

IRIS

Newsletter of the
Alberta Native Plant Council,
Garneau P.O. # 52099
Edmonton, Alberta T6G 2T5

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Cardinal Divide Natural Area: Revegetation Begins!

by Elisabeth Beaubien, October 1995

We are delighted that this natural area was finally legislated by provincial Order in Council this August! Now we just need the Forest Land Use Zone regulations to be established by Order in Council, as recommended by the approved Coal Branch Management Access Plan. Then we can adequately sign this beautiful and fragile alpine landscape, to protect it from further damage by motorized vehicles.

On Saturday/Sunday of the labour day weekend, seven volunteers enjoyed spectacular blue skies and sun as they worked hard atop the ridge. These volunteers came from the Alberta Native Plant Council and the Alpine Club of Canada Edmonton Section, co-stewards for this natural area. Our advisor was alpine reclamation expert David Walker, who brought equipment and young seedlings of alpine plants. Others included Birgit Friedenstab, Patsy Cotterill, Jim Lange, Alison Dinwoodie, and John Farley.

Before we started, we had a lengthy debate about the provenance of plants that we should use in revegetation. It was finally decided to plant only species that occurred at the Divide, using material that originated no farther away than Whitehorse Creek (about 10 km north). Of the plants that David had brought, we were therefore limited to planting Bladder Locoweed (*Oxytropis podocarpa*) and White Mountain Avens (*Dryas integrifolia*) that Lorna Allen and I had collected as seeds August 4, 1994 on the east ridge. As well, David had seedlings of the Cushion Umbrella plant (*Eriogonum androsaceum*) from Mountain Park, and Alpine sweet vetch (*Hedysarum alpinum*),

grown from seed collected along the road from Whitehorse Creek to the Divide. These plants had been grown at no cost to the stewards by K & C Silviculture Ltd.: a big thanks to Bobbie Hersley!

We also took some steps to discourage vehicles from leaving the main road. Rocks were gathered and arranged as barriers across the eroded access points where vehicles had driven onto the tundra. Signs were erected informing the public that the natural area stewards were working on reclamation of the area, and asking visitors to tread lightly. One path onto the west ridge was selected as the future walking trail and marked by lining the edges with rocks. We then concentrated our revegetation efforts on the more-eroded areas south of this path. A muddy access road was raked to roughen the packed surface, spread with scattered seed collected from the nearby tundra (white mountain avens, alpine blue grass, bog birch, hedsarum, goldenrod, etc.), then packed by walking on it. A long gravelly expanse was drilled with holes using a power auger and hand tools. Then a small seedling with a 10-cm root and soil cone ("veggie wieners" I called them) was placed in each hole.

ANPC 1996 Workshop Getting to Know Alberta's Plants

March 2, 1996
University of Calgary

See attached information and
registration form

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Questions or comments regarding the newsletter, please write to the Editor, ANPC,
Garneau P.O. 52099, Edmonton T6G 2T5

Cardinal Divide cont'd from pg. 1

When we became too exhausted from planting, we took a break and talked to curious visitors or collected some wild seeds from the open tundra for next year's planting.

It was a wonderful weekend. We spoke to at least 100 people, many who had driven up just for the view. Many of those who did not have all terrain vehicles expressed their pleasure at the new regulations and signage, and commended our efforts. Those who arrived with quads or motorized bikes were interested to learn that the area was now an official "Natural Area" and politely complied with our requests not to drive the ridge. One couple on a quad commented "If we had known there were no quads allowed, we would have brought our horses!" (which otherwise would have been spooked by the machines).

There was even a wedding at 3:00 p.m. Sunday, with the bridal party arriving in a helicopter! They held the ceremony, with more than 50 guests, in a sunny hollow on the east side of the road. The groom's family (Gibbons) have a summer home in Cadomin and regularly hike the Divide. This ridge was their mother's favourite place and her ashes had been scattered there some years prior.

The stewards have lots of ideas for next year. We need to label, clean and get help to germinate the seeds we collected this year. We should spend one weekend removing evidence of past camping: (rubbish and fire rings), and taking photos from selected angles for ongoing monitoring. It would be useful to again back pack into the Cardinal River headwaters, setting up photo stations to monitor the impact from vehicles. We'll have another reclamation weekend in late August 1996, hopefully hiring local high school students to help with the planting. Area signage and plans to block vehicle access must be discussed. We must also establish a reclamation policy for this natural area, and plot out what species to plant where. We hope you can help us in some way!

For more information on the activities in 1996, contact Elisabeth Beaubien at 438-1462, Allison Dinwoodie at 437-7183 (Edmonton), or David Walker at 278-4775 (Calgary).

Conserving Alberta's Prairies

What is being done?

Within the last century more than 80% of Alberta's native prairie landscape has been transformed by agriculture, industry and urbanization.

Sine 1989 numerous organizations in Alberta have been working together to implement the World Wildlife Fund's: **Prairie conservation Action Plan 1989-1994**. The Action Plan serves to ensure the survival and conservation of wildlife habitat in the Canadian prairies. Alberta's Prairie Conservation Forum, a multi-stakeholder group which includes the Alberta Native Plant council, is now in the process of finalizing a new Action Plan for the years 1996-2000.

How Can You Get Involved?

To obtain a copy of, and comment on the draft

Alberta Prairie Conservation Action Plan: 1996-2000, please contact:

Ian Dyson, Prairie Conservation Forum

c/o Bag 3014, YPM Place

530-8th Street South

Lethbridge, Alberta

T1J 4C7

Fax (403) 381-5723

or call toll-free 310-0000 and ask for 381-5430

The deadline for comments is January 31, 1996.

