



# IRIS

Newsletter of the  
Alberta Native Plant Council,  
Box 4524, Station SE,  
Edmonton, Alberta T6E 5G4

Spring 1992

Issue 13

## Editor's Note

Another year has sped by, with the Fifth Annual ANPC Workshop being held February 29, 1992 in Lethbridge. It was an interesting and informative conference with about 150 attendees, and consisted of speakers, slide shows and panel discussions, not to mention the excellent hallway displays and luncheon. Topics ranged from landscaping and gardening with native plants, to key issues and challenges for controlling exotic plant species in native plant habitats. A panel session on some of Alberta's natural areas brought new perspectives to case studies such as the Waterton-Glacier ecosystem, active sand dune ecosystems, the Milk River Natural Area and riparian poplar conservation and management.

Many thanks go to workshop organizers Cheryl Bradley, John Bain and Stuart Rood, who did a tremendous job. Also thanks to all speakers, coordinators and volunteers. We had good attendance at the Annual General Meeting that followed (was that the stimulating conversation or the delicious pizza that kept coming ... and coming...!) and it was nice to see the addition of a new Director's position, and of a Calgary chapter to the Education and Information Committee (see Committee reports in this issue to find out more about what's happening in the ANPC).

We are delighted to report that the ANPC's membership is now at 142, and that Nellie Spicer of Mossleigh, Alberta has become our first life-time member. A motion was passed at a recent meeting of the executive to allocate revenues from life-time memberships toward an Endowment Fund. Thanks, Nellie!

Speaking of which, it's time to check up on membership dues. If you paid at the February 1992 Workshop, your membership will be good through 1992/93. Otherwise renew now!

On a personal note, the best news is the addition of Carole Calenso-Fair as Assistant Editor. Carole has taken on the task of design, layout and typing, and her efforts are shown by the new style of the newsletter and greater volume of material we can therefore get out to you, the members. Welcome aboard, Carole.

*Questions or comments regarding the newsletter, please write to the Editor, ANPC, Box 4524, Stn. SE, Edmonton T6E 5G4.*

*Joan Williams, Editor*

## ANPC NEWS - Alberta Native Plant Council Executive

Chairman: Elisabeth Beaubien, (Dept. of Botany, University of Alberta)

Vice-Chairman: Cliff Wallis (Consultant, Naturalist)

Secretary: Lorna Allen (Biologist, Natural and Protected Areas, Alberta Forestry, Lands and Wildlife)

Treasurer: Joyce Gould

Northern Director: Dr. Joan Snyder

Central Director: Mike McNaughton (Red Deer)

Southern Director: Kathleen Wilkinson (Biologist, Consultant, Calgary)

Director (Federation of Alberta Naturalists representative):  
Derek Johnson (Canadian Forestry Service)

We would like to welcome Mike McNaughton and Joyce Gould to their new positions on the executive, and thank Julie Hrapko for her long-standing service as former ANPC treasurer.

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# Committees

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## Reclamation & Horticulture

Kathy Wilkinson and Environmental Management Associates are conducting a literature review of reclamation in native grassland for the Reclamation Research Division of Alberta Environment. If you are currently working or have worked on native grassland reclamation after disturbances such as oil and gas activity, utility corridor construction, mining, recreation or have been involved in prairie restoration projects, and are willing to contribute information to this review, please call Kathy (278-3203, Calgary) as soon as possible. The first draft of this report was completed in April.

Everyone is welcome to join an informal group interested in reclamation projects using native plants. Meetings to discuss issues, techniques and projects are held in Calgary monthly. Call Ann Charlton (268-4732, Calgary) for more information.

Committee chairman, Dana Bush notes that lists of seed sources will be sent to nurseries and other organizations. The committee is still working on the issues of collection guidelines and "what is natural". Under consideration is a resource centre focusing on naturalization projects.

For further information, or if you would like to join the Reclamation and Horticulture Committee, please contact Dana Bush (282-3975, Calgary) or Kathy Wilkinson (278-3203, Calgary).

## Education & Information

The Education and Information Committee is pleased to announce two new chairmen for the 1992/93 season. Dan MacIsaac will head the Edmonton chapter, and Jim Posey will head the Calgary chapter.

