



Making a difference...together

Report #ESP 09-46

**REPORT TO CORE AREA LIQUID WASTE MANAGEMENT COMMITTEE
MEETING OF WEDNESDAY 27 MAY 2009**

SUBJECT **HARBOURS ENVIRONMENTAL ACTION PROGRAM – 2008 ANNUAL REPORT**

PURPOSE

To present the 2008 achievements of the Harbours Environmental Action program, highlight the accomplishments of the Esquimalt Lagoon Stewardship Initiative (ELSI) and the Gorge Waterway Initiative (GWI) and discuss the requirement for a new establishing bylaw for the program.

BACKGROUND

In the Core Area Liquid Waste Management Plan (LWMP), the Capital Regional District (CRD) commits to coordinate environmental protection and improvement efforts in Victoria and Esquimalt harbours, Portage Inlet, Gorge Waterway and Esquimalt Lagoon, and to work cooperatively with other harbour groups to achieve the goals of the harbours environmental management strategy. These commitments are implemented through participation in the Victoria and Esquimalt Harbours Environmental Action program (VEHEAP), area-based harbour initiatives led by other agencies, facilitation of ELSI and GWI, and carrying out special projects. The CRD's involvement in harbour initiatives is carried out under the Stormwater, Harbours and Watersheds program (SHWP).

The Harbours Environmental Action program is very successful, receives significant media attention and is well-received and supported by all stakeholders including funding partners, municipalities, community groups and the public. The 2008 annual reports on the Harbours Environmental Action program, ELSI and GWI are attached for your information.

Establishing Bylaw

The harbours environmental action program was initially thought to be implemented under the *Liquid Waste Management Core Area and Western Communities Service Establishment Bylaw No. 1, 1995: A Bylaw to Convert the Authority for Liquid Waste Management to a Service for the Core Area and Western Communities*. In November 2008, the CRD received a legal opinion indicating that the program required a separate establishing bylaw and that the current cost-sharing formula, based on sewage flows, was not appropriate.

It was not possible to develop a new bylaw and associated cost-sharing formula prior to finalizing the 2009 budget. However, there are regulatory and public expectations, along with current external funding agreements, that this work continue. As an interim solution for 2009, staff worked with municipal partners to implement direct service agreements with View Royal, Victoria, Saanich, Esquimalt, Langford and Colwood.

During 2009, the intent is to work with municipal partners to develop a new service and cost-sharing formula for the harbours environmental action program and have this service in place for 2010.

FINANCIAL IMPLICATIONS

The 2008 programs were funded under existing core budgets and through grants and project funding provided by external agencies.

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The 2009 programs will be funded through direct service agreements implemented with View Royal, Victoria, Saanich, Esquimalt, Langford and Colwood. The total budget amount of these agreements is \$229,146.

SUMMARY

During the period January to December 2008, SHWP staff worked effectively with the community to protect and improve the harbours. The integrated approach of working with the community and municipalities is successfully making progress towards implementing the harbours environmental management strategy and achieving VEHEAP's goals, and actively engages local residents, community and environmental organizations, local stakeholders and government agencies to provide an effective process for dealing with harbour related issues.

The LWMP plan contains commitments to coordinate environmental protection of the harbours through a harbours environmental action program. However, a recent legal review indicated that there is no establishing bylaw for this service and that the current cost-sharing formula is not appropriate. As part of a feasibility study for the Integrated Watershed Management program, the harbours environmental action program, including an appropriate cost-sharing formula, will be reviewed and brought forward for committee approval later in 2009.

RECOMMENDATIONS

That the Core Area Liquid Waste Management Committee:

1. receive the report, *Capital Regional District Harbours Environmental Action Program 2008 Annual Report*, for information; and
2. direct staff to work with municipal partners to develop a new establishing bylaw and cost-sharing formula for the harbours environmental action program for committee approval later in 2009.

Glenn Harris, PhD, RPBio
Senior Manager, Scientific Programs

Larisa Hutcheson, PEng
Acting General Manager, Environmental Services
Concurrence

COMMENTS

JW:cam
Attachment: 1



Johnson Street Bridge, Victoria Harbour

Harbours Environmental Action Program 2008

Capital Regional District | 2008 Annual Report

In the Core Area Liquid Waste Management Plan (LWMP), the Capital Regional District (CRD) commits to coordinate harbours environmental protection and improvement efforts in Victoria and Esquimalt harbours, Portage Inlet, the Gorge Waterway and Esquimalt Lagoon. The CRD also works cooperatively with other harbour groups to achieve the goals outlined in the harbours environmental management strategy (EMS).

