

# NPSBC

## Native Plant Society of BC

Fall/Winter, 1997

Volume 2, Issue 3

### Directors discuss Society's role

*The NPSBC "Coastal Region" directors held a discussion on June 8, 1997 regarding the constituents of the Society and what the Society can do for them. This is a summary of that discussion.*

There was agreement that the Society needed to be broadly based and inclusive, that this was not a general public-focused organization like a natural history society; neither was it a political action organization directed towards government. The Society was seen to be educational and advocate in nature, with the focus on ethical and effective use of native plants.

#### Towards regional development

There was discussion on how the Society would be structured; most opposed the Society becoming a formal umbrella for separate organizations working with native plant issues. It was agreed that there was a need for the Society to meet regionally on a regular basis but it does not need regional chapters as are found in the Washington Native Plant Society. Regional chapters may duplicate existing organizations such as the Victoria Horticultural Society Native Plant Study Group.

#### The ethical use of plants

The Society should educate the public, government and industry on the ethical and effective use of native plants; in particular, it should advocate their use among current non-users within government and industry. The Society needs to work cooperatively with the potentially largest group of users in the forestry, mining and highways sectors, especially given the fact

that 90% of the land in the province is publicly owned and forested. Every Society member, however, can be described in some manner as a user of native plants.

#### Developing a program of events

The Society should meet regionally on a regular basis and the means to do this might be a program of events offered to members, and to non-members for a small fee; some events might serve as an orientation for new members. These events could be held on a

monthly basis and would be focused on providing practical examples of the use of native plants. Such events could include plant identification, propagation workshops, visits to native plant nurseries as well as projects where native plants have been used. They would consider not only what is known about native plants but also what is not known.

Events could be organized locally but promoted provincially through the newsletter, news releases and other print materials. Each director could organize one event per year and a committee position to coordinate events could possibly be included on the Board; other members also could become involved in organization. The interests and expertise of the membership would be solicited through a survey that was mailed out in September.

#### Promoting the Society

A strong public relations base is needed to promote native plant issues and the work of the Society to the public, industry and government. This could be accomplished through events and formal and informal liaisons with

Western columbine (*Aquilegia formosa*)

*Continued on page 3*

### **Name this newsletter!**

In September all NPSBC members should have received a special survey and questionnaire designed to assist the Board in choosing the Society's logo and newsletter name, as well as to compile information on members' interests, expertise and thoughts on the Society's purpose.

If you haven't already returned your survey and questionnaire, the due date is October 24, 1997.

The NPSBC newsletter will be published quarterly next year, and when the Spring, 1998 edition appears we hope it will have a name !



## NPSBC

### Board of Directors

#### **Douglas Justice, President**

*Public Relations\**

5767 Yew Street, Vancouver, BC V6M 3Y5

Tel: (604) 261-1537

E-mail: justice@unixg.ubc.ca

#### **Tom Wells, Vice-President**

*Biodiversity/Research Projects, First Nations*

15-5661 Ladner Trunk Road, Delta, BC V4K 1X3

Tel: (604) 946-8894

#### **Ross Waddell, Secretary**

*Membership, Resource/Research Directory, Logo*

2012 William Street, Vancouver, BC V5L 2X6

Tel: (604) 255-5719, Fax: (604) 258-0201

#### **Sylvia Mosterman, Treasurer**

*Resource/Research Directory*

43233 Lumsden Road, Sardis, BC V2R 4R4

Tel: (604) 823-4713, Fax: (604) 823-4749

#### **Adolf Ceska**

*Regional Development, Biodiversity/Research Projects*

1809 Penshurst Road, Victoria, BC V8N 2N6

Tel: (250) 477-1211

E-mail: aceska@freenet.victoria.bc.ca

#### **Theresa Duynstee**

*Newsletter, Internet, Regional Development*

4465-41B Street, Delta, BC V4K 2K8

Tel: (604) 946-9555

E-mail: theresa.duynstee@grvd.bc.ca

#### **Pam Meneguzzi**

*Internet, Laws and Regulations*

302-505 Quadra Street, Victoria, BC V8V 3S2

Tel: (250) 389-0770, Fax: (250) 389-0780

E-mail: sailbc@islandnet.com

#### **Verna Miller**

*First Nations*

Box 71, Spences Bridge, BC V0K 2L0

Tel: (250) 453-9716

#### **John Olafson**

*Regional Development, Ethical Use*

46-4360 Emily Carr Dr, Victoria, BC V8X 4Y4

Tel: (250) 658-8993, Fax: (250) 658-8837.

#### **Bruce Peel**

*Ethical Use*

11610 Sylvester Road, Mission, BC V2V 3J1

Tel: (604) 820-7371, Fax: (604) 820-7382

E-mail: peels@uniserve.com

#### **Giles Stevenson**

*Ethical Use*

3610 Glenora Road, RR 3, Duncan, BC V9L 2X1

Tel: (250) 748-4688, Fax: (250) 748-0980

E-mail: carex@cowichan.com

#### **Paulus Vrijmoed**

*Ethical Use, Biodiversity/Research Projects*

Linnaea Nurseries Ltd., 3666-224<sup>th</sup> Street, Langley, BC V2Z 2G7

Tel: (604) 534-2875, Fax: (604) 533-8246

#### **Josette Wier**

RR 2, Site 53, C17, Smithers, BC V0J 2N0

Tel: (250) 847-8743, Fax: (250) 847-8743

E-mail: josette@netshop.net

#### **David Williams**

*Education, Logo, Regional Development*

3-1555 Summit Drive, Kamloops, BC V2E 1E9

Tel: (250) 828-6853

E-mail: dwilliams@cariboo.bc.ca

*\*italic line indicates committee responsibilities.*

### **Ross Waddell, Secretary**

Born and raised in Winnipeg, Ross says he has always loved plants. "Some of my best friends are plants," he quips. His affection for things botanical was partly inherited from his father who maintained a large garden and liked to plant everything in straight lines.

Neighbours who were members of a horticultural society were also an influence, and he began growing and showing flowers competitively. The goal was to make them appear as perfect as possible, using whatever contrivance he could find. "Let's just say I went through a lot of cotton balls and elastic bands," he says. Eventually, the artificiality of it all began to bother him philosophically.

Ross studied environmental design and landscape architecture at the University of Manitoba, where he was taught by an American professor who was influenced by the "Prairie School" which advocates a natural approach to landscaping.