Prairie Restoration Manual Unveiled

A first for Canada, a new book on restoring our native prairie heritage was launched December 11. **Restoring Canada's Native Prairies - A Practical Manual** is a unique book that will help people bring back a fast disappearing part of our landscape. Distributed locally by the Alberta Native Plant council, it was produced as a public service by Prairie Habitats of Argyle, Manitoba, with funding from the ANPC, plus extensive input from their researchers around Alberta and staff of Alberta Agriculture, Food and Rural Development - Public Land Management Branch and the Canadian Wildlife Service in Edmonton. This book covers the 5 Canadian provinces with native prairies; British Columbia, Alberta, Saskatchewan, Manitoba and Ontario. All funds raised by the sale of the book in this province will go to prairie conservation efforts in Alberta.

Chapters on planning a restoration, acquiring, processing and propagating native seeds, site preparation, seeding and monitoring are designed to give practical methods for successful restorations. Special sections deal with backyard, schoolyard and roadside prairie restoration. The book brings together for the first time a vast array of information on Canadian native seed sources, prairie information contacts, native prairie sites to visit in each province, restoration equipment sources, a photographic guide to native seedlings, plus an extensive annotated bibliography of prairie literature.

The book provides an easy to read reference for anyone thinking of restoring a native prairie from homeowners, gardeners, teachers, students, farmers and ranchers to oil industry reclamation staff, landscapers, park planners, grounds maintenance personnel, biologists and engineers.

To obtain a copy, send \$20.00 (includes shipping and handling) to:

Alberta Native Plant Council

Gameau P.O. 52099

Edmonton, Alberta

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Botanist combs West for rarest of rare plants

by Lana Michelin *Red Deer Advocate*

Combing the West Country for a tiny flowering plant last sighted in 1953 "was pretty much like looking for a needle in a hay stack", admits botanist Darrell Smith.

But just as the afternoon was waning and Smith was about to be flown out of the bush 29 km northwest of Nordegg — there it was.

The very rare and largely mysterious wood anemone was found "in the last spot, in the last moment of a last ditch effort."

Smith thought "Holy cow! This is pretty neat stuff." The crocus-like flower is about to be wiped off the Flora of North America guide, as botanists were skeptical it still existed on the eastern slopes where it was recorded to grow more than 40 years ago.

Unfortunately, the lush 150-year-old timber stand the wood anemone grows in is "Probably drooled over" by most loggers, said Smith, who believes it could be the only spot in Alberta where the plant thrives.

The find, earlier this year, was a definite coup for Smith. The Alberta Forestry worker is attempting to locate 63 of the rarest plants ever recorded in the Rocky-Clearwater Forest from specimens preserved at universities. The plants will be recorded in a national database.

So far, he's tracked other unusual species, including the slender leaved sundew, a plant that "eats" insects through its sticky leaves. It was found near a wetland when Smith was examining a grazing lease.

A fleabane with purplish flowers, more native to the Yukon and Montana, was also spotted on Ram Mountain. And Smith is asking amateur botanists to help find more plants.

The idea behind the federal-provincial Natural Heritage Information database is to learn more about each species and to flag areas where rare plants are found.

The scarcer a plant is, the more important it is to make sure some specimens survive logging, said Smith.

While some people may brush off the importance of a small flower in the big scheme of things, the botanist believes that every link in the inter-dependent ecological chain is significant.

"From my point of view, everything's got its place and there's a reason for everything" said Smith. "If you start taking things out of the system, at which point does it all fall apart?"

Smith said botanists know little about a whole ream of species, yet most medicines originated from plants. Even aspirin was first made from the willow tree.

With scientific consternation over the destruction of Amazon rainforests, Smith wants to work with industry to prevent little-known plants from disappearing from the eastern slopes before they are even properly studied.

"We have to determine how many of these plants we have — if there's only one population, maybe we should leave that stand alone, because if we log it, we lose it, and who knows if it'll come back in 100 years?"

Smith said Sunpine Forest Products workers have, so far, been very co-operative about looking for rare plants, and possibly finding different ways of logging more sensitive areas.

"This positive attitude has been encouraging," he said, since the government's preoccupation with budget balancing appears to favour the interests of money-making industries."

"What can a small plant mean to the Treasury board of Alberta?" muses Smith. "But a bunch of us think it's really important".

see *Botanical Tidbits*, page 9 for more rare plant sitings

Proposal to protect wildlife worries cattle producers

by Barbara Duckworth *Western Producer*, July, 1995

Alberta's environment minister says he shares cattle producers' concerns that a new national endangered species act is moving too quickly.

The act has many western ranchers concerned that its jurisdiction might infringe on traditional rights to graze animals on crown land and to own property.

Alberta environment minister Ty Lund says the provinces can manage wildlife habitats and preserve endangered species better than Ottawa.

Environment Canada officials said a national law is necessary because endangered species protection is inconsistent from province to province.

...Cattle producers don't want an American-style endangered species act where land is expropriated to preserve a species. Cattle producers...attended a forum in Edmonton this spring and concluded there should be an inventory of wildlife so Canadians know what they are protecting.

However, Steve Curtis of Environment Canada said a census would take too long and may never be complete. He said a detailed inventory is not necessary. Ottawa is attempting to be open about this legislation and is trying to avoid the pitfalls of the American act: the intention of the act is to address problems of the future, he said.

Linda Maltby of Environment Canada said local residents will be part of the planning and management teams to preserve an endangered or threatened species.

"There is a recognition that these people have been good stewards of the land. Obviously some of the species are there because of the good efforts of the farmers."

Species on Ottawa's list for preservation include the burrowing owl...and the Western Blue Flag (*Iris missouriensis*).

Possible outlier of a rare plant — *Iris missouriensis* Nutt. Western Blue Flag

by Don Stiles, on behalf of Ann Brebner and Beryl Hallworth.

