Savary ISLAND

LAND TRUST NEWS SUMMER 2003

THE CROWN PERIMETER:
Savary's *Living* Edge

Story and photos by Liz Webster

Coming to know the Island and its many natural wonders is an especially colourful inspiration in spring. Savary's ecological diversity is striking. From the rocky outcrop of Green's/Mace to the sandy dunes of Indian Point, an ever changing array of plants, shrubs and trees delight the spring walker.

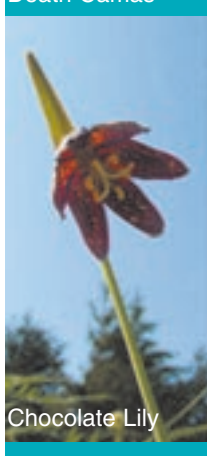
More than half of Savary is blessed with a Crown land perimeter (see map inside). This public buffer varies in size; according to the Regional District Planner, it was originally as much as 132 feet or 2 (66 foot) road allowances in some locations. This margin or "ribbon of life" wraps around most of the Island and provides a natural buffer zone, home to a great diversity of plants and animals. Here is a sample of its Native Spring flora.

This wide fore dune Crown perimeter below the Meadow is home to rare and vulnerable plant communities. Other areas have narrower bands, or none at all. (See map inside)

Blue Eyed Marys

Wormwood

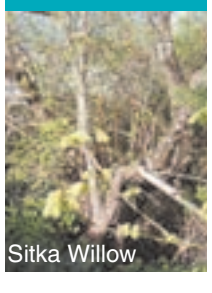
Death Camas



Chocolate Lily

These strips of public property are a community treasure shared by all of us.

Protecting them will help to protect Island water resources, plant and animal habitat, and private property values.



Sitka Willow

Clusters of red columbine at the north side of Green's/Mace Point attract hummingbirds and butterflies. On the south side fore dunes the **blue eyed marys** flower early, followed by the sea blush. The seashore lupines, **wormwood**, gumweed and large headed sedge cover the fore dunes all along the Meadow and Sunset Trail Meadow (Goose Pasture). Chocolate lilies and **meadow death camas** wave with the Meadow breeze. In the forested areas on the north side Vanilla plants fill the roadsides and forested areas.

Chocolate Lily, *Fritillaria lanceolata.* This plant is found in several places on the Island. The Meadow is well known for its profusion of Chocolate Lilies among other spring flowers. This photo was taken on the Sunset Trail. These beautiful brown to dark purple nodding flowers are rare and bloom only for a short time in early spring. If you are lucky enough to find one in the wild, **do not pick it!** Wild chocolate lily bulbs will not survive transplanting. Leave this special native flower to be discovered and enjoyed each year and for future generations.

Sitka Willow, *Salix sitchensis.* On Savary the Sitka willow is found along the southwest cliffs of the island. According to the Ecological Component of the Thurber Report (conducted by Strix Consulting), the Sitka willow is recommended for erosion control on crests and slopes. The Straits Salish used the Sitka willow bark to make a grey dye for mountain goat wool. Willows are the source of the natural precursor to aspirin, salicylic acid found in leaves and bark. *(Pojar & Mackinnon 1994:89)*

Scouring Rush, *Equisetum hyemale.* This herbaceous plant is found in the Meadow, along the Sutherland Trail, at Indian Springs, on Death Camas Meadow and in isolated locations on the south cliffs. According to the Ecological Component of the Thurber Report (conducted by Strix Consulting) it is suitable for erosion control on slopes up to 33°.

This plant is commonly found on wet sites and may indicate groundwater in drier locations. Coastal aboriginal peoples used the silicon dioxide rich plant for polishing wooden objects. In Europe the species was used to scour wood and pewter utensils, hence the name. (Pojar & Mackinnon 1994:431)

Seashore Lupin, *Lupinus littoralis.* These beautiful purple flowers are found on cliff edges, sandy beaches and dunes. Often found on the Dune Beach Trail below the Meadow. The roots of this plant were gathered by many coastal peoples, roasted or steamed in pits, peeled and eaten with oolichan grease. *(Pojar & Mackinnon 1994:194).*