"We studied botany at a smaller scale and ecology at a larger scale. We didn't learn as much about plants as landscape architects should." What he knows about plants has come mostly from personal study and observation.

After completing this program, Ross created "chaos" in his father's linear garden by digging it up, adding curves and planting native shrubs and flowers. "My father didn't like it much at the time," he says, "but he does now."

Ross received his Master in Environmental Studies degree at York University in Toronto where he studied philosophy, planning and design. He wrote his thesis on the philosophy of "mind" using the garden as a metaphor.

He moved to Vancouver in 1994 and has since worked with the City of Vancouver Waterworks Design Branch and City Farmer, a non-profit organization promoting urban agriculture. He has developed a program promoting ecological urban landscaping, and incorporating water conservation and the use of native plants. His interest in the Native Plant Society of BC focuses

particularly on the use of native plants in the urban landscape.

One part of the program was the creation of a demonstration native plant garden at Maple and 6<sup>th</sup> Avenue in Vancouver. A lot of research went into the selection of plants for the garden, which includes over 30 native species.

"When I moved here I didn't know anything about the local plants," says Ross, "so I read a lot, did cross-referencing in the literature, and spent a lot of time in the local botanical gardens."

"Being from the Prairies, I was shocked to see that plants grow so quickly here. Back there, plants grow very slowly, must be hardy and, even then, are less likely to survive."

Only run-off water from rain barrels is used to irrigate the garden during the summer months. Ross says using the watering can gives him the time to observe interactions between plants and the people on the street, and among the plants themselves.

"Whoever says there is no politics in the garden is wrong," he says. "The garden is everything the world is."

### **Sylvia Mosterman, Treasurer**

Sylvia's interest in native plants can be traced to a 'Eureka' experience she had as a teenager while out hiking with friends. The hikers met a group of amateur botanists on their knees. Intrigued, Sylvia asked what they were looking at. "They said, 'If you get down you'll see the little elephant heads.' I did and I saw it!" she recalls of her first encounter with elephant's head (*Pedicularis groenlandica*).

Her enthusiasm for the botanical world was limited to observations on hiking trips until she married Theo Mosterman, who was in the process of setting up a nursery when they met. Mosterman Plant Propagators in Sardis grows seedlings and liners of ornamental species. Natives now constitute about 10% of their total nursery stock.

Their native stock this year includes *Rosa woodsii* "Kimberley," a glaucous-leaved prairie rose from the Kootenays



that was selected by Wilf Nichols for the UBC Plant Introduction Scheme. The Mostert-mans foresee native plants becoming increasingly important to their business, so Sylvia decided to become involved in the Native Plant Society of BC to promote their use and to make contacts with like-minded people. Theo is currently chair of the BC Nursery Trades Association's Native Plant Committee.

In 'real life' Sylvia is a private-practice occupational therapist, the only one in the Sardis area specializing in ergonomics, splinting and bracing. Being self-employed and having her own clinic means she has the flexibility to devote extra time to the nursery during the busy spring period.

"I do the office computer work and look after sales and the catalogue," she says, "I've been 'promoted' out of doing the weeding."

She says that because talk about native plants is so prevalent these days, landscapers sometimes include native species in their designs without really understanding the nature or needs of those plants. Obviously education is necessary for natives to be used properly. Sylvia sees two major roles of the NPSBC to be protecting native plant habitat and promoting the intelligent use of native plants in public and private spaces.

"We're talking about holding regional meetings around the province, without usurping the local naturalist groups," she says. "We're not trying to replace them, but to be a resource to bring all interested parties together to communicate."

Sylvia recently spent some time hiking the Mackenzie Barrens in the Northwest Territories while based at Old Squaw Lodge. She was thrilled to find what she thinks may be the first variegated bearberry. She marked the spot so that in a few years when the plant has increased in size she can return to take a cutting. So, who knows? The nursery trade may someday be marketing a new plant called *Arctostaphylos alpina* "Sylvia." ■

~ Harry Hill

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*"Directors discuss" cont'd*

other organizations with an interest in native plants. For example, the directors from the Victoria region have become involved in the organization of the Native Vegetation Symposium at the University of Victoria and many also are involved with the Victoria Horticultural Society Native Plant Study Group and its Native Garden Tour.

The Vancouver region directors produced an exhibit for the VanDusen Flower & Garden Show; the exhibit may be coordinated next year with other organizations interested in native plant issues and nurseries selling plants. Vancouver has no equivalent organization to the Native Plant Study Group and its tour in Victoria; there may be similar organizations and events, however, in the Interior region. The member survey could solicit information on other people or organizations that could be contacted regarding the Society including those in government, the professions, academia and business/industry.



**NATURESCAPE**  
BRITISH COLUMBIA

## New *Naturescape* kit for the Southern Interior

*Naturescape British Columbia* is an urban wildlife habitat program that encourages the use of native plant species in order to preserve, protect and restore natural green spaces. The *Naturescape* kit consists of three booklets: the Provincial Guide gives the basic how-to information for creating wildlife habitat; the Native Plant and Animal Booklet provides information on the value of native plants and animals; and the Resource Booklet contains a listing of local and regional resources. The Georgia Basin series was completed in 1995 and now the Southern Interior Native Plant and Animal and Resource Booklets are available.

The *Naturescape* program is ecologically-based. It uses an ecosystem classification scheme known as the Ecoregion System, which uses a combination of climate, physiography and vegetation to classify the province into 10 ecoprovinces. The ecoprovinces are then divided into a total of 47 terrestrial and marine ecoregions, which are further divided into 116 local scale ecosections. The Southern Interior Ecoprovince has 4 ecoregions and 12 ecosections. *Naturescape* provides information on the distribution of birds, amphibians, reptiles and mammals to the ecosection level.

*Naturescape's* Southern Interior Native Plant and Animal Booklet describes the cultivation requirements (sun and moisture) and retail availability for over a hundred native plants including trees, shrubs, ground covers, perennials, grasses and ferns. There is also a section on xeriscaping - which uses principles of water conservation to create landscapes with compatible local conditions. Best of all, the booklet in-

*Continued on page 9*



# Thefts plague Victoria's Mt Tolmie habitat restoration project

To celebrate the 70th anniversary of the founding of Victoria's Mount Tolmie Park in 1996, the Mount Tolmie Conservancy Association undertook a native shrub and tree planting project, with the help of more than 20 community partners. The major project funding came from the Action 21 program at Environment Canada. Between November, 1996 and January, 1997 our community volunteers planted 1400 Garry oak seedlings and 700 shrubs native to the Garry oak woodland habitat of the park. At first glance, one could be forgiven for believing that this project was a fabulous success. However, several significant problems arose which suggest that the ultimate effect of this project remains uncertain.