Iris missouriensis is a beautiful but rare plant which the Alberta Native Plant Council (ANPC) has taken as their symbol. On June 17, 1993 Ann Brebner found an *Iris* in bloom in a grove consisting mainly of poplar on the Higher Education Reserve (the area between the University of Calgary, the subdivision of University Heights and Shaganappi Trail). She would not have seen it if her dog had not run into the trees and sat beside it. Ann took a photograph which turned out to be a good quality colour picture of the plant. Subsequently, a photograph of the fruit was obtained on August 6, 1993. The flowering noted in 1993 was in the second of the two wet summers of 1992 and 1993. The plant did not bloom 1994 or 1995 which were drier years).

Question 1 - Is this plant really *Iris missouriensis*?

Support for the identification of the plant as *Iris missouriensis* is as follows:

1. Ann Brebner and Beryl Hallworth compared in detail Ann's photograph with a coloured photograph of *Iris missouriensis* in the Peterson Series book - A Field Guide to Rocky Mountain Wildflowers; Craighead, J.J., Craighead, F.C., and Davis, R.J.. The flower in Ann's photograph is very similar in shape and colour to the photograph in the Peterson book.

2. Bonnie Smith, who works at the herbarium and the University greenhouse of the Biological Sciences Department of the University of Calgary, has studied the Status Report on *Iris missouriensis* and the photographs by Ann Brebner. She thinks it is *Iris missouriensis*. Bonnie is very interested in rare plants, and has written several Status Reports on rare plants for the Alberta Native Plant Council.

3. Bonnie Smith showed the photographs to Ken Girard, who is in charge of the University Greenhouse, and is a specialist in Irises. Ken confirmed it was not a garden

variety of *Iris*. (This plant had narrow leaves and a different flower shape when compared to garden Irises.)

4. Cliff Wallis, a biological consultant, has done a detailed account (Status Report) of *Iris missouriensis* for the Alberta Government Natural Areas Program. He notes there are already two other outlying sites in Alberta (not shown on the map) one at Picture Butte, and one at Frank Lake; and several in British Columbia beyond the main distribution of the plant in Montana and extreme southern Alberta. However, most or all of these sightings have probably been introduced by man. The site at Picture Butte has been eliminated, and the population at Frank Lake was growing on a roadside with garden irises as recently as 1994 (c. Wallis - pers. comm.). For the B.C. sightings the Status Report¹ states "Dr. Robert Ogilvie and Dr. Chris Brayshaw (Pers. Comm., 1989) of the Royal British Columbia Museum in Victoria consider all British Colombia collections to be human introductions."

5. Beryl Hallworth noted that the plant was located in fescue grassland in a native tree grove and is therefore very unlikely to be a garden escapee.

The above five points indicate to us that the plant photographed by Ann Brebner is indeed *Iris missouriensis*. However, that brings us to question 2 below.

Question 2 - Is this plant really a native plant on the Higher Education Reserve, or was it placed there by man's efforts?

The answer to this is more ambiguous. Point 5. above by Beryl Hallworth suggests that the plant does occur in a native habitat and was unlikely to be planted there. However, there were some early homesteaders and squatters on the Higher Education Reserve. Could they have planted *Iris missouriensis* in their gardens and later thrown out the plant?

This leaves the answer to question 2 uncertain. "However, even if it is an introduction, that does not detract from the significant value of the Higher Education Reserve with its native fescue grassland, as there are few of these places that are still productive and protected." (Cliff Wallis quote).

NOTE — On May 19, 1995 all the lands on the Higher Education Reserve were transferred from the Province to the University of Calgary so responsibility for the presence of *Iris missouriensis* now rests with them.

Please direct any questions on this article to Don Stiles, 20 Lake Wapita Rise SE, Calgary, AB, T2J 2M9, Phone 271-4689.

¹ Wallis, C. and C. Bradley. 1990. Status Report on the Western Blue Flag, *Iris missouriensis* Nutt. in Canada. Committee on the Status of Endangered Wildlife in Canada. 29 pp.

Research on native seed varieties important to reclamation projects

by Barbara Grinder, Western Producer, October 12, 1995

For most of its long history, agriculture has pursued new or imported plant species that will yield bigger harvests than native varieties. But recently, attention has shifted toward plants put here by Mother Nature.

"I think the interest in native plants is just beginning," said Jay Woosaree, senior technician at the Alberta Environmental Centre in Vegreville. "When we first started our research on native plants, people weren't even aware of what we were trying to do. Now we no longer have to sell the concept."

Woosaree, who feels that Alberta is ahead of other western provinces in native plant research, says a lot of credit for the advances belongs to Parks Canada. "When they put more emphasis on conservation and decided to use native grasses to reclaim disturbed lands in the parks, we started working on developing the seeds they needed."

Derek Tilson, warden in Waterton Lakes National Park in southwestern Alberta, agrees his park is doing good work in native plant reclamation, but feels it could be doing more.

"We've had very little funding for scientific work on native seed development and use, but we've been successful in doing what we can and then letting nature take its course," he said.

Grass goes to new heights—Lately the number of available varieties of native grass seed has been increasing. Woosaree said the AEC has eight lines of slender wheatgrass, including two developed just this year —AEC Mountaineer, adapted to elevations up to 2,300 metres and AEC Glacier, a perennial bunch grass for even higher locations, where moisture is severely limited.

The Alberta Environmental Centre is also working on developing native varieties of legumes and forbs, for reclamation work and ranching. A grass/legume mixture has been developed for grazing and reclamation use over the last three years, and it should soon be available.