Dan has reviewed the committee's past agenda and identified some potential projects for consideration in the near future. At the top of the list are:

1. Inventory of natural areas in the Edmonton region
2. Compilation of regional plant lists
3. Purple loosestrife eradication (pulling) trips.

He is also working on setting up seed collecting trips, and other outings for ANPC members, and the distribution of brochures on purple loosestrife to local organizations and clubs.

In the south, Jim has been organizing field trips, looking at topics for further research, and for distribution to rural newspapers and other organizations and groups. He would like to hear from volunteers interested in writing on issues such as bison grazing versus cattle grazing, picking problems, collection guidelines for native plants, and also on purple loosestrife.

If you would like to work on any of these projects or would just like to join the Education and Information Committee, please call Dan MacIsaac (962-5462, Spruce Grove) or Jim Posey (243-1921, Calgary).

## Conservation Action

Committee chairman Cliff Wallis is tackling numerous issues as usual, with the 1992 work plan focusing on extracting a commitment from the Alberta Government toward the Heritage Rivers Program, and endorsement of the Endangered Spaces campaign.

Cliff recently sent a letter on behalf of the ANPC regarding the proposed project to stabilize water levels at Buffalo Lake, which it is felt, will have negative consequences for native plant species and habitats. Elisabeth Beaubien also directed correspondence to Alberta Environment regarding native plant species

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and habitat concerns that might be affected by application for water withdrawals from the St. Mary, Belly and Waterton Rivers.

Other issues being worked on include continued concern regarding the Oldman River Dam decision, and concern regarding grazing by cattle in areas of the province where other land uses might be better served. News releases on the designation of CFB Suffield lands as a national wildlife area, and the Alberta Governments' pledge to conserve natural regions, are included in this issue, and provide a bright note to all concerned.

Several projects under way have been outlined in the minutes of the Annual General Meeting sent out to ANPC members earlier this year.

If you would like to participate in Conservation Action activities, please contact Cliff Wallis (271-1408 Calgary).

Species summaries of Alberta's rare plants are currently being compiled, says Derek Johnson, Chairman for the Rare Plants Committee.

## Rare Plants

Status reports are still required for the following species: *Aquilegia jonesii*, *Carex athabascensis*, *Conimetella williamsii*, *Douglasia montana*, *Draba ventosa*, *Erigeron pallens*, *Erigeron radicans*, *Erigeron scotteri*, *Gentiana aquatica*, *Lewisia pygmaea*, *Sparganium glomeratum* and *Stephanomera runcinata*.

Beth Cornish and Bonnie Smith are currently working on *Townsendia condensata* and *Oenothera caespitosa*, respectively. If you have any information on these species, or would like to find out more about preparing a status report, please contact Cheryl Bradley (328-1245 / FAX 380-4969, Lethbridge).

If you would like to join the Rare Plants Committee, please contact Derek Johnson (436-8321, Edmonton).

I recently attended a meeting of the East Bow Weed Committee on behalf of the ANPC. This committee is composed of members from a number of different government agencies, and other individuals with a vested interest in weed control along the Bow River from Cochrane to Brooks. An ANPC member was invited to participate in this meeting to become informed as to the nature of the weed problem and planned control methods and to suggest what input the ANPC might be able to provide. I have agreed to continue our liaison with this committee, and to publicize related information in IRIS and at our meetings and conferences. Scentsless chamomile is the main species of concern at present and we hope to send out brochures describing this plant and recommended control methods as soon as they become available. I also suggested to Katrina Horne, the local agricultural fieldman for Calgary Parks and Recreation that it might be possible for ANPC to supply some volunteers for a one-day "weed-pulling" outing in an affected natural area. If you would be interested in this worthwhile event, please contact me at 278-3203, Calgary.

## Southern Director's Report

*Kathy Wilkinson*

# Biocontrol of Exotic Plants in Southern Alberta

*From the 5th Annual ANPC Conference  
Dan Cole, Crop Protection  
Branch, Alberta Agriculture*

One alternative for fending off invading exotic plants in native plant habitats is the use of biological control or biocontrol. Biocontrol is the use of living organisms to control other, less desirable living organisms. The living organisms used for the control of exotic plants can include insects, diseases and higher animals such as sheep. Exotic plants found in southern Alberta for which biocontrol methods are being tested or are available include leafy spurge, bladder campion, toadflax and Canada thistle.

