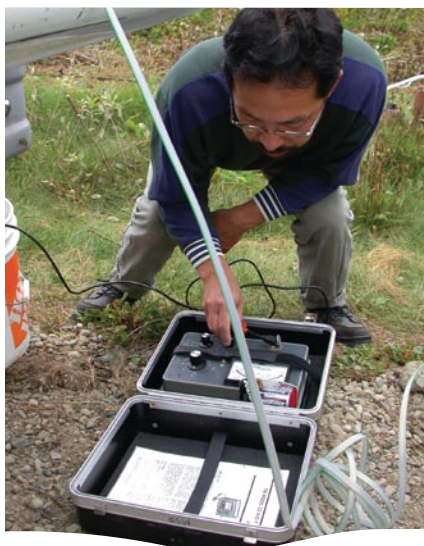
Supplemental to the *Stormwater Planning: A Guidebook for British Columbia*, the Water Balance Model was launched in 2003 with support from the Georgia Basin Action Plan. The long-term goal is for the model to facilitate effective stormwater management decisions within the context of creating greener communities and ensuring higher levels of watershed and stream protection.

For more information please visit the Water Balance Model website at www.waterbalance.ca.

TRANSBOUNDARY GROUNDWATER – ABBOTSFORD–SUMAS AQUIFER

Partners: Agriculture and Agri-Food Canada, British Columbia Ministry of Environment, Environment Canada, Fraser Health Authority, Simon Fraser University

The Abbotsford–Sumas aquifer straddles the border between the province of British Columbia and the state of Washington. This extensive sand and gravel aquifer is considered to be highly vulnerable to contamination from



© Mike Mazalek, EC, Basil Hii

agricultural land use activities and urban growth. High levels of nitrates have been measured in the aquifer.

Through the Georgia Basin Action Plan, international partners have collaborated by exchanging groundwater information that has led to the development of a computer model. This computer model simulates groundwater levels and flow and indicates pathways for the subsurface movement of contamination. The model will have numerous applications, such as helping predict impacts of land use decisions on aquifer quality.

CLEANING FOR CLAMS – HALALT WATER QUALITY PROJECT

Partners: *Environment Canada, Halalt Nation*

Members of the Halalt Nation have a strong connection to the Shoal Islands. The beaches of the Shoal Islands, which are located near southeast Vancouver Island, have been harvested by the Halalt Nation for food and used for social and ceremonial purposes for generations.

While the area remains densely populated with Manila clams and Pacific oysters, water contamination has caused the area to be closed to shellfish harvesting since the early 1970s. Suspected sources of pollution include agriculture, wildlife waste and a nearby pulp mill.

The Halalt Nation has been actively investigating pollution sources and working to apply remediation strategies. In 2005, in partnership with the Georgia Basin Action Plan, the Halalt Nation continued their pollution identification and reduction efforts through extensive field sampling. The sampling was undertaken in both the marine environment and the freshwater tributaries that drain into the water around the Shoal Islands.

The aim is to restore to health this important and valuable intertidal foreshore so that the Halalt Nation can return to their traditional shellfish harvesting practices.



Coast Salish Gathering in Duncan, BC, January 2007



© Mark Kiemlele

— APPENDIX — Georgia Basin Action Plan Partners

Signatory partners, or co-deliverers for the Georgia Basin Action Plan, include the British Columbia Ministry of Environment, Coast Salish Nations, Environment Canada, Fisheries and Oceans Canada, and Parks Canada. Frequently, groups work with one or more signatory partners to deliver on goals of the Georgia Basin Action Plan. Many of these non-signatory partners are listed below.