In its highway reclamation work, Waterton Park uses a procedure common to many reclamation projects. Topsoil is striped off the sites which will be disturbed, leaving plants and roots. It is then stockpiled for reused when the work is completed. Some of the original vegetation is thus left in the soil to regrow on the site, in combination with purchased native seed.

"What we're doing is good, but we're nowhere near the work being done across the border in Glacier National Park", said Tilson, referring to the larger U.S. park immediately south of Waterton.

For both parks the emphasis on native seed use is more than just philosophical. Native plants help maintain the biodiversity of an area, keeping wildlife habitats intact. And native seed can often be the best material to use, environmentally and economically, especially for difficult growth regimes.

"On very dry lands, native species provide a low input, sustainable cover for grazing lands, as well as reclaimed sites," said Larry Frith, a southwestern Alberta rancher and a sales representative for Prairie Seeds, which markets AEC Mountaineer and AEC Glacier.

"Native species are slow to establish. Their germination is uneven, dormancy is a problem and they're expensive. But there are a lot of people who should be using them. Because they're naturally adapted to where they grow, they can dramatically reduce the need for water, pesticides, fertilizers and herbicides. If you're thinking in the long term,

they're inexpensive, because they'll keep growing."

Frith said he sees a growing market for his company's native seed lines, especially from resource industries who are under increasing pressure to reclaim land after they are through drilling for oil or mining.

Legislation requiring native seed use for resource reclamation projects is being considered in Alberta and British Columbia.

Environment Network News

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ANPC Newsletter

If you are interested in joining the executive and produce the newsletter for ANPC contact Dan MacIsaac 435-7332 W, 962-5462 H.

Alberta Native Legume Assists Reclamation

From *Alberta Naturalist*, volume 24, number 4.

Alberta Environmental Centre in Vegreville and Wild Rose Consulting Inc., Edmonton, Alberta have collaborated in the collection, evaluation and selection of native legume species for reclamation and restoration at high elevations during the past four years.

The need for adapted plant species for reclamation at high elevations is due to increased extraction of natural resources (coal mining, oil and gas, and forestry) and a heightened public awareness of the need to preserve our native species. Native legume species adapt well in the harsh environment and have the ability to increase the soil nitrogen, a particularly important factor in reclaiming disturbed sites. Use of these species protects and maintains the natural biodiversity at high elevations.

In 1990 and 1991, 14 indigenous legume species were collected at 41 sites in seven different foothills and mountain locations from Waterton to Grande Cache. Seeds were cleaned and sown in the greenhouse during the winter months. Plants were hardened off and transplanted into a nursery plot at the Centre. Survival, vigour, spread, growth habit, phenology, seed yield and germination data were collected and evaluated in the Alberta Environmental Centre over three years.

The most highly recommended species for use in reclamation and restoration of disturbances on the Eastern slopes was alpine milkvech, *Astragalus alpinus* L. This legume is widely distributed in the foothills and mountains, and in northern Alberta (it has a circumpolar distribution). It produces a large number of viable seeds, and once established, spreads quickly by rhizomes. Late yellow locoweed, *Oxytropis monticola* A., and showy locoweed, *Oxytropis splendens* Dougl. ex. Hook, also performed well in the evaluation. Late locoweed had high overall survival and was a prolific seed producer.

Arctic and other rhizobial strains are now being screened for their potential to improve survival and establishment of selected legumes on reclamation sites. Alpine milkvech seeds were released to Prairie Seeds Inc., and commercial production commenced this past spring. Funding was provided by the Reclamation Research Technical Advisory Committee and Canadian Parks Service. Future work is planned for evaluating legumes from other areas of Alberta, particularly grassland and parkland regions.

For more information contact: Ann Smreciu, Wild Rose Consulting Inc. (403) 461-5950

Going Natural in Landscaping

by Alberta Agriculture

Transplanting bedding plants isn't an unusual activity in Alberta. However, transplanting native plants grown as bedding plants is. ...Grade 8 students from Vernon Barford Junior High School in Edmonton did just that in their pilot project **Prairie Space** as part of an Environment Week celebration this year. They planted containers of pussytoes, golden rod, smooth aster, gaillardia, blazing star and three-flowered avens in a prairie space they seeded last fall.

Grasses from the fall 1994 and spring 1995 plantings are up and growing on the plot near Alberta Agriculture, food and Rural Development's headquarters building in south Edmonton, the J.G. O'Donoghue building...

"Some of the native plants, especially wild flowers, are more difficult to grow from seed, so we're transplanting the container plants started by one of the project sponsors Enviroscapes, a Lethbridge company specializing in native seeds", explains Heather Gerling, project co-ordinator and an Alberta Agriculture reclamation specialist.

The **Prairie spaces** pilot project is designed as a way to restore native prairie areas, or foster the science and art of restoring prairie.

Another project aspect is encouraging conservation and responsible use of remaining native prairie. Most of that native prairie is found on public lands. "Prairie Spaces is more than planting a plot and watching it grow. Students are studying fescue prairie and also have an opportunity for hands on stewardship," says Gerling.

The **Prairie Spaces** pilot project's goal is a provincial school program. Classroom material will likely be developed this winter. Gerling says she hopes schools and other groups will be able to start their own prairie space by 1996.

Project sponsors include Renaissance Energy, Pinnacle Resources, Enviroscapes, Eagle Lake Nurseries and Alberta Agriculture's public lands branch.

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Plants of the Western Boreal Forest and Aspen Parkland

by D. Johnson, L. Kershaw, A. MacKinnon and J. Pojar Lone Pine Publishing, Edmonton, 1995

Reviewed by Peter Achuff

Plants of the Western Boreal Forest and Aspen Parkland is the latest in a series of well done, popular guides to native plants which includes **Mosses, Lichens and Ferns of Northwest North America** (1988), **Plants of Northern British Columbia** (1992) and **Plants of Coastal British Columbia** (1994). The area covered is the vast boreal forest of western North America from northwestern Ontario (west of about 92° W) to western Alaska and from the prairie grasslands and the mountains of Alberta and British Columbia to the arctic treeline.

