



IRIS
NEWSLETTER

Alberta Native Plant Council
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Editor's Note

*'What would the world be once bereft
Of wet and of wilderness? Let them be left,
O let them be left, wilderness and wet;
Long live the weeds and the wilderness yet.'*
(from the Inversnaid)

The general objective of the ANPC is, of course, to preserve "the wet and the wilderness". Since its incorporation as a society in 1988, the council has actively pursued projects that increase public awareness about native plants and their habitats, but more importantly, will lead to the preservation of vulnerable areas of wilderness.

Some of the recent successes in plant conservation in Alberta provided the focus for the 3rd Annual ANPC Workshop "Endangered Plant Spaces." The workshop, a success story in itself with over 70 members attending, was held at Ft. Calgary on February 24th, 1990.

The morning session opened with a delightful view of Alberta's natural areas by Cliff Wallis and Cleve Wershler, followed by the opening address by Peter Lee, of Alberta Natural Areas Program. As Peter indicated, we now have the ability to define endangered plant spaces, prioritize them and act on protection of them. We must take a more holistic ecological approach to the study of, and protection of plants. "It is time for us to speak with conviction", he stated. "We must know our bottom line."

This underlying message was reiterated by many of the speakers who followed. Mike Quinn, of World Wildlife Fund's *Prairie For Tomorrow*, talked about how we must look not just at preserving ecological diversity, ("we can preserve genetics in glass jars"), but also to preserving the interactions between species. He is concerned about one of Alberta's most altered habitats - the grasslands. Listeners were introduced to projects sponsored by WWF, their involvement in the Landowner Habitat Stewardship Program, and the taking of the *Iris* Management Plan (produced by ANPC) through the administrative process that will hopefully lead to the creation of legislation needed to protect it.

Alice Hendry, of the Wagner Natural Area Society, stressed the importance of research, local community involvement and increased membership, in conservation of the Wagner Bog and environs. She also noted the role of media attention and increased public awareness as aids to the cause.

Beryl Hallworth, who has devoted much of her time to protecting a natural grassland in north Calgary (now Nose Hill park), stressed three main tips to getting an area set aside for conservation:

- 1) get research completed on the area you want protected, and create checklists (i.e. know your subject well),
- 2) give this information to the right individuals (i.e. people in positions of influence, such as politicians and community leaders), and
- 3) involve local committees (i.e. interest groups and local residents).

Mike McNaughton, of the Red Deer River Naturalists' Society, spoke on his group's orchid transplant project. This is the last year for the transplantation of lady's-slipper orchids from an area scheduled for highway construction. The success of this project lies not only in the survival rate of transplanted orchids, but also in the response by volunteers.

Clive Wershler, of Cottonwood Consultants, and Wendy Murphy, a rancher at Altario, spoke next on protection of native fescue grasslands. Clive discussed the current status of the northern fescue grasslands in the Hand Hills - Little Fish Lake area. And Wendy made a poignant case for the preservation of 3 sections of rough fescue grassland from resource extraction development, at her home in Altario. Wendy's speech has been included in this issue of IRIS.

Afternoon workshops provided an opportunity for members of the audience to participate in the formulation of ideas, and direction they would like to see the ANPC take on the various issues under discussion.

Results of the workshops are included in this issue of IRIS. Again, speakers at the afternoon workshops emphasized the importance of conserving systems and not just species. Plants cannot be separated from their spatial environment.

Dr. Stewart Rood discussed cottonwoods management in southern Alberta. He reported on declines in riparian habitat downstream of dams, and stressed

the biology and management of southern Alberta's cottonwoods, to be held at the University of Lethbridge, May 4-6, 1990.

5. Individual members should be encouraged to join the Education & Information, and Conservation Action Committees of ANPC.

Dave Reid

Editor's Note: Good news in the form of a contract to do cottonwoods management research. Cheryl Bradley will be monitoring threats to cottonwood forests in southern Alberta, assisted by funding from World Wildlife Fund.

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"Reclamation and Restoration with Native Plants, Back to the Future"

*Workshop Leader - Dana Bush
Facilitator - Kathy Wilkinson*

Government and private industry are beginning to use more native grasses and less agronomic and introduced species in reclamation, but the trend is not yet widespread. There are many good reasons for this, including:

(a) If you define success in reclamation as establishing a self-sustaining plant cover on disturbed ground (and many people do), agronomics have a fairly good track record. It's pretty hard to argue with success!