First, the project proposal was submitted according to Action 21 guidelines in early February, 1996, but when the project received tentative approval in June, officials at Environment Canada demanded additional documentation and gave our organization only one week to provide it. The documentation was provided as requested, but then the project file was assigned to someone on vacation until September. Meanwhile, our plant stock supplier wanted confirmation of our order, or they would sell the plants to commercial landscapers instead. Fortunately, we were able to confirm our plant stock order, but the project was nearly cancelled again because Environment Canada staff did not process the file in a timely fashion.

Actual execution of the planting phase came off without problems. Beginning in mid-December, however, we began to notice another serious problem with the project: our plants were disappearing. At

first, only four Nootka rose shrubs were stolen, and Saanich Police started a case file, and while our volunteers distributed 2000 "WANTED" flyers to park neighbours, no Saanich police resources were allocated to the case. The thefts continued.

After we reported our problem to the media, the *Saanich News* printed an article on the native plant theft, and also mentioned the issue of moss poaching in the park. However, the reporter also interviewed a local park manager who said that moss poaching was not a problem in Saanich parks. When the editor was told that this reference challenged our credibility and undermined the success of our project, we were told that readers would understand that the park official was just expressing an opinion. If this were the case, however, anyone on the street could have provided an equally uninformed opinion. Ironically, both Saanich Parks and the *Saanich News* were project partners.

After the article appeared, the

thefts increased. By February, 1997 more than 100 shrubs and over 450 trees had been stolen. Repeated calls and letters to local media finally produced a response in July: a crew from CHEK-6 television came to the park to record a five-minute segment for a local magazine program. During the segment, our project coordinator pointed out an Ocean spray shrub planted in November, 1996. Within a week, the shrub was stolen.

While some losses due to natural causes were expected, project losses due to theft and vandalism so far amount to about \$4000 (planning, plant stock, supplies, labour, publicity), which represents about half the total project value.

We believe that the large scale of the thefts suggests that they may be economically motivated. While we have consistently emphasized the ecological, aesthetic, spiritual and natural values of native plants, the public, including commercial nurseries, media, and police, have assimilated native plants into their



Photos: Eric Redekop

Park meadow restored by broom removal in July, 1995. Volunteers planted 50 Garry oak seedlings here.





New footpath through park meadow. Elementary school students planted 200 Garry oak seedlings here.

world view based on materialism, possession, and consumption. Organizations such as ours have succeeded in persuading the public that native plants have value, but our point has apparently been mistaken.

Now we have another dilemma. Late last year, we began growing more native shrubs from cuttings, intending to plant 500 units in the park in November, 1997. Our strategy was to avoid the mountain of paperwork connected with government funding schemes, and use volunteers to grow plant stock with little or no expense to the public or our membership. We managed to produce only 150 plants, but these are now two-gallon stock, and will be extremely conspicuous if they are planted beside park trails this fall. Also, we have only Snowberry, Mock orange and Red-flowering currant shrubs, which are not necessarily suitable for replacing the plants which were stolen. Meanwhile, the Pacific Forestry Centre which donated the greenhouse space insists that these plants be planted in the park. Of course, we will comply with the wishes of our donors, but with our past experience we wonder whether it might just be simpler, easier, and faster to just give the plants away to mountain residents to plant in their gardens. An even simpler and more

permanent solution would be to destroy the stock and cancel all future propagation and planting projects (our original hope was to plant 500 shrubs and 1000 trees annually for 20 years).

If you have any comments on our experience, or suggestions to resolve our current dilemma, please contact us at the address below at your earliest convenience. ■

~ Eric Redekop, Secretary  
 Mount Tolmie Conservancy  
 Association  
 3503 Camcrest Place  
 Victoria, BC V8P 4V6

**Editor's note:** The article above raises important questions for groups like the NPSBC. When we advocate the use of native plants, we automatically increase the value of both nursery-grown stock and wild specimens. Are we not inadvertently encouraging the ripping out of plants from their habitat for personal use or resale?

There may have been some oak and shrub seedlings which were stolen by individuals and which went directly from the mountain to a backyard. But the staggering scale of the plant removal would suggest there was also an organized effort afoot to repot and resell the stolen plants.

Preaching the ethics of buying only nursery-grown native plants is

obviously not sufficient to prevent the situation at Mount Tolmie from recurring elsewhere. We need safeguards that stop naïve or unscrupulous nursery owners from selling wild or stolen stock. Any thoughts from readers? We'd be happy to print your response and suggestions in the next newsletter.

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### New Species for British Columbia: *Clarkia viminea* (Onagraceae)

On July 20, 1997 we found a population of about 50 plants of *Clarkia viminea* in Mt. Tzuhalem Ecological Reserve, near Duncan on Vancouver Island (AC 31,134). The plants grew with *Clarkia amoena* subsp. *lindleyi* on the warmest grassy slope dominated by *Stipa lemmonii*.

*Clarkia viminea* (Dougl. ex Hook.) A. Nels. & J.F. Macbr. has been recently treated as a subspecies of *C. purpurea* (W. Curtis) A. Nels. & J.F. Macbr. (subsp. *viminea* [Dougl. ex Hook.] H.F. & M.E. Lewis). The plants are erect either simple or with erect branches, slightly puberulent. The leaves are linear to lanceolate with short petioles or sessile. Flower buds are erect and flowers are sessile with reflexed sepals and purplish or crimson petals.

From the phytogeographical point of view this species belong to an interesting group of species that occur from coastal California to coastal northern Oregon and are rare or entirely absent in Washington. This group includes species such as *Allium amplexans*, *Crassula erecta* (= *C. connata*), *Dryopteris arguta*, *Isoetes nuttallii*, *Juncus kelloggii*, *Minuartia pusilla*, *Microseris bigelovii*, *Montia howellii*, *Myrica californica*, *Ranunculus californicus*, *Trifolium depauperatum*, *Triphysaria versicolor*, *Vulpia pacifica*, *Woodwardia fimbriata*, etc.