The **Vancouver Groundcones**, *Boschniakia hookeri,* begin poking their heads out of the sand in early spring. These fleshy plants are parasitic on salal. The Kwakwaka'wakw people sometimes ate Groundcone root bases, raw. Their word for the plant, P'ukw'es, led to the English common name poque. Some central coastal aboriginal groups in B.C. used the plant as a good luck charm. *(Pojar & Mackinnon 1994:354)*

Candystick *Allotropa virgata.* This red and white striped saprophytic herb is listed as an "Oddball" in the field guide. Other names for it include, sugarstick, barber's pole, and devil's wand. It is the only species in its genus, and is not found outside of Western North America. (Pojar & Mackinnon 1994:353) I have seen 3 of these on Savary, all in the Inland dune ecosystem. These candy cane-looking plants are always a surprise and a pleasure to encounter.

This brief jaunt along the Crown perimeter shows just a glimpse of the enormous collection of plants native to the island. Enjoying the natural beauty and diversity that the island shares is always intriguing. Spring on Savary is like an endless discovery, as each day brings forth fresh sprouts, buds and blooms.

References: *Plants of Coastal British Columbia,* Pojar & Mackinnon, 1994.

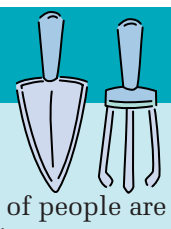
Scouring Rush

Groundcones

Find tips on how to create your own buffer zones where no crown perimeter exists next page.

Candystick

Growing **Native** buffers



Whether Crown or private buffer, a thick cover of native vegetation is ideal along the living edge. A high percent coverage of native plants improves the effectiveness of the buffer. Native plant landscapes are low maintenance and once established do not need watering, pesticides or fertilizers. Being indigenous, the plants are adapted to local bugs and diseases. Nutrients in existing soils are sufficient for their growth. Turf grass does not provide enough of the functions of a buffer to help its effectiveness. (On the Living Edge, Kipp & Callaway, 2002:13)

A list of suggested native plants suitable for Savary bluff slope and bluff crests can be found in the Thurber Report, and in the Fall 2002 SILT newsletter.

Gardening with Native Plants

A growing number of people are interested in using indigenous plants in their gardens. The Annual Pacific Northwest Native Plant Sale at the University of British Columbia Botanical Garden is a great source of plants and seeds. The largest native plant sale in the Pacific Northwest it features over three hundred species grown by ten specialty nurseries in the South Coast region.

For more information on native plants, contact the NPSBC Native Plant Society of British Columbia. The NPSBC brings together people from throughout the province who enjoy, study and work with native plants and habitats. Their website is: http://www.npsbc.org/

For information on buying native plants, check out the websites under resources, pg. 4.

Invasive plants

Non-native plants introduced into an ecosystem where they did not previously live, are invasive when they spread and push out native species. Whether innocently introduced by well-intentioned gardeners, or accidentally imported, they are a serious ecological problem.

Scotch broom, *Cytisus scoparius*, is an invasive plant introduced to Savary around 1912. It destroys native plant communities by displacing native species, first documented in 1931 by R.S. Sherman in *The Ecology of Savary Island*:

"If it could be confined to the steep sand-slopes of the south shore, this shrub might in time vindicate its existence and the wisdom of those who introduced it; but unfortunately, it has invaded the interior of the island where it is becoming a menace to our native flora."

According to the Gary Oak Ecosystem Recovery Team, broom plants produce large amounts of woody fuel, and create a risk of hotter-than-normal fires and the potential for associated damage to other native vegetation.

More information is available on their website: http://www.goert.ca/orphs/welcome.htm

web
www.silt.ca
email
silt@shaw.ca
silt@armourtech.com

SILT Q&A

What is a Land Trust?
Land trusts are non-profit charitable organizations that serve to protect natural and cultural heritage. Land trusts operate to protect areas critical to the health and survival of threatened animals, plants and ecosystems. In the last ten years, 40 land trusts have been established in B.C.