## Leafy Spurge

Leafy spurge is a persistent perennial weed that was introduced to Canada from Eastern Europe in the late 19th century. It spreads by creeping underground rootstocks as well as by seed. Leafy spurge is widespread through central and southern Alberta, covering approximately 15,000 acres of public and private pasture, rangeland, right of ways, abandoned farm land and other uncultivated land.

Although cattle will not eat leafy spurge, sheep will gradually acquire a taste for it. In fact sheep will start to prefer leafy spurge over native grass if it is present in larger amounts in their pasture. An on-going study is being conducted in the St. Mary River basin near Cardston in a cooperative effort between the Municipal District of Cardston, the Blood Indian Reserve, landowners along the St. Mary River, the Leafy Spurge Grazing Co-op, the Granum Hutterian Brethren, Alberta Agriculture and the Public Lands Division. The Public Lands Division is conducting most of the monitoring and they have found that after four years of open herding of sheep, there is some decline in leafy spurge production and some increase in native grass production. The sheep prefer to eat the inflorescence and upper stems and leaves of the leafy spurge plants and can make good weight gains eating this relatively nutritious forage source.

*“The goal is to establish a permanent population of one or more of these natural enemies to reduce the exotic plant population and maintain it at a reduced level.”*

A second biocontrol method for controlling leafy spurge is the use of insects imported from Europe where leafy spurge originated. This method of control links up the original natural enemies of the plant with the plant again. This is called classical biocontrol.

Most of our exotic or less desirable plant species came to Canada with the pioneers, bringing their crop seed, and with it, the less desirable plant seeds. Some of the exotics have become very vigorous and invasive in their new environment in Canada and have spread very rapidly. Unfortunately the natural enemies of these exotics that kept them under control in Europe, did not accompany or follow the exotics over to Canada. This is one reason why some of the exotics have done so well in Canada. Now we are playing “catch-up” and bringing over some of the European natural enemies and re-introducing them to the exotics. The goal is to establish a permanent population of one or more of these natural enemies to reduce the exotic plant population and maintain it at a reduced level. The European natural enemies are screened very carefully to ensure that they do not attack any native or crop plant found in Canada. A lot of the screening work and searching out of the natural enemies in Europe is contracted out of the International Institute of Biological Control (IIBC) in Switzerland. Since biocontrol is commercially limited, federal, provincial and state, as well as producer group funding is often used for this contract work.

Once the natural enemies' biocontrol agents are screened and imported into Canada, they can be released and closely monitored for establishment and effect on the target exotic plant. Agriculture Canada personnel and DrAlec McClay of the Alberta Environmental Centre in Vegreville are involved in the importation

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and establishment studies of biocontrol agents. The recent movement of the classical biocontrol section of Agriculture Canada Research Station at Regina to Leithbridge with two scientists, Dr. Rosmarie DeClerk-Floate and Dr. Peter Harris, is significant for Alberta. Alberta Agriculture is involved in the biocontrol agent redistribution.

Classical biocontrol of exotic plants has the advantage of providing on-going control without the need for continual re-application. It has the disadvantage of usually taking several years to develop the biocontrol agent and several more years to build up the population of the agent to a level that is causing a noticeable effect on the exotic plant. This method of control also usually requires from two to six different biocontrol agents affecting different parts of the plant, to have a significant effect on the exotic species.

The black dot spurge beetle was introduced into southern Alberta from Hungary in 1983. The adult feeds on leafy spurge leaves and the larvae feed on the roots. It has increased in numbers at the original release site to over 400 spurge beetles per square meter and has spread a distance over 500 meters from the initial release point. An accompanying decline in the amount of leafy spurge and an increase in the amount of grass and other native vegetation has occurred at the release site. The black dot spurge beetle has been redistributed to over 100 leafy spurge sites in the province and at least three of the sites can now be harvested for further redistribution. This involves the use of a sweep net to gather the approximately 500 spurge beetles needed for one release site, transporting them in an insect proof container that is kept cool and releasing them at a marked location for monitoring purposes. It has been determined that the black dot spurge beetle prefers a higher, drier and more exposed leafy spurge patch for better establishment. Several other species of spurge beetles are being tested in Alberta as well.