(b) Native seed is frequently very expensive in comparison to agronomics. For example, needle-and-thread and june grass, common native grass species in the province, cost \$160.00/kg and \$97.00/kg respectively from one supplier in 1989. The same supplier was selling cultivars of red fescue for \$2.00/kg, and Kentucky bluegrass for \$3.90/kg.

(c) In addition to being expensive, native seed is frequently hard to come by and this is probably the biggest drawback for potential customers. There are few growers in Alberta and often native seed must be imported from the U.S. Depending on where it is grown, this seed may not be adapted to Alberta's climate. In addition, the native seed frequently contains numerous weed seeds and is therefore refused entry into Canada.

(d) Seeding and harvesting native grasses for seed-stock requires specialized techniques and equipment. Management practices, such as the use of irrigation and fertilizer, are usually not effective in increasing production of seed. In addition, some native grasses require several years to set seed so it takes the grower several years to get a return on his investment.

(e) Where native grasses are used in reclamation, they often take longer to establish than some of the more competitive agronomic species such as smooth brome

grass and red fescue. This is obviously a problem where soil erosion is of concern, for example on steep slopes.

So what can the ANPC do? The reclamation workshop was well-attended and several ideas were put forward in response to the following questions:

1. *Are registered varieties of native plants still native? Should seed brought in from the U.S. still be considered native, if the species itself is native to Alberta?*

The definitions of Ducks Unlimited and Alberta Forestry were mentioned. It was suggested that it is difficult to know where the original seed "type" came from. Can we even establish what is the native genotype? Concern was expressed about introducing genetic variability if we use stock from out of province. We concluded that we would publicize possible definitions of "native" and take a consensus from ANPC members.

2. *How could the ANPC address the issue of expense and lack of availability of native seed?*

There is information available on methods of native seed collection. The ANPC should publish a list of these sources of information in IRIS. It was suggested that the ANPC could organize groups to collect and disseminate native seed through a central agency. 4H groups would likely be willing to work on this type of project if ANPC would supply an experienced botanist to assist. Someone mentioned that we should ask the Environmental Centre at Vegreville if they would be interested in propagating this collected seed, as they are currently active in native seed reclamation projects.

3. *Should we push for legislation to increase the use of native stock or merely try and encourage use of native species by publicizing success stories and disseminating information?*

Views were mixed. Some participants felt that legislating the use of native seed, and therefore increasing demand, would result in increased supply and lower prices. Others disagreed, feeling that the ANPC should promote the use of native plants by disseminating information on seed sources and publicizing success stories in reclamation with native plants (and disadvantages of using agronomics). This group suggested that: (a) legislation would restrict flexibility in reclamation decisions (b) our knowledge of reclamation techniques with native plants is insufficient at this stage to press for legislation (c) it is not feasible to legislate using native plants in reclamation until the supply is more reliable. Companies should be encouraged to harvest native seed and salvage existing plant materials from sites prior to development.

4. *Should the ANPC establish an annual up-date to the*

list of recommended plant species in the RRTTAC (Alberta Land Conservation and Reclamation Council Reclamation Research Technical Advisory Committee - Manual of Plant Species Suitability for Reclamation in Alberta?

Yes! Because the manual is not anticipated to be updated frequently (it was published in 1980 and it is expected that a revised edition will be out in 1990), an annual update could suggest additions or deletions to the recommended list based on experience of ANPC members involved in reclamation. Publication of an annual list of sources of native stock for reclamation was also recommended. Someone recommended that this list be circulated to the ERCB and the Surface Rights Board.

5. Should the ANPC actively encourage research into the use of native plants in reclamation by agriculture departments and universities?

Yes! One person recommended that an ANPC representative could contact appropriate organizations to seek corporate sponsorship for graduate student research into reclamation with native species. Perhaps ANPC could publish a list of reclamation research projects that corporations and/or government agencies are particularly interested in.

It was decided that ANPC should form a reclamation/horticulture committee to: (a) come up with a definition of "native", (b) establish a file of current reclamation information, (c) develop an annual list of suppliers of native stock, (d) publicize success stories using native species in reclamation, (e) encourage reclamation research with native species, and (f) look into collecting and disseminating native seed.

Kathy Wilkinson

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"Endangered Spaces, Saving the Pieces"

Workshop Leader - Cliff Wallis

Facilitator - Glennis Lewis

How do we save the pieces?

Legislation

There is a need for ANPC to have input into the legislative process dealing with endangered spaces.

ANPC should look at the need for an Endangered Species Act.

