



Our Backyard

A NEWSLETTER ON THE NATURAL ENVIRONMENT IN SAANICH

Douglas Creek
Watershed
Edition

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Why Watersheds?

By Adriane Pollard

Saanich Environmental Services



This special edition of Our Backyard is not only informative for residents of the Douglas Creek watershed, but to any Saanich resident living in a watershed—almost all of us. Watersheds are important to people, plants, fish and other wildlife, ground water, soils, and ecosystems. To determine what watershed you are located in, think of a raindrop falling and what stream it would eventually reach as it flows down hill and through pipes. You might be surprised to find out the water may reach a stream kilometres away. Visit this link for a watershed map of Greater Victoria / publications/documents/GreaterVictoriaWatersheds.pdf

In an urban watershed, such as the Douglas Creek watershed, the combination of impervious surfaces—roads, roofs, parking lots, sidewalks, driveways—and a drainage system designed to convey rainwater quickly away from these surfaces, has resulted in more water entering the creek quickly after a storm. In addition, this water carries with it all the pollution from those surfaces—grease, oil, dirt, heavy metals, pesticides—straight into the creek.

To the Friends of Mount Douglas Park Society, it is disheartening to see their hard work restoring the creek and fish habitat washed away. As much as we can improve the habitat for fish in the creek, survival will always be limited by stormwater quality and quantity unless changes to the larger watershed improve these conditions.

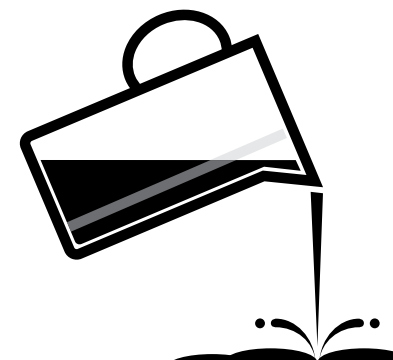
As part of a focused outreach program, the District of Saanich (Environmental Services) has partnered with the Friends of Mount Douglas Park Society to encourage residents to understand the impacts of stormwater on Douglas Creek and give them the tools to reduce their own impact on the watershed—something all of us living in watersheds could benefit from.

Home Heating Oil Tanks

Do you have an underground, above-ground, or basement heating oil tank on your residential property? If so, this information sheet could help you avoid costly and damaging oil tank leaks. A little prevention could save you thousands of dollars in cleanup costs and fines, and help save your local stream or shoreline from damage.

Visit the link for more information on how to maintain your oil tank, how to remove a buried tank you no longer use, and what to do if you see a spill or leak.

Information sheet on oil tanks: www.saanich.ca/living/environment/pdf/otank.pdf



One cup of fuel oil can contaminate enough water to fill an Olympic sized swimming pool.



Douglas Creek, The Watershed & Stormwater

By Robert Bridgeman, Friends of Mount Douglas Park Society

Many of you will know the name Freeman King and if you are fortunate you will have his little book *Nature Rambles with Freeman King* on your bookshelf. In this book he makes the following observation about Douglas Creek:

“The little stream used to be a delight, shaded by many shrubs and some fine specimens of the western yew. Now it is polluted. It stinks and the floral growth has been pulled. The banks have been battered and it will soon become nothing more than a series of eroded gullies.”

The comment was written when the *Victoria Times* was still being published; a dated comment but prophetic because that is how the Friends of Mount Douglas Park Society found Douglas Creek. What could we do to rescue this beaten down and stinking little Creek, to bring it back to the sylvan stream, flowing through the Douglas-fir and Western Redcedar forest, that one would expect in the spectacular setting of historic Mount Douglas Park?

We have been busy for fourteen years working on Douglas Creek, so there are many stories to tell. Our approach to restoring salmon to Douglas Creek is an interesting tale. If you think of the salmon life cycle, many of the actions we have taken both probe the environment for limiting factors to salmon production while also mimicking processes in healthy streams. For instance our salmon carcass transplant (carcasses supplied by the Howard English Hatchery and volunteers) provides a missing nutrient flush to energize trophic systems that have coevolved with salmon populations. After spawning, salmon carcasses provide distinct isotopes of nitrogen and phosphorus - thus identifiable in the environment - which results in whole ecosystem nutrient enrichment. It is reported that salmon carcasses are made up of approximately 3.04% nitrogen and 0.36% phosphorus of body weight. BC coastal aquatic systems are nutrient poor, so this yearly nutrient flush sets up the system for growth and functioning. This is just one example of the countless projects we have undertaken. You may have seen stories in the newspapers about the major bank restoration, fish fry releases, etc. that we have done over the years.