A couple of other biocontrol agents look promising for leafy spurge control and are being tested in Alberta. The larvae of the fly *Pegomya curticornis* mine the leafy spurge stems at the base of the plant and cause root galls. The larvae of the moth *Minoa murinata* defoliate the leafy spurge leaves. Both agents are still several years away from wide scale redistribution.

### Bladder Campion

Bladder Campion is another persistent perennial plant that originated in Europe. It is not as widespread or as troublesome as leafy spurge but it can be competitive in forage and other stands.

The tortoise beetle was imported into western Canada from Germany and Austria for bladder campion control. The larvae feed on the young seed capsules, leaves and shoot tips. The adult beetle feeds on the leaves of bladder campion. As the tortoise beetle is relatively easy to rear and causes a noticeable effect on the bladder campion, it is available for redistribution in Alberta.

### Toadflax

Toadflax is a perennial exotic plant that spreads by creeping underground rootstocks and by seed. Originating in Europe, it has become a plant of major concern to producers mainly in central Alberta. It is very persistent in certain locations.

Preliminary testing of the stem-mining weevil *Mecinus janthinus* from Switzerland, and the root mining moth *Eteobalea serratella* from Italy, is being conducted by Dr. Alec McClay at the Alberta Environmental Centre.

### Canada Thistle

Canada thistle is one of the most troublesome and persistent plants in Alberta. It too came from Europe, even though it is named "Canada" thistle. This perennial plant spreads by seeds and roots and will often become established on disturbed sites.

One of the more promising biocontrol agents being developed for Canada thistle control is the seed-head mining weevil *Larinus planus*. One larva in a seed head will destroy all the seed in that seed head.

### Summary

Biocontrol is an alternative to other methods of preventing exotic plants from invading native plant habitats. Sheep can be used to selectively graze leafy spurge and insects are available for the biocontrol of leafy spurge and bladder campion. Biocontrol agents are being developed for several other exotic species as well.

*Dan Cole, Crop Protection  
Branch, Alberta Agriculture*

## Book on Alberta Medicinal Plants Now in Production

James McCormick

*Wild Pharmacy: The Medicinal Plants of Alberta* is an encyclopedic, pictorial guide to the medicinal plants in the province — designed for the general public. The photographs and text will be produced this year, with the book slated for publication in 1993. Commercial distribution is planned but the project is not structured for profit.

*Wild Pharmacy* will describe how Albertans have used medicinal plants in the past, why plants have medicinal effects and the role of an ecological perspective in herbal medicine. The role of various provincial associations in the preservation and wise use of Alberta plants will be discussed. Botanists and ecologists will find *Wild Pharmacy* a useful and interesting addition to their library. A "Further Reading" section will review the academic and technical literature.

Over 500 Alberta plants will be listed, indicating which cultures used the plants for medicine. Key medicinal plants will have interesting "sidebar" descriptions. Hundreds of photos, organized in botanical order, will form the focus of *Wild Pharmacy*. The goal of the book is to communicate the richness of Alberta's botanical medicinal resources —visually.

I'd like to encourage members of ANPC to participate in this project by reviewing species lists, the draft manuscript and slide sets. Suggestions, additions or deletions are welcome. All assistance will be fully credited. Photos of roughly 400 species have already been collected. Photographers with publication-quality slides of medicinal plants are welcome to contact the author. A free project progress report (including species which will be included in the book) is available upon request.

James McCormick

Box 712, 339-10 Ave. S.E., Calgary, Alberta T2G OW2  
Tel: 246-4533 (H) / 240-6574 (W) FAX 283-0799

### What's Up? The Wildflower Phenology Survey

Shooting stars blooming on April 24. It's definitely time to start recording flowering dates for 15 species widespread through Alberta. The dates you record bring a number of benefits besides mapping the progress of the seasons through the province. They are used to help to predict the best time to seed crops and gardens and to predict timing of insect outbreaks in crops and forests. They aid in the interpretation of vegetation changes in satellite photos. And in volunteering in the survey you will increase your own awareness of native plants.