~ Adolf & Oluna Ceska



**Dave Hutch, Municipal Park Designer, North Vancouver**

Yarrow, *Achillea millefolium*, is one of my favourite plants. It's not that it covers the ground well or that it's rare or exceptional, it's more of a sentimental thing. When I crush a leaf, the aroma takes me back to the Prairies where I grew up. I like to stick to the native white form and have used it in many plantings in hot, dry locations.

**Verna Miller, First Nations Herbalist, Spences Bridge**

Soapberry, *Shepherdia canadensis*, covers most of the aspects of plant use – food, medicine, spiritual, technological. Nutritionally, it's a food as well as a drink. The drink has a lot of vitamins A, B, C and beta-carotene. As a drink it's extremely thirst-quenching, but it's an acquired taste. When I make Indian ice cream from the berries I sometimes add a bit of sugar. I usually use an electric egg beater to whip the berries.

You can make a tea from the leaves, along with chokecherry leaves, and it helps to unblock the blood system. Spiritually, soapberry was used in sweat houses. Young men used the drink in their rites of passage for purification, for internal and external washing. I seem to remember my grandmother using the plant as a beater, like a rug beater.

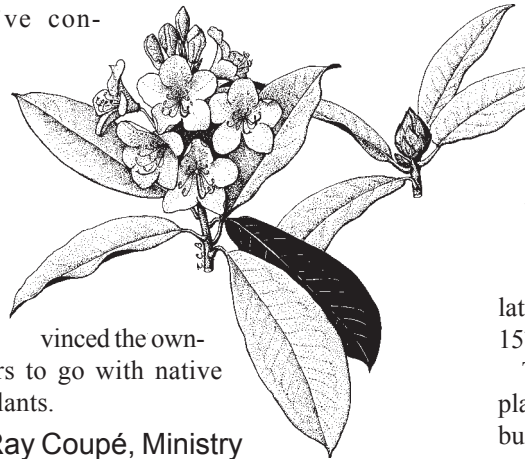
Soapberry used to be a very valuable trade item. The bush is more common in the higher elevations around here. Some years you'll have a great crop, other years almost nothing. When you harvest the berries, you hit the branches and they fall onto a tarp. The berries are very delicate.

**Ingeborg Woodsworth, Landscape Designer, Lake Cowichan**

I'm a member of the American Rhododendron Society and the Cowichan Valley Rhododendron Society and a native plant enthusiast, so I would have to say *Rhododendron macrophyllum*. We strive to breed them and educate the public about them. The Society has a seed exchange, so from friends and acquaintances I have received seed from other areas. My joy is to compare them. The pinks differ in intensity: is it due to the habitat, the siting or the soil? The soil is moist here and we have beauti-

ful clear pinks. At Shawnigan Lake, where it's drier, the colour isn't so clear. At Manning Park they are a darker pink. Around Florence, Oregon, rhododendrons grow near saline bogs and the flowers are darker pink on the outside and lighter pink on the inside.

I grow the seedlings in raised beds where they develop a nice root ball, then later put them into pots. I've used them in a couple of gardens where I've con-



vinced the owners to go with native plants.

**Ray Coupé, Ministry of Forests Regional Ecologist, 150 Mile House**

I've been putting together a key for the saxifrages in the Cariboo/Chilcotin, but I'll go with the yellow avalanche lily, *Erythronium grandiflorum*, as my favourite. It has nice, simple lines to it, and it's an early one. It's an alpine flower, but it gets down almost to the grasslands near Chase in the wildflower meadows.

**Paige Woodward, Nursery Grower, Sardis**

Just because it's not my region, I'm really attracted to the plants of the Okanagan right now. So I'll say *Ribes cereum*, the blue-green wax currant. It has small, tight, glaucous leaves with close internodes which give the shrub a crisp, dense appearance. The flowers are white or pink and urn-shaped. The red-orange berries are translucent, so when the sun is shining through them it's like stained glass.

**George W. Scotter, Biologist and Author, Kelowna**

I have many favourite native plants, but I'll say the calachortus or mariposa lily. We have the pink one here, *Calachortus macrocarpus*, that grows in the dry pine forest. It has three long sepals and three big petals. Its name in Spanish means "butterfly" and it resembles a butterfly sitting on a stalk of grass. It blooms

# My Favourite Native

## We asked NPSBC members their one native species for its u

late in the year in this area, about the 15<sup>th</sup> of July.

The literature says you can't transplant it, but I recently moved about 10 bulbs from a neighbour's yard that was going under the bulldozer. I'll see in the spring if I was successful.

**Josette Wier, Native Plant Lover, Smithers**

From my experience of living in different locations of Northern British Columbia over the past 20 years, I have become fond of the somewhat homely skunk cabbage (*Lysichiton americanum*) which may strike some as how desperate one gets from living in northerly locations.

One of the main reasons why it is attractive to me is that it is an early harbinger of spring, one of the first green and yellow colours the eyes strive for after the long months of winter. There is also a comical side to its coming into the world in the form of a perfect little cone, quite "erectus" one may say, determinedly stating that life is back in full force.

An example of this determination used to make me chuckle at the Kitimat golf course where such little cones would poke their noses through perfectly groomed "greens," as if claiming victory over a likely heroic herbicidal battle!

All stages of *Lysichiton* life stages are a little bit exaggerated. Not only do the leaves grow to enormous sizes, the



# rite ative Plant

roughout the province to pick  
 usefulness or visual appeal.

flower is huge and thick and the fruit even more determined to transgress the laws of gravity.

Dug lysichiton warn me of the presence of bears, their immense hunger at the beginning of spring mirrored by my immense hunger for seeing things grow again.

The naming of *Lysichiton* "skunk cabbage" misses the delight the plant brings through its childlike attributes of explosive growth, along with the reassurance that the mysterious unfolding of spring will proceed enthusiastically.

**Daryl Tyacke, Landscape Architect, Vancouver**

*Gaultheria shallon* (salal) has shiny, bright green, leathery foliage. It's tolerant of partial shade and may grow to six feet, but remains more compact in full sun. The pinkish bell-shaped flowers produce attractive black berries that were an important food source for the Indians on the coast. The leaves are used by florists as "Lemon Leaf." Salal makes an excellent, medium height groundcover.

**Bobbie Hammersley, Seed Collector, Oliver**

One of my favourite plants is woolly plantain, *Plantago patagonica*. I think it's also known as Indian wheat. It's related to garden plantain, but it has fuzzy, silvery leaves, like a grass. The flowers are creamy white. It's got really neat seeds that are burgundy/brown in colour. The seed chambers are like ovals cut in half.