These commitments are implemented through participating in the Victoria and Esquimalt Harbours Environmental Action program (VEHEAP) and area-based harbour initiatives led by other agencies, coordinating the Esquimalt Lagoon Stewardship Initiative (ELSI) and the Gorge Waterway Initiative (GWI), and carrying out special projects. The CRD's involvement in harbour initiatives is carried out under the Stormwater, Harbours and Watersheds program (SHWP) which focuses on working with the community and stakeholders to achieve common goals and improve the environmental quality of the harbours and their watersheds.

The 2008 annual report on the harbours environmental action program describes SHWP participation in VEHEAP and area-based harbour initiatives, highlights the accomplishments of ELSI and GWI, and describes special harbours projects that SHWP is involved in.

Harbour Goals

- advocate environmental protection
- decrease contaminant inputs
- protect and enhance habitat quality
- set environmental quality objectives
- achieve environmentally protective land uses
- monitor environmental quality

VEHEAP Partners

Capital Regional District (CRD) | BC Ministry of Environment (MOE) | Department of National Defence (DND) | Environment Canada (EC) | Fisheries and Oceans Canada (DFO) | Public Works and Government Services Canada (PWGSC) | Transport Canada (TC)

CRD



Price Bay, Esquimalt Harbour

Victoria & Esquimalt Harbours Environmental Action Program

VEHEAP is an initiative of the main regulatory and jurisdictional government agencies in the harbours working to protect and improve environmental quality in Portage Inlet, Gorge Waterway, Victoria Harbour, Esquimalt Harbour and Esquimalt Lagoon. Established in 1994 through a Memorandum of Understanding, the VEHEAP partners agreed to work in a cooperative and supportive fashion towards common goals. In 2000, the partners committed to an Environmental Management Strategy and shared goals for the harbours. These goals became the CRD commitments in the LWMP.

Information Sharing Committee

The VEHEAP Information Sharing committee advances the implementation of the harbour goals by providing an information forum for member agencies, discussing area-based initiatives and collaborating on appropriate projects and studies. This committee meets twice yearly to share information about the activities of the area-based initiatives and the member agencies. The chair of the committee rotates among the partners. SHWP participates on this committee and provides regular updates on ELSI, GWI, the VEHEAP Stewardship committee and other CRD harbour-related activities.

Stewardship Committee

The VEHEAP Stewardship committee develops and coordinates agency programs and activities around shared priorities that promote environmental stewardship of the harbours and their watersheds. This committee, which is coordinated by the CRD, promotes conservation of ecological values in the harbours, collaborates on environmental projects, facilitates agency support for area-based initiatives, and facilitates access to environmental information and tools for the harbours.

Participation in Area-based Initiatives

Esquimalt Harbour

Department of National Defence coordinates the Esquimalt Harbour Steering Committee consisting of representatives from local governments and organizations with an interest in Esquimalt Harbour. They also coordinate an Environmental Advisory committee which provides environmental advice to the steering committee and provides a forum for collaboration on environmental programs for the harbour. SHWP staff participates on both of these committees.

In 2008, the Esquimalt Harbour committees reviewed the five-year harbour plan, commented on the new permitting process for docks, and discussed ballast regulations and problems with derelict boats and live-aboard vessels in Esquimalt Harbour.

Victoria Harbour

The CRD holds a seat on the board of the Greater Victoria Harbour Authority (GVHA). In 2008, the CRD representative on this committee was changed from a member of the public to a member from the CRD board. A staff liaison from SHWP was designated to facilitate the sharing of environmental information with the GVHA through the CRD Board representative.

In addition, SHWP staff was consulted by the City of Victoria regarding the Harbour Pathway. Staff provided significant input to the routing and conceptual design for the Harbour Pathway, identified potential areas for enhancement of ecological values and highlighted key opportunities for interpretation as part of the overall strategy for the pathway.