If you would like to take part in the 1992 survey, write to Wildflower Survey, Dept. of Botany, University of Alberta, Edmonton, T6G 2E9. You can also call the Botany Office (492-3484) or Elisabeth Beaubien (438-1462) for a booklet that describes the wildflowers and how to observe them.

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## "Prince Philip joins WWF Canada in welcoming Alberta conservation announcements"

*Excerpts from World Wildlife Fund news release, March 12, 1992 (Calgary)*

His Royal Highness the Duke of Edinburgh, International President of WWF today joined with Monte Hummel, President of WWF Canada, in welcoming a series of protected area announcements by the Alberta Government...

"We are pleased that the Alberta Government is...pledging specific actions to add new protected areas in regions of the province which are still unrepresented by parks or other reserves", Mr. Hummel said.

Currently only 3 of Alberta's 17 natural regions are adequately represented and the opportunity to accomplish this goal in the other 14 regions is quickly disappearing. Mr. Hummel said "The Government's commitments today concerning new ecological reserves and natural areas, the Canadian Heritage Rivers Program and other initiatives, demonstrate and encouraging recognition of this challenge".

In addition, WWF was pleased to learn in a recent letter from Premier Don Getty that his ministers "will bring forth recommendations which would lead to the establishment of further representative areas of all of Alberta's natural regions."

"We look forward to early action to fulfil this pledge, and to working in partnership with the Government of Alberta through the Endangered Spaces campaign", Mr. Hummel said.

## Flora of North America Project Adds Mosses

*reprinted from Wildflower, Vol.8(1) Winter, 1992*

"The Flora of North America (F.N.A.) Project, a binational effort to catalogue all the plants growing wild in North America, has added mosses and liverworts to its workplan..."

"The Flora is the first reference work ever to bring together information on all North American plants. Over the next 10 years, the project will produce 13 volumes detailing approximately 20,000 plant species.... In addition, the project is developing a computerized database that will be integrated into floristic data bases for other regions of the world."

"The FNA Organizational Centre is housed at the Missouri Botanical Garden... The complex effort involves the services of nearly 1,000 specialists... Contributors and reviewers are drawn from throughout the botanical community, in North America and worldwide."

## Publications

Art, H. 1990. **The Wildflower Gardener's Guide: Pacific Northwest, Rocky Mountain and Western Canada Edition.** Storey Communications, Pownal, Vermont. 179 pp.

Burt, P. 1991. **Barren Land Beauties—Showy Plants of the Arctic Coast.** Outcrop Ltd., Yellowknife, N.W.T. 246 pp.

Brough, S.G. 1990. **Wild Trees of British Columbia.** Pacific Educational Press, Vancouver, B.C. [\$18.00 Cdn].

Duft, J.F. and R.K. Moseley. 1989. **Alpine Wildflowers of the Rocky Mountains.** Mountain Press Publ. Co. Missoula, Montana. 200 pp. [\$13.00 Cdn]

Martin, L.C. 1990. **The Wildflower Meadow Book: a Gardener's Guide.** Globe Pequot Press, Chester, Connecticut. 320 pp.

Toop, E.W. and S. Williams. 1991. **Perennials for the Prairies.** University of Alberta, Faculty of Extension, Edmonton, Alta. 188 pp.

## CONFERENCES

**July 23-25 — Society for Range Management Summer Tour** in the Hand Hills, 20 miles south of Hanna. Visit the Hand Hills Ecological Reserve, a seed farm, a mining operation, the Ducks Unlimited Prairie Care Program and other interesting related projects. For more information contact Barry Adams (Range Specialist, Alta. Govt., 381-5486, Lethbridge).

**July 23 — The Re-establishment of Native Grassland** will be the topic of keynote speaker Ron Reese of North Dakota. This takes place in conjunction with the aforementioned range tour. The talk will be at Alsask, Saskatchewan. Contact Dale Weibrot (306 778-8305) for details.

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## "Part of CFB Suffield to become national wildlife area"

*Excerpts from Government of Canada news release, March 11, 1992*

One of the largest remaining areas of undisturbed natural prairie in Canada, part of CFB Suffield, will be protected and preserved as a national wildlife area.

An agreement between the Department of National Defence and Environment Canada sets aside 420 kilometres on the east boundary of CFB Suffield...