ANPC could provide input to the Environmental Law Centre on the effectiveness of current legislation.

ANPC could identify Acts that influence endangered spaces and look at the legal tools for private conservation.

ANPC could look beyond specific legislation to general conservation requirements.

Policy

The federal Green Print pulls things together but must be broad enough to protect private lands.

ANPC should take a positive approach stating what it's for and against.

We need a comprehensive document laying out a long-term strategy for conservation, covering the spectrum from intense use to complete protection.

To achieve this, we need lobbying from a large number of non-government organizations.

ANPC could play an important role in lobbying for protection of endangered spaces.

A major conference on conservation could focus attention on conservation issues if done in coalition with other conservation groups.

Suggestions for how ANPC could lobby for conservation policy included:

- being involved in the Prairie Conservation Conference

- doing a display at the Wildlife Conference held in Calgary in May

- giving input to the Watchable Wildlife Program

- getting involved in the Endangered Spaces Program

- encouraging individuals to get involved, adopting natural areas, writing government officials, etc.

There may be a need to emphasize that endangered plant species can be considered "wildlife".

Administration

ANPC needs to formulate targets that land managers can work towards and agree upon.

Government delays conservation measures on the basis they need time to determine how the administration of conservation needs should take place.

Conservation needs a level playing field with development.

Education

ANPC should be aware that other groups are involved in public education and should not duplicate their actions.

ANPC should recognize the real need to educate landowners about conservation.

A representative of ANPC should sit on the Prairie Conservation Coordinating Committee.

ANPC could develop a volunteer network and work to heighten public awareness in a variety of ways, including putting out news releases.

Posters and information packages could be put together.

Research

The public does not have access to confidential government reports on ecosystems that need to be preserved in Alberta.

ANPC should identify areas that are natural and can be preserved as part of the public education process.

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ANPC could coordinate efforts for research with other groups such as the AWA and the WWF.

Lobbying and Volunteer Efforts

ANPC should work towards short-term and long-term goals of saving endangered spaces.

There may be money available for ANPC involvement in Habitat Stewardship program.

MP's and MLA's are receiving copies of the book "Endangered Spaces". ANPC members should phone or write politicians about their concerns. Members could be notified about this in IRIS.

ANPC members should make their concerns known to Alberta Environment and get involved with other environmental organizations.

Glennis Lewis

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"Endangered Species Status Reports"

Workshop Leader - Cheryl Bradley

Facilitator - Jim Posey

Major comments and follow-up recommendations from this workshop are listed below:

1. Several members expressed concern over their own ability to identify rare plant species. They wanted to see more dissemination of knowledge about rare plants.

ANPC could produce and distribute literature on selected rare plants to its members, in the form of Fact Sheets, or articles in IRIS.

A calendar or small publication containing endangered plant species, could also be completed.

ANPC could put together a slide show, for use by members or naturalist groups, with photographs and descriptions of endangered plant species.

More emphasis is needed on educating members about rare plants, through flower identification courses. Botany Study Groups in both Edmonton and Calgary have taken an active role in the past in educating the public about wildflowers; perhaps ANPC could co-ordinate more of its activities with these groups.

2. There are still 18 status reports to be completed, for plant species with a COSEWIC designation. Anyone interested in obtaining guidelines on how to produce a status report, can contact Cheryl Bradley (246-9127) for more information.

The names and addresses of individuals working on status reports should be listed in IRIS, to prevent duplication of effort, and so that information anyone might have regarding a particular species, can be sent to the appropriate person(s).

Individuals working on status reports need to have at least one type specimen made available to them. Perhaps the herbariums could assist in this area.

3. More research is needed that would lead to a refinement of the criteria used in identifying rare plant species.

Somehow ANPC needs to come up with a clearer definition of what a rare plant is. Some members wondered if it is adequate to use a particular number of verified herbarium specimens to designate a species.

Also how much effort should go into confirming the absence or presence of a "rare" species in the field.

4. Another suggestion was to set up a grid system for volunteers for identifying wildflowers in the field, much like that set up for the annual national bird counts.

This is a possibility. The emphasis again is on getting members educated in the identification of plants, so that such a system would be effective.

Identification of some species in the field is very difficult, and requires collecting a specimen. There is a concern that if too many "uneducated" but enthusiastic volunteers participate in such activities, and remove plants for later identification by themselves or experienced botanists, they might create more of a hazard to plants (especially rare ones), than not.