Esquimalt Lagoon, Gorge Waterway & Portage Inlet

SHWP provides coordination and support to ELSI and GWI, the community-driven initiatives focused on Esquimalt Lagoon, the Gorge Waterway and Portage Inlet. This involves facilitating and chairing the steering committee, liaising with member groups, managing projects, obtaining external funding and providing support to the working subcommittees. The accomplishments of ELSI and GWI are highlighted in their annual reports which accompany this report.

Special Projects

Harbours Atlas

The Harbours Atlas is a web-based information and mapping tool that brings together environmental and land use information for the harbours and their watersheds. Its use promotes well informed, responsible and sustainable land and water use decision making for the harbours and their watersheds. Users are able to retrieve ecological and geographic data from over 70 layers of spatial information, including harbour vegetation, marine fauna, substrates, sensitive shoreline habitats, seasonal bird use and density and underwater videos. The Harbours Atlas remains widely available—free of charge—at www.harboursatlas.ca.

Green Roof & Living Wall Project

SHWP initiated a project to install a green roof and living wall on the CRD Headquarters building. The CRD Green Roof/Living Wall project will include an extensive green roof, an intensive green roof and a living wall on the CRD Headquarters Building. The extensive green roof and the living wall will be monitored to provide real-time regional data on the environmental and economic benefits of these innovative technologies including rainwater retention, reduction of stormwater runoff, and improvement of energy efficiency, temperature regulation, and increased life span of the roof.

The CRD received \$296,000 from the Union of BC Municipalities through the New Deal Gas Tax Innovations fund to complete this project. In 2008, the detailed design for the green roofs and living wall was completed, the project was tendered and a contractor was hired to complete the project. The CRD also established a Memorandum of Understanding with the British Columbia Centre for the Advancement of Green Roof Technology to establish a field testing site to monitor the effectiveness of these technologies in the local climate. Installation of the green roofs and living wall will occur in 2009.

The CRD green roof and living wall will be highly visible to the public and will serve as demonstration for these technologies in the region. Conversion of rooftop areas to green roofs will significantly reduce the amount of rainwater leaving the CRD Headquarters Building and lessen the impact of stormwater on the harbour environment. Additional benefits include heating or cooling savings by insulating buildings, aesthetic benefits, air quality benefits, reductions in the ‘urban heat island’ effect and providing wildlife habitat in an urban environment.

Harbours & Watersheds Web Site

SHWP created an extensive website that provides information about the programs and detailed information about the major watersheds and harbours in the region. The site also provides users with information on how to minimize stormwater pollution and how to protect and restore our terrestrial, freshwater and nearshore marine environments. This site was launched as part of the new CRD website in 2007 - www.crd.bc.ca/watersheds.

Federation of Canadian Municipalities

The CRD and the City of Victoria hosted the Federation of Canadian Municipalities (FCM) on their Sustainable Communities Mission on August 22, 2008. The delegation of municipal decision-makers visited British Columbia for a weeklong study tour of leading sustainable community development projects. During the Victoria stop, the delegates participated in a walking tour of Victoria’s upper harbour to view the many sustainable developments adjacent to the harbour. Part of the tour profiled the CRD’s harbours environmental action program including the many restoration projects and remediation activities in the Gorge Waterway.

FCM delegates on a harbour tour.





Victoria Harbour

An Integrated Approach

During the period of January to December 2008, the CRD worked effectively with municipalities and the community to protect and improve the harbours and their watersheds. This was particularly evident through partnerships such as ELSI and GWI. Through outreach and education, participation in community monitoring programs, restoration and cleanup projects, these initiatives have actively engaged local governments, residents, community and environmental organizations, and other stakeholders, and have provided a more effective method for dealing with harbour environmental issues.

Successful environmental management and stewardship of the harbours requires the cooperation, coordination and commitment of the community and government agencies responsible for harbours environmental management. Taking an integrated approach and refocusing efforts to work directly with multi-stakeholder groups that are largely community driven and that include local residents, proves to be an effective approach to watershed and harbour management. Significant progress towards the achievement of the CRD's LWMP commitments and harbour goals continues to be made.

For more information contact:

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Victoria, BC
V8W 2S6
(250) 360-3065
www.crd.bc.ca/watersheds



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Important Links:

- Harbours Atlas
www.harboursatlas.ca
- Natural Areas Atlas
www.naturalareasatlas.ca
- Esquimalt Lagoon
Stewardship Initiative
www.elsi.ca
- Gorge Waterway Initiative
www.gorgewaterway.ca
- CRD Harbours and Watersheds
www.crd.bc.ca/watersheds
- Victoria and Esquimalt Harbours Environmental Action Program
www.veheap.ca

Our Vision

To protect, enhance and restore the health of Esquimalt Lagoon for future generations of people, plants and animals.