The geographic area overlaps somewhat with the previous guides and, consequently, there is some overlap in species covered. However, there are many species in this latest guide not covered by the others. As well, the species descriptions have been rewritten (usually improved) and much new information has been added to the notes on each species. Hence owners of previous guides will find much useful and new in this latest guide.

The Introduction contains an overview of the western boreal forest—its regional variation, physical environment and broad vegetation units, as well as a brief account of plants and people in the area since the arrival of humans in North America. The species covered are the most common and widespread in the area and include both vascular plants (trees, shrubs, wildflowers, graminoids, ferns and fern allies) and non-vasculars (mosses, liverworts and lichens). Each species account contains a brief description (with a minimum of technical terminology and a glossary for assistance) as well as information on geographic range and typical habitat, and notes on human use, natural history, name derivation and similar species, accompanied usually by a colour photo or two and a line drawing.

The descriptions are arranged first by life form (trees, shrubs, ferns, etc.) and then by family. Simplified keys are provided for some groups although many species are not in a key and will be located only by browsing.

As with any publication, there are a few annoying problems and editorial lapses:

- With the exception of the shrub key, the keys lack a page number for the species description and the descriptions are not arranged either alphabetically or in the order that they fall out in the keys. Thus one is continually obliged to refer to the index for a page number that could have been provided easily in the key.

- Is there a circumpolar tree? "All our boreal tree species are confined to North America... thus there are no circumpolar trees" (p. 22). Yet tamarack (*Larix laricina*) is noted as "circumpolar" (p. 29). (My understanding is that tamarack is restricted to North America from Newfoundland to western Alaska.)

- The cone scales of white spruce are correctly described as "smooth-edged" (p. 24) yet the line drawing shows a markedly toothed edge.

- The meaning of "subarctic" and its relation to "boreal" is unclear, especially in the Introduction.

- Including the family name with the species descriptions, especially for the Trees, Shrubs and Other Families sections, would be informative and help provide a bridge to other more technical manuals.

- Common names are generally indexed under the last word: for example, "common blue lettuce" is under "lettuce" but "perennial sow thistle" is under "sow thistle" and "squarrose peat moss" is under "peat moss."

However, these are small problems overall and the text is quite free of typos and the photos are of good quality generally. In summary, this guide is highly recommended. Users with a variety of interests and levels of plant knowledge will find it helpful and interesting. By filling a notable gap in the coverage of popular plant guides, it should attract the attention of many users.

Peter Achuff is a conservation biologist with Parks Canada currently in Waterton Lakes National Park. He has worked on the botany and plant ecology of western Canada for the past 25 years. (See page 9 for an amateur botanist's review of the same book.)

Forest research advisory councils provide direction

Out of the hundreds, even thousands, of possible forestry topics, how does the Canadian forest Service (CFS) decide where to focus its research efforts?

No, we do not simply pull a topic out of a hat. We are, in fact, well guided by priorities already established by a forest research advisory council (FRAC) in each province... The CFS is an active member of the FRACs in Alberta, Saskatchewan, and Manitoba. ... Each province's FRAC also includes representatives of the provincial government, industry, universities, and other agencies interested in forest research.

In addition, there are four regional technical advisory committees that offer expert guidance to the FRACs on specific subjects: Regional Insect and Disease Technical Advisory Committee, Fire Regional Technical Advisory committee, Regional Reforestation Technical Committee; and Regional Integrated Resource management Technical committee.

The technical advisory committee chairpersons provide the CFS... with updates on forest research in that province and recommend research directions. FRAC members then discuss which agency is best suited to carry out the research.

The Alberta priorities, for example, include research in forest management, environmental impacts, forest protection (insects, diseases and fire), and new product development. Alberta is unique in that it has some ability to allocate research dollars for the Forest Research Trust Fund.

... *An amateur naturalist and outdoorswoman*

Alison Dinwoodie reviews

Plants of the Western Boreal Forest . . .

At long last a field guide to fill the gap between the Rockies and the Prairies! It is surprising that, until now, there has been no readily available source of information for non-professionals on what is one of Canada's largest ecosystem regions, particularly as it is being rapidly altered before we really understand what is out there. This book continues the methodical format of its predecessors in the series. The photographs are good and are augmented by line drawings, which gives the best of both worlds. I particularly like the plain English keys and groups of leaf silhouettes for similar species, for example, the willows; one drawing is worth far more than 10 obscure latinized words! Also the juxtaposition of similar plants, fully illustrated, instead of mentioned in a footnote, makes identification much easier—I have hopes now of disentangling some of the asters at least! A real bonus is the inclusion of the common grasses, lichens and mosses. It is seldom that one finds them dealt with so comprehensively within the covers of one book.

If I have one criticism, it is that there is too much ethnobotanical and herbal information given in the Comments sections. Coming from a medical scientific background, I feel that this is an area where a little knowledge can be a dangerous thing. This interesting area would be better dealt with more fully in a separate book. It is one thing to comment on edibility of berries, or on-contact rashes, but quite another to talk about their use in treating, for example, gastric complaints. There are many other fascinating details given, but they need to be pruned. More information on the ecology and inter-relationships, for example, with insects, old-growth habitat, etc., would have been more useful.