Jim Posey/Joan Williams

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COMMITTEES

Education and Information Committee

"Discover Alberta's Wildlife - Prairie Plants"

This is the title of a new poster ANPC members have been working on recently, to increase public awareness about native plants and the council. The poster is nearly ready to be printed, so look for it soon around the province! This project was co-funded by ANPC, Public Lands Division, Fish & Wildlife Division, and Alberta Recreation & Parks.

Over the last two years, the Education and Information Committee (based in Edmonton) has played an active role in co-ordinating field trips, spreading information on the plant council, and involving members in the northern region of the province.

We feel the need to set up an equivalent branch of the Education and Information Committee in the southern region, in order to attract new membership, and instigate new projects, in the south. If you would like get in on the ground floor and help co-ordinate

such a committee, or just contribute your ideas to it, call Joan Williams (277-9301) Calgary. Your thoughts and actions are a valuable resource, so we want to hear from you!

If you would like to join the Edmonton Plant Study Group, or the Education and Information Committee, please call the Committee Chairman, Elisabeth Beaubien (438-1462) Edmonton.

Conservation Action Committee

The Conservation Action Committee has agreed that ANPC will support the Endangered Spaces campaign. It is also looking into doing an Iris poster - funds would be available through World Wildlife Fund's *Prairies for Tomorrow* program.

If you are interested in participating in Conservation Action Committee activities, please contact the Committee Chairman, Cheryl Bradley, 158 Westover Drive SW Calgary T2C 2S6 (246-9127).

Rare Plants Committee

Work on the rare plants priority list is going well. For further information, or if you would like to join the Rare Plants Committee, please contact the Committee Chairman, Matt Fairbarns (437-0177), or Derek Johnson (436-8231) Edmonton.

Reclamation and Horticulture Committee

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

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Habitats of Concern

"Fighting for Northern Fescue Grassland - The Altario Gas Well Experience"

Altario is a small town located 250 miles NE of Calgary, about 7 miles from the Saskatchewan border. It is located in the fescue grassland region and is predominantly a farming and ranching community, with some oil and gas related development.

We hold 12 quarters of native grassland in a block, about 4 quarters of which are separated by the CPR line, and the remaining 8 quarters are composed of 5 quarters crown lease and 3 quarters deeded land.

In October of 1988, we were approached by an agent for Bonanza Oil and Gas regarding an exploration well they wanted to drill on our grazing lease. At that initial contact, we suggested that the well site be moved 400 m east onto adjacent cultivated land be-

longing to a neighbour, who is quite fond of the petroleum industry. Although the agent left with the promise to suggest the alternative site to the oil company, within a short time, we received a letter from the ERCB advising us that a well license had been applied for and giving us 10 days to enter our objections if any existed.

When we initially objected, our reasons were primarily selfish. The condition of the native prairie we own and occupy has been a matter of personal pride for my husband and the other members of the family. It is a valuable source of forage for our cattle, and it is not overgrazed. In fact, our cattle were sent out of the area last summer and will be again this summer to prevent over-grazing. Additionally, we have adopted a firm policy of no vehicular traffic over our native range. We also derive a great deal of personal pleasure from its unspoiled state. We enjoy observing firsthand the diversity of vegetation, wildlife and evidence of previous habitation in the form of teepee rings, cairns etc. Buffalo rubbing stones are also not an unusual sight and are of interest to many individuals.

We had also seen the negative influence of oil and gas development on the native grass and general topography. Hillsides are indiscriminately knocked down, sumps left unlined in sandy areas with a high water table, access roads carve up pastures and permit easy access to the native grass by any vehicle. In addition, current reclamation standards and techniques fail to adequately address the issue of restoration of native grass. It is general practice to seed abandoned sites to crested wheat-grass, achieve the necessary 85% vegetative cover, and obtain the reclamation certificate absolving the oil company from further responsibility. This practice has two possible outcomes. Either the crested wheat begins to encroach upon the native range, if left ungrazed, or it becomes an attractive alternative for cattle resulting in the overgrazing of the reclaimed site and subsequent destruction of the vegetative cover.

All the negative aspects of oil and gas exploration and development are further compounded by the nature of the oil found in this area. It is extremely heavy and in order to produce a field, it is not unusual for a company to apply for reduced spacings of as much as 1 well/10 acres. Needless to say, at this density, the leases and access roads virtually eliminate all the vegetation in a given area.