Our Goals

- Promote and support lagoon stewardship and education
- Prevent further loss or destruction of habitat and wildlife
- Reduce contaminant inputs to the lagoon
- Promote environmentally protective recreation uses in the lagoon area
- Promote environmentally protective land uses



The Esquimalt Lagoon Stewardship Initiative

The Esquimalt Lagoon Stewardship Initiative (ELSI) is a broad coalition of community and environmental groups, institutions, government and First Nations, working together to protect, enhance and restore the Esquimalt Lagoon and Coburg Peninsula.

After its founding in 2001, ELSI developed a Stewardship Plan for Esquimalt Lagoon which provides a framework for a coordinated approach to environmental management. ELSI creates opportunities for collaboration on environmental projects and outreach activities and provides a forum for the exchange and sharing of information.

ELSI is led by a consensus-based steering committee responsible for guiding the implementation of the Esquimalt Lagoon Stewardship Plan. Two working subcommittees focus on implementing outreach, education, planning and restoration. ELSI is chaired by the Capital Regional District's Stormwater, Harbours and Watershed Program (SWHP) and a part-time coordinator, funded through SWHP, initiates and manages projects, seeks funding and coordinates ELSI.

Accomplishments

In 2008, ELSI:

- Promoted lagoon stewardship and education through displays and events, including "Celebrating Esquimalt Lagoon: Past Present and Future" as part of the Emily Carr Community Festival of the Arts and Ecology
- Continued the pilot dune habitat restoration to prevent further loss and destruction of habitat
- Continued the fish monitoring program in tributary creeks
- Conducted water quality monitoring to screen for nutrient inputs to the lagoon
- Contracted a study of the relationship between phytoplankton blooms and fish kill events in the lagoon
- Contracted a study of bird disturbance on the lagoon and worked with the Canadian Wildlife Service to look at options for reducing disturbance to migratory birds
- Provided input to the City of Colwood to establish a dog on-leash bylaw for the lagoon area
- Continued implementation of the Interim Management Guidelines (IMG) for Coburg Peninsula and worked with developers of major projects occurring near the Esquimalt Lagoon to promote environmental stewardship-based land use practices.

Above photo: Major erosion occurred on the tip of Coburg Peninsula during heavy winter storms in early 2008.

ELSI Committee

- Canadian Wildlife Service
- Capital Regional District Environmental Services
- City of Colwood
- Colwood Association for Smart Growth
- Esquimalt Lagoon Enhancement Association
- Go Rowing and Paddling
- Habitat Acquisition Trust
- Local residents
- Parks Canada
- Royal Roads University
- SeaChange Marine Conservation Society
- Victoria Natural History Society
- West Shore Chamber of Commerce

Advisory Members

- BC Ministry of Environment
- Capital Regional District Parks
- Department of National Defence
- Environment Canada
- Esquimalt Nation
- Fisheries and Oceans Canada
- Songhees Nation



Coast Salish dancers performing during the May 18th public event "Celebrating Esquimalt Lagoon: Past, Present and Future." Photo by Gary Woodburn.

Initiatives and Projects

Stewardship and Education

ELSI hosted and participated in several stewardship and educational events at Esquimalt Lagoon in 2008.

A major event was held at the lagoon on May 18th, as part of the Emily Carr Community Festival of the Arts and Ecology. Over 1,000 people came to learn about the past, present and future of the lagoon at this celebratory event. Some of the highlights included:

- EcoRowing on the lagoon
- Aquarium with live marine touch tank
- Coast Salish dance performance
- Dune restoration tours
- Guided bird watching
- Bee Creek restoration tours and fish monitoring demonstrations

At the Fort Rodd Hill and Fisgard Lighthouse National Historic Site's annual Canada Day Celebration, ELSI showcased the outreach display, children's art activity

table and the Esquimalt Lagoon interactive watershed model.