What is the Savary Island Land Trust?
The Savary Island Land Trust (SILT) was established to preserve and protect natural areas and biological diversity on Savary Island for present and future generations. SILT was incorporated as a society in October, 1997 and received registered charity status with Revenue Canada in June, 1998. Today SILT has 150 voting members

What are the goals of the Savary Island Land Trust?
- To acquire land on Savary Island, in order to preserve it for future generations.
- To promote the establishment of wilderness and other natural habitat preserves.
- To encourage, sponsor, teach and support research concerning the environment of Savary Island.
- To raise money and acquire funds and other assistance to achieve the foregoing purposes.

How much property has been protected to date by SILT?
Since the first acquisition in 1999, the Trust has received and preserved seven donations of land on Savary. Four lots are at Indian Point and one lot is in the middle of the island; in 2001 a ten-acre parcel was donated on the west side of the Island; most recently a lot in the Green's Point area and near the highest point of the Island was donated and dedicated as the Helen R. Mcdonald and J. Douglas Hannay Nature Reserve. These gifts bring the society's holdings to six lots and one ten-acre parcel for a total market value over $500,000.

What happens to these properties if SILT ceases to exist?
The SILT constitution states that in such an event, the properties must be transferred to another charitable organization with similar goals. This is a condition of being issued charitable status.

Does SILT ever resell the land it acquires?
Under the requirement of a special resolution, the SILT constitution does permit the resale of land. However, land held will not be sold except under extraordinary circumstances and conditions. So for all intents and purposes, once acquired, land is not resold.

What does SILT do with the land it acquires?
A management plan must be developed for each parcel of land and ratified by the general membership.

How do land donations to SILT help reduce density on Savary?
The overall density of parcels on the Island is reduced as property is transferred from developable to preserved status.

What are the tax benefits to SILT donors?
A tax receipt, which can be used to offset income tax the donor owes, is provided. In the case of donations of ecologically sensitive land, the donor may use the entire tax receipt in one year. Donating property or shares that trade on the stock exchange provides donors with the best return on their donation.

Does SILT carry liability insurance on its properties?
Yes, a liability policy is in force, paid for each year by donations to the SILT.

Protecting THE BUFFER ZONE

Printed from "*On the Living Edge*" with permission of *The Living By Water Project*. www.livingbywater.ca

If there is one single message that everyone of us who lives beside water, or has water running through our property, can benefit from, it is the value of the "buffer zone", and the importance of protecting it. The buffer zone is an excellent investment for maintaining the quality of your water and protecting your land, possibly even from disappearing!

Your buffer zone is an area of natural vegetation, including fallen trees, branches and washed up logs, and natural rocks or pebbles, that runs along the length of your shoreline, streamside, or bluff edge. It includes the areas upland of the high water mark (your riparian buffer) as well as the area below the high water mark or normal hightide mark, right down into the water (your aquatic buffer). In marine areas it can even extend below the tide mark into eelgrass beds.

Ideally, a buffer zone contains vegetation that would normally grow in your area, based on climatic zone and physical location. These might include trees, shrubs, wildflowers, grasses and other plants in the riparian area, and native aquatic plants (eg. Cattails and rushes for freshwater, and saltgrass and eelgrass in coastal settings).

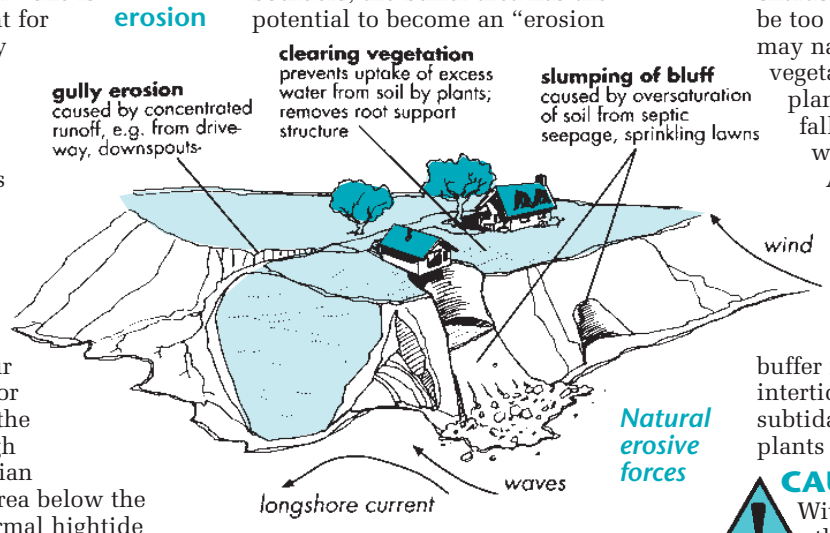
What is in a Name? The riparian buffer zone has many other names – buffer strip, leave strip, filter strip, riparian zone, and vegetation retention zone. Some call it the ribbon of life, because of its crucial role for many living things.

