



Stormwater Quality on the Saanich Peninsula

Submitted by Ross Cameron, Environmental Science Officer, CRD

One of the goals of the Capital Regional District (CRD) Stormwater, Harbours and Watersheds program (SHWP) is to manage stormwater quality in partnership with municipalities in order to maintain healthy watersheds, and protect the near shore receiving environment. To help meet this goal, SHWP carries out stormwater monitoring programs in cooperation with municipalities in the region each year. These surveys determine the level of contaminants in stormwater (both bacterial and chemical). The results are then discussed with member municipalities and action plans are developed to address areas of concern. This article pertains to the 2004 monitoring program for the Saanich Peninsula. For more information or to obtain a copy of the complete annual report, please contact Ross Cameron at 360-3256 or stormwater@crd.bc.ca.

The results from the bacterial portion of the 2004 Saanich Peninsula sampling program (where 125 discharges were sampled for fecal coliforms) were promising in that only 11% of the discharges were deemed to be in need of further investigation and/or remedial action. In fact, over the past seven years there has been an encouraging trend as the overall number of discharges of concern has decreased by 53%. The majority of contaminated stormwater flows on the Peninsula are likely a result of failing on-site sewage disposal systems and agricultural activities. Bacteriological source tracking (BST) is now being used to help identify whether this fecal coliform contamination is due



Todd Creek on the Saanich Peninsula

to animals or humans. BST sampling, upstream source investigations, and education and outreach will continue to be ongoing priorities for SHWP in 2005/2006.

The chemical contaminant portion of the 2004 Saanich Peninsula sampling program (where sediments from 14 stormwater discharges were analyzed for polycyclic aromatic hydrocarbons (PAHs) and eight metals), identified a need to conduct upstream contaminant source investigations for five of the discharges. These investigations have uncovered several sources of chemical contamination resulting in the installation or upgrade of on-site stormwater treatment systems.

SHWP staff will continue to work with the municipalities, First Nations and other jurisdictions on the Saanich Peninsula to address contaminants



Saanich Peninsula landsat

of concern and to monitor and investigate discharges.

In this issue

Stormwater Quality on the Saanich Peninsula	1
Stormwater Regulations	2
Draining Your Pool, Spa or Fountain	2
Managing Shipyard Stormwater: Esquimalt Graving Dock	3
Esquimalt Gorge Park	4
Ecostar Awards	5
RAR Training	5
Program Partner	6
Stormwater Links	6

New Stormwater Regulations Now in Effect

Submitted by Andrea Mercer, Environmental Science Officer, CRD

The City of Victoria is the first municipality in the Capital Regional District (CRD) to adopt regulatory codes of practice governing stormwater discharges.

The following sectors currently operating in the City of Victoria will now be required to abide by requirements outlined in sector-specific codes of practice to ensure that their stormwater discharges meet limits prescribed in the City's Stormwater Bylaw:

- automotive and parking lot operations
- construction and development activities
- recreation facilities
- outdoor storage yards
- recycling operations

A model stormwater bylaw and codes of practice were developed by the CRD in consultation with member municipalities and business owners. The bylaw and codes were designed to protect the municipal storm drainage system and receiving environment while being fair to business owners.

The bylaw and six codes of practice have been made available to all member municipalities for optional adoption or to be built into existing municipal regulations. CRD staff will work with the municipalities to ensure that there is a level playing field throughout the region with respect to stormwater discharge.

For more information regarding the CRD's model stormwater bylaw and codes of

practice, please contact Andrea Mercer at stormwater@crd.bc.ca or 360-3256. For information regarding the new regulations in effect in the City of Victoria, please contact Gary Pleven at garyp@city.victoria.bc.ca or 361-0314, or visit the City's Engineering Department website at www.city.victoria.bc.ca/cityhall/departments_eng.shtml.



City of Victoria staff with business owner

Water, Water Everywhere...

How to Safely Drain Your Pool, Spa or Fountain

Submitted by Andrea Mercer, Environmental Science Officer, CRD

As the kids return to school and autumn days approach, many residents begin thinking about fall maintenance for their swimming pools, spas and fountains.

Often, when draining pools, residents release water down the street and into storm drains. But pool water can be heavily laced with chlorine and bromine. While these sterilizing chemicals have a positive effect on our swimming pools, they have a dangerous effect on our streams and lakes. Introduced into the waterways, they can kill important parts of our aquatic environment.

The best solution is to discharge pool water to the sanitary sewer

system. Alternatively, the water can be discharged to the storm drainage system – but only if it is chemical-free. Water being drained into the storm drain must not contain debris or vegetation, chlorine, algae, chemicals that counteract chlorine, hydrogen peroxide-based products or copper-based algaecides. It must have a pH between 6.5 and 9.0 and it must be released in a controlled manner so that it does not cause erosion.