ELSI and its partner Esquimalt Lagoon Enhancement Association received BC 150 funding from the BC Ministry of Tourism, Culture and the Arts for the First Nations Interpretive Sign and Mural Project. ELSI will work with local First Nations to create an artistic mural and interpretive sign to highlight the historical and cultural significance of the lagoon area

Water Quality Monitoring Program

For several years, ELSI volunteers and students have run a water quality monitoring program at Esquimalt Lagoon. The aim is to monitor the long-term health of the lagoon and its

associated wildlife habitat by assessing water quality parameters at critical times of the year. In 2007, dense algal blooms occurred in late summer and fall that caused patchy areas of strongly discoloured water in the lagoon. Concerns about the possible negative effect on the environmental health of the lagoon prompted ELSI to undertake more intensive monitoring in 2008. In addition to the standard annual monitoring by CRD staff, the following actions were also undertaken:

- Water from stormwater discharge sites and creeks analyzed for fecal coliform and nutrients
- Sediment samples at creek mouths analyzed for metals

A dramatic fish kill occurred in the lagoon in Sept. 2008, likely caused by low oxygen levels created by a dense algal bloom. Algal respiration at night used up oxygen, and combined with low water volumes during nocturnal low tides created lethally low oxygen levels for fish.





Mallards are one of the common water birds seen on the lagoon. Photo by Marie O'Shaughnessy

and organic pollutants

- Phytoplankton community analysis of marine waters in the lagoon monitored for presence of harmful algae

The results of the phytoplankton study indicated that the algae involved in the fish die-off were non-toxic, but the density of the bloom correlated with unusually high nutrient levels in the lagoon. Recommendations from this study were to investigate and manage nutrient sources entering the lagoon.

Fish Monitoring Program

Since 2004, ELSI volunteers have conducted a Community Fish Monitoring Program in the main creeks that flow into Esquimalt Lagoon. The main goal of the program is to determine the types of fish that use the creeks and assess the restoration potential of the creeks. Monitoring has confirmed that there are resident populations of cutthroat trout throughout Bee Creek and Colwood Creek and coho salmon in Colwood Creek.

Pilot Dune Habitat Restoration Project

ELSI and the City of Colwood continued the second year of a Pilot Dune Habitat Restoration

project on the Coburg Peninsula. The goals of the project are to restore native dune habitats by establishing and monitoring demonstration restoration plots, realigning benches with beach access points and promoting stewardship and awareness of dune habitats. In 2008, 37 volunteers worked a total of 129 hours to plant 843 native dune plants and remove invasive plants like Scotch broom. This was in addition to the 2000 plants that were planted in the first year of the restoration.

Site monitoring showed that most of the dune vegetation survived well after the first year. However, shrubs that were planted in front of the logs marking the parking area did not fare as well. The shrubs were intended to deter people from walking through the restored areas, but since these plants did not survive well, alternative strategies will be developed to achieve this goal.

MBS and Bird Disturbances

The Esquimalt Lagoon Migratory Bird Sanctuary (MBS) extends approximately 90m inland from the lagoon foreshore. It has become a high use recreation area on both the water and

land portions. Unfortunately, vehicular traffic on the Coburg Peninsula, boating traffic on the lagoon, off-leash dogs and pedestrian traffic throughout the area have resulted in on-going high levels of disturbance to the resident and migratory birds in the area. ELSI is working with the Canadian Wildlife Service (CWS), which regulates and manages MBSs, to achieve a balance between protection of the migratory birds and recreational uses of the lagoon.

In 2008, ELSI commissioned a study by a local bird biologist to examine and quantify the human-initiated disturbances to birds on the lagoon and provide suggestions for mitigation. The study found that boating was the most common human-induced disturbance to the birds. Three main areas of higher bird concentration were observed, consistent with previous studies. ELSI has been working with CWS staff to establish a balance between areas for birds and areas for boats. An outreach strategy including public consultation, education, signage, buoys and a media campaign will be used to achieve this.

Thank you!

Many thanks go to the dedicated volunteer members of ELSI and the community who gave many hours of their time to help accomplish the major projects undertaken in 2008:

- ELSI Pilot Dune Habitat Restoration
- Bird Disturbance Surveys
- ELSI Community Fish Monitoring
- Celebrating Esquimalt Lagoon special event

Special thanks to:

1. BC 150 for the \$7000 contribution to the First Nations Interpretive Sign and Mural Project
2. Students and professors from the University of Victoria Restoration of Natural Systems Program, Royal Roads University and Camosun College Environmental Technology Program who gave their time.