Over the years, many of us have cleared our buffers for views, created wide access swaths to the shore, and "tidied" up the shoreline. Lawns and ornamental gardens near the water's edge, artificial beaches, retaining walls and other" hard" installations along many shorelines have gradually eliminated the ability of buffers to function effectively.

When a shoreline is cleared and native vegetation removed along with driftwood logs, rootwads, rocks and boulders, the buffer area has the potential to become an "erosion zone". Alterations to shorelines and streambanks can also result in silted up spawning beds, pollution from runoff and increased flooding. By helping buffs return to a more natural state, we can often reduce these problems.

As "pollution-prevention, water quality control and erosion-protection devices", riparian and aquatic buffers help keep our property and water safe. In fact, you cold look at them as a free shoreline insurance program…we invite you to take advantage of this opportunity!

Human caused erosion



FINDING YOUR ZONE
Your buffer zone includes vegetation along the water's edge adapted for the environment there – plants that like the extra moisture close to freshwater, and those that can tolerate the marine environment near ocean waters. The area above the high water mark which is influenced by the presence of water – for example, seeping through the soil – is the "riparian" area. Adjacent to the riparian area is the "upland". Your riparian buffer zone will include all of the riparian area, and often includes some upland area.

Vegetation and soils will help you identify your riparian buffer. Some riparian buffers may lack trees and shrubs, even in a natural state, due to characteristics such as soils which may be too wet. And some aquatic buffers may naturally lack emergent aquatic vegetation liked rushes and submergent plants growing in the water. Rocks, fallen trees, washed up logs and root wads also act as part of your buffer.

A marine riparian area includes the backshore area (upland of the high high water mark, but still influenced by salt water.)

A buffer in marine settings almost always extends upland of the backshore area. The aquatic buffer in marine shorelines includes the intertidal foreshore area, and the subtidal nearshore area where important plants like eelgrass grow.

CAUTION!
Without a buffer zone you might find that your shoreline becomes an erosion zone. You then risk:
- Physical loss of your property.
- Civil litigation from neighbours if their property is damaged.
- Possible criminal charges if fish habitat is harmed or destroyed.

DID YOU KNOW?
Buffer zones provide rich and important habitat for fish and other wildlife. Scientists say that natural habitat ABOVE the high water mark is very important to the survival of salmon and other species of fish.

Whether you live beside fresh or saltwater, a buffer zone will protect your land and water quality.

DID YOU KNOW?
A recent study by the B.C. government confirms that average sea levels rose between 4 and 12 cm (2 to 5 in) along the B.C. coast during the last century. Protecting your coastal property with buffers of vegetation will be even more important in the face of rising sea levels!

HOW BUFFERS HELP

Protection of water quality
- Buffers help purify water by filtering toxic substances and some pollutants (fertilizers, pesticides, bacteria, heavy metals and septic leachate) out of runoff from roads, fields, yards and septic fields, before these substances reach water bodies.
- Vegetation helps keep water clear by trapping soil particles in runoff.
- On a property with extensive native vegetation, you can avoid the use of fertilizers and pesticides and further help protect water quality; these substances are not required to grow native plants
- If properly established and maintained, a full riparian buffer can remove at least:
  - 50 percent of chemical fertilizers and pesticides.
  - 60 percent of some bacteria
  - 75 percent of sediment

Protection from erosion
- The roots of riparian and aquatic buffer vegetation act like "rebar" in concrete, to reinforce sole and sand and help hold them together.
- Buffers help prevent land loss by protecting your bank or shoreline from slumping or being washed away.
- The leaves of plants reduce the energy of waves and currents, break the force of falling rain, and slow water as it runs downhill. Since shoreline properties are commonly on the receiving end of drainage, the more vegetation cover, the more your property will benefit.