A healthy, functioning aquatic ecosystem is composed of many components, all of which interact to provide streams with the characteristics that we often take for granted. Much of the stream channel and the complex conditions that exist in it are dependent on the watershed the stream flows out of. Thus our vision for Douglas Creek: A healthy, properly functioning Douglas Creek watershed, suitable to sustain salmonid stocks and other wildlife, and stewarded for the long-term by informed, educated, and actively engaged citizens and local government; and our mission statement: To restore and maintain habitat, water quality, and flow in the Douglas Creek watershed while educating the community about its values.

What does this vision mean to residents like us who walk through the forest and marvel at the creek? It means the flap of tail on water signifying Chum Salmon coming back to Douglas Creek from the long trip up to Alaska and back; it means we are a part of the force that sustains and does not diminish; and it means that the watershed we live in and that we raise our families in will flow down into the sea, sustaining life along its way without polluting and destroying the things we hold dear.

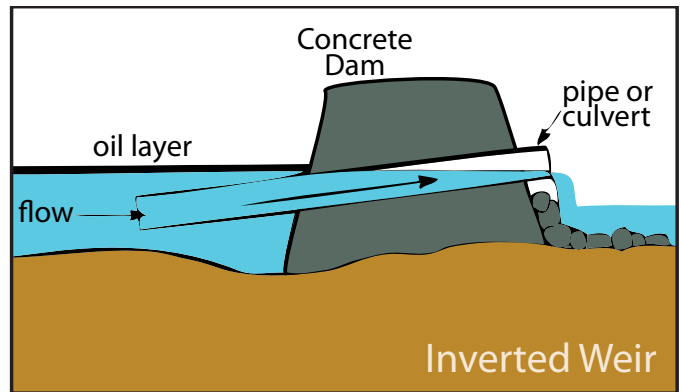


The Douglas Creek Weir

By Darren Copley, Saanich Environmental Services

As an urban watershed, Douglas Creek has seen its share of pollution over the years. There have been several identified spills into the storm drain system which have reached the creek. Recent noticeable spills include: heating oil from a faulty furnace repair entering the storm system through a floor drain; a sewage spill from pumping a septic tank into a storm connection during house construction, and paint that was discarded into a private driveway catch basin.

To address the quality of water reaching the creek, the District of Saanich is requesting innovative stormwater management on new developments and Saanich Public Works crews have been building rain gardens on municipal roads. Progress is being made, but the cumulative results of these initiatives will take some time.



Approximately 10 years ago, an inverted weir structure and floating oil boom was constructed to try and address the issue of pollutants entering the creek. The structure is located in Mount Douglas Park, off Robinwood Drive, 20m downstream from where the creek discharges from the stormdrain and enters the natural channel.

The existing weir works by separating oils and other surface pollutants from the water, before it continues down stream. The figure above shows how the weir blocks the pollutants, only allowing clean water to pass as it is taken from below. Unfortunately, due to limited storage capacity, the weir can only address small volume storms. During frequent high volume storm events the trapped pollutants simply flow over the weir and continue untreated downstream, where it can impact fish rearing habitat.

It has been suggested that if the weir and boom system were improved, in-stream salmon survival and escapement numbers could be significantly higher. However, retrofitting the weir alone will not address all the underlying problems of high peak flows and water quality in the creek.

To address these problems the District of Saanich, is commissioning a new study to review the hydrological conditions of Douglas Creek. The recommendations on short-term improvements and long-term solutions to mitigate peak flows and improve water quality can then be implemented.

The District of Saanich will continue to work with the Friends of Mount Douglas Park Society, the Douglas Creek Streamkeepers, and local community association to look for innovative ways to improve the natural environment, which makes the Mount Douglas neighbourhood such a vibrant and beautiful place to live and work.

Homeowners Guide

For A Clean Douglas Creek *What Every Watershed Resident Should Know...*

The drains in your yard and in the streets of the Douglas Creek Watershed carry rain water away from developed areas to prevent flooding. Untreated storm water, and the pollutants it carries, flows directly into Douglas Creek and from there to the ocean. Keep reading for suggestions on how you can help keep Douglas Creek clean.