There are inevitably a few inconsistencies: some keys are excellent, but other group keys or indices may be lacking, so that one resorts to the usual method of thumbing through the pages until one finds what one wants—but one usually does find it! And the reader will have to make some adjustments for different treatments. For example, I am used to thinking of the gooseberries and currants belonging in their own family, the Grossulariaceae, so it was a little disconcerting to find that the saxifrage family is shown as a major shrub family, containing the *Ribes* species. The highlighted emphasis on specific details is very useful, but could perhaps have been used more to bring out the more obvious differences between similar species, for example, leaf descriptions for *Antennaria microphylla*, **white woolly above and below**, and *A. neglecta*, **woolly to hairless, green above**. Apart from these minor quibbles, this long-awaited book will definitely become an indispensable companion to everyone's visits to local, and not so local, forests.

Alison Dinwoodie was a clinical biochemist at the University Hospital until her recent retirement. She has always been active in outdoor recreation pursuits, and from a previous casual interest in plant identification and general ecology, hopes to increase her knowledge now that she has more time.

Botanical Tidbits

by Joyce Gould

The summer of 1995 has been exciting botanically for us here at Natural Heritage Protection and Education. Populations of...rare vascular plants that were last seen in 1938... were rediscovered. We have also been finding new populations of other species thereby adding to our knowledge of their distribution. Small yellow monkeyflower (*Mimulus floribundus*) is known in Alberta from only a couple of locations in the SW corner of the province. The Crowsnest Pass population had not been seen since 1938. In July of this year, Ross Priddle of the University of Alberta, showed Lorna Allen and myself hundreds of plants from one locality in the Crowsnest. We don't know if this population is the same as that referenced for the specimen from 1938, but it does confirm that the species is still present at Crowsnest.

...In addition to rediscovering historical populations, staff have been finding additional localities for several species. These species include, among others, mountain gentian (*Gentiana calycosa*), large-flowered lungwort (*Mertensia longiflora*), linear-leaved scorpionweed (*Phacelia linearis*), all of which were located in southwest Alberta near Waterton. The slender-leaved sundew (*Drosera linearis*) was located in the Pinto Creek area. Information on all of our sightings is being housed in the Natural Heritage Information Centre at our office.

If you have sightings that you would like to share with us or if you would like a copy of the list of species for which we require additional information, please contact Joyce Gould or John Rintoul at (403) 427-5209 (email: jrintoul@env.gov.ab.ca).

Urban Natural Areas

Tom Campbell's Hill Natural Park

Tom Campbell's Hill in Calgary's inner city is the site of a 12.5 hectare natural park reclamation project that was officially opened in June 1995. The grassland reclamation project has been successful. This project included native sod transplanting, reseeding with a native grass and wildflower mixture, planting of native flower plugs and controlled burns. Efforts to reduce the infestations of Canada thistle were only partly successful in spite of the multi-faceted approach, including hand weeding, taken over three seasons. Foxes, great horned owls, and white-tailed deer can be seen in this natural park along with 110 species of fescue grassland plants.

As the area is classified as a regional park, it was necessary to include connecting and internal trails, viewpoints and perimeter fencing. A series of interpretive panels are situated at the main viewpoint. The park development has the distinction of being a joint project between the Bridgeland and Renfrew communities and the City of Calgary's Parks and Recreation Department. The collaboration resulted in the raising of significant cash, volunteer time and in kind donations for the project.

For more information on this project contact Paul Spencer - Tom Campbell's Hill Working committee Phone/FAX (403) 277-6686 (home), phone (403) 237-8035 (work).

Inglewood Wildlands

The Inglewood Wildlands, an 80 acre former oil refinery near the Inglewood Bird Sanctuary in Calgary, has been undergoing a remediation process for several years with the help of Petro Canada, the Rotary club and Community Volunteers. The objective is to regenerate this area to its natural state. The area will be open to the public in 1996, but at present is still under development. Limited public access has been negotiated for the first Sunday of every month. A system of volunteer "Keepers" has been established for this public access. Some wildlife has already been noted in the area. Skating on the slough and cross-country skiing around the perimeter track is permitted.

Contact Angela Lovegrove (403) 294-0682, messages (403) 267-3988.

Suburban Oasis

from Environment Views spring, 1995

George Millar figured he would 'never see another bird' when he traded the big trees of his old home in Edmonton for the barren landscape of a new subdivision.

But the birds flock to Millar's new backyard, which brims with wildflowers. He says his blue...flax plants draw "flocks and flocks" of juncos during the winter — the oil-rich seeds keep them going in cold weather.

Millar decided to go easy on grass and big on gravel, shrubs and flowers in his new yard. He says in summer he "listens to the insects buzz, rather than the drone of the lawn mower." He sees more butterflies every year...

Millar is a veteran teacher who works for the Friends of Environmental Education Society of Alberta. (FEESA)

Interest in native plants prompts new publication

from Farmer's Choice, July 28, 1995

The recent interest in re-establishing native range plants has prompted the release of a new publication designed for producers: **Seeded Native Range Plants**. It was written by Zoheir Abouguendia, rangeland specialist with the Grazing and Pasture Technology Program (GAPT) in Swift Current.

...Before presenting the agronomy of native range plants, the publication outlines the ecology of native species. Abouguendia believes an understanding of the ecology is necessary in order to take full advantage of these plants.

...At this time, large-scale use of native species is limited by seed cost, availability of quality seed, lack of northern cultivars for some species, and lack of adequate information on the agronomy of many species under Saskatchewan conditions ...

"A lot more work has been done on native range plants recently, but our knowledge is far from perfect. Still, we do know that native range plants can be produced and managed by producers successfully."

Seeded Native Range Plants will help producers further that success. Not only does it address the specifics of the agronomy, such as seeding rates and times, it describes each plant, its adaptations and uses, provides a list of native seed suppliers and identifies the kinds of rangelands and the common plants found on them.