"The signing of this Memorandum of Understanding underscores the importance that DND places on the preservation of the environment," said Mr. Masse. "We have done an excellent job of conserving this fragile portion of the prairie in the past, and this agreement strengthens our resolve to continue this practice in the future."

The DND has agreed to keep these areas out of bounds and Environment Canada has agreed to recognize them under the Canada Wildlife Act. CFB Suffield will continue to manage the areas in cooperation with the Canadian Wildlife Service of Environment Canada.

"The area will help Canada achieve its goal of protecting 12% of our special spaces and species," said Minister Browes. "The formal designation of these areas under the Canada Wildlife Act is one of the important goals set out in the National Wildlife Habitat Network, part of the Green Plan's National Wildlife Strategy."

# 1992 Field Trips

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\*\*\* — Trips sponsored by Edmonton Plant Study Group.

+++ — Trips Sponsored by Calgary Field Naturalists' Society (See pg. 10 for more information).

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May 21, Thurs.	+++ <b>Weaselhead</b> , north of river. Meet at ALTADORE SAFEWAY or the parking lot where 37th St. SW enters the park (near 66th Ave. SW). Habitat: riverine forest with some open-facing slopes and aspen groves.
May 23, Sat.	+++ <b>Williams Coulee</b> . Meet at SOUTHCENTRE at 9:00 a.m. or at 10:00 a.m. at the SW 1/4 of Sec 15, TWP 16, Range 29, W 4th M, due west of Nanton 5 miles on pavement (the road to Chain Lakes, plus 3.4 mile on gravel (west from the intersection at which the paved road turns south). Phone in advance if you need a ride. The primary object of this trip is the species count. It is an all-day trip and may involve 4-5 miles of walking. Bring lunch and water. Nearest facilities are at Nanton.  This is the first of three trips to this site to see it in the various stages through the year. The site is in an east-west glacial outwash channel about 300 ft. deep through the north end of the Porcupine Hills. It includes short-grass prairie, several shrub communities, some aspen, a sandstone bluff, and some semi-naturalized areas which were cultivated 40-50 years ago, and then left to go back to nature. This year is the first time in many years that it has not been heavily grazed year-round.
May 28, Thurs.	+++ <b>Nose Hill, Many Owl Valley</b> Meet at MARKET MALL or at the corner of Brisebois Dr. NW and John Laurie Boulevard. Habitat includes south-facing prairie; with willows on the north-facing slopes. This is an area we have not visited before, because of the horse rental facility which was located here. This part of the hill has been more recently and more intensively grazed than other areas.
May 30-31, Sat.-Sun.	*** <b>May Species Count</b> . Please join in helping us to learn more about spring blooming times. Meet interesting people and explore the natural areas of Edmonton. For details, contact the May Species Count Coordinator, Derek Johnson (436-8321, Edmonton).
June 01, Sun.	<b>David Lake Ecological Reserve</b> . Spend a day immersed in the natural history of this area with Elisabeth Beaubien and Geoff Holroyd. Meet at the provincial building in Wainwright at 10:00 a.m. This trip is co-sponsored by the Wainwright Wildlife and Conservation Society and the David Lake Ecological Reserve Planning Team. For details, call Elisabeth Beaubien or Geoff Holroyd (423-1462, Edmonton).
June 4, Thurs.	+++ <b>Fish Creek Provincial Park, Shannon Terrace</b> . Meet at ALTADORE SAFEWAY or enter the west end of the park from 37th ST. SW and meet at the Amphitheatre parking lot (the eastern most lot in the area). Habitats: open south-facing slopes, riverine forest elements, north-facing slopes with Spruce forest.
June 7, Sun.	<b>Rumsey Natural Area</b> . Meet at DEERFOOT MALL at 7:30 a.m. or at the east side camp ground where Hwy 585 crosses the Red Deer River at no later than 9:30 a.m. Start back at about 3:00 p.m. This trip is sponsored by the Alberta Wilderness Association, ANPC, Canadian Parks & Wilderness Society and Calgary Field Naturalists' Society. The site is in kettle and knob topography near Rumsey, with prairie, aspen groves, and small willow-ringed sloughs. It is the largest unbroken block of rough fescue prairie in Canada, and remains unchanged over the last century, except for modification by cattle grazing. The trip will be led by Cheryl Bradley. Bring lunch, rain gear and bug spray. Travel time from Calgary is 1 1/2 hr.; from Edmonton 2 hr. Phone if you need a ride. Phone Joan Williams (277-9301, Calgary) or after May 20, Cheryl Bradley (328-1245, Lethbridge, FAX — 380-4969).
June 11, Thurs.	+++ <b>Big Hill Springs Provincial Park</b> . Meet at MARKET MALL or at the Park. Habitat: prairie slopes, extensive aspen and willow groves on a moist slope, and a large spring with tufa deposits and aquatic plants all on the side slopes of a large glacial outwash.
June 13, Sat.	*** <b>Elk Island National Park</b> . Elaine Gordon and Patsy Cotterill will lead you through this diverse and interesting park. Meet at 9:00 a.m. at the Provincial Museum in Edmonton, if you want to carpool or at 10:00 a.m. at the visitor centre inside the park. Contact Patsy Cotterill (481-1525, evenings, Edmonton).
June 14, Sun.	+++ <b>CFNS</b> bus trip. See the CFNS Newsletter for details.