What you can do

Automobiles

are a major source of water pollution. Oils, brake and tire dust and exhaust particles are deposited on the streets where they are washed by rainfall into the storm drains and nearby creeks. Motor oil and other fluids such as antifreeze that have leaked or are dumped into storm drains cause downstream pollution. The fluid from one oil change can pollute up to a million gallons of fresh water.

- » Recycle used motor oil (see www.myrecyclopedia.ca).
- » Use an automated car wash or wash your vehicle on the lawn where the grease, dirt and soaps will be absorbed.
- » Use alternative forms of transportation such as walking, biking or transit.
- » Repair leaks in your vehicle quickly.
- » Clean up driveway spills with kitty litter and dispose of it in the garbage.
- » Call Provincial Emergency Program (P.E.P.) 1-800-663-3456 to report a spill.

What you can do

Chemicals

such as solvents, pesticides and fertilizers are toxic to fish and aquatic plants and animals in large quantities. Smaller amounts of pesticides can also accumulate in stream organisms over time. Fertilizers stimulate algae growth which lowers oxygen levels in streams and ponds. Pesticides sold for moss control on roofs contain zinc sulphate which is toxic to aquatic animals.

- » Use only approved pesticides under the Saanich Pesticide Bylaw or their non-toxic alternatives to control pests.
- » Control moss on your roof by wet sweeping or judicious use of zinc strips rather than chemicals.
- » Plant native trees and shrubs which are more resistant to disease and pests and which do not require as much water.
- » Attend a free Naturescaping workshop at Swan Lake Nature Sanctuary. Call (250) 479-0211 for more information.
- » Cans of paint can be dropped off at the Municipal Yard, 1040 McKenzie Ave, during the same hours as the garden waste drop off.
- » Other household hazardous wastes can be disposed of for free at the Hartland Landfill.
- » Inspect your oil tank for leaks on a regular basis. (see page 2).

What you can do

Impervious Surfaces

are surfaces which cannot absorb rainwater, but shed it along with any pollutants on the surface immediately to the nearest stormdrain. Roofs, parking areas and driveways all contribute contaminants to the creek if they are connected to the stormwater system. Uncured concrete is acutely toxic to fish due to its high pH, which cannot be safely diluted in streams.

- » Minimize the size of driveways, patios and rooftops.
- » Choose 'pervious' paving stones, pervious concrete/asphalt, or other systems that allow infiltration into the ground.
- » Redirect runoff to raingardens or for reuse in your garden. A free workshop for residents wishing to reduce their stormwater runoff will be offered this spring (see page 8).
- » Sweep patios and driveways rather than powerwashing.
- » Never allow concrete washwater to enter stormdrains.
- » Replace impervious surfaces and lawns with native plants.

Douglas Creek Watershed

The Douglas Creek Watershed encompasses 558 hectares within the municipality of Saanich. About 33% of the watershed is impervious surfaces, such as roofs, driveways and roads. These drain to an extensive network of stormdrains. The last 800m of the creek still remains visible above ground within Mount Douglas Park.

For more information:

Saanich Environmental Services - www.environment.saanich.ca

Friends of Mount Douglas Park Society - www.mountdouglaspark.ca

400,000
Salmon Fry Released



10,000 Shrubs
Planted to Restore Creek



6,800 Volunteer
Hours on Creek Restoration




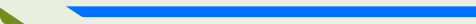



10 Raingardens
Installed on Shelbourne

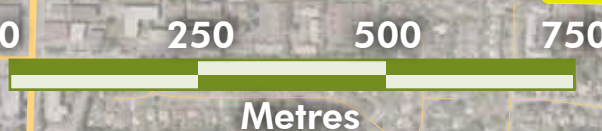


Metres
of Stormdrain
71,000

Metres of Open
Creek Channel
800

Legend

-  Major Roads
-  Open Creek Channel
-  Parks Boundary
-  Watershed Boundary
-  Approximate course of Douglas Creek prior to stormdrainage. From: "Lost Streams of Victoria".