"Although Seeded Native Range Plants is designed for producers, it will also be of use to companies involved in activities such as oil and gas exploration and production. These companies are required to revegetate any disturbed land and are encouraged to use native species. The involved farmers also want plants that are compatible with the existing vegetation, so this publication should be of help to all concerned," says Abouguendia. Seeded Native Range Plants is available at the Rural Service Centre in Swift Current, and the Publications Distribution Centre, Saskatchewan Agriculture and Food in Regina (306) 778-8284

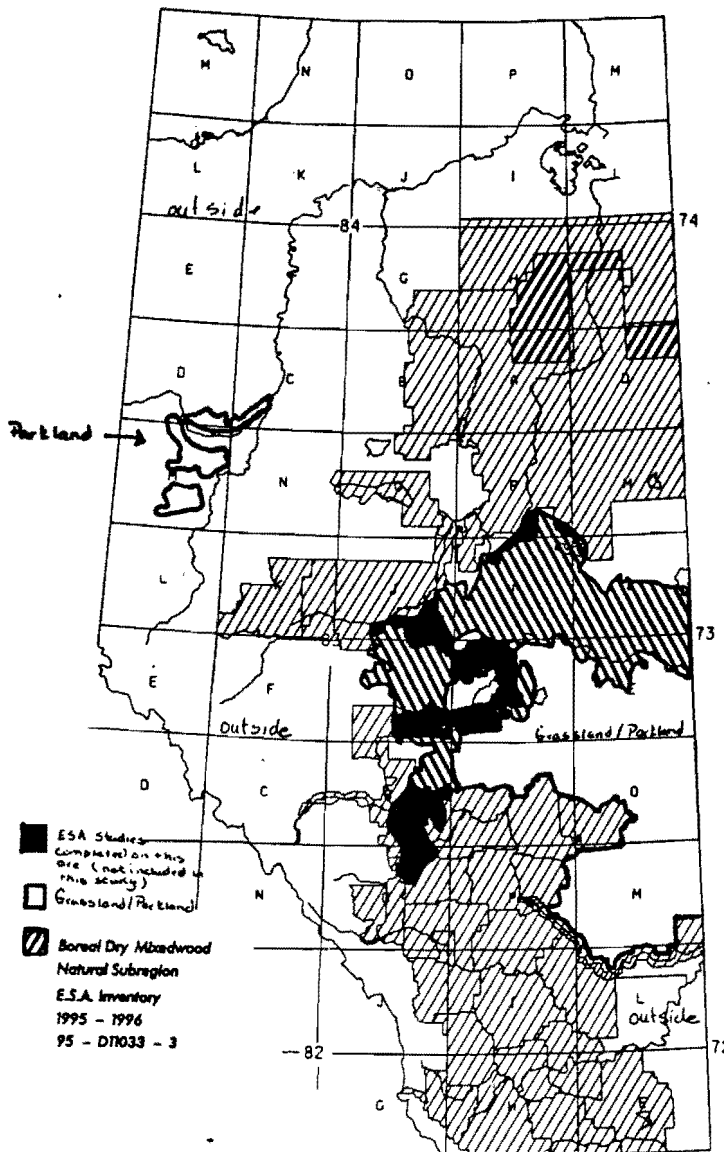
Geowest Environmental Consultants Ltd. is currently conducting an Environmentally Significant Areas (ESA) inventory for portions of the Grassland, Parkland and Boreal Dry Mixedwood Natural Regions and Natural Sub-Regions within Alberta. The inventory serves as an initial method for identifying features within each Natural Region or Natural Sub-Region, including critical wildlife habitat, rare and endangered flora and fauna, unique geological or landform features and remnant portions of formerly intact ecosystems that might require special management needs in the future. Our primary reference source, to date, has been limited to government documents, published material and interviews with

government officials. As such we would like to expand our data search to include any information or areas of potential environmental significance that might not otherwise be documented. The study area is defined to include only those areas which have not been previously assessed in other ESA reports. A study area map and subsequent list of counties, municipalities and improvement districts are included. For the purposes of the present report, we are restricting our search to include only those sites that are of regional or higher significance. If anyone is aware of any sites or have any recent information on existing sites that should be considered for this inventory please contact us at:

Geowest Environmental Consultants Ltd.
Attn: Veronica Chisholm
Suite 102, 4249A-97 Street
Edmonton, Alberta
T6E 5Y7
Tel. (403) 461-5000
FAX (403) 461-5036

List of Municipalities

- County of Grand Prairie No. 1
County of Ponoka No. 3
County of Beaver No. 9
County of Athabasca No. 12
County of Smoky Lake No. 13
County of St. Paul No. 19
County of Strathcona No. 20
County of Two Hills No 21.
County of Camrose No. 22
County of Vermillion River No. 24
County of Minburn No. 27
County of Lac Ste. Anne No. 28
County of Lamont No. 30
County of Parkland No. 31
Improvement District No. 18
Improvement District No 19
Improvement District No 21
Municipal District of Provost No. 52
Municipal District of Wainwright No. 61
Municipal District of Bonnyville No. 87
Municipal District of Westlock No. 92
Municipal District of Clearwater No. 99
Municipal District of Peace River No. 135
Municipal District of Fairview No. 136
Special Areas 2
Special Areas 3
Special Areas 4



Look Out Loosestrife ! — the Bow River Project

by Edie Stelkovic

The Alberta Council of Trout Unlimited Canada, in cooperation with the Bow Valley Vegetation Task Force and a variety of other concerned stakeholders, has implemented the Bow River Project. This project is designed to enhance the protection and conservation of riparian habitats in the Bow River sub-basin through increased awareness and multi-stakeholder participation. The goals of the program are to control non-native weeds that are known to invade riparian areas and to promote improved land-use management practices in riparian areas.