- | | |
|--|--|
| A Rocha Canada | City of North Vancouver |
| Agriculture and Agri-Food Canada | City of Surrey |
| BC Hydro | City of Vancouver |
| BC Marine Trades Association | City of Victoria |
| BC Parks | City of White Rock |
| British Columbia Agriculture Council | Coast Salish Sea Initiative |
| British Columbia Institute of Technology | Comox Strathcona Regional District |
| British Columbia Lung Association | Cowichan Tribes |
| British Columbia Onsite Sewage Association | Corporation of Delta |
| British Columbia Salmon Farmers Association | Department of National Defense |
| British Columbia School Districts | Design Centre for Sustainability |
| British Columbia Shellfish Growers Association | District of Central Saanich |
| British Columbia Statistics | District of Highlands |
| British Columbia Water and Waste Association | District of Maple Ridge |
| Burnside Gorge Community Association | District of Metchosin |
| Canada Mortgage and Housing Corporation | District of North Vancouver |
| Canada-British Columbia Water Supply Expansion Program | District Squamish |
| Canadian Coast Guard | District of West Vancouver |
| Canadian Power and Sail Squadrons, Pacific Mainland District | Drayton Community Oyster Farm |
| Capital Regional District | Drayton Harbor Shellfish Protection District |
| City of Abbotsford | Eco-Industrial Development Council |
| City of Blaine | Environment Canada |
| City of Chilliwack | Esquimalt Nation |
| City of Coquitlam | Evergreen |
| City of Courtenay | Federal-Provincial Toxic Chemicals Committee |
| City of Kelowna | Federation of BC Naturalists |



Fisheries and Oceans Canada
 Fraser Basin Council
 Fraser Health Authority
 Fraser River Estuary Management Program
 Fraser Salmon and Watersheds Program
 Fraser Valley Regional District
 Friends of Semiahmoo Bay
 Galiano Conservancy Association
 Georgia Strait Alliance
 Grasslands Conservation Council of British Columbia
 Habitat Acquisition Trust
 Habitat Conservation Trust Fund
 Halalt Nation
 Harbour Authority Association of British Columbia
 Health Canada
 Heron Rocks Friendship Centre Society
 Homalco Nation
 Hornby Island Community Fund
 Hul'qumi'num Treaty Group
 Island Trust Fund
 International Centre for Sustainable Cities
 Investment Agriculture Foundation
 Island Trust Fund
 Langley Environmental Partners Society
 Laskeek Bay Conservation Society
 Little Campbell Watershed Society
 Local volunteers
 Metro Vancouver
 Mines and Petroleum Resources
 Mining Association of British Columbia
 Ministry of Agriculture and Lands
 Ministry of Agriculture, Fisheries and Food
 Ministry of Community, Aboriginal and Women's Services
 Ministry of Community Services
 Ministry of Energy, Mines and Petroleum Resources
 Ministry of Environment
 Ministry of Health
 Ministry of Transportation
 Ministry of Transportation and Highways
 Ministry of Water Land and Air Protection
 National Estuary and Regional Geographic Initiative Programs
 Natural Resource Conservation Centre
 Natural Resources Canada
 Natural Sciences and Engineering Research Council
 Northwest Air Pollution Authority
 Pacific Field Corn Association
 Pacific Salmon Foundation
 Pacific Wildlife Foundation
 Parks Canada
 Pearson Ecologica
 Peninsula Streams Society
 Portrait Homes
 Public Works and Government Services Canada
 Puget Sound Action Team
 Puget Sound Clean Air Agency
 Puget Sound/Georgia Basin Toxics Work Group
 Real Estate Foundation of BC
 Real Estate Institute of British Columbia
 Royal Roads University
 Saanich Nation
 Salt Spring Island Conservancy
 SeaDoc Society
 Sechelt Nation
 Semiahmoo Nation
 Simon Fraser University
 Smart Growth BC
 Snuneymuxw Nation
 Soil Conservation Council of Canada
 Stewardship Centre for BC
 Stó:lō Nation
 Stó:lō Research and Resource Management Centre
 Squamish Nation
 Stewardship Centre for British Columbia
 Sumas Nation
 Sunshine Coast Regional District
 Sustainable Poultry Farming Group
 Swinomish Tribe
 Terasen Gas
 Timber West
 Township of Langley
 Transport Canada
 Tseycum Nation
 Tseil-Waututh Nation
 Tsolum River Restoration Society
 Tulalip Tribe
 Urban Development Institute
 Union of BC Municipalities
 United States Department of Agriculture
 United States Environmental Protection Agency – Region 10
 United States Fish and Wildlife Service
 University of British Columbia
 University of California Davis Campus
 University of Victoria
 University of Western Washington
 University of Wyoming
 Village of Cumberland
 Washington Department of Fish and Wildlife
 Washington State Department of Ecology
 Washington State Department of Health



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