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June 18, Thurs.	+++ <b>Edworthy Park.</b> Meet at ALTADORE SAFEWAY or at the south end of the footbridge over the Bow River to the Park. Habitats: river margin, tree farm, railway embankment abandoned industrial site, aspen forest on a north-facing slope, with lots of saskatoons.
June 21, Sun.	*** <b>Connor Creek.</b> Near Mayerthorpe, this is an area of calcareous forest whose rich flora was botanized by the late George Pegg. Rayma Peterson, of the George Pegg Botanic Garden and Patsy Cotterill will be your guides. Meet at 8:30 a.m. at the Superstore on Stoney Plain Road in Edmonton for the 2 1/2 hour drive. In Edmonton, call Patsy Cotterill (481-1525, evenings). Out of town, contact Rayma Peterson ( 674-3963, Barrhead).
June 20 or 27, Sat.	<b>Yamnuska/Bow Corridor.</b> Spend a day in the controversial Yamnuska/Bow Corridor discovering plants (particularly orchids!). Bob Smith, ANPC member from Canmore, will lead you on this trip. For further details and to register please phone Kathy Wilkinson prior to June 10th (278-3203, Calgary).
June 25, Thurs.	+++ <b>Bow Valley Provincial Park &amp; Manysprings Fen.</b> Meet at MARKET MALL or at the park interpretive centre. Habitat: a major spring-fed fenland, surrounded by aspen, willow prairie and montane forest We usually see more orchids at this time and place than anywhere else. Be prepared for a late evening.
June 27-28, Sat.-Sun.	*** <b>Red Water Sand Hills.</b> To be confirmed. Contact Elisabeth Beaubien (432-1462, Edmonton)
July 2, Thurs.	+++ <b>U of C Rough Fescue Prairie Reserve.</b> Meet at MARKET MALL or at the parking lot west of the greenhouse and just north of the lot, west of Collegiate Dr. and the playing fields. This is a small patch of rough fescue prairie which the University has dedicated as a reserve. Bryon Benn, the botanist responsible for the reserve, will be our guide.
July 5, Sun.	+++ <b>Williams Coulee.</b> Meet at SOUTHCENTRE at 9:00 a.m. or at the site (see May 23). There will be an entirely different suite of plants in flower than in May. Phone in advance if you need a ride.
July 9, Thurs.	+++ <b>Sibbald Flats.</b> Meet at MARKET MALL or at the Sibbald Lake day use parking lot. Habitats: open meadow, a large slough, extensive willows and mature aspen forest.
July 12, Sun.	+++ <b>Elbow Lake and Beyond.</b> A natural history hike to Elbow Lake and beyond (in Kananaskis Country) with trip leader Jean Maudsley. The main theme is plant identification, but also birds, animals and anything that moves. Everyone is encouraged to share their special knowledge with us. Society. For more information, call Jean Maudsley( 285-6467, Calgary).
July 16, Thurs.	+++ <b>Brown Lowery Natural Area.</b> Meet at SOUTHCENTRE or at the parking lot at Brown Lowery. Habitats: spruce forest with aspen groves, willow and alder thickets, a lodgepole pine forest, and some open slopes.
July 23, Thurs.	+++ <b>Aspen Parkland Biome, <i>Canadian Wilds Project</i>, Calgary Zoo.</b> Meet at ALTADORE SAFEWAY or at 7:00 p.m. at the south gate to the Zoo. The Zoo will be closed, and parking will be at the administration building inside the zoo. Advance notice is required if you plan to bring your car. Ken Eadie, Curator of Plant Collections, will be our guide.
July 24-26, Fri.-Sun.	<b>Wild Flowers of Jasper National Park.</b> Enjoy a weekend botanizing the high country with Elisabeth Beaubien, coordinator of the Alberta Wildflower Survey, and President of ANPC. Events include an evening slide show and 2 days viewing alpine wildflowers. \$195 with accommodation, \$110 without. For more information contact the Jasper Institute, Box 2337 Jasper, Alberta, 852-4012.
July 26, Sun.	<b>Storm Creek, Kananaskis Country</b> Further information will be mailed out later.
July 30, Thurs.	+++ <b>Nose Hill, Porcupine Valley.</b> Meet at MARKET MALL or at the parking lot opposite Berkley Gate NW. Where not disturbed the open areas on the south side are rough fescue, with willow and aspen groves on the lower north-facing slopes. We often see yampa here.