Riparian areas, lands adjacent to streams and rivers, are instrumental in filtering out sedimentation, nutrients and pollutants, and provide important habitat to a diverse array of plants, insects and wildlife. They are also very important to fish habitat. Past and present land use activities can lead to riparian degradation.

Although the Bow River Project concentrates on several invasive weed species, purple loosestrife and scentless chamomile appear to be the greatest threats. Purple loosestrife can invade native wetland and riparian areas to form a single-species plant community. It spreads mainly by seeds, a mature plant producing as many as 2.5 million seeds annually. Already a severe problem in Alberta, it has been documented at over 26 sites in the Bow sub-basin.

Scentless chamomile, long a problem on agricultural lands, has established itself in moderate numbers in the Bow sub-basin. It spreads by seeds, producing 2.5 million seeds per plant; it will act as a winter annual and become a mature flowering plant early in its second season. Scentless chamomile will establish itself in almost any situation, however it is generally found along the shorelines of fast-moving water. In contrast, purple loosestrife primarily invades backwaters and slow-moving water.

The first phase of the Bow River Project (1995) concentrated on:

- an inventory of purple loosestrife and scentless chamomile along the Bow from Canmore to Bassano;
- implementation of control and prevention of the two species, east of the City of Calgary to the Carseland Weir, utilizing volunteers and inmate work crews (Alberta Department of Justice);
- removal of purple loosestrife from urban and rural gardens, utilizing the plant exchange program implemented in cooperation with local greenhouses (Eagle Lake Nurseries Ltd., Greenview Nurseries Ltd., Golden Acre Garden Sentres Ltd., Sunnyside Greenhouses Ltd., Suntutropics Greenhouses);
- inventories and identification of adversely affected riparian sites in the Bow River sub-basin;
- a Riparian Management Workshop for land managers addressing land management near water courses and water quality and quantity;
- expanding existing partnerships and developing new partnerships with various stakeholders in the awareness and control components of the program.

The Bow River Project was launched as a pilot project and may be expanded to other parts of the South Saskatchewan basin and beyond. It provides an opportunity for a wide variety of stakeholders to work together on a common problem and focuses on education and increased community awareness.

For more information on this pilot and project direction in 1996 contact Tim Dietzler, MD of Rock View, ph (403) 230-91401 , FAX (403) 277-5977.



Current Literature

Biodiversity

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Ecology

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Reckless, Diane. Connecting Kids with Nature through Stewardship: The Mighty Acorns Program (Illinois). Dianne Reckless, Education Coordinator, The Nature Conservancy 79 W. Monroe, Suite 900, Chicago IL 60603 (312) 346-8166.

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N. Fairfax Drive, MS 304 Webb, Arlington, VA 22203, (703) 358-2504, Fax 358-2283.

Forests/Forestry

Patterson, Doug. Ecoforestry Institute Promotes Restoration-based Job Training. PO Box 5783, Stn. B. Victoria, British Columbia, V8R 6S8. (604) 598-2363, FAX (604) 598-2365, e-mail: dpatter@web.apc.org

International Journal of Ecoforestry-quarterly newsletter. \$30. PO Box 5885, Stn B Victoria, BC, VR 6S8. contact Doug Patterson, above, for more information.

Reclamation

Galatowitsch, Susam M. and Arnold D. van der Valk. Restoring Prairie Wetlands: An Ecological Approach. Ames, Iowa: Iowa State University Press. 256 pp. US 44. 95.

ed. Harper-Lore, Bonnie. Greener Roadsides quarterly newsletter. Washington D.C.: U.S. Department of Transportation, Federal Highway Administration Office of Environment. Publication No. FHWA-PD-94-016. phone (202) 366-1057, FAX (202) 366-3409.

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Turner, N. J. and A.F. Szczawinski. Common Poisonous Plants and Mushrooms of North America. 1995. Timber Press. 324 pp. \$25.00 U.S.

You Have to Be There... Upcoming Conferences etc.

January 12, 1996 **The Native Plant Society of Saskatchewan Annual Meeting**. Saskatoon Inn. Part of Crop Production Week. For more information, contact the Saskatchewan Pulse Crop Development Board at (306) 668-5556 or (306) 781-7475.

March 2, 1996 **Getting to Know Alberta's Plants**. ANPC Workshop and AGM.. University of Calgary. For more information see Registration form on last page of this newsletter.

June, 1996 **Canadian Botanical Association Annual General Meeting**, Charlottetown, Prince Edward Island.

July 19-21, 1996 **1st Annual North American Native Orchid Conference**, Pittsburgh, Pennsylvania. Details to follow.

Lethbridge Naturalists' Society Plant Study Group Meetings

February 28 **Rare Plants of Waterton Lakes National Park** with Peter Achuff

March 27 **Landscaping with Native Plants** with Vince Petherbridge

All Meetings are at 7:30 pm at the Helen Schuler coulee Center

For more information contact Adrien Corbiere at 320-0615

ANPC 1995 Executive

President: Dana Bush (Botanist, Consultant, Edmonton, 430-0457 H)

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Education & Information Committee:

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Rare Plants Committee:

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South - Jane Lancaster (Cochrane, 932-2269)

Reclamation / Horticulture Committee:

North - Ian Sturgess (St. Albert, 458-2169)
South - Ray Shaw (Grower, Vulcan, 485-6321 W, 485-6688 H)

Newsletter Editor: Carole Calenso-Fair (Horticulturist, 556-4761 W)

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\$ 15	Individual
\$ 25	Family
\$ 10	Student
\$ 10	Retired
\$ 50	Corporate
\$ 500	Lifetime

Memberships and letters to the editor are welcomed and should be sent to:

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

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