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Iris

The Newsletter of the Alberta Native Plant Council

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The 1999 Cardinal Divide reclamation weekend

Hands-on help for alpine damage

Elisabeth Beaubien

The Cardinal Divide is located south of Cadomin and Hinton in the foothills east of Jasper National Park: a beautiful alpine ridge with stunning views to south and north. Rare plants, an abundance of wildlife, and unusual geology and glacial features make this area unique and precious. The Grave Flats road runs over the ridge, offering easy access to visitors who don't mind a rough road. Unfortunately some vehicles in the past have also left the dirt road to explore the fragile ridge, leaving eroding tracks devoid of plants. The ANPC and the Alpine Club of Canada have acted as stewards for the Cardinal Divide Natural Area, organizing annual field trips and a reclamation weekend to restore plants to eroded areas. These two groups are keen to continue stewardship activities for this area within the new "Whitehorse Wildland Park" which extends north from the Divide to Whitehorse Creek and includes the Cadomin Caves.

This year, our luck with weather continued for the 5th annual reclamation weekend: clear blue skies again! On August 28–29, about 30 people met on top of the Divide to lend a hand in repairing damage from past vehicle use. David Walker had again arranged with Cardinal River Coals to hire 15 students. Other help came from residents of Hinton and Edson, and volunteers from the ANPC and the Alpine Club.

On Saturday morning we broke into two groups: one was a group of boys, led by the strong and wiry Jim Lange. They headed west to spread gravel in wet areas of the trail. The other larger group of female students headed east up "Saxifrage Ridge" to build water bars with Dave (a.k.a. the "Trail Boss"). They were equipped with picks, shovels, and a fancy wooden device (built by Dave) to determine the precise slope angle for water bars. These bars are trenches dug in selected locations across the wide eroded track. The



Building a water bar on the east ("Saxifrage") ridge. L-R: Megan Malloy, Lea Benson, Chelsi Hoffman, Andrea Caldwell and Kyla Munn

trenches catch running water and divert it away from the trail, halting erosion and making it possible for plants to grow again.

The volunteers enjoyed many tasks:

- Selecting the best routes for hiking up the ridge from several eroded tracks, and lining edges of the chosen path (approximately 1.5–2 m wide) with rocks
- Assisting with water bar construction (trenching, lining the down-slope side of trench with flat stones, replanting alpine sod)
- Removal of invasive alien plants including

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Cardinal Divide, from page 1

caraway (*Carum carvi*). This was our first sighting on the ridge, but this plant is common in Cadomin;

- Gathering seed from alpine plants to grow for replanting next year. Species collected included: *Antennaria microphylla*, *Arnica angustifolia*, *Deschampsia caespitosa*, *Dryas octopetala*, *D. integrifolia*, *Hedysarum alpinum*, *Oxytropis campestris*, *O. podocarpa*, *Poa alpina*, *Saxifraga tricuspidata*, *Senecio lugens* and *Trisetum spicatum*.

Due to the late spring and cool summer, many species were still blooming: we enjoyed three species of gentians (*Gentiana amarella*, *propinqua* (lots!), and *prostrata*), as well as *Arnica*, *Parnassia fimbriata*, *Polygonum viviparum*, *Hedysarum alpinum* and even *H. borealis*!

After the heavy snows of winter, the Divide was slow to lose its snow. Some damage occurred to the tundra when people drove around large drifts. We hope that discussions with the Municipal District of Yellowhead will lead to gating of the Divide road in the winter, and ploughing to clear the road in spring when necessary.

With the designation of the Whitehorse Wildland Park and increased enforcement, we hope that there will be fewer off-road vehicles in this delicate alpine environment. There are many people who feel that access to the Cardinal Divide portion of the park should be restricted in to foot traffic, as use by horses and mountain bikes can easily cause lasting damage.

Thanks to the commitment of all our helpers, it was a very successful weekend: we built 22 water bars in two days! Thanks very much to Cardinal River Coals for financial assistance to hire the students, and to all the volunteers who came to help.

