

# Savary ISLAND

## LAND TRUST NEWS

## SUMMER 2003

### THE CROWN PERIMETER: Savary's Living Edge

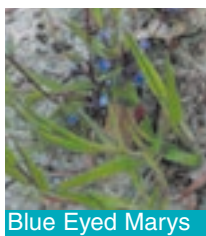
Story and photos by Liz Webster

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

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)

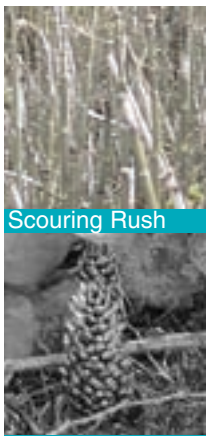
**Seashore Lupin, *Lupinus littoralis*.** These beautiful purple flowers are found on cliff edges, sandy beaches and dunes. Often found on the Dune Beach Trail below the Meadow. The roots of this plant were gathered by many coastal peoples, roasted or steamed in pits, peeled and eaten with oolichan grease.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

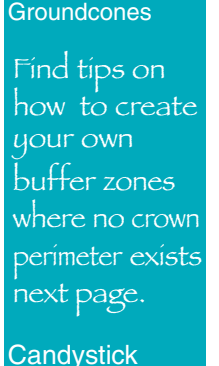
**Candystick *Allotropa virgata*.** This red and white striped saprophytic herb is listed as an "Oddball" in the field guide. Other names for it include, sugarstick, barber's pole, and devil's wand. It is the only species in its genus, and is not found outside of Western North America. (Pojar & Mackinnon 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

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

## Growing Native buffers

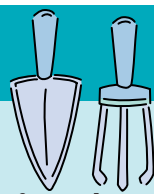
Whether Crown or private buffer, a thick cover of native vegetation is ideal along the living edge. A high percent coverage of native plants improves the effectiveness of the buffer. Native plant landscapes are low maintenance and once established do not need watering, pesticides or fertilizers. Being 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/>



## Invasive plants

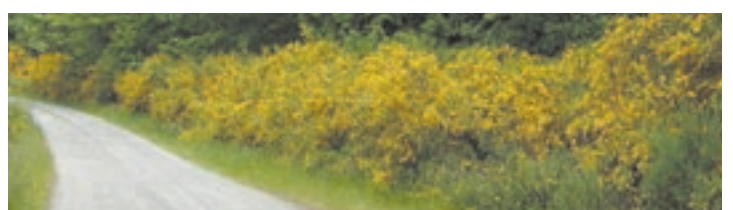
Non-native plants introduced into an ecosystem where they did not previously live, are invasive when they spread and push out native species. Whether innocently introduced by well-intentioned gardeners, or accidentally imported, they are a serious ecological problem.

**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>



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







# 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.

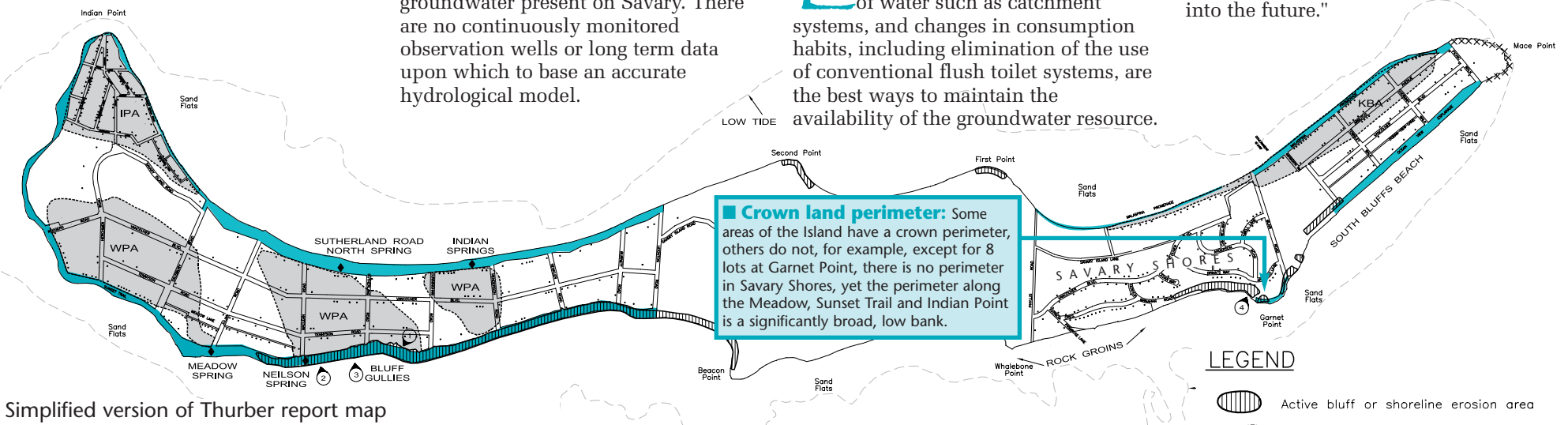
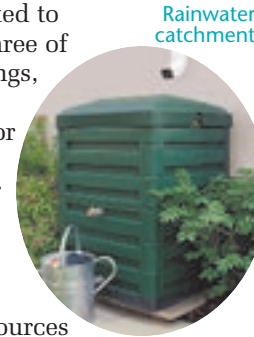
**G**roundwater is the principal source of water on Savary Island. The groundwater resources are recognized by the community as a whole and the various levels of government to be a highly valuable resource that requires active and ongoing procedures for its protection, maintenance and assessment. This 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).

**T**here 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.

**T**here 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.

**E**mploying 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.

**A**t 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

## 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.

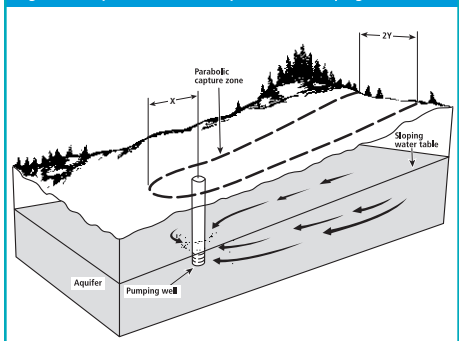
**To obtain the toolkit or to comment or ask questions on how to develop a Well Protection Plan for your community well water supply, please contact:**

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

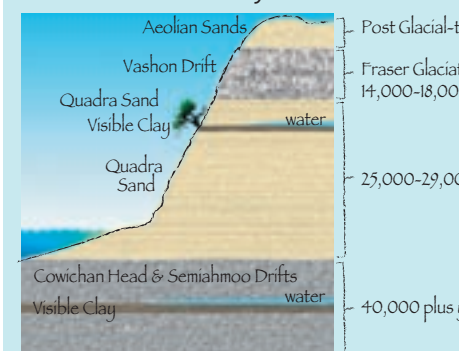
Public Health Protection (250-952-1469) of the Ministry of Health in Victoria.

Toolkits can also be downloaded from the bc gov't. website. [http://wapwww.gov.bc.ca/wat/gws/well\\_protection/wellprotect.html](http://wapwww.gov.bc.ca/wat/gws/well_protection/wellprotect.html)

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



### 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.

## Notices/Resources

**T**hank 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](http://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](http://www.canadanursery.com/canadanursery/bclna/native.lasso)

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

### Full colour illustrated Savary map



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