Above photo: This restored section of Bee Creek runs through the proposed Essencia development.

In May 2008, ELSI was presented an award from the Department of Fisheries and Oceans Canada for five years of outstanding services to the fisheries resource in Canada and dedicated support of the Habitat Enhancement Program.

For more information, contact:

ELSI Coordinator

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Interim Management Guidelines for Coburg Peninsula

In February 2007, the City of Colwood adopted the IMG for the Coburg Peninsula, the barrier spit that encloses Esquimalt Lagoon. The IMG

envisioned the Coburg Peninsula as an outstanding example of an ecologically diverse barrier spit, where people enjoy a variety of recreational activities, while treating the natural and cultural features with respect. Colwood appointed ELSI as the IMG Implementation Advisory Committee. In this role, ELSI moved the IMG forward by working with Colwood staff to develop a five year implementation strategy, identify budget items and embark on coordinated activities. First year implementation activities included dune habitat restoration, discussions with key parties on protection of wildlife habitat and the development traffic calming plans.

ELSI worked with City of Colwood staff to address erosion issues at the bridge that crosses the mouth of the lagoon. Severe storms during the winter of 2007/08 caused deflation of the beach, allowing waves to impact the north abutment of the bridge. Emergency rip rap repairs were required but later in the year some of the sediments

returned to the beach. ELSI provided input to Colwood engineering staff regarding ecological impacts of a variety of engineering solutions to protect infrastructure along the Coburg Peninsula.

Land Use and Development

ELSI provided input to the development plan process at Essencia, the former Pacific Centre Family Services site on a 4.7 hectare property adjacent to the lagoon. After several community meetings where the developers presented their initial plans, ELSI prepared a coordinated response. The concerns included: proposed building heights, protection of the Migratory Bird Sanctuary portion of the land, sediment control and rainwater management during and after construction, and other issues related to aquatic habitat and wildlife protection. ELSI will continue to provide input to the development plan process as this project proceeds.

Outlook for 2009

In 2009, ELSI will focus on:

- Working with local First Nations on the First Nations Interpretive Sign and Mural Project
- Monitoring the pilot dune habitat restoration project
- Continuing ELSI's fish monitoring program and seeking advice from the Department of Fisheries and Oceans on how to proceed with effective monitoring of the lagoon's creeks
- Working with our partners to improve water quality in the lagoon, and investigating nutrient sources entering the lagoon and its tributary creeks
- Reviewing and updating the Esquimalt Lagoon Stewardship Plan
- Promoting 'bird-friendly' recreation on the lagoon by erecting signs informing the public about dog on-leash requirements and waterfowl refuge areas within the Migratory Bird Sanctuary
- Working with City of Colwood on construction of an accessible arts space on the Coburg Peninsula
- Advising and working with the City of Colwood on implementation of the IMG, including traffic calming, bylaws and signage



Our Vision

Promotion of a healthy environment for all life in the Gorge Waterway, Portage Inlet, and their watersheds and communities for the well-being of present and future generations.

Our Goals

- provide a forum for the exchange and sharing of information regarding the Gorge Waterway, Portage Inlet and their watersheds
- promote education and awareness programs on appropriate land and water use
- establish and encourage activities that show care and concern for the natural environment



Upper Gorge Waterway

The Gorge Waterway Initiative

Background

The Gorge Waterway Initiative (GWI) is a collaborative, community-driven group of organizations working to protect, enhance and restore the natural and cultural features of the Gorge Waterway, Portage Inlet and the surrounding watersheds.

Since formed in 2005, the GWI has provided a framework for a coordinated approach to environmental stewardship of the Gorge Waterway, Portage Inlet and their watersheds through information sharing and fostering partnerships. This collaborative group brings together a broad array of interests and its members include representatives from community and environmental groups, landowners, local governments and local government advisory committees, and recreational users.

The GWI is led by a consensus-based steering committee that is responsible for guiding the implementation of the Gorge Waterway Stewardship strategy. Working subcommittees are established to move GWI projects and activities forward. The GWI is coordinated by the CRD's Stormwater, Harbours and Watersheds program and a part-time coordinator initiates

and manages projects, seeks funding and provides administrative support.