Join us next year (Aug 26-27) for more fun on the Divide! For more information contact one of the following:

Hinton: Al Watson, Cardinal River Coals (780) 692-5100

Edson: Jan Ficht: (780) 693-2549

Edmonton: Elisabeth Beaubien (780) 438-1462

Calgary: Dave Walker (430) 278-4775

Many thanks to our volunteers and students

Hinton and Edson area:

Students: Megan Aspell, Lea Benson, Andrea Caldwell, Carley Edwards, Chelsea Hoffman, Cody Inman, Megan Malloy, Neil Morrison, Kyla Munn, Clint Schmidt, Cassie Smith, Jessica Thomas, Rodney Vida, and Nick Watson.

Volunteers: Dave Edwards, Jan Ficht, Fred Munn, Al Watson

Edmonton and Calgary area:

Students: Kayla Gerling

Volunteers: Lorna Allen and daughter Brittany Crockett, Wendy Allen, Elisabeth Beaubien, Alison Dinwoodie, Birgit Friedenstab and niece Misty Bell, Heather Gerling, Jim Lange, and Dave Walker (Jim and Dave have assisted with every one of the 5 annual reclamation events!)



Defining a path with rocks, which will allow plants to grow in from the sides.

Rare plant communities in Alberta

Lorna Allen

Imagine you are climbing up to the subalpine meadows on the southwest-facing slope of Mt. Whistler about 40 km south-west of

Pincher Creek. In June, the sunflower-like blooms of the balsamroot (*Balsamorhiza sagittata*) alternate with silver-grey clumps of sagebrush. The scarlet of the

hispid paintbrush (*Castilleja hispida*) and the purple-blue of silky perennial lupine (*Lupinus sericeus*) provide much of the colour in July. All these are species that occur only in the southwest corner of the province. Even the dominant grass, Idaho fescue (*Festuca idahoensis*), is a southwestern species.



Balsamroot (*Balsamorhiza sagittata*), a common plant in some of Alberta's sagebrush communities.

Look more closely at the sagebrush. It's shrubby and seems similar to the silver sagebrush (*Artemisia cana*) of the prairies.

But if this were silver sagebrush, the leaves would be entire (unlobed). These leaves are distinctly three-lobed, telling you that this is big sagebrush (*Artemisia tridentata*). Big sagebrush is

widespread in North America, but reaches the northeastern limit of its range in Alberta and is considered rare here.

These are lovely big sagebrush meadows that we are strolling through, mind you with some difficulty, given that their slopes vary from 16 to 70 percent. This sagebrush meadow is a plant community that is

considered rare in Alberta. Big sagebrush does grow in a few other spots, but this is the only known location in the province where it is dominant and is found in two distinctive combinations with these other southwestern species.

Let's look at another rare plant community. There are several paper birch communities in Alberta, but there is one type in Jasper National Park that seems unusual. This paper birch woodland is so open that it seems like a savannah; however, the slopes are so steep that the walking is tricky. The trees are all paper birch (*Betula papyrifera*) and are generally small, but some individuals can be up to 17 m tall. They are interspersed with clumps of water birch (*Betula occidentalis*) with rivers of talus (loose, angular rock fragments) winding through them. The sudden appearance of ewes and lambs on one of the numerous trails suggests that these warm, south-facing slopes are popular with bighorn sheep.

You may have noticed that no rare plants have been mentioned in this description, so how can this be thought of as a rare plant community? A plant community is a recurring assemblage of plant species, the species occurring together because they respond similarly to a variety of site attributes. A plant community may be very recognisable and common, like the typical parkland woodland of trembling aspen/prickly rose (*Populus tremuloides*/*Rosa acicularis*) or the lower subalpine lodgepole pine/Canada buffaloberry (*Pinus contorta*/*Shepherdia canadensis*) types. Or, a plant community may be found only rarely, perhaps in part because it requires an unusual combination of site attributes. Sometimes the rare community also has some rare elements, as in the Big Sagebrush meadows, but often it does not. It's not the individual components that are rare, but the grouping, the community itself.