A Householder's Journey to Reusing Stormwater

By Norm Mogensen
Saanich resident-at-large

I live in what many of you would call a small house, with a roof area (including roof overhang) of 145 m². I've measured daily precipitation for 18 years and find that at Cadboro Bay we get between 60 and 90 centimeters of such moisture per year, with an 18-year average of 70 cm. Accordingly, my roof catches an average of 101 cubic meters of water each year. That is enough to water a 100 square meter fruit and vegetable patch with 2.5 cm of water, 40 times during the arid summer growing season, or more than enough to produce a good crop of untainted food. What I would need is a secure, leak-proof cistern, measuring 5.8m by 5.8m by 3 m, and a means of pumping or siphoning out the water when I need it. Might make a nice big patio shaded by a pergola.

I have an air-sourced heat pump to warm and cool my house. My soil is porous and drains and dries quickly, so ground source heat exchange is currently not feasible on a year round basis. However with a cistern I could convert to more efficient ground sourced heat exchange if I bury the heat exchanger tubes well under my garden area that will be frequently watered in summer. Winter rains are intense enough to carry my heat exchange needs from October into mid spring. Instead of dumping all my roof and house perimeter water into the storm sewer in sudden gushes, it could be released more slowly via my garden to the natural water table, which in turn drains to feed our local watershed's creek. Some Important side benefits are:

1. Less local stormwater to treat in the regional sewage system;
2. Hydro-electric powered heat pumps dump no CO² into the atmosphere;
3. Locally produced organic food omits the greenhouse gasses produced by industrial agriculture and the global transportation network needed to support it; and
4. Local riparian wildlife is better off with the slow summer release of water into our creeks.

Visit www.climateaction.saanich.ca for up to date information



Homeowner Rainwater Management Workshop

May 28th from 9 am to 1 pm at the
Gordon Head Recreation Centre



This free workshop will cover the following topics

- » Rainwater capture and use
- » Downspout disconnects
- » Permeable paving
- » Bio-retention landscaping
- » Green roofs
- » Infiltration areas

Presented by
Lehna Malmkvist, MSc, RP Bio
Swell Environmental Consulting

Space is Limited!
If interested in the Homeowner Rainwater Management
lecture please RSVP to sustainability@saanich.ca



Open to Saanich residents, Tap By Tap provides free, easy-to-install faucet fixtures to help you save water, energy, and money. There is a limited supply, so get your energy and water saving kit soon!

To Get Your Kit:

Bring your old showerhead, your utility account number for your hot water heating source (gas or electric), and proof of residence to the Main Reception Desk at Saanich Hall (770 Vernon Ave) Monday to Friday, 8:30am to 4:30pm. Pick up your easy-to-install water and energy saving kit (instructions included). Visit www.tapbytap.ca for more information, or visit Tap By Tap on Facebook.

By installing an Energy and Water Saving Kit, you can:

- Save over 40,000 liters of water each year
- Save approximately \$70 to \$135 on your energy bills each year
- Reduce greenhouse gas emissions generated through water heating
- Enhance drinking water quality by maintaining higher water levels in Sooke Reservoir
- Defer the need for developing new sources of drinking water
- Reduce the costs, energy and materials required to treat and deliver water

Each Energy and Water Saving Kit (\$35 retail value) Includes:

- High-efficiency showerhead
- Swivel head kitchen faucet aerator
- Bathroom faucet aerator
- Thread seal tape
- Shower timer
- Installation instructions
- CRD Guide to Household Water Efficiency

If only 600 households in Saanich switch to low-flow fixtures, together we can annually save:

- 25,185,000 liters of water (that's about 10 Olympic Swimming Pools)
- 935,000 KWh of energy
- 89 tonnes of greenhouse gases

Tap By Tap is brought to you by the District of Saanich, the Capital Regional District, City Green Solutions Society, and Fortis BC. Limited time offer while supplies last. One kit per household. Saanich residents only.

Sky High Restoration

By Jenny Eastman, Coordinator of Volunteers jenny.eastman@saanich.ca



The highest ecological restoration site in Saanich sits atop the Mount Douglas Park Summit. Raindrops that fall here make their journey down 213 metres into Douglas Creek and the sea beyond. Since 1999, Garry Oak Restoration Project volunteers and Saanich staff have been carefully removing Scotch Broom from the warm, south facing slope of the summit in one of nine GORP sites in Saanich. Volunteers have used cutting to minimize

soil disturbances on the shallow soils at this site, with some judicious pulling in difficult spots. Minimizing soil disturbance decreases regeneration of broom seeds and keeps waterways free of silt – even from so high above a salmon bearing stream, it's the right thing to do. This year, specially-skilled volunteers will remove broom from the steep rock cliff that overlooks the site. It's all part of work to clear this site of Scotch Broom and encourage the wildflowers to come back, and it's all connected to the health of the stream below.