During 2008, the GWI improved community appreciation and stewardship for the waterway through the development of outreach materials and at community events, initiated projects to restore habitat along the waterway and worked to protect threatened and endangered wildlife on the waterway.

Initiatives and Projects

Community Events

The GWI partners hosted their display, the interactive watershed model, and the Seaquaria touch tank at community events including the Vic West Community Fest, the Canada Day Picnic on the Gorge, and Rivers Day at Cuthbert Holmes Park. The GWI was a key organizing partner for the 2008 Ocean's Day celebration held in cooperation with the Township of Esquimalt and in celebration of the opening of the new Gorge Waterway Discovery Centre in Esquimalt Gorge Park.

The GWI continued with the Gorge Waterway Speakers Series in 2008. The first event featured Nikki Wright of Seachange Marine Conservation Society speaking about the diversity and beauty of eelgrass meadows and their ecological importance in the Gorge Waterway. The second

GWI Partners

Community Members

- Burnside Gorge Community Association
- Friends of Cuthbert Holmes
- Gorge Tillicum Community Association
- Gorge Waterway Action Society
- Portage Inlet Protection Society
- Portage Inlet Sanctuary Colquitz Estuary Society
- Point Ellice House Society
- POLIS Institute on Ecological Governance, University of Victoria
- Seachange Marine Conservation Society
- Seaquaria in Schools
- The Land Conservancy
- Habitat Acquisition Trust
- Victoria Canoe and Kayak Club
- Victoria West Community Association
- World Fisheries Trust

Local Government Members

- Capital Regional District
- City of Victoria
- Victoria Shoreline and Environmental Advisory Committee
- District of Saanich
- Township of Esquimalt
- Esquimalt Parks and Recreation Commission
- Town of View Royal
- View Royal Parks, Recreation and Environment Advisory

event, held in conjunction with Oceans Day events in Esquimalt Gorge Park, featured Cheryl Bryce of Songhees Nation. Cheryl led a walk along the waterway and talked about its importance to local First Nations.

Outreach Tools

The GWI continued to promote community stewardship of the waterway with the launch of a new website that provides information about GWI projects and initiatives and links to detailed information about the history, ecology and stewardship of the Gorge Waterway and Portage Inlet.

Three new infosheets about the Gorge were also created. The latest in the series highlights:

- First Nations and their connection to the waterway, watersheds
- watershed and the water quality in the Gorge
- a "Who Do You Call" list identifying the appropriate authority to contact for a variety of scenarios, such as oil spills, dead wildlife, fisheries violations and bylaw infractions

All six of the GWI Infosheets series can be downloaded from the GWI website.

Visit us at:
www.gorgewaterway.ca

Gorge Waterway Discovery Centre
in Esquimalt Gorge Park.



Cheryl Bryce of Songhees Nation discussed the Legend of Camosung and the Songhees connection to the Gorge Waterway and the reversing falls under the Gorge Bridge.

Gorge Waterway Discovery Centre

Many of the GWI partners are working with the Township of Esquimalt and SeaChange Marine Conservation Society to renovate a building in Esquimalt Gorge Park to use for environmental programming. The partners share a common vision of a space for youth and adults to engage in environmental education and restoration initiatives centred on the connections between forest, wetland, stream and marine environments, and the urban environment.

The Gorge Waterway Discovery Centre opened to community and school programming on June 8, 2008 as part of Ocean's Day celebrations at Esquimalt Gorge Park. While only open two afternoons a week, more

than 1500 people visited the GWDC in a 6 month period, proving the feasibility and need for such a space in the Capital Region. Its location on Victoria's unique and beautiful Gorge Waterway, with a mature forest and restored creek surrounding it make the GWDC an ideal location for a regional environmental learning centre.

The long term vision of the GWDC is to retrofit the existing building to demonstrate sustainable building features that could be implemented by homeowners. Through architecture, innovative design and artistic features, the building will demonstrate water and energy conservation and 'nature by design' principles, while providing urban interpretive and learning opportunities for visitors.





Volunteers, like this crew from Diageo Canada, contributed 930 hours of their time to remove more than 10 tonnes of invasive plant species.