The Alberta Natural Heritage Information Centre (ANHIC) is working to document the elements of natural biological diversity in the province (species, communities and landscapes), focusing on



Paper birch/water birch/common bearberry Open woodland community

see **Communities**, page 4

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elements of conservation concern. A preliminary tracking list of plant communities of conservation concern is now available. Some of the 74 community types are fairly well described and documented, although generally at a descriptive level. Others are not as well documented. For example, the Manitoba maple is a common urban tree. But did you know that there are Manitoba maple communities in the coulees of the parklands and grasslands that we think are natural, native and uncommon? We do not yet have sufficient documentation to define the typical components of those communities, or to know just how uncommon they are, but we are working on it.

Community Descriptions

The Big Sagebrush communities on Mt. Windsor have been tentatively divided into two community types. A third big sagebrush type is found on the river terraces beside the south branch of the Castle River. Preliminary species lists for the Mt. Windsor communities are provided below.

Big Sagebrush/Spotted Saxifrage Shrubland

This is the highest elevation Big Sagebrush community on Mt. Windsor.

The ground is open and rocky, and covered by a number of rockland species. A complete species list is not available, but the following lists the dominant species (adapted from Fairbarns 1986).

Shrub Layer

Artemisia tridentata big sagebrush

Herb – Dwarf Shrub Layer

Saxifraga bronchialis spotted saxifrage
Arctostaphylos uva-ursi common bearberry
Potentilla glandulosa sticky cinquefoil
Sedum lanceolatum lance-leaved stonecrop
Sedum stenopetalum narrow-petaled stonecrop

Big Sagebrush/Balsamroot Shrubland

This community occurs on the south-west-facing slopes on Mt. Windsor, below the Big Sagebrush/Spotted Saxifrage Shrubland. A complete species list is not available, but the following lists the dominant species (adapted from Fairbarns 1986).

Shrub Layer

Artemisia tridentata big sagebrush
Amelanchier alnifolia saskatoon
Prunus virginiana chokecherry

Herb—Dwarf Shrub Layer

Balsamorhiza sagittata balsamroot
Agropyron dasystachyum northern wheat grass
Anemone multifida cut – leaved anemone
Arabis holboellii reflexed rock cress
Arctostaphylos uva-ursi common bearberry
Campanula rotundifolia harebell



Hispid paintbrush (*Castilleja hispida*)

<i>Castilleja hispida</i>	hispid paint brush
<i>Eriogonum umbellatum</i>	subalpine umbrella plant
<i>Festuca idahoensis</i>	Idaho fescue
<i>Linum lewisii</i>	wild blue flax
<i>Lithospermum nudicale</i>	woolly gromwell
<i>Lupinus sericeus</i>	silky perennial lupine
<i>Monarda fistulosa</i>	wild bergamot
<i>Oxytropis cusickii</i>	alpine locoweed
<i>Penstemon confertus</i>	yellow beardtongue
<i>Polemonium pulcherrimum</i>	showy Jacob's-ladder
<i>Sedum lanceolatum</i>	lance-leaved stonecrop
<i>Sedum stenopetalum</i>	narrow-petaled
stonecrop	
<i>Selaginella densa</i>	prairie selaginella
<i>Senecio canus</i>	prairie groundsel
<i>Viola adunca</i>	early blue violet

Paper Birch/Water Birch/Common Bearberry Open Woodlands

Tree Layer

Betula papyrifera paper birch
Picea glauca white spruce
Populus tremuloides trembling aspen
Populus balsamifera balsam poplar

Tall Shrub Layer

Betula occidentalis water birch
Betula papyrifera paper birch
Picea glauca white spruce
Betula pumila dwarf birch
Populus tremuloides trembling aspen

Shrub Layer

Juniperus communis ground juniper
Potentilla fruticosa shrubby cinquefoil
Rosa acicularis prickly rose
Populus tremuloides trembling aspen

Herb – Dwarf Shrub Layer

Arctostaphylos uva-ursi common bearberry
Anemone multifida cut – leaved anemone
Androsace chamaejasme sweet-flowered androsace