As volunteers work, we are frequently stopped by park visitors who wish to offer their encouragement, ask about what and how we are removing and often wish to pitch in on the spot! Saanich residents love this park. We let them know they can help out up high or down low, cliff-side or creek-side. While we work we notice ravens, vultures and eagles soaring as we gaze down upon one of the largest green spaces in the Victoria area and we see much more ecological restoration work to do.

Join us! Weekly ecological restoration events in the nine GORP sites will take a pause during the early spring wildflower season. Check the website for events later this spring at www.saanich.ca/gorp. In the next months we will be removing Orchard Grass and seasonal weeds as they emerge. We'll need lots of help. New volunteers of all ages and abilities are always welcome.

Saanich Pulling Together Volunteer Program

Saanich residents have repeatedly told us that they place a high value on protecting and enhancing environmental integrity. With your help we are restoring and protecting many park natural areas in Saanich, creating habitat for species that are integral to our ecosystems. Maintaining human health and well being in Saanich is dependant on healthy, functioning ecosystems.

Second to habitat loss, invasive species are the most significant threat to biodiversity around the world. Managing them is a big challenge. Volunteer stewardship groups are working in Saanich parks to help combat invasive species and restore natural areas.

Volunteers play a major role in park natural area stewardship. To help guide and support volunteers, Saanich has developed the Pulling Together Volunteer Program. This program which includes the Garry Oak Restoration Project, provides start up training, ecological restoration guidance, staff and equipment support, plant debris removal and disposal, signs, safety vest, funding information and annual training and recognition events.

Over 4800 volunteer hours were recorded in 2010. Stewardship activities occur at 34 park natural area sites. Over 38 tonnes of invasive plant material was removed and properly disposed of in 2010. Through the Pulling Together Volunteer Program, members of the community are playing an important role in helping us manage our park natural areas.

Saanich invites you to pull together with us to tackle invasive species and restore our park natural areas.

We are looking for volunteers to:

- » Attend work parties to remove invasive species
- » Restore areas post invasive species removal
- » Map, inventory and monitor the extent of invasive species
- » Monitor ecological changes over time

For more information about the program, please contact Saanich Parks at 250-475-5522 or Jenny Eastman, Coordinator of Volunteers at jenny.eastman@saanich.ca

Upcoming Events

Saanich Recreation Free Programs

www.saanich.ca/resident/recreation 250-475-5408

Sunday Hikes (Drop-In)

Sundays, 1-3:30pm

May 15 – Boulderwood Rise

Meet at end of Perez Dr., off Boulderwood

Jun 12 – Colquitz Creek and Cuthbert Holmes Park

Meet beside Silver City Theatre at Tillicum Mall.

Jul 10 – Glencoe Cove

Meet at Vantreight Park, off Vantreight Rd, off Ferndale

Gentle Walk & Talk (Drop-In)

Thursdays, 9:30-11am

May 19 – Cedar Hill Golf Course to Playfair Park

Meet at Cedar Hill Golf Course parking lot, end of Derby St.

May 26 – Colquitz to Cuthbert Holmes Park

Meet beside Silver City Theatre at Tillicum Mall.

Jun 2 – McMinn Park – Kentwood – Outterbridge

Meet at McMinn Park, beside tennis courts, off Maple Grove St.

Jun 9 – Layritz – Copley Park – Quick's Bottom

Meet at Layritz Park parking lot, off Glyn, off Wilkinson Rd.

Jun 16 – Mt. Doug Park to Majestic Park

Meet near washrooms in parking lot at Cordova Bay Rd. & Ash St.

Jun 23 – Bowker Creek

Meet at Cedar Hill Rec Centre, in main lobby

Preschoolers In The Park (Drop-In)

Fridays, 10-11:30am

Play on our adventure playgrounds, enjoy organized circle time, and partake in a nature/urban walk. Bring a jogger or child carrier. Parent participation required.

Program cancelled if raining 1/2 hr before start time.

May 20 Horner Park

Meet at playground, 1715 Kisber, off Palo Alto, off Cedar Hill X Rd.

May 27 Marigold Park

Meet at playground, 1051 Iris Ave, off Grange, off Interurban

Jun 3 Rosedale Park

Meet at playground, 4108 Santa Anita, off Wilkinson Rd.

Jun 10 Beckwith Park

Meet at playground, 857 Beckwith Ave. off Quadra

Jun 17 Craigflower Park

Meet at playground area, located at 2755 Admirals & Gorge Rd

Jun 24 Browning Park

Meet at playground end of Browning, off McRae, off Shelbourne

CRD Efficient Irrigation Workshops

www.crd.bc.ca Pre-registration is required 250-474-9684

Micro-drip and All Efficient

Saturday, June 25, 2-5pm

Considering an irrigation system or do you already own one? Irrigation experts will explain the system components, discuss installation and provide scheduling and maintenance tips.

Irrigation Controller Programming

Wednesday, June 22, 7-9pm

Learn more about the water and money you can save through the proper scheduling of your irrigation controller.

Goldstream Nature House

www.naturehouse.ca 250-478-9414

Estuary Espionage

Saturday, May 21, 1pm

Visit the Nature House to see which spring celebrities have returned! Rufous Hummingbirds, Yuma Bats, Violet-green Swallows, wildflowers, slugs, salamanders and other slimy residents.

Swan Lake Nature Sanctuary

www.swanlake.bc.ca 250-479-0211

Bee Day

Sunday, May 29, 12 to 3pm

Bee songs, bee crafts and some bee spit to taste. Join us and you'll be amazed, bee enchanted and bee happy.

Camosun Community Association

www.camosuncommunityassociation.com 250-478-3344

Bowker Creek CommuniTEA Picnic

Saturday June 11, 11am-3pm, at Browning Park.

Come celebrate Bowker Creek Watershed in the Shelbourne Valley, during a festive day of arts and music with local performers, a lively processional band, picnic refreshments, fun activities and the unveiling of improvements to the park.

CRD Regional Parks

www.crd.bc.ca/parks 250-478-3344

International Migratory Bird Day! (Drop-in Event)

Saturday, May 14, 10am-3pm Elk/Beaver Lake Park

This free event offers engaging activities for birders of all ages, expertise and abilities. Participate in guided bird walks, mist-netting demonstrations, bird banding demonstrations, children's activities and presentations. Come to the nature centre.

Tracks and Traces (Guided Walk)

Sunday, May 29, 10am-12pm Elk/Beaver Lake Park

Discover the clues animals leave behind and you can also take home a plaster track. Meet at the nature centre in the main Beaver Lake parking lot. Wheelchair accessible.

Early Evening Canoeing (Guided Paddle)

Monday, May 30, June 6, or 20, 6-9pm Elk/Beaver Lake Park

Canoe equipment and instruction are provided and no experience is necessary. You must pre-register. Adult \$20/Child \$10.

Take a Hike! (Drop-in Event)

Saturday, June 11, 10am-3pm

Take a Hike is a fun-filled day of hiking and celebrating parks for all ages and abilities. Stations will be set up at locations throughout the two parks with information, community booths, roving naturalists, refreshments, prizes and more.

Morning Mist Canoe Adventure (Guided Paddle)

Sun/Sat, June 12 or 25, 8-11am Elk/Beaver Lake Park

Canoe equipment and instruction are provided and no experience is necessary. You must pre-register. Adult \$20/Child \$10.

It's back!

Starting this spring the Sustainable Saanich Lecture Series is providing unique presentations on sustainability solutions happening in our community



Electric Vehicles Workshop

Learn everything you need to know about electric vehicles and what they mean for the community.

Presenter: John Stonier - Vancouver Electric Vehicle Association

Location: Pearkes Arena, Tillicum

Date: Tuesday June 7th, 2011 from 2 to 4pm and 7 to 9pm



Energy Efficient Heritage and Older Homes

Learn how Saanich is looking to balance heritage values with energy efficiency targets.

Presenter: Pam Copley and City Green Solutions

Location: Saanich Municipal Hall, Council Chambers

Date: Saturday September 10th, 2011 from 10am to 12pm

Space is Limited!

**If interested in any of the above lectures please
RSVP to sustainability@saanich.ca**

Join the Our Backyard mailing list!

Be kept up to date on local community stewardship projects and environmental issues. Subscriptions to this quarterly newsletter are free and available in electronic or paper version. To subscribe, please send your contact information to the editor or visit the following website www.ourbackyard.saanich.ca

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