Protection of property value
- By protecting water quality and preventing erosion along the shoreline, a buffer zone helps maintain the value of your property.
- Buffers help to protect buildings and trees on your property from damage due to wind and water – even salt spray if you're a coastal dweller.

Protection from flooding
- Vegetation, logs and rocks in streams or along the shoreline slow down flood waters, reducing damage to your property.
- Riparian vegetation acts like a sponge, helping to increase the soil's ability to absorb water, and to lessen the impacts of flooding.

Quality of life
- Trees and other vegetation provide cooling and shade in summer, protection from wind in winter, and clean and freshen the air.
- Vegetation along the shoreline can provide privacy from other dwellings and from noisy activities on the water.
- Natural landscaping can help put you in touch with the seasonal cycles of plants and wildlife, and the beauty of nature.

Protection of water supply
- Riparian vegetation helps the ground absorb more water in fall, winter and spring, and during storms. The ground can then slowly release water into streams in the summer, to help maintain flows during dry periods.

Protection of fish and wildlife
- Vegetation provides food, nesting cover, and shelter for fish and other wildlife, including species at risk.
- Vegetation alongside and overhanging waterways provides shade to help keep water cool for fish.
- Vegetation along shorelines provides connecting corridors, enabling wildlife to move safely form one area to another.

Contact information:
The Living By Water Project–National Office
www.livingbywater.ca
P.O. Box 7, Salmon Arm, BC V1E 4N2
Tel: (250) 832 7405 Fax: (250) 832 6874
lbywater@jetstream.net

Invest IN THE PRESERVATION OF Savary

Help preserve natural areas and biological diversity for present and future generations.

PLEASE FILL OUT CONTACT INFORMATION

Name _____ Email _____
Address _____ City _____ Prov. _____
Postal Code _____ Tel. _____ Fax _____
Savary Address _____ Tel: _____

DONATIONS

☐ Yes, I would like to contribute to the preservation of land on Savary Island. I am enclosing a cheque for my tax deductible donation of:
☐ $100 ☐ $500 ☐ $1,000
☐ Other _____

MEMBERSHIP

☐ Yes, I would like to become a member of the Savary Island Land Trust Society.

Annual dues ☐ regular $25 ☐ Family $40

SEND YOUR FORM AND PAYMENT TO:

SILT: Savary Island Land Trust Society, Box 141, Lund, B.C. V0N 2G0

Graphic design: Design Write Communications

Protecting SAVARY'S GROUNDWATER – More Information

Groundwater highlights from the Tupper Report

Excerpts from the 1995 Preliminary Assessment of the Groundwater Resources of Savary Island, by David W. Tupper, P Geo. in Association with Pottinger Gaherty Environmental Consultants Ltd.

Groundwater is the principal source of water on Savary Island. The groundwater resources are recognized by the community as a whole and the various levels of government to be a highly valuable resource that requires active and ongoing procedures for its protection, maintenance and assessment. This study … included the compilation of all available data, initiation of an inventory of wells, septic disposal systems, and land use, mapping of the geology of the island, and estimating the present consumption of groundwater. This was completed in part by a survey of property owners in July and August, and a water quality study of selected wells in September (1995).

There is a lack of data upon which to come to any definitive conclusions about the quantity of groundwater present on Savary. There are no continuously monitored observation wells or long term data upon which to base an accurate hydrological model.