Wastewater resulting from pool filter cleaning, backwashing or acid cleaning should never be discharged to the storm drainage system. Wash water from pool filters can be released over an absorbent surface – a lawn,

landscaped area or vegetated hillside. Wastewater from backwashing and acid cleaning should be discharged to the sanitary sewer, but only after the pH has been adjusted to between 5.5 and 11.0.

For more information regarding the disposal of residential pool, spa and fountain water, please contact your municipality.

For information on commercial or institutional pools, consult the Code of Practice for Recreation Facilities (Schedule 'R' of CRD Sewer Use Bylaw 2922) for discharges to the sanitary sewer, or contact your municipality for applicable stormwater regulations.

Managing Shipyard Stormwater – The Esquimalt Graving Dock’s Approach

Submitted by Daryl Lawes, Environmental Coordinator, Esquimalt Graving Dock

Regular maintenance is necessary for all marine vessels and is an important source of income for local shipyards. A major challenge associated with this shipyard activity, though, is the management of resulting pollutants that can enter our local waters – either by accident or through stormwater runoff. For British Columbia’s largest ship repair and maintenance facility, the Esquimalt Graving Dock (EGD), the control of these pollutants is a priority.

Public Works and Government Services Canada (PWGSC) has operated the Esquimalt Graving Dock since 1925. The EGD is a dry dock available to multiple users. As such, it supports BC’s entire shipbuilding, repair and maintenance industry. As landlord of the facility, PWGSC is responsible for implementing an Environmental Management System that meets the highest environmental and international standards.

As part of the environmental program and in support of their commitment to pollution prevention, the EGD has initiated several infrastructure upgrades to manage stormwater.

These upgrades have been phased in over the last five years as ageing equipment has needed replacement. So far, several key projects have been undertaken: stormwater interceptors have been installed, buried pipe storm drains have been replaced with open grated trench drains, and the water collection system on the dry dock floor has been upgraded.

Down Stream Defender™ stormwater interceptors have been placed before each major outfall. These interceptors use centrifugal motion to drop solids out and remove hydrocarbons from the surface of stormwater. Contaminants are captured in internal compartments and pumped out for proper disposal.

Leading into the interceptors are systems of open grated trench drains that have replaced ageing underground pipes. These trench drains capture and clean debris and contaminants that previously would have been difficult to recover. They also allow for easy inspection.

In addition, an improved water collection system has been constructed on the dry dock bottom. The system



Strategically placed interceptors

prevents pollutants – produced while a ship is dry-docked – from being discharged to the environment. The collection system helps to control and transfer the contaminated stormwater to centrally located sumps, where it can be removed and sent for proper treatment and disposal.

These infrastructure upgrades, along with employee training and adherence to industry best management practices, have had an overwhelmingly positive effect; already, millions of litres of contaminated stormwater has been kept from our local waters.



Grated trench drains



Runoff collected for treatment

What's Being Done to Enhance Our Watersheds?

Municipalities in the Capital Regional District (CRD) are involved in many activities aimed at improving the quality within local watersheds. This column will be a regular feature in future editions of Stormwater News. Each column will highlight a watershed enhancement project in the region. If you know of any notable activities occurring in your municipality, please submit the information for possible inclusion in an upcoming newsletter. In this edition, we feature the Township of Esquimalt and the Esquimalt Gorge Park.

The Esquimalt Gorge Park – A 10-Year Master Plan

Submitted by Brad Underwood, Vice-Chair, Esquimalt Parks and Recreation Commission

A 10-year Master Plan has been developed for the Esquimalt Gorge Park. The plan focuses on balancing the use of the park through the development of two distinct recreational areas: one passive, the other active.

Phase One of the Master Plan, which is about to begin, addresses the passive recreational area and the Creek Daylighting project. Brush, trees, fill and the dam/weir structure will be removed along the old creek alignment between Craigflower Road and the Gorge Waterway, through the Esquimalt Gorge Park. Walking trails, terrestrial wetland and other native plantings will be developed, re-establishing a more natural area through the southern part of the park. The benefits of Phase One will be significant: the new passive recreational area will encourage native habitat, and the plantings will naturally treat stormwater before it enters the Gorge Waterway.

Phase Two of the Master Plan will concentrate on the active recreational area, resituating current activities so that they occur in and around the existing parking lot. Plans include the development of a children's water park, the relocation of tennis and volleyball courts, and the construction of a canoe and kayak launch.

Since the development of the Master Plan, a number of additional ideas



Esquimalt Gorge Creek Restoration

have emerged. These include balancing dog-use bylaws, adding active recreational activities such as golf or disc golf, and developing a means to commemorate the park's long history.

The Master Plan is the result of a year-long project steered by a committee of residents, user groups, Parks and Recreation commissioners and staff.

Funding for the restoration has been provided by the Canada-British Columbia Infrastructure Program and the Municipality. For more information on this project or other watershed initiatives in the Township of Esquimalt, please contact Barbara Snyder at bsnyder@esquimalt.ca or 414-7148.

ecostar AWARDS

2005 EcoStar Awards www.crd.bc.ca/ECOSTAR

The EcoStar Awards were developed by the Capital Regional District and community sponsors in the year 2000, to recognize the commitment and contributions of individuals, organizations, groups and businesses to our environment.