Unfortunately, the ERCB does not consider the "sentimental" arguments of one farm family that enjoys its solitude, as valid reasons to deny a well license. Nor do many oil companies see any reason to change the way they have done things in the past, citing "good oilfield practice" as more than adequate. It was, however, made clear to us by ERCB staff, that the application would be denied if we could prove the area was valuable and unique. We were also advised,

however, to come up with as many mitigating measures as possible to minimize the negative impacts of the exploration in question.

It was not long before we learned that there were many good, valid reasons to take every possible step to preserve the prairie, not just for ourselves, but for future generations. Northern fescue grassland is virtually gone, only 5-10% remains, and what little is left is often in less than ideal condition. Much has been overgrazed and native range in private hands continues to be cultivated. In addition, the fescue prairie is threatened by grasshoppers, severe drought, foreign weed populations and airborne pollutants such as H₂S and acid rain.

In order to adequately present our case before to ERCB, however, it was necessary to find credible witnesses to support our claims. Government personnel, with a few notable exceptions, were unwilling or able to even support us, let alone appear as witnesses. In fact, the hardest thing was to convince them that money was not the issue. In general, their response was one of "You are wasting your time, but go ahead if you must!". Fortunately, we were able to obtain the support and assistance of a very good geologist, Karl Saggaser; also Mary-Helen Posey of F.A.N. and Cliff Wallis, who all, along with our landowner panels provided excellent testimony during the hearing.

Like any issue in a small community, our cause resulted in the polarization of the community. The considerable support we received from like-minded individual farmers was gratifying. Many farmers fully recognize their responsibilities and obligations as land custodians. Unfortunately, however, there are those who think we were and are slightly insane not to take the money and run, but that attitude is slowly but steadily changing.

Preparing our presentation to put before the Board was a valuable experience for us personally, though it was not without its frustrations. As we were operating under considerable time constraints, it was necessary to obtain much of our information by phone, and bridging the gap between a world where fax machines and courier services are a fact of daily life and a world where the nearest courier drop is 35 miles away, and 3 families share a phone line, was next to impossible! We did, however, have the opportunity to talk to a great many concerned people from all walks of life. Additionally, we developed such skills as preparing and distributing press releases, interview skills resulting from those press releases and research skills under extremely adverse conditions!

Ultimately, our hearing was held at the end of February, 1989. It lasted 2 very long days, during which many articulate and concerned people presented their views to the ERCB. Although the Board did eventually grant the well license, they attached some very stringent and precedent-setting conditions

to the license. Bonanza Oil and Gas was required to hire a grasslands ecologist to oversee construction and restoration, they were required to use a remote sump, no more than the absolute minimum disturbance was to be permitted to the surface and a separate application for production facilities was required if the well was successful. In addition, no road was to be built into the lease and drilling was to take place only during frozen conditions. Bonanza agreed to use only native species in any restoration that may be required.

Of utmost importance, however, is the acknowledgement by the ERCB of the importance of the preservation of native prairie, the inadequacy of current reclamation standards as they pertain to native grassland and the need to formulate a consistent set of guidelines and regulations to ensure an enforceable policy directed at the preservation of native grassland.

Two other outcomes of our battle also give us cause to smile. Bonanza drilled their well and it was as dry as a bone. And other farmers have told us that the mention of our name results in a change of attitude on the part of oil and gas personnel . . . for the better.

Wendy Murphy.
Rancher

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UPCOMING EVENTS 1990

Conferences, Workshops

April 20-21: *Forests Forever.* Alberta Wilderness Association conference, Hinton, Alberta. For more information, call (283-2025) Calgary.

April 28: *2nd Annual Organic Gardening Workshop* sponsored by the Sustainable Agriculture Association. 8:30 am-4:00 pm. at the Lindsay Park Sports Centre. \$15-\$35. Call (282-3975/282-5721) Calgary to register.

April 29-May 3: *Society for Ecological Restoration and Management Conference in Chicago.* Contact Dr. Keith Winterhalder, Dept. of Biol., Laurentian Univ., Sudbury, Ont. P3E 2C6.

May 4-6: *The biology and management of southern Alberta's cottonwoods.* A workshop, with field trip to the Oldman River dam and vicinity. Contact Dr. Stewart Rood, Cottonwood Conference Co-ordinator, Dept. of Biol. Sci., Univ. of Lethbridge, Lethbridge, Alta. T1K 3M4. Registration \$35.00 (by April 20th).

May 25-27: *Wildflower Photography Workshop.* Royal Botanic Gardens, Hamilton, Ontario (416)527-1158.

Field Trips

April 29 - Heatherdon Fen (near Wagner Bog) - 1/2 day field trip with Dennis Gignac to view mosses and other interesting flora of the fen. Meet at the Provincial Museum at 9:00 am. Bring lunch and rubber boots. Contact Dennis (431-1265) Edmonton.

May 10-Aug 23 (Thursday eves.): May 10th marks the first Thursday evening outing for the Calgary Field-Naturalists' Botany Study Group. Trips will include McKinnon Flats, Bragg Creek Prov. Pk., Mary Dover's place, and areas in the vicinity of Calgary. Call Jim Posey (269-2409/243-1921) Calgary for more information, and a schedule of events. *Note: Some of the trips are listed separately in this section.*

May 24: May Species Count Warmup! - join the annual spring field trip to Whitemud Creek. Meet at 6:45 pm at Rainbow Valley: access just south of Whitemud Freeway off 122 Street. Contact trip leaders Derek Johnson (436-8231) or Lorna Allen (436-8032).

May 26-27: MAY SPECIES COUNT WEEKEND. Call co-ordinator Derek Johnson (436-8231) Edmonton, to join in the annual wildflower watch.

May 26: Whaleback Spring Riot - sponsored by ANPC. Contact Cliff Wallis (271-1408) Calgary.

May 27: Dry Island Buffalo Jump - May Species Count outing with the Calgary Field-Nats' Botany Study Group. Call Jim Posey (269-2409/243-1921) Calgary for more information.

3 Saturdays in June: Orchid Transplant - help move lady's-slipper orchids from an area scheduled for highway construction. Sponsored by the Red Deer River Naturalists. Contact Red Deer River Nats., Box 785, Red Deer T4N 5H2.

June 3: Redwater Sandhills - ramble through ancient sand dunes and jackpine forest with Julie Hrapko, Botanist, to view rare plants in an endangered and unique habitat. Meet at the Provincial Museum parking lot at 9:00 am to car pool for the 1-hr drive to Redwater. Bring lunch. Back by 3:00ish pm.

June 14: Mary Dover's Wildflower Garden - a Thursday evening trip sponsored by the Botany Study Group, Calgary Field-Nats. Call Jim Posey (269-2409/243-1921) Calgary for more information.

June 23: Hand Hills Endangered Fescue Prairie - sponsored by ANPC. Contact Cleve Wershler (278-1025) Calgary.

July 8: Hailstone Butte - sponsored by the American Penstemon Society. Contact Pauline Olthof (230-5653) Calgary.

July 15: Bow Valley Provincial Park - 1-day field trip to Bow Valley South to look at unique montane, boreal and prairie elements of vegetation. Co-sponsored by ANPC and the Botany Study Group of the Calgary Field-Nats. Call Jim Posey (269-2409/243-1921) for more information.

July 28-29: Cardinal Divide - sponsored by ANPC. Contact Lorna Allen (436-8032) Edmonton.

July 29: Highwood Pass - 1-day field trip to explore an alpine cirque valley above treeline. Co-sponsored by ANPC and the Botany Study Group of the Calgary Field-Nats. Call Jim Posey (269-2409/243-1921) for more information.

September 8: Clyde Pitcher Plants - sponsored by ANPC. Contact Matt Fairbairns (437-0177) or Derek Johnson (436-8231) Edmonton.

Courses, Miscellaneous

April 5-8: Provincial Museum Festival. Events and displays by various outdoor and wildlife groups, government and non-government agencies.

April 8-14: Wildlife Conservation Week

April 22 - EARTH DAY - A GLOBAL EVENT. Call (265-5810) Calgary for more information.

April 23-28: Wildflower Week.

April 23 - Alberta's Wildflowers. Film presentation by Cliff Wallis, Naturalist and Consultant. 7:30-9:30 pm in the Panda Theatre. \$7. Contact the Calgary Zoo (232-9386) to preregister.

April 26 - Where Mosses Rule! Dennis Gignac will talk on mosses found in Alberta west to the Queen Charlottes. Contact the Edmonton Natural History Club.

April 28-29: Wildflower and Book Sale. At the Polar Bear Complex, Calgary Zoo. Contact the zoo for more information (232-9386).

May 7: Wildflower Gardening - a course to learn more about this popular subject with Dana Bush, Botanist, at the Muttart Conservatory, Edmonton. 6:30-9:30 pm. Contact the conservatory to register.

May 8: Dana Bush will present a talk on *Wildflower Gardening* to the Edmonton Natural History Club, Edmonton. Contact the Edmonton Natural History