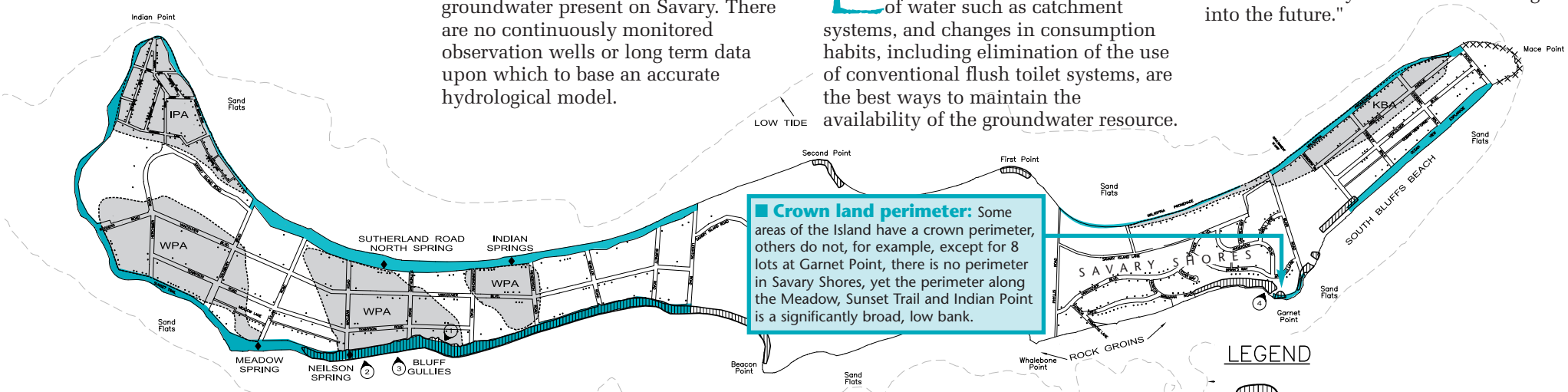
There is a single Main Aquifer that extends the entire length of the island. This is divided into six groundwater domains that are subdivided again along the north-south divide of the island. There are also three perched or shallow aquifers identified: the Keefer Bay Aquifer, the West Perched Aquifers (comprising three small perched aquifers), and the Indian Point Shallow Aquifer. There are four known springs related to perched aquifers, three of which (Indian Springs, the Neilsen Spring and the Meadows, or Julian Road South, Spring) are used for household water supply.

Rainwater catchment

Employing alternative sources of water such as catchment systems, and changes in consumption habits, including elimination of the use of conventional flush toilet systems, are the best ways to maintain the availability of the groundwater resource.

Composting toilet

At the present time there is no active groundwater management plan in place, nor the regulatory ability to do so, that is designed to provide a sustainable groundwater resource for all present and future consumers through protection of quality and supply. There is also no established means for the collection of well and groundwater data, voluntary or required, in a centralized facility such as the Regional District offices. The development of a strategy for the management of the groundwater on Savary Island is recommended. A strategy of this kind could be formulated as part of an Official Community Plan, the broader context of which would better enable the land use controls and protected watersheds needed to protect the sustainability of this resource long into the future."



Simplified version of Thurber report map

■ **Crown land perimeter:** Some areas of the Island have a crown perimeter, others do not, for example, except for 8 lots at Garnet Point, there is no perimeter in Savary Shores, yet the perimeter along the Meadow, Sunset Trail and Indian Point is a significantly broad, low bank.

What is an aquifer?

An aquifer is a natural saturated geologic deposit that holds and provides groundwater to wells and springs.

- Geologic deposits that make up an aquifer can be unconsolidated (sand and gravel) or consolidated (bedrock).
- Groundwater occurs in the tiny pore spaces between the sand and gravel particles; or in cracks or solution channels in bedrock, similar to a sponge holding water (Figure 1).
- Many important British Columbia aquifers are composed of thick deposits of sands and gravel that were laid down by glacial and non-glacial rivers. Bedrock aquifers, though not as productive as sand and gravel aquifers, often meet domestic water needs in British Columbia.

Are aquifers naturally protected from contamination?

Aquifers can also be described by their degree of vulnerability to contaminants introduced at the land surface. An aquifer's vulnerability depends on its depth and degree of confinement by overlying deposits.

- If there is no overlying deposit or barrier to restrict the downward movement of water (or contaminant), it is known as an "unconfined aquifer" (Figure 1). Unconfined aquifers are generally shallower and more vulnerable than confined aquifers.
- An aquifer confined by overlying materials, such as clay, that retard the downward movement of water (and accompanying contaminant) is known as a "confined aquifer"
- Very often water from the aquifer is interconnected with lakes and rivers. An action that has an adverse effect on an aquifer may also have an adverse effect on an adjoining surface water body; and the reverse may also be true.