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Aug. 6, Thurs.	+++ <b>Tom Campbell Hill.</b> Meet at ALTADORE SAFEWAY or on the east side of the Zoo parking lot, of St. Georges Drive (the lot north of Memorial Drive). A lot of undisturbed prairie remains, but there are extensively disturbed areas as well, which the community (working with the Parks department) is going to reclaim. By this time some of the reclamation work and perhaps a burn will have been done. Bryon Benn, who has researched and worked on planning for the area, will be the guide.
Aug. 16, Sun.	*** <b>Dick Hilson's Nursery.</b> This nursery has appeared in ANPC's source lists for native plant material. Meet at the Provincial Museum in Edmonton at 8:30 a.m. for the trip to Rochester, 1 1/4 hours north of Edmonton.
Aug.30, Sun.	+++ <b>Williams Coulee.</b> Meet at SOUTHCENTRE at 9:00 a.m. or at the site (see May 23). Phone in advance if you need a ride.
Sept.20, Sun.	+++ <b>Ptarmigan Cirque.</b> Meet at MARKET MALL at 9:00 a.m. or meet at Highwood Pass parking Lot 10:00 - 10:30 a.m.. Bring water and lunch and be prepared for a warm autumn day with golden larches, or alternatively, a snowstorm. This is a short hike which gains elevation rapidly. Phone in advance if you need a ride. Plan to come back on your own if you want to be back before 6:00 p.m.

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### +++Information for CFNS Trips:

Except as noted, Meeting time is 6:30 p.m.

MARKET MALL: Northeast corner of the MARKET MALL parking lot, at 40th Ave. & Shaganappi Tr., NW.

SOUTHCENTRE: In front of Save-On Foods (or is it Safeway?) at northeast corner of Southcentre Shopping Centre. (Bonaventure Dr. & Anderson Rd. SW)

ALTADORE SAFEWAY: Southwest corner of the Safeway parking lot at 18th St. and 34th Ave. SW

DEERFOOT MALL: DEERFOOT MALL parking lot at 64th Ave. and Deerfoot Tr. NE, north side of lot, north of the Bay.

The CFNS trips are subject to change without notice, so if you have been out of touch, or want us to expect you, phone! Except as noted, the leader is Jim Posey; phone 560-2551. If no one has phoned, and no one comes to the first meeting place, the trip will be cancelled. Prior arrangements are required only as noted.

## Edmonton Plant Study Group

Rediscover some of the good plant-hunting grounds in Edmonton. Become a part of the regular Thursday evening outings of the Edmonton Plant Study Group. Some of the scheduled outings include White Mud Creek, the beautiful Edmonton river valley, Laurier Park and the Kinnaird Ravine. If you want details on these and many more enjoyable "night's on the town" contact any of the following: Derek Johnson (436-8231) Patsy Cotterill (481-1525) or Elisabeth Beaubien (438-1462).