I use it for restoration purposes. It's either an annual or a biennial. It grows in fairly exposed areas in the sagebrush/bunchgrass zone, and not at a very high altitude.

**Nancy Turner, Ethnobotanist, Victoria**

My favourite has got to be the Nootka rose (*Rosa nutkana*). I've finally got one in my front yard. As an ethnobotanist, I appreciate the various uses it's put to. You can eat the fragrant petals. You can make a tea from the leaves as well as from the hips. It's used as an eye wash medicine.

The Nootka rose is an ecological indicator for basket makers. They use the blooming of the wild rose as an indication that the cedar roots and reed canary grass are ready for harvesting.

**Steve Pelton, Reforester, Maple Ridge**

I'd say the Engelmann spruce (*Picea engelmannii*). It's a high elevation tree, very vigorous and robust. It grows in a harsh environment but it grows very well, not stunted like some trees in the subalpine.

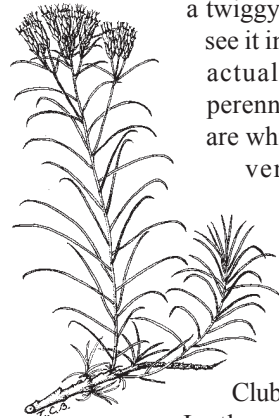
It's sometimes grown as an ornamental. The needles are almost as blue as a blue spruce, but not as prickly as the Sitka spruce. And it has a high value wood. The larger pieces are used for dimensional lumber, the smaller pieces go for pulp.

**Suzanne Schmiddy, Xeriscape Landscape Designer, Okanagan Falls**

I would name *Chrysothamnus nauseosus*, rabbit-brush, as my favourite. It has extreme ornamental value, is useful in urban habitat landscapes, and it grows in semi-arid conditions so it doesn't require watering. With proper pruning to about one foot in the late dormant season, the shrub will create a fluffy, green appearance all spring and summer. It forms a globe-shaped plant about three feet high. It has a golden of colour in the fall, and an interesting contrast between the beige seedheads and blue-green stems in winter. It's very versatile. You can grow it with other shrubs or as a delicate background for flowers.

**Francisca Darts, Gardener, Surrey**

My choice is *Actaea rubra*, baneberry. It feels as though it should be a twiggly shrub when you see it in summer, but it's actually a deciduous perennial. The flowers are white, not large, but very conspicuous and pretty. The red berries are very long lasting. I save the seeds for the Alpine Garden Club of BC.

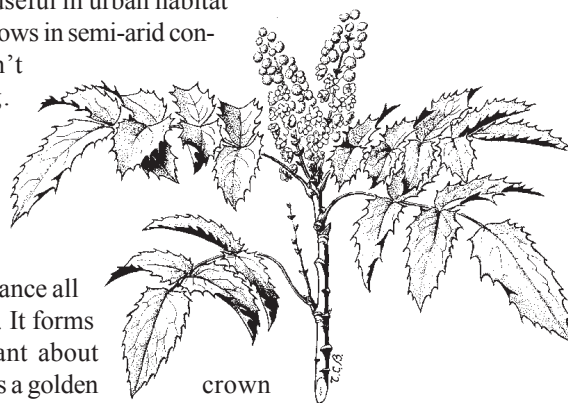


Club of BC.

In the wild it likes the shade, but I have them growing in the shade and in the sun. It's amenable to different conditions. It seeds itself discreetly. I still have the same plants I started with 25 years ago.

**Jim Brockmeyer, Ornamental Grass Propagator, Christina Lake**

*Mahonia aquifolium* (tall Oregon grape) has four-season interest. It has sulphur yellow flowers in spring, nice leaves in summer, blue berries in fall, and maroon foliage in winter. Around here it gets about three-and-a-half feet tall. It has a wide range of tolerance – from dry, sunny hill-sides to damp, shady places. It's the holly of the west.



crown  
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# BEC for beginners

This column introduces readers to concepts of Biogeoclimatic Ecosystem Classification (BEC) as it is used for site identification in forest ecosystems. BEC is a very useful tool for integrating ecosystem information at various levels – climatic, soils and topography, and species community information – into a single classification. While it is a professional tool for foresters and others who work in forest ecosystems, it also has much to offer the casual user who simply wishes to appreciate the complexity of factors and diversity of sites we observe on any walk through a forest. Training courses for those who wish technical proficiency are available through the BC Ministry of Forests. Alternatively, one can learn by “adopting a forester” who is trained in BEC. Field guides applicable to your region are available from Crown Publications Inc., and begin with the title “A Field Guide for Site Identification and Interpretation for...” Also, very useful is “Ecosystems of British Columbia” by Meidinger and Pojar, a technical overview of the BEC system. You can not learn about ecosystems by reading books on them, much less a short column, so the goal here is to encourage you to explore your natural world and the capabilities and limitations of a system like BEC in organizing the results of such explorations. In this first column, the theme is looking at BEC from the perspective of reading a map.

When I’m driving or walking somewhere, often I’ll ask myself, “Where am I?” and then pull out a map to locate myself within the landscape. Depending on whether I’m driving cross country on a major highway, exploring backroads in the countryside, or have just taken a wrong turn in a suburb, the appropriate map scale I choose will differ. A map that concentrates on

highways for all of BC has no street information. A street map will not usually have any contour lines, though a logging road map may. Any map I choose is useful at one scale, and either incomplete or inaccurate at another. My goal, then, is to match the map to the scale of landscape I wish to locate myself within.

Similarly, if I am walking in a forested area, I may again ask, “Where am I?”. In this instance, I am no longer interested in a purely geographical location. To orient myself at a broad scale, I might use

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a map of biogeoclimatic zones, and try to locate myself in terms of which zone I am in. At the zonal level, we are looking at the broad effects of climate (which are reflected in vegetation). There are 14 such zones in BC. They carve up the province in terms of broad types of climate. For example, at very high elevations where temperature is extreme we are in Alpine Tundra, which is characteristically treeless. In the dry valleys in the southern

Interior we are often in the Ponderosa Pine Bunchgrass Zone. At moderate elevations on the coast we are in the Mountain Hemlock Zone. In wet belts in the interior of this province we find ourselves in the Interior Cedar Hemlock Zone. Each zone is characterized by the range of rainfall and temperature regimes that delimits the kind of vegetation that becomes established and dominates the landscape in the long term (climax). Usually the BEC zones are named after one or several tree species in the expected climax forest.