The 2005 awards will recognize achievement in the following categories:

- Lifetime Achievement
- Climate Change
- Conservation and Restoration
- Drinking Water Stewardship
- Environmental Education
- Pollution Prevention
- Research and Technology
- Sustainability
- Transportation
- Urban Watershed Protection
- Waste Reduction
- Youth (Individual)
- Youth (Group)

Each award category has its own description, eligibility criteria, nomination criteria and nomination form. All nominations must be submitted by September 30, 2005. A formal dinner and awards ceremony will be held in November 2005 at the Laurel Point Inn to recognize finalists in each award category. During the ceremony, award winners will be announced and presented with an EcoStar Award.

For more information on the 2005 EcoStar Awards, please visit www.crd.bc.ca/ecostar or contact Marilyn Sing at msing@crd.bc.ca or 360-3228.



The University of Victoria was the 2004 winner of the Urban Watershed Protection award. Here, David Cubberley, Saanich Councillor (left), and Her Honour, Iona Campagnolo (right) present the award to Gerry Robson and Sarah Webb of UVic.

The University of Victoria is the first university in Canada to develop an integrated storm water management plan. The university lands are at the headwater of four watersheds. The sensitivity of its geographic positioning prompted the university to develop a plan to reduce water flows and improve the quality of those flows. UVic was presented with the Urban Watershed Protection Award last year for this work.

Riparian Areas Regulation Training Course

Did you know that Malaspina University-College is offering a Riparian Areas Regulation course this November? The Riparian Areas Regulation (RAR) was enacted by the Ministry of Water, Lands and Air Protection (now the Ministry of Environment) under Section 12 of the *Fish Protection Act* in July 2004. The new regulation (which replaces the provincial Streamside Protection Regulation) must be fully implemented by local governments by June, 2006. The regulation will serve to protect riparian areas during residential, commercial, and industrial development by ensuring that proposed activities are subject to a science-based assessment conducted by a Qualified Environmental Professional (QEP). If you are an environmental consultant or other professional (e.g., fisheries, forestry, engineering, etc.) who will be conducting the Riparian Area Regulation field assessment, or will be working with, or regulating, land use initiatives, including: land developers, government (municipal, regional, provincial, federal) personnel, and other industry stakeholders, then this course will be of interest.

Two- and three-day courses are available in Victoria this year, both commencing November 2. For more information on this course, or to download registration information, please visit the course website at: www.mala.ca/faep/courseinfo.asp?ID=785

Program Partner: CRD Trucked Liquid Waste Program

In previous issues of Stormwater News, we have presented informative articles from the Regional Source Control Program, which is a partner program to the Stormwater, Harbours, and Watersheds Program. In this edition, we are featuring an article from another one of our program partners, the Trucked Liquid Waste Program.

Submitted by Chris Robins, Supervisor, Environmental Contaminants Program, CRD

The overall goal of the CRD's Trucked Liquid Waste Program is to help protect public health and the environment. To achieve this, the CRD is working with Trucked Liquid Waste (TLW) service providers and others to ensure that TLW – a by-product resulting from a range of business processes – is handled and disposed of in an appropriate manner.

TLW includes contaminants and materials such as fats, oils and grease, chemicals, metals and solvents. These are generated by all types of businesses – from restaurants, car

washes and photo processors to dry cleaners, car repair shops and laboratories. Because these by-products are considered to be high-strength liquid wastes, bylaws prohibit their discharge into sanitary and storm sewers. Instead, they must be collected and properly disposed of off-site.

Trucked Liquid Waste is just one component of the CRD's Core Liquid Waste Management Plan (LWMP). The Trucked Liquid Waste designation does not include sewage or hauled domestic waste, which are covered by a separate program.



Collection of trucked liquid waste

For more information on Trucked Liquid Waste, please contact Chris Robins at RSCP@crd.bc.ca or 360-3256.

Contact the Editor

If you have any questions or comments or would like to contribute material to *Stormwater News*, please contact the Editor, Andrea Mercer at either stormwater@crd.bc.ca OR 360-3256.

STORMWATERlinks

- CRD Environmental Services
www.crd.bc.ca/es
- Harbours Atlas
www.harboursatlas.ca
- Natural Areas Atlas
www.naturalareasatlas.ca
- Bowker Creek
www.bowkercreek.org
- City of Victoria
www.city.victoria.bc.ca
- Esquimalt Gorge Creek Restoration
www.esquimalt.ca/projects/gorge_park_creek.htm
- Residential Watershed Pledge
www.RestoreRockBay.com
- Georgia Basin Action Plan
www.pyr.ec.gc.ca/georgiabasin/index_e.htm
- Environment Canada
www.ec.gc.ca



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