



IRIS

Newsletter of the
Alberta Native Plant Council,
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ANPC WORKSHOP THANKS!!

The Alberta Native Plant Council would like to take this opportunity to thank all those who made the **February 20th, 1993 Annual Workshop** a successful event. Special recognition and thanks to Bob Smith and Mike McIvor for their compelling slide presentation introducing the Bow Corridor and concerns regarding proposed developments in this area. A big thanks goes to all the Speakers; summaries of each presentation are included in this issue of *IRIS*. Thankyou also to Kathy Wilkinson, Dana Bush and Joan Williams (Organizing Committee) for all their time and effort arranging for speakers, rooms, food (including the pizzas!), brochures, promotion and distribution of workshop materials, to Karen Hermann, Carole Weaver and Carole Calenso-Fair (Registration Desk), to Dale Grey (Projection), to Kathy Wilkinson, Jim Posey and Cheryl Bradley (Moderators and Introducers), to Linda Kershaw, Julie Hrapko, Joyce Gould, Lorna Allen and Dan MacIssac (for taking notes on workshop summaries), to Dave Ealey, Linda Kershaw, Lorna Allen and Barb Darroch (Displays) — and all those other unnamed volunteers who helped out, you're not forgotten! A special thanks also to Cheryl Bradley for her fine job as Facilitator at the Planning Meeting held by the Executive the morning following the Workshop.

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

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 - Rare Plants Project: *Linda Kershaw*, (Botanist, Edmonton)
- Reclamation/Horticulture Committee:** *Carole Calenso-Fair* (Horticulturist,
Olds College)
- Newsletter** •Editor: *Joan Williams* (Biologist, Consultant, Calgary)
•Publisher: *Carole Calenso-Fair*

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Green Spaces, Mountain Places 1993 ANPC Workshop Summaries

National Parks Vegetation Management

Speaker : Dr. Peter Achuff

Parks Canada, Western Region is currently conducting vegetation management (plant species and communities) in Banff, Jasper, Yoho, Kootenay, and Waterton Lakes National Parks. The overall guiding principle for park management used to be to "leave the Park unimpaired for future generations". This principle has been modified and it is now "to ensure the maintenance of ecological integrity". This principle provides the framework for all decisions related to management of National Parks.

Several Parks Canada initiatives were discussed including ecosystem, insect and disease, and non-native plant management. All of these strategies are based on the principle of the maintenance of ecological integrity.

Ecosystem Management

The concept of ecosystem management applies to the Park and adjacent lands. It includes participants from external agencies, primarily provincial governments. Fire management, and control of forest insects and diseases are two incentives that fall under this concept. Fire suppression has been the focus of management activities for several years. Fires are now being reintroduced into various Parks as part of the natural process. Forest insects and diseases are primarily native species that are found at endemic levels. They are controlled only under certain conditions, for e.g. when public health and safety or features on adjacent land are threatened. The use of pesticides is discouraged.

Insect and Disease Management Strategy

The control of insects and diseases in National Parks is based on an integrated approach looking at the insect, disease, habitat, vegetation and fire management. Much of the management strategy focuses on monitoring the status of the species, e.g. mountain pine beetle.

Non-native Plant Management

The policy for non-native plant management is not to introduce such species into the park, and to make efforts to remove any that occur within the park. Control priority criteria have been established to provide guidance related to the management of non-native plants. These criteria are based on the biological characteristics of the plant (aggressiveness), its legislative category (e.g., noxious, restricted weed), degree of threat to the park resources, and probability of control. These criteria are applied to non-native plants; at present there are 175 non-native plant species in Western Region which fall into 4 priority categories. One of the basic premises to manage non-native plants is to control spread. This is done through screening of activities with respect to non-native plant policy, to reduce/prevent disturbance, do prompt revegetation with native species and use weed-free seed and forage.

Other Initiatives

Several other initiatives that Parks Canada is undertaking related to vegetation management were also highlighted, including work related to rare plant species, significant vegetation communities, old growth forests and montane aspen forests. The rare plant work is strictly a literature review and herbarium search. At this time, there are no activities related to management, monitoring and identification of new populations.

Assessment of significant vegetation communities is difficult in the context of large areas because there is no provincial or national classification of vegetation types. Several vegetation types from Banff N.P. that are considered to be significant (montane grassland, montane dry forests (Douglas Fir), loess deposition forests and Front Range restricted types) were outlined.

Parks Canada is in the process of developing a policy for old growth forests. One guideline is that prescribed burning will not be conducted in forests > 250 yrs. old.

The montane aspen forests of Banff N.P. are in decline as shown by disease, death and lack of regeneration. The reason for the decline is unclear but it is thought that it is due to a complex interaction of aspen, elk, disease, fire, climate and wolves. Studies are currently underway.

Native Plant Protection Within Kananaskis Country, Including an In-depth Look at Bow Valley Provincial Park

Speakers: Don Cockerton (Planner, Kananaskis Country) & Joan Williams (Private Consultant)

Don introduced us to Kananaskis Country, established in 1978 and covering approximately 400,000 ha. Although it is not a park as such, Kananaskis Country contains Peter Lougheed, Bow Valley and Bragg Creek Provincial Parks. Also, several picnic and camping sites (approx. 15% of its area) have been placed under the jurisdiction of the Provincial Parks Act. The rest of the land has forest reserve status, and supports activities such as logging, gas wells, pipelines, hydro power and cattle grazing.

The Kananaskis Country Integrated Resource Plan, a policy document produced in 1986, classifies 70-80% of the land as Class 1 or 2, Prime Protection zones or Critical Wildlife Habitat where development is limited essentially to hiking trails. Non-recreational activities are permitted in Multiple Use zones, but major developments are subject to the NRCB review process, incorporating detailed environmental impact statements. Developments in the parks are reviewed by a citizens' committee.

Development and reclamation standards are high, and there has been some movement to introduce guidelines for the use of native species. TransAlta is responding to public opinion with selective cutting and visual buffers near roadways and campsites. In less visible areas, vegetation is controlled by mechanical means, with reduced chemical control. In forestry, good logging practices and conditions have produced excellent regrowth. 95% of the logged land has been satisfactorily restocked, with only 5% requiring additional attention (e.g., planting of seedlings).

Joan took us on a slide tour of Bow Valley Park, a relatively small park located at the eastern edge of the Front Ranges. Bow Valley is one of those little provincial jewels hidden under a rather unattractive exterior as presented from the highway. In fact, it contains one of the highest diversities of plant life in the region, due to its being in a transition zone between the prairies to the east, the foothills along the McConnell Thrust Fault, and the mountains to the west. The park is an integral part of the Bow Corridor, and provides sanctuary and migration routes for wildlife, plus habitat for many rare or significant plant species.

The Park is part of the Montane Ecoregion, distinguished by mixedwood stands containing Douglas fir, plus a number of other vegetation types. Patches of aspen occupy the central portion of the park along with stands of lodgepole pine, and rough fescue grasslands. Dessication from high winds, numerous chinooks and thus constant freeze/thaw cycling has caused the twisted and gnarled appearance to the trees.

Aquatic habitats are scarce in the Park, and are thus extremely important from both an ecological, and park perspective. Most well-known is Many Springs, a provincially significant and outstanding example of a calcareous spring-fed fen. Fens of this nature are very restricted in distribution throughout the Rocky Mtns.; Many Springs is unique for its high number of rare and significant plant species (e.g., 9 spp. of orchids, moss gentian), its interesting hydrodynamics, and the presence of a rare aquatic invertebrate in its waters. Ninety species on and around the basin are dependent on water flows for their survival; 49 of these are calcicoles. Formal protection has been suggested for this significant biological resource, with a proposed park addition to act as a buffer zone.

Measures to protect and manage areas such as Many Springs are carried out through the implementation of various ecological studies and monitoring pro-

grams, and the Park's Resource Management Plan. In addition to inventory, identification of significant features and protection, activities include forest, wildlife habitat, fuels, grazing, ground cover, hazard tree, and weed management. At the Park level, stewards of the environment include rangers, clerks, maintenance workers, planners and administrators. Staff work in conjunction with other government agencies, as well as consultants, scientific researchers and the public.

As an older park (est. 1959), Bow Valley is entering a phase of maintenance rather than development. Management problems include overgrazing, trampling damage, dune erosion, and weeds. Weeds increase following heavy use (e.g., 1993 Scout Jamboree with 20,000 participants!), particularly in the thin soils of grassland areas; 45 weed species have been found in the park to date. The park has carried out reclamation trials on unstable slopes with matting and native species, plus a variety of weed control methods since 1984.

Environmental education and to some extent, enforcement programs emphasize the recognition and understanding of basic ecological principles, and the significance and value of vegetation resources in provincial parks. Brochures, guided hikes and other interpretive programs will hopefully continue to increase public awareness levels and thus protect the vegetation resource.

Bow Valley Park cannot function in isolation, however. To sustain the special vegetation communities it contains, other natural areas in the Bow Valley Corridor need protection - either as buffers, travel corridors, or as centres of genetic diversity in their own right.

Policy on Making Development Decisions

Speaker: Paul Bates, Director of Planning, Town of Canmore

Paul Bates gave an informative talk that centered on how environmental issues are addressed in the municipal planning process. His address focussed on four areas: the hierarchy of planning legislation in Alberta, the municipal development review process, the new NRCB Act and the Canmore General Municipal Plan.

Canmore development is under the control of a hierarchy of planning legislation, which includes the Alberta Planning Act, Calgary Regional Plan, Canmore General Municipal Plan (GMP), Area Structure Plans and Land Use Bylaws. At the provincial and regional level, there are broad guidelines for environmental protection. The GMP provides a framework for planning at the municipal level. It sets out the general trends in physical development. Once the GMP is established, the Area Structure Plan is produced. This plan lays out how the development will proceed. The Land Use Bylaw provides district-by-district planning guidelines.

In the development review process, there are several places where public input on environmental concerns can be included. The GMP includes extensive public consultation and formal publicized hearings. An environmental impact statement may also be required. Formal public hearings may also be held for development of Area Structure Plans and Land Use Designation. At the Subdivision Plan stage, there is less public input, although appeals to the Alberta Planning Board are possible. When the Development Permit is issued, there is public notification and people can appeal to the Local Development Appeal Board. This planning process is detailed, with many chances for input. While the objective is to be proactive, by addressing environmental concerns early in the planning process, there are also mechanisms to deal with them at the detailed planning level.

The Natural Resources Conservation Board (NRCB) Act (1990) and associated regulations (1991) set out the protocol for an impartial review process, looking at the social, economic and environmental impacts of projects related to forestry, mining, recreation, tourism and water management. Canmore was the first community to go through the NRCB process. Both the NRCB and the Planning Act have to be adhered to, although the impact of the NRCB on the planning process is still evolving.

The Canmore GMP was recently adopted, and dealt with the large annexation of land in 1991. The GMP stipulates a large conservation district on the valley slopes, with outdoor recreation closer to the town (but with a conservation emphasis). The Town of Canmore has attempted to be proactive in environmental conservation through the following:

- a) Establishment of "environmental policy areas", in consultation with environmental groups. The GMP requires Environmental Impact Assessments on these areas before an Area Structure Plan is set.
- b) An environmental review advisory committee has been formed, to review all Environmental Impact Statements
- c) Wildlife corridors have been identified and will be protected.

Mr. Bates encouraged public interest groups to become knowledgeable about the process, and to become involved. From his talk, we can see that there are ample opportunities!

Reclamation of Mountain Native Plant Habitats

Speaker: Dr. Dave Walker

Dr. Walker, a private consultant, gave us a very interesting insight into the methods he has used, along with the problems and varying results he has experienced, in reclaiming disturbed mountain areas. Several sites in our national parks were used as examples.

The biggest problem in the mountains is lack of topsoil, and whatever soil is present is nutrient-poor. Fertilizers have been used, but in time fertilizers run out so booster applications are required every 2-3 years. This is not practical.

Introduced plants are generally not desirable in revegetation. Brome and red fescue were sown on a ski slope at Lake Louise, but their growth could not be maintained after a couple of years. On the other hand, sometimes brome will invade and thoroughly cover a more hospitable area, outcompeting and thus inhibiting the re-establishment of native species. Siberian alfalfa was used in reclaiming another area in Banff Park. It behaved and grew well, but the growing season was too short to set seed. A search is now underway for suitable native legumes.

For a reclamation project at Parker Ridge, native grass seeds were hand-collected and hand-planted, which proved to be very expensive. Soil for the seed beds was prepared by prescription for correct pH, particle size and organic matter, and soil fertility still had to be maintained. Drainage is a major problem here due to ongoing disturbance as park visitors continually take shortcuts at switchbacks. This promotes the formation of gullies during spring run-off and a great deal of soil washes down the slopes. In order to alleviate the problem, an attempt is being made to change visitors' habits by giving the reclamation project a high profile. Signs have been installed, describing the project and alerting the visitors to the damage done when they make shortcuts.

Another revegetation method was used along the Miette Road in Jasper Park. Wattles of shrubs were planted in cracks in ledges across the slopes and eventually roots developed. Shrubs with good rootability are required, such as the wild rose which did well and sent shoots all along the ledge at Miette. The wattle method is very labour-intensive and therefore costly.

A somewhat different technique, brush layering, was used at the snowsheds in Rogers Pass. Brush was laid at right angles to the slope, onto narrow ledges. Success was uneven as far as growth of the brush was concerned. However, the site revegetated naturally when native alder invaded by seed, and completely covered the slope within 10 years.

Transplants of containerized seedlings were used in another reclamation method. Cuttings in containers take 1 1/2 - 2 yrs. to develop sufficiently to be planted out. This method is good for avalanche slopes and roadside slumps, but it takes much time and thus much money. Frost heaving can be a problem by disturbing roots of the planted-out seedlings. Frost heaving of new transplants can be minimized by transplanting with a soil auger powered by a chainsaw motor. Phreatophytes such as willows, are suitable on roadside slumps because they drain water from the soil.

The use of sod transplants has been a very successful technique and was employed when ski lifts were installed at Lake Louise. Sod was excavated in September, during the preferable dormant season, prior to the installation of the towers. The sod was stockpiled and kept moist, then replaced at the tower bases when construction was completed. Sod should not be stored more than 2 weeks, preferably less. Recovery was excellent the following year, without the addition of fertilizer or water. Higher, upper alpine sites, where non-vascular plants predominate, were treated similarly. Lichen-covered rocks were salvaged prior to tower installation, then replaced around the tower bases.

Yamnuska: Values and Viewpoints

Speaker: Dave Downing

"When we reach the turn-off to Seebe and Bow Valley Provincial Park, Yamnuska's towering limestone ramparts compel us to acknowledge the mountains' powerful presence and character."

So began an informative slide show on the proposed Yamnuska Natural Area. First an almost poetic overview of the area and how it changes as perspective changes, was given . . . from the deceptively featureless mosaic of colour it seems from a distance, to the complex area it is close-up. The slopes have a cover of stunted aspen forest, open meadows, small cliffs, rock fields and occasional spruce and fir stands. Lower slopes and the valley floor are a complex mosaic of dry, wind-sheared pine and Douglas fir forest, grassy meadows and lush aspen forests dotted with swamps, fens and small, shallow lakes.

Yamnuska is known and loved by many. Mountain climbers . . . for over 40 climbing routes, hikers . . . for the magnificent vistas, and naturalists . . . for the abundance and diversity of flora, fauna and landscapes. First proposed for protection in the 1973 Eastern Slopes Policy Hearings, the drive to conserve the area continues. Although only about 1630 ha in size, 362 vascular plant species have been found there, and 153 bird species, 50 mammal species, and 10 reptile/amphibian species have been sighted to date or are likely to occur there. Of the vascular plants, 9 are provincially rare and a further 11, uncommon.

The area has a high biotic, landform and climatic diversity, with 14 distinct plant community types; it is positioned where 5 climatic regions come together (Alpine, Subalpine, Montane, Foothills, Parkland). Only Yamnuska and a very few other places in Alberta are located where 4 or more climatic regions converge. All these sites possess a diverse flora with a significant complement of rare or uncommon species.

If ecological values were the sole basis for decision-making, Yamnuska would have been established as a Natural Area long ago. There are however, various commercial land uses in and around the area, including an active sandstone rock quarry (in operation since the 1950's), sand and gravel excavation, powerline and pipeline easements, and part of the area has been traditionally used for horse grazing since the early part of this century. The area is popular for mountain climbing and recreational pursuits. Because of the diversity of interest and complexity of issues, progress towards protection of the site has been slow, but progress has been made.

ANPC T-SHIRTS!

GOOD QUALITY 50% cotton/50%poly-ester blend T-shirts are now available through the Alberta Native Plant Council. Two designs have been printed:

- 1) ANPC Crest - purple, white and yellow on black background. 3 sizes: M, L, XL.



- 2) Wild Columbine - orange, yellow, green and black on white background. Available Sizes: L and XL.



Don't delay, order today! A LIMITED number have been printed and they are going quickly! **Please send your order with a cheque payable to the Alberta Native Plant Council to: Joyce Gould, 23 Eagle Drive, Sherwood Park, Alberta T8A 0E1.**

Remember to specify style, design and size when you order.

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+ \$4.00 postage/handling

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+ \$4.00 postage/handling

On orders of 5 or more, postage/handling will be \$2.00 (within Canada)

The Plants of the Fort McMurray Area

by Marion Horrocks

Fort McMurray is a city surrounded by boreal forest, muskeg, bogs, rivers and tarsands. Located literally at the end of the tarmac, 400 km NE of Edmonton, the city and its surrounding region is incredibly rich in natural history, wildlife, flora and fauna. Economic prosperity however, is based upon the extraction of natural resources. Economically, Fort McMurray relies upon the operation and wellbeing of two tarsand extraction plants located 40 km to the north.

The business of extracting oil from tarsand is an overwhelming affair to the uninitiated viewer. The process begins by stripping off the top layer of soil in order to mine the oil-bearing sands beneath. This also removes all of the plants, trees and botanical treasures of the respective site.

In 1970, I had been a Fort McMurray resident for some time and came at last to take an interest in identifying wildflowers. With a library copy of Cormack in hand, I set off naturally to find all of the edible berries (I always think of my stomach first). With my friend Margaret Walker, we found some Fringed Milkwort, and not being able to identify it, we called this flower 'Snoopy'. It somehow looked like Snoopy dancing. We did find out what it was however by phoning Cormack, who in turn put us in touch with someone at the university. That was it, we were hooked. Very quickly, we found Yellow Ladies'-slipper (*Cypripedium calceolus*), False Asphodel (*Tofieldia glutinosa*) and Small-flowered Anemone (*Anemone parviflora*), among others, of course. Two years later, the site containing many of these flowers disappeared in a mine expansion of one of the oilsands plants.

Twenty years later, I still have not found another Slender Ladies'-tresses (*Spiranthes gracilis*) or Small-flowered Anemone. We had lost Yellow Ladies'-slipper and False Asphodel but later found them in a new site. Some of

the unusual plants found, unusual because they are not always mentioned in the books, are: Twisted Stalk (*Streptopus amplexifolius*), Stemless Ladies'-slipper (*Cypripedium acaule*), Franklin's Ladies'-slipper (*Cypripedium passerimum*), Slender Ladies'-tresses, Goldthread (*Coptis trifolia*), Buttercup (*Ranunculus lapponicus*), Pitcher Plant (*Sarracenia purpurea*), Narrow-leaved Sundew (*Drosera anglica*), Sand Heather (*Hudsonia tomentosa*), Rhombic-leaved Sunflower (*Helianthus laetiflorus*; now *H. subrhomboideus*), Moschatel (*Adoxa moschatellina*), Short-stemmed Thistle (*Cirsium arvense*), Moonwort (*Botrychium lunaria*) and Virginia Polypody (*Polypodium virginianum*). A complete list of the plants I have found is attached.

Today we are depressingly afraid. Time is running out in the face of pervasive logging cuts and haul roads, and one particular oilsands lease ownership transfer. Previously, the lease stakeholder of this one precious site that has Pitcher Plants, Long-leaved Sundew and Franklin's Ladies'-slipper, had an interest in preservation. The new stakeholder also has an interest but as of yet, their level of commitment to preservation is unknown. We may lose another site. We do not have the benefit of 20 more years to find other sites with these species which are endangered or extremely rare in this area.

Our region is vast and until recently, largely undisturbed. Starting now though, time is running desperately short to find and inventory the indigenous species. There has never been a full inventory undertaken of this boreal forest wilderness. There are all kinds of grasses and sedges which are in danger as well, but I am still a hopeless muddle in identifying them. Many may be rare. **What is needed and what you may consider, is coming up to the boreal forest and helping to inventory the region. Very soon this botanical wilderness will be gone.**

Marion Horrocks has devoted over 20 years to locating and recording indigenous plant species in the area of Fort McMurray. She may be contacted at 743-8175.

Plants Found in the Fort McMurray Area

Moonwort	<i>Botrychium lunaria</i>
Lady Fern	<i>Athyrium filix-femina</i>
Oakfern	<i>Dryopteris (disjuncta)</i>
Polypody Fern	<i>Polypodium virginianum</i>
Field Horsetail	<i>Equisetum arvense</i>
Scouring Rush	<i>E. hyemale</i>
Woodland Horsetail	<i>E. sylvaticum</i>
Running Club-moss	<i>Lycopodium clavatum</i>
Ground Cedar	<i>L. complanatum</i>
Ground Pine	<i>L. obscurum</i>
Juniper	<i>Juniperus sp.</i>
Balsam fir	<i>Abies balsamea</i>
Tamarack	<i>Larix laricina</i>
White Spruce	<i>Picea glauca</i>
Black Spruce	<i>P. mariana</i>
Jack Pine	<i>Pinus banksiana</i>
Common Cattail	<i>Typha latifolia</i>
Seaside Arrow-grass	<i>Triglochin maritima</i>
Broad-leaved Water Plantain	<i>Alisma plantago-aquatica</i>
Arrowhead	<i>Sagittaria cuneata</i>

cont'd. pg. 8

Plants of Ft. McMurray cont'd.

Quackgrass	<i>Agropyron repens</i>	Purslane	<i>Portulaca oleracea</i>
Wild Oats	<i>Avena fatua</i>	Sandwort	<i>Arenaria sp.</i>
Foxtail Barley	<i>Hordeum jubatum</i>	Mouse-eared Chickweed	<i>Cerastium vulgatum</i>
Mountain Rice Grass	<i>Oryzopsis asperifolia</i>	Bladder Campion	<i>Silene cucubalus</i>
Annual Bluegrass	<i>Poa annua</i>	Night-flowering Catchfly	<i>S. noctiflora</i>
Green Foxtail	<i>Setaria viridis</i>	Long-eared Chickweed	<i>Stellaria longifolia</i>
Beautiful Sedge	<i>Carex aquatilis</i>	Common Chickweed	<i>S. media</i>
Sedge	<i>C. concinna</i>	Yellow Pond Lily	<i>Nuphar variegatum</i>
Sedge	<i>C. eburnea</i>	Red and White Baneberry	<i>Actaea rubra</i>
Sedge	<i>C. gynocrates</i>	Canada Anemone	<i>Anemone canadensis</i>
Sedge	<i>C. richardsonii</i>	Long-fruited Anemone	<i>A. cylindrica</i>
Sedge	<i>C. siccata</i>	Cut-leaved Anemone	<i>A. multifida</i>
Cottongrass	<i>E. polystachion</i> (formerly <i>E. angustifolium</i>)	Small-leaved Anemone	<i>A. parviflora</i>
Water Arum	<i>Calla palustris</i>	Prairie Crocus	<i>A. patens</i>
Fairy-bells	<i>Disporum trachycarpum</i>	Blue Columbine	<i>Aquilegia brevistyla</i>
Western Wood Lily	<i>Lilium philadelphicum</i>	Marsh Marigold	<i>Caltha palustris</i>
Lily-of-the-Valley	<i>Maianthemum canadense</i>	Goldthread	<i>Coptis trifolia</i>
Star-flowered Solomon's Seal	<i>Smilacina stellata</i>	Tall Larkspur	<i>Delphinium glaucum</i>
Three-leaved Solomon's Seal	<i>S. trifolia</i>	Small-flowered Buttercup	<i>Ranunculus abortivus</i>
Twisted Stalk	<i>Streptopus amplexifolius</i>	Tall Buttercup	<i>R. acris</i>
False Asphodel	<i>Tofieldia glutinosa</i>	White Water Crowfoot	<i>R. circinatus</i>
Blue-eyed Grass	<i>Sisyrinchium montanum</i>	Creeping Buttercup	<i>R. cymbalaria</i>
Venus' Lady's-slipper	<i>Calypso bulbosa</i>	Yellow Water Crowfoot	<i>R. gmelinii</i>
Pale Coral-root	<i>Corallorhiza trifida</i>	Buttercup	<i>R. lapponicus</i>
Stemless Lady's-slipper	<i>Cypripedium acaule</i>	Macoun's Buttercup	<i>R. macounii</i>
Yellow Lady's-slipper	<i>C. calceolus</i>	Celery-leaved Buttercup	<i>R. sceleratus</i>
Franklin's Lady's-slipper	<i>C. passerinum</i>	Veiny Meadowrue	<i>Thalictrum venulosum</i>
Rattlesnake Plantain	<i>Goodyera oblongifolia</i>	Golden Corydalis	<i>Corydalis aurea</i>
Northern Green Bog Orchid	<i>Habenaria hyperborea</i>	Pink Corydalis	<i>C. sempervirens</i>
Blunt-leaved Bog Orchid	<i>H. obtusata</i>	Hairy Rockcress	<i>Arabis hirsuta</i>
Round-leaved Bog Orchid	<i>H. orbiculata</i>	Reflexed Rockcress	<i>A. holboellii</i>
Bracted Bog Orchid	<i>H. viridis</i> (: <i>H. bracteata</i>)	Lyre-leaved Rockcress	<i>A. lyrata</i>
Northern Twayblade	<i>Listera borealis</i>	Wild Mustard	<i>Brassica kaber</i> (<i>Sinapis arvensis</i>)
Heart-leaved Twayblade	<i>L. cordata</i>	Shepherd's-purse	<i>Capsella bursa-pastoris</i>
Round-leaved Orchid	<i>Orchis rotundifolia</i>	Flixweed	<i>Descurainia sophia</i>
Hooded Ladies'-tresses	<i>Spiranthes romanzoffiana</i>	Wormseed Mustard	<i>Erysimum cheiranthoides</i>
Slender Ladies'-tresses	<i>S. gracilis</i>	Poor Man's Pepper	<i>Lepidium campestre</i>
Black Cottonwood	<i>Populus balsamifera ssp. trichocarpa</i>	Stinkweed	<i>Thlaspi arvense</i>
Aspen	<i>P. tremuloides</i>	Pitcher-plant	<i>Sarracenia purpurea</i>
Pussy Willow	<i>Salix discolor</i>	Narrow-leaved Sundew	<i>Drosera anglica</i>
Myrtle-leaved Willow	<i>S. myrtilifolia</i>	Round-leaved Sundew	<i>D. rotundifolia</i>
Flat-leaved Willow	<i>S. planifolia</i>	Golden Saxifrage	<i>Chrysosplenium iowense</i>
Bog Myrtle	<i>Myrica gale</i>	Bishop's-cap	<i>Mitella nuda</i>
Green Alder	<i>Alnus crispa</i>	Grass-of-Parnassus	<i>Parnassia palustris</i>
Dwarf Birch	<i>Betula glandulosa</i>	Wild Black Currant	<i>Ribes americanum</i>
Water Birch	<i>B. occidentalis</i>	Skunk Currant	<i>R. glandulosum</i>
Swamp Birch	<i>B. pumila</i> (<i>B. glandulifera</i>)	Wild Black Currant	<i>R. hudsonianum</i>
Beaked Hazelnut	<i>Corylus cornuta</i>	Bristly Black Currant	<i>R. lacustre</i>
Stinging Nettle	<i>Urtica dioica</i> (<i>U. gracilis</i>)	Gooseberry	<i>R. oxycanthoides</i>
Bastard Toadflax	<i>Comandra umbellata</i> (<i>C. pallida</i>)	Red Currant	<i>R. triste</i>
Northern Comandra	<i>Geocaulon lividum</i>	Woodland Strawberry	<i>Fragaria vesca</i>