Say I am lost somewhere on the southeastern end of Vancouver Island. In my pack I have a map and a little red book. I look at the map of Biogeoclimatic Zones, and note that, geographically, it seems most likely I am somewhere in the Coastal Douglas-fir Zone. A quick look at the overstorey canopy confirms that indeed there are Douglas-firs. Also there is a fair proportion of western red-cedar and grand fir. Furthermore, on the particular site I’m on there’s a fair number of large bigleaf maple trees, some of which are beginning to look a little decrepit. Specifically, I am in the Coastal Douglas-fir Moist Maritime Subzone. A particular subzone has a characteristic climax (long term) plant community on what are called “zonal sites,” which are sites that are dominated by climatic rather than topographic influences.

So far, so good. I’m feeling a little less lost. I pull out my little red book. It’s called, “A Field Guide for Site Identification and Interpretation for the Vancouver Forest Region.” I check against the list of expected species in the tree, shrub, herb and moss layers. There seems to be a good match for the species I can identify. I’m feeling a bit more confident. Next, I turn to a page on site classification for the Coastal Douglas-fir Moist Maritime Subzone. It is dominated by a rectangular grid. The grid is based on



moisture regimes on the Y axis (6 classes from “very dry” to “wet”) and nutrient regimes on the X axis (5 classes from “very poor” to “very rich”). The 6x5=30 potential classes of moisture and nutrient regimes are grouped into a number of blocks that span several squares of the grid. In the case of this particular grid there are 8 such blocks, labeled “site series.” I note a fair amount of sword fern, dull Oregon grape and salal in the understory. There seems to be a certain amount of seepage into the area I’m walking in. The vegetation is “lush.” This agrees well with the description of Site Series # 4, which is the Douglas-fir, grand fir, Oregon grape site association. A “site series” is particular to a specific subzone (and variant), but a site association is a characteristic set of vegetation can occur on ecologically similar areas spanning subzones.

Having largely located myself by way of looking closely at the vegetation that surrounds me, I now attempt to locate myself within a specific moisture-nutrient combination (called “edatope”). To do this, I follow a pair of keys. The key on moisture regime focuses on my topographic position within the slope, soil depth, particle size, and the presence or absence of soil mottling or a water table. The key on nutrient regime focuses on the forest floor, nature of organic materials in the forest soil, soil colour and particle size, and soil depth. Using the keys requires a little practice, but after going through the exercise I find myself in edatope 3D (moderately dry and nutrient rich). At this point I sit down and appreciate 3D, Site Series 04, Coastal Douglas-fir Zone, Moist Maritime Subzone. This is a mouthful, but there is handy shorthand notation for BEC codes which we will discuss in the next newsletter. In the meantime, the dull Oregon grapes are purplish blue, the salal berries nearly black; the bigleaf maples are clothed in various mosses and the

occasional licorice fern, their leaves are beginning to turn a dull orange red, and their samaras have become hard and woody. A wonderful little patch of rain forest in the fall. And now that I know where I am, I ask myself, “How did I get here?”. But that is the subject of a future column.

~ Mishtu Banerjee  
Biodiversity/Research Projects  
Committee

## Publications

Compton, Brian D., Bruce Rigsby and Marie-Lucie Tarpent, eds. 1997. **Ethnobotany of the Gitksan Indians of British Columbia** by Harlan I. Smith. Mercury Series Paper 132, Canadian Ethnology Service. Canadian Museum of Civilization, Hull, Quebec. 210 pp. ISBN 0-660-15968-6 Price: CND \$27.95. Available from Canadian Museum of Civilization Publications (Phone 1-800-555-5621).

This document represents an edited version of a manuscript from the Canadian Museum of Civilization on Gitksan ethnobotany prepared between 1925 and 1927 by Harlan I. Smith. It contains information on 112 botanical species and their traditional cultural roles among the Gitksan.

Brayshaw, T.C. 1996. **Trees and Shrubs of British Columbia**. Royal British Columbia Museum Handbook. University of British Columbia Press & Royal B.C. Museum, Vancouver-Victoria. 374 pp. ISBN 0-7748-0564-1 Price CND \$24.95

This book deals with about 300 species of trees and shrubs both native and escaped from cultivation that occur in British Columbia. All the species are illustrated with the author’s own excellent line drawings of branches (or whole plants) with leaves, flowers and fruits. Important identification characters are also illustrated in detail, and this, together with good (indented) keys

helps to reliably identify the plants. There are 76 plates of plants together with 3 plates explaining morphological terms. The arrangement of plants on plates, however, dictated the order of genera within families and the order of species within genera.

Descriptions of closely related species are sometimes far apart, if their illustrations fell to two different plates (e.g., *Vaccinium ovalifolium* and *V. alaskaense*). Once you know this, you can get through the book faster, but it took me a while before I understood the strange sequence (neither alphabetic, nor phylogenetic). You can order the book directly from the UBC Press (phone 604-822-3259, Fax 1-800-668-0821, e-mail orders@ubcpress.ubc.ca).

~ Adolf Ceska

### *Naturescape, cont'd*

cludes detailed information on the habitat, behaviour and how to attract a wide variety of animals found in the Southern Interior. In particular, the table on butterflies and moths is extensive and includes food plants for caterpillars.

The Resource Booklet has over 30 pages of sources of information including environmental emergency response numbers, wildlife shelters and rehabilitation centres, conservation organizations and programs, clubs, places to visit and reference books. Most importantly there is a list of where to find native seed and plants, native plant and landscape consultants and specialized retail outlets.

For more information call 1-800-387-9853 in BC or (250) 387-9853 outside BC. To order a *Naturescape* kit, please send a cheque or money order for \$20, payable to the Habitat Conservation Trust Fund to: P.O. Box 9354 Stn. Prov. Govt., Victoria, BC V8W 9M1.



# Endangered species protection: National initiatives

## Part 1

*This issue's Lex Terrae column is the first of a 3-part series:*

*Part 1 - The Committee on Endangered Species Protection*

*Part 2 - Provincial laws for the protection of species*

*Part 3 - Federal laws for the protection of species*

*Lex Terrae welcomes Bill Harper as the guest writer of this series. Until recently, Bill Harper was the senior provincial authority on endangered species and the BC government representative on COSEWIC. He is now the head of an environmental consulting business that specializes in ecosystem analysis and integrated solutions to strategic wildlife management issues.*

National efforts to protect endangered species in Canada are part of a larger global effort to conserve biodiversity and use biological resources in a sustainable manner. Canada's obligations under the United Nations Convention on Biological Diversity (1992) are outlined in the Canadian Biodiversity Strategy (1994), which provides a framework for government action at all levels. One of the key articles of this international convention addresses the need to identify and monitor those components of biodiversity most in need of conservation attention.

Beginning in 1978, the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) has determined the national status of wild species, subspecies, and separate populations of native plants, fish, amphibians, reptiles, birds and mammals. In 1994 its mandate was expanded to include mollusk and lepidoptera species of invertebrates. COSEWIC membership consists of one representative from each pro-

vincial and territorial wildlife agency, four federal agencies (Canadian Wildlife Service, National Museums of Canada, Department of Fisheries and Oceans, and Canadian Parks Service), and three nationally based private conservation organizations (Canadian Nature Federation, Canadian Wildlife Federation, and World Wildlife Fund).

COSEWIC determination of risk status is usually the first step in a process of conservation and recovery actions ultimately designed to prevent any species from becoming extirpated or extinct as a result of human activities.

The scientific foundation for COSEWIC designations are peer reviewed species status reports. Using these status reports, COSEWIC designates species into one of seven categories of risk, as follows:

**Extinct** - A species that no longer exists.

**Extirpated** - A species no longer existing in the wild in Canada, but occurring elsewhere.

**Endangered** - A species facing imminent extirpation or extinction.

**Threatened** - A species likely to become endangered if limiting factors are not reversed.

**Vulnerable** - A species of special concern because of characteristics that make it particularly sensitive to human activities or natural events.

**Not at Risk** - A species that has been evaluated and found to be not at risk.

**Indeterminate** - A species for which there is insufficient scientific information to support status designation.

Preparation of COSEWIC status reports is an ongoing task, and may take as long as two years depending on volume of information available and the extent of peer review comments. The Annual General Meeting of COSEWIC is held in April of each year, at which time candidate species are designated based on the status reports submitted. In 1996 a record number of 44 species status reports were considered, followed by a more manageable 35 reports in 1997. Of the 35 reports evaluated in 1997, 18 were on species whose range includes British Columbia.

As of April 1997, COSEWIC has des-

ignated 291 Canadian species as being at some level of risk of extinction. Most of these (132) fall into the lowest level risk category, vulnerable. A total of 68 species are designated as threatened, and a further 65 meet the criteria to be considered

endangered. Twenty-one species have been lost from Canada, 12 extirpated and 9 extinct. Plants (which now include lichen species) account for 105 of the 291 species considered at risk. Of the 105 plant species, 35 are vulnerable, 38 are threatened, 30 are endangered, and 2 are extirpated from Canada. British Columbia plant species include 6 plants designated by COSEWIC as endangered, and 7 designated as threatened (see table below).

Besides evaluating status reports, COSEWIC is also active in developing "tools" for use in making status determinations. One example is a set of guidelines for designation at the population level, including a map of eight "National Ecological Areas" in Canada. Another example is the development of biological criteria as an aid for: 1) determining the eligibility of Canadian species for status assessment, 2) assigning priority for assessment to those species, and 3) evaluating their risk of extinction.

For those species designated at the highest risk of extinction (extirpated, endangered or threatened) the next step is the preparation of a recovery plan. In 1988, the Committee for the Recovery of Nationally Endangered Wildlife (RENEW) was established to initiate and oversee the development of recovery programs for species at risk nationally. At present RENEW's mandate focuses primarily on recovery of terrestrial vertebrates. There have been no national recovery teams established for plant species at risk.

The most recent national initiative affecting endangered species conservation is the National Accord on the Protection of Species at Risk in Canada, a federal/provincial effort to harmonize endangered species legislation across the country. In October, 1996 all Wildlife Ministers in Canada issued a press release confirming they had reached an



agreement-in-principle on the National Accord. Bill C-65, the Canada Endangered Species Protection Act was supposed to be a key component to the National Accord. Although it was introduced in the House of Commons in October, 1996, Bill C-65 only made it through Committee Stage, before dying on the order table with the calling of the last federal election.

Further information about COSEWIC can be found with a visit their Web Page. Just type "COSEWIC" into the search area of any of the major search engines.

Part Two of this series will outline provincial legislation that applies to endangered species in British Columbia.

~ Bill Harper, RPBio  
Osiris Wildlife Consulting  
Victoria

### British Columbia plant species designated by COSEWIC as endangered or threatened

#### Endangered BC plants

1) Deltoid Balsamroot (*Balsamorhiza deltoidea*)

2) Prairie Lupine (*Lupinus lepidus* var. *lepidus*)

3) Seaside Birds-foot Lotus (*Lotus formosissimus*)

4) Water-plantain Buttercup (*Ranunculus alismaefolius* var. *alismaefolius*)

Remaining small populations of all four of these species are threatened by competition from exotic species and habitat destruction within Garry oak ecosystems on southeastern Vancouver Island.

5) Seaside Centipede Lichen (*Heterodermia sitchensis*)

Very restricted distribution on narrow coastal strip of western Vancouver Island.

6) Southern Maidenhair Fern (*Adiantum capillus-veneris*)

Highly restricted population associated with a unique hot-spring-modified habitat in the southern Rocky Mountains.

#### Threatened BC plants

1) Golden Paintbrush (*Castilleja levisecta*)

2) White-top Aster (*Aster curtus*)

3) Yellow Montane Violet (*Viola praemorsa* ssp. *praemorsa*)

These three species inhabit a limited range within Garry oak ecosystems on southeastern Vancouver Island. Declining populations are threatened by competition with exotic species and habitat destruction. Some of these species are also affected by fire suppression and recreational use of critical habitats.

4) Apple Moss (*Bartramia stricta*)

Very restricted distribution within Garry oak ecosystems on eastern Vancouver Island near Nanaimo.

5) Giant Helleborine (*Epipactis gigantea*)

Restricted distribution associated with riparian habitats in central sub-boreal British Columbia.

6) Mosquito Fern (*Azolla mexicana*)

Restricted distribution in the vicinity of Shuswap Lake. Threatened by loss of riparian habitats.

7) Small-flowered Lipocarpha (*Lipocarpha micrantha*)

Restricted distribution in unique riparian habitats associated with lakes in the South Okanagan.

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*The Lex Terrae column invites ideas for articles, suggestions for guest writers as well as member/guest articles. Please e-mail your suggestions to Pam Meneguzzi at [sailbc@islandnet.com](mailto:sailbc@islandnet.com)*

## Notices

**A call for *Iris missouriensis*:** As coordinator for the South Okanagan Habitat Garden in front of the Okanagan College in Penticton, I am trying to locate a nursery source of Western blue flag. It is extirpated here and endangered in Alberta. Please phone Suzanne Schmiedem at 250-498-8898.

**Request for *Amelanchier* seeds:** I have a graduate student who is searching for seed from North American *Amelanchier* species. The focus of the research at least initially will be disease resistance. There is considerable interest in commercial production of saskatoons as a fruit crop, however, when grown in large blocks, disease pressures build as might be expected in a perennial crop. The quantity of seed required is minimal at least at the start. If you are able to help out please drop me a note. Campbell G. Davidson, Morden Arboretum, Unit 100-101 Route 100, Morden MB R6M 1Y5. Phone: 204-822-4471. Fax: 204-822-6841. E-mail: [CDavidson@EM.AGR.CA](mailto:CDavidson@EM.AGR.CA)

### Newsletter Credits

#### Editing & Design

Harry Hill.

#### NPSBC Board Liaison

Theresa Duynstee.

#### Contributors & Reviewers, This Edition

Mishtu Banerjee, Theresa Duynstee, Diane Gertzen, Bill Harper, Harry Hill, Pam Meneguzzi, Eric Redekop, Ross Waddell, Tom Wells.

#### Illustrations

T. Christopher Brayshaw from **Trees and Shrubs of British Columbia**, and **Buttercups, Waterlilies and their Relatives in British Columbia**, both published by University of British Columbia Press & Royal BC Museum, Vancouver-Victoria.



## Internet Committee

A draft layout and design for the NPSBC web site was produced by Harry Hill last summer. Once the logo is chosen, we hope to get the site up and running later this fall. The plan is to get a designated Internet address for our site so it can be located with any server. However, we are still seeking a VOLUNTEER WEBMASTER.

So far the NPSBC web site consists of general information about the society for new and prospective members, the newsletters, a listing of pertinent resources and a calendar of events. Ideally the web site will include notices of events that missed the newsletter deadline such as workshops and impromptu field trips organized on short notice. The main tasks for the web master will be to manage the site and keep the calendar of events section up to date.

As with all other aspects of the NPSBC, the success of the web site will depend on the participation of its members. If you are interested in helping out contact [theresa.duynstee@gvrd.bc.ca](mailto:theresa.duynstee@gvrd.bc.ca)

## What's on the Web

### American Fern Society

<http://www.visuallink.net/fern/>

### BC Native Plant Nurseries & Seed Suppliers

<http://www.city.vancouver.bc.ca/engsvcs/water/index.htm> (\*if not available, try again later)

### Botanical Electronic Newsletter (BEN) Archive

<http://www.ou.edu/cas/botany-micro/ben/>

### California Native Plant Society

[http://www.calpoly.edu/~dchippin/cnps\\_main.html](http://www.calpoly.edu/~dchippin/cnps_main.html)

### Flora of North America

<http://www.fna.org/index1.html>

### Oregon Flora Newsletter On-Line

<http://www.orst.edu/dept/botany/herbarium/projects/ofn/index.html>

### Oregon Native Plant Society

<http://www.teleport.com/nonprofit/npso>

### Pacific Northwest Native Wildlife Gardening

<http://chemwww.chem.washington.edu/natives/>

### Trees of the Pacific Northwest

<http://www.orst.edu/instruct/for241/>

### VanDusen and UBC Botanical Gardens

<http://www.hedgerows.com>

### Washington Native Plant Society

<http://www.wnps.org>

## Events

### Victoria, Tues, Oct 21, 1997

**Botany Night:** Evelyn Hamilton: "A botanist in Bolivia and adjacent parts of South America." Swan Lake Nature House, 7:30 p.m. Sponsored by the Victoria Natural History Society & the Native Plant Society of BC. Everyone is welcome.

### Victoria, Sundays, Oct 26, Nov 2, 9, 16, 23, 30, Dec 7, 14, 1997, Jan 4, 11, 18, 25, 1998

**Broom Bash:** Mount Tolmie Park, 9 am-3 pm. Follow pink flagging tape from Mayfair Drive to work areas. Call Eric for more information: (250) 595-7270. Sponsored by the Garry Oak Meadow Preservation Society, the BC Habitat Conservation Trust Fund, and the Mount Tolmie Conservancy Association.

### Victoria, Wed, Nov 18, 1997

**Botany Night:** Dr. David Blundon: "Vegetation of the Peace River region." Swan Lake Nature House, 7:30 pm. Sponsored by the Victoria Natural History Society & the Native Plant Society of BC. All are welcome.

### Lake Cowichan, Mon & Tues, Feb 23-24, 1998

**Native Plant Propagation Workshop:** Methods of propagating native plants will be presented and discussed. Cost of \$135 for NPSBC members covers two nights' lodging and 6 meals. Open call for papers and presentations on practical propagation techniques. For information and a registration form, call Don Carson at (250) 749-6811 or Diane Gertzen (604) 930-3309. Sponsored by the Native Plant Society of BC and BC Forest Service. Open to members and non-members.

### Sunshine Coast, Sat, May 9, 1998

**Coastal Spring Flowers:** A hiking tour of coastal bluffs and foreshores, and a visit to the native plant project on the Roberts Creek jetty. Call Harry for information regarding time, location, ferries, etc.: (604) 689-0921 week nights, (604) 885-9769 weekends. Sponsored by the Native Plant Society of BC. Open to members and non-members.

### Write to us!

You can send submissions, comments and suggestions to the NPSBC newsletter by writing to Harry Hill, 1805-1725 Pendrell St, Vancouver, BC V6G 2X7, or e-mailing [harryh@escom.ca](mailto:harryh@escom.ca) The deadline for the next edition is February 28, 1998.

### BC native plant gardens

In the next issue of the NPSBC newsletter we would like to list all the native plant gardens in the province which can be viewed by the public. Please send information to Harry Hill at the address above.