Point Ellice House Shoreline Restoration

The GWI is working on a major project to restore native vegetation along 90 m of shoreline at Point Ellice House. This important restoration site, located on a diverse natural shore with pocket beaches and rocky outcrops, is a unique remnant of the native arbutus, Douglas fir and Garry oak forest ecosystem that historically lined the Gorge. The objectives of the restoration project are to:

- remove invasive plants;
- replant native trees, shrubs and ground cover; and
- improve the biodiversity and ecological functioning of the site.

Many of the mature trees on this site are nearing the end of their

life and the woodland understory is severely overgrown with invasive plants (mainly ivy, holly, spurge laurel and periwinkle), which have choked out most of the native shrubs, young trees and ground cover. Dense stands of overhanging ivy at the water's edge crowd out marine marsh plants impacting the tidal fringe marsh that used to exist along the shore. Decades of invasive species growth has resulted in a loss of habitat diversity and has compromised the ecological functioning of the site.

In 2008, the partners worked with a fantastic group of community volunteers and supporters on the removal of invasive species from the site (see side bar). From August to December, our generous volunteers spent a total of 930 hours to remove more

than 10 tonnes of invasive plants from the site. With this level of community involvement and volunteer commitment, significant progress on the removal of invasive species was achieved..

Interpretive Signage

The GWI is partnering with parks staff at the Town of View Royal, Township of Esquimalt, District of Saanich and City of Victoria to develop interpretive signage along the waterway. This project will create and install a series of interpretive signs around the Gorge Waterway and Portage Inlet that highlight:

- key ecological features of the waterway

Thank you!

Community Volunteers

- 3rd Douglas Sea Scouts
- Esquimalt High School Leadership and ESCAPE programs
- University of Victoria Students
- Camosun College Students
- Numerous local residents

Government and Business Supporters

- City of Victoria Parks staff
- Ellice Recycle Ltd.
- Heritage Branch
- Point Ellice House Staff

Financial Supporters

- Evergreen Walmart Green Grant
- Diageo Canada
- Capital Regional District

Before ivy removal.



Volunteers removing invasives.



After ivy removal.





A sunny afternoon at Colquitz River

- important historical points of interest with archival photos
- First Nations cultural information
- maps of the waterway, watersheds, trails and parks along the waterway

In 2008, an overall strategy for the number of signs, their location and content was developed. Funding was received from the municipalities and the CRD to develop a graphic design template for the signs. Further funding will be required to reproduce and install the signs.

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Land Use and Development

The GWI conducted a coordinated review of the RioCan development at Tillicum Mall and the proposed residential towers adjacent to Colquitz River and Cuthbert Holmes Park. The GWI raised concerns with RioCan. Many of the issues raised were considered and the development proposal adjusted. It is expected that this project will be submitted to Saanich for the formal review process in 2009.

The GWI submitted extensive comments on the Saanich Official Community Plan revisions. The GWI also expressed concerns regarding the berming of Panama Flats, an important agricultural floodplain for the Colquitz River, in a letter to Island Berry Farms.

Purple Martin Nest Box Program

The Purple Martin (*Progne subis*) is currently on the BC Environment Wildlife Branch Red List as a candidate for threatened or endangered status due to its small population size, historical decline in numbers and range, and the continuing loss of nesting habitat. An active program of nest box

establishment and maintenance is considered critical to the Purple Martin's survival in the province.

The GWI is working to help re-establish nesting colonies of Purple Martins along the Gorge Waterway and Portage Inlet through the placement of Purple Martin nest boxes at four locations. Through this program, the GWI provides willing homeowners with nest boxes, helps to install them in the appropriate location and provides training on annual nest box maintenance.

In the spring of 2008, the first pair of Purple Martins made their home in nest boxes installed last year on the lower Gorge Waterway. The GWI continues to identify additional nest box sites further up the Gorge and talk with property owners interested in this program.

Purple Martin guards its two chicks which successfully fledged in the spring.



Outlook for 2009

In 2009, GWI will focus on:

- ongoing communication and outreach with waterway and watershed residents.
- planning for public input to an overall strategy for the Gorge Waterway and Portage Inlet.
- installing Purple Martin nest boxes at three more sites in cooperation with willing property owners.
- continuing support of GWDC initiatives
- continuing the removal of invasive species and replanting of native plants at the Point Ellice shoreline restoration project.
- providing coordinated input into review of View Royal and Victoria Official Community Plans.
- completing and installing interpretive signs along the waterway.