Hikers in Alberta's rare Big Sagebrush shrubland

<i>Aster conspicuus</i>	showy aster
<i>Aster</i> sp.	aster species
<i>Braya</i> sp.	braya species
<i>Bromus pumpeianus</i>	brome
<i>Calamagrostis montanensis</i>	plains reed grass
<i>Campanula rotundifolia</i>	harebell
<i>Carex aurea</i>	golden sedge
<i>Carex acuticula</i>	Beautiful sedge
<i>Carex serotina</i>	Rush – like sedge
<i>Cirsium hookerianum</i>	white thistle
<i>Habenaria viridis</i>	bracted bog orchid
<i>Cypripedium calceolus</i>	yellow lady's – slipper
<i>Danthonia intermedia</i>	intermediate oat grass
<i>Draba</i> sp.	whitlow-grass species
<i>Elymus innotatus</i>	hairy wild rye
<i>Erigeron carpsitoides</i>	tufted fleabane
<i>Erigeron</i> sp.	fleabane species
<i>Fragaria virginiana</i>	wild strawberry
<i>Gaillardia aristata</i>	gaillardia
<i>Galium boreale</i>	northern bedstraw
<i>Gentiana</i> sp.	gentian species
<i>Hedysarum alpinum</i>	alpine hedysarum
<i>Hedysarum boreale</i>	northern hedysarum
<i>Juniperus horizontalis</i>	creeping juniper
<i>Koeleria macrantha</i>	June grass
<i>Lilium philadelphicum</i>	wood lily
<i>Linum lewisii</i>	wild blue flax
<i>Oryzopsis asperifolia</i>	white-grained mountain rice grass
<i>Oxytropis splendens</i>	showy locoweed
<i>Rhynanthus minor</i>	yellow rattle
<i>Senecio pauperculus</i>	balsam grousel
<i>Sisyrinchium montanum</i>	blue eyed grass
<i>Solidago spathulata</i>	mountain goldenrod
<i>Tanacetum officinale</i>	common dandelion
<i>Viola adunca</i>	early blue violet

<i>Zigadentus elegans</i>	white camas
<i>Thuidium abietinum</i>	fern moss

Alberta's rare plant communities are not always on steep slopes and not only in the mountains. In the next issue of *Iris*, we'll look at some prairie types.

If you would like a copy of the ANHIC Preliminary Plant Community Tracking List, call Lorna Allen at (780) 427-6621, or write to her at Alberta Environment, 2nd Floor, 9820-106 St. Edmonton, Alberta. T5K 2J6.

References cited

- Fairbairns, M. 1986 *Conservation Values and Management Concerns in the Candidate South Castle Natural Area*. Alberta Forestry, Lands and Wildlife, Edmonton, Alberta. 83 pp. + maps.
- Willoughby, M., M.J. Alexander & K. M. Sundquist. 1998. *Range Plant Community Types and Carrying Capacity for the Montane Subregion, Third approximation*. Environmental Protection, Lands and Forest Services, Edmonton, Alberta. 156 pp. + appendices.

Your input is needed!

The Whitehorse Wildland Park Draft Management Plan has been developed by Alberta Environment in consultation with the Whitehorse Wildland Park Advisory Group. The Park Management Plan will provide direction on the use and management of the Whitehorse Wildland Park.

The public is invited to review and comment on the draft management plan until November 30, 1999. A copy of the plan can be obtained from Alberta Environment offices in Edson and Hinton as well as the Alberta Environment Information Centre in Edmonton.

An open house will be held Monday, November 15th at the John Janzen Nature Centre from 4 to 9 pm. We desperately need hikers/naturalists to provide comments that reinforce the importance of low-impact uses of this area, which includes the Cardinal Divide.



In memoriam

Karin Geringswald, 1942–1999

Karin Geringswald passed away at the age of 56 on September 28th, 1999 after a lengthy battle with cancer. She will be sadly missed by many members of the Alberta Native Plant Council who knew her for her vast knowledge of botany, her affiliation and volunteerism with the Calgary Field Naturalists' Society and ANPC Study Groups, and for her love of the outdoors, of birding and of natural history in general.

At her memorial service on October 4th, many members of CFNS and ANPC were present, testament to Karin's lasting legacy with naturalist groups in the city. She devoted more time to those groups in the past few years than most of us can aspire to over a lifetime. Karin was a stalwart volunteer with the Calgary Botany Study Group as project leader, field trip coordinator, author and reviewer, but was also a faithful and regular participant for several

years in what we affectionately called the University of Calgary "herbarium shuffle".

Each winter month, she assisted with the sorting and transfer of thousands of plant specimens to new cabinets, plus several other herbarium tasks. Karin worked steadily and tenaciously and, when she finished one job, would immediately ask what needed to be done next. She never faltered, even when very ill, seldom took breaks, and exuded a quiet efficiency alongside her ready smile. It was a privilege to know and work with Karin. Her endurance and courage in the face of adversity, and her seemingly endless energy were an inspiration to all.

Donations can be made at Karin's bequest to the Calgary Field Naturalists' Society, P.O. Box 981, Calgary, Alberta T2P 2K4.

New seed source list available

The 1999 ANPC Native Seed Source List is here! You can download a copy from the ANPC web site

<www.anpc.ab.ca>, or by writing:

Alberta Native Plant Council
Garneau P.O. Box 52099
Edmonton, AB T6G 2T5

Book Review

Wildflower Gardens: 60 spectacular plants and how to grow them in your garden

edited by C. Colston Burrell

Brooklyn Botanic Garden, Inc.

111 pages

US\$12.95

reviewed by Christine Pitchford

For anyone hoping to create a piece of heaven in his or her own backyard, the title of this book promises all the information necessary. Unfortunately for western Canadian gardeners, much of the information does not apply to our region.

Those who are familiar with ecology will also recognize the lack of ecological context and the incorrect use of certain terms. For example, wildflower and native are used interchangeably, although the two terms are distinctly different.

Although a flower may grow in the wild, it is not necessarily native to that given area. Expert opinions differ as to what exactly constitutes native, but suffice it to say that a species must grow naturally under the same biotic and abiotic conditions. Estimates of how far exactly a plant may be removed from such conditions before it is no longer considered native range from a few metres to hundreds of kilometres. Location of the seed source is important not only because the seed may not grow, but also because bringing seed from another region is often how problem species are introduced.

That this book was published in New York implies that there is an eastern American emphasis. In fact, of the 60 species, only two are listed in Moss' *Flora of Alberta*—marsh marigold (*Caltha palustris*) and false Solomon's seal (*Smilacina racemosa*);

Budd's *Flora* lists Culver's root (*Veronicastrum virginicum*) as rare in western Canada. What little detail there is on these three species does not justify the purchase of this book, if it is only to be used for native gardening in Alberta, although it should be remembered that many of the species described can in fact be grown quite successfully in Alberta. The information is a very basic introduction to plant ecology, but provides little to no information on any biotic or abiotic factors affecting plant growth. The lack of ecological context and the eastern emphasis

of this book may result in frustration for gardeners who do not appreciate how much influence local biotic and abiotic factors have on plant growth. Despite the claim that the book contains "the best mail-order sources of wildflower seeds and plants", there is not a single Canadian supplier mentioned.

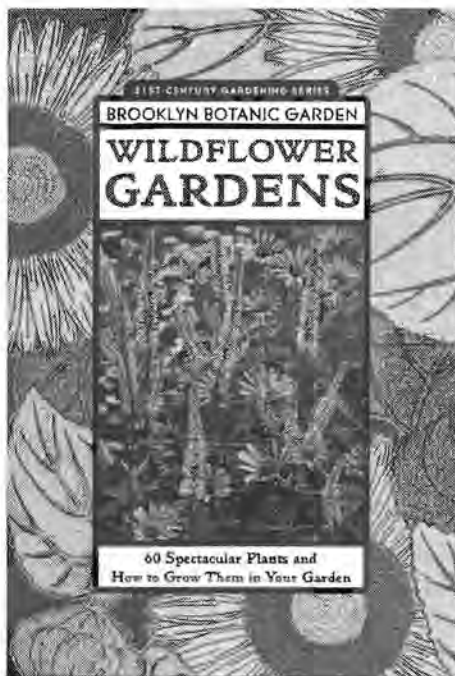
Beyond the obvious shortcomings, this book does have merit. Each species is listed by common and Latin name, with informa-

tion on native range, habitat, gardening suggestions, companion species, cultivars and related species, and the USDA hardiness rating (based on minimum temperature). Several garden styles are discussed, including beds, borders, shade, water, prairie and rock gardens. The photographs are clear, of good quality and are useful. The garden design information is mostly anecdotal although there are references for further information. This section of the book is interesting,

enjoyable and easy to read.

The time is ripe for a book of a similar calibre for native gardeners in western Canada. The practical knowledge provided justifies the purchase of this book as a reference tool for designing or maintaining a native garden, but it is not recommended as a source for native species information for western Canadian gardens.

Christine Pitchford is an M.Sc. Candidate in the Department of Renewable Resources at the University of Alberta. She studies the use of native species in reclamation in the Aspen Parkland.



Saskatchewan on the road to getting official native grass

The Native Plant Society of Saskatchewan, supported by the Prairie Conservation Action Plan have nominated needle-and-

thread (*Stipa comata*) for their provincial grass. It hasn't been made official yet, but when it is, they will be the first province with an official grass emblem.

Alberta may not be far behind. Cheryl Bradley has begun a similar process here with the support of the ANPC and the Prairie Conservation Forum. It is expected that it will take 2-3 years for this to become official. If you have any questions or comments, please contact Cheryl at (403) 328-1245, or by email at <cbradley@telusplanet.net>.

Purple Loosestrife River Survey & Eradication Project

Tanja Biener

From May to September 1999, the Alberta Native Plant Council surveyed Alberta's waterways in search of the noxious weed, purple loosestrife (*Lythrum salicaria*). Purple loosestrife is an invasive plant from Europe, that takes over wetland environments. It was introduced to North America in the 1800's and has spread across the continent. In 1993 only 35 sites were known to exist. Since that time, a total of 115 confirmed sites have been located throughout the province.

Alberta is one of two remaining provinces (along with Saskatchewan) that have the ability to stop the spread of purple loosestrife to new areas because of the relatively low amount of infestation. The Alberta Native Plant Council (ANPC), along with other partners of the Purple Loosestrife Management Committee (Ducks Unlimited, Alberta Agriculture, the Canadian Wildlife Service, Bow River Project, Trout Unlimited, among other), is concerned there may be large infestations of this noxious weed growing unchecked along major waterways.

The Purple Loosestrife River Survey & Eradication Project under the direction of the ANPC was organized to canoe selected rivers around the province, looking for new infestations. This was the first province-wide survey carried out for Alberta's rivers.

The ANPC hired one Project Coordinator, two Team Leaders and six Technicians to complete the following project objectives to 1) travel major river systems in Alberta to investigate, map and remove loosestrife infestations that may otherwise go unnoticed, and 2) deliver educational information via presentations, posters, brochures, pamphlets, media material and business cards.

Many people received informative brochures, pamphlets, posters and business cards to help raise awareness about the threat of purple loosestrife. Numerous informal presentations were given to support the take home message of "Save our Wetlands".

In central Alberta, the North Team surveyed Mill Creek, in Edmonton, and



Jennifer Waughtal, Peter Golden and Aliah Adams get ready to launch into the South Saskatchewan River at Medicine Hat.

found a total of 28 new sites with purple loosestrife over 7 km of the creek. More than 110 plants occupied 27 of these sites and the other site alone had over 300 plants. Along the North Saskatchewan River, from the confluence of Wabamun Creek (south of Wabamun Lake) to the Saskatchewan border, the North Team discovered 27 new sites with a total of 45 plants.

In southern Alberta, a well-known site near Fort MacLeod appears to be giving rise to new plants downstream. The South Team discovered 3 new plants. Among these was a very mature and well-established plant. All plants were found along the Oldman River; two east of Fort MacLeod and one near the Lethbridge weir.

The success of this project depended on the generous funding and support of several organization. The 1999 ANPC – Purple Loosestrife River Survey & Eradication Project would like to thank: Environment Canada: EcoAction 2000, Ducks Unlimited Canada, Alberta

Agriculture, the Canadian Wildlife Service, the Bow River Project, Alberta Agricultural Fieldmen Association and Totem Outdoor Outfitters for making our project a success.

A note of apology

When I did up the Membership Renewal Notice for 1999–2000, I didn't notice that I had grabbed old letterhead with an incorrect mailing address at the top. I apologize to all members who got their renewal returned because it was sent to an old address. I won't let it happen again!

Lorna Allen, Secretary

News and notes

New Books

Wildflowers of Alberta

Kathleen Wilkinson. 1999
University of Alberta Press/Lone Pine
Publishers
ISBN 0-88864-298-9, softcover
Price: \$26.95

Wildflowers across the prairies, 3rd edition

F.R. Vance, *et al.* 1999
Greystone Books, Vancouver
Price: \$24.95

The lichens of British Columbia. 2— Fruticose species.

Trevor Goward. 1999
B.C. Ministry of Forests, Research
Branch, Victoria
ISBN 0-7726-3961-2, softcover
Price: \$55

For the health of the land: previously unpublished essays and other writings

Aldo Leopold, edited by J.B. Callicott and
E.T. Freyfogle. 1999
Island Press, Box 7, Dept. 2NET, Covello,
Calif., USA 95428
ISBN 1-55963-763-3, hardcover
Price: US\$ 22.95
For information call 800-828-1302 or visit
their website <www.islandpress.com>

Terrestrial ecoregions of North America: A conservation assessment.

T.H. Ricketts *et al.* 1999
Island Press, Box 7, Dept. 2NET, Covello,
Calif., USA 95428
ISBN 1-55963-722-6, paperback
Price: US\$ 75.00
For information call 800-828-1302 or visit
their website <www.islandpress.com>

Meetings

Alberta Horticultural Congress

November 11–13, 1999, Edmonton
A major conference of the horticultural
trades in Alberta. Call (780) 431-1451 for
more information.

Alberta Native Plant Producers Association

Nov. 12, 1999, Edmonton
The inaugural meeting will be held in
association with the Alberta Horticultural
Congress, above.

Native Plant Summit V: Biodiversity

November 16 & 17, 1999, Bismarck,
North Dakota, USA.
For more information visit the Native
Plant Summit website
<www.nativeplantsummit.org>

The Range: Progress and Potential, Western Range Science Seminar

January 23–25, 2000, Lethbridge, AB
The seminar, which features some of
North America's most influential speakers
on range issues, has been designed for the
beef industry and those who are inter-
ested in rangeland use.

To register, or for more information,
contact Brenda Chmielewski, email:
<chmiele@agric.gov.ab.ca>

Monitoring for Ecosystem Health

April 3–5, 2000, Regina.
First Announcement & Call for Papers
Conference organizers invite papers that
present state-of-the-art approaches to
monitoring ecosystem health. Abstracts
will be published in the Conference
Program Guide. For information visit
their website at <www.serm.gov.sk.ca>
or email:
<monitoring.erm@govmail.gov.sk.ca>

Wellness through the use of horticulture

March 29–31, 2000
Karsten Discovery Centre in the Calgary
Zoo, Calgary
For more information call (403) 275-
4540 or 232-9362.

Learning from the past, looking to the future:

4th International Conference on Science
and the Management of Protected Areas
May 14–19, 2000
For more information visit the confer-
ence website: <[landscape.acadiau.ca/
sampaa/firstannouncement.htm](http://landscape.acadiau.ca/sampaa/firstannouncement.htm)>

EcoSummit 2000 : integrating the sciences

June 18–22, 2000,
Halifax
For more information
visit their website <[www.elsevier.com/
locate/ecosummit](http://www.elsevier.com/locate/ecosummit)>



If you have an announcement, article or
other item of interest to the ANPC
membership, you are invited to submit
it to the editor. Items concerning native
plants will be given the highest priority.

The editor reserves the right to edit
submissions, but will review changes
with the authors whenever possible.
Disputes will be resolved in favour of
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