An example of a major sand and gravel aquifer in B.C. is the Abbotsford-Sumas aquifer. It is both a highly developed and highly vulnerable aquifer over 90 square kilometres in size. It supplies drinking water to people in both towns and at rural residences. It also supplies water for agriculture, industry and fish hatcheries.

What can you do to protect your aquifer?

- Join, or set up, a groundwater protection group and inform the public about groundwater protection issues.
- Communicate with your local government officials.
- Encourage businesses to protect groundwater and support those that do.
- Get a **"Well Protection Toolkit"** from the Water Protection Section of the Ministry of Water, Land and Air Protection.

Article from the BC Government Ministry of Land, Water and Air Protection

WELL PROTECTION TOOLKIT

A set of guidelines on how a community or water purveyor can develop and put into place a **Well Protection Plan** to prevent contamination of their well water supply. The set of seven booklets discuss the steps needed to develop a Well Protection Plan.

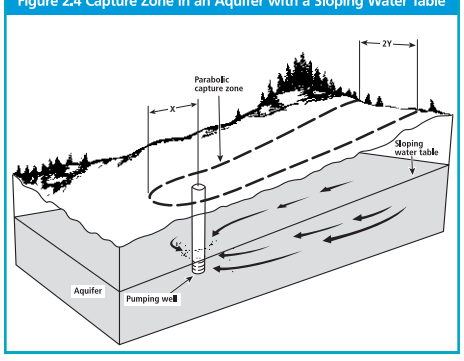
To obtain the toolkit or to comment or ask questions on how to develop a Well Protection Plan for your community well water supply, please contact:

Groundwater Section, Water, Air and Climate Change Branch, Ministry of Water, Land and Air Protection. (250-387-9932)

Public Health Protection (250-952-1469) of the Ministry of Health in Victoria.

Toolkits can also be downloaded from the bc govt. website. http://wlapwww.gov.bc.ca/wat/gws/well_protection/wellprotect.html

Figure 2.4 Capture Zone in an Aquifer with a Sloping Water Table



Notices/Resources

Thank you to all of those hard working Islanders who cleared the garbage from Duck Bay and returned it to its natural beauty! You have restored a gem.

SILT AGM

Monday August 4, 2003
11 a.m., Savary Island Firehall.

Membership Renewals

Members may renew by mail, or at the Annual General Meeting.

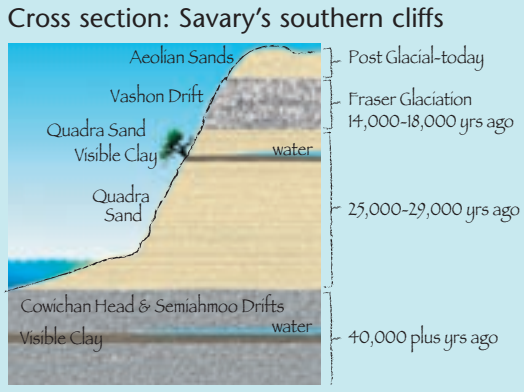
Information on native plants

Retail Nurseries and Seed Suppliers Specializing in Native Plants
www.city.vancouver.bc.ca/engsvcs/watersewers/water/conservation/bcretail.htm

Plant Lists of Commercially Available Native Plants (A Sub Committee of the BCLNA Grower Commodity Group)
www.canadanursery.com/canadanursery/bclna/native.lasso

Kipp, Sarah and Clive Callaway
On the Living Edge: Your Handbook for Waterfront Living, 2002

Cross section: Savary's southern cliffs



DON'T

- apply pesticides or fertilizers near a well,
- use toxic chemicals on your driveway,
- flush chemicals, oils, paint, etc. down your toilet, or
- store piles of garbage or manure within 100m of a well.

DO

- check underground oil storage tanks for leaks and if leaking, or not in use, have them removed,
- properly maintain your septic system,
- take unused chemicals, oils and paints to recycling or collection centres,
- fill in unused wells with clean backfill and appropriate sealant materials such as clay, and
- follow farm waste management.

Full colour illustrated Savary map

Reproduced as colourful **posters** & **laminated placemats**. Available at **SG Images**, just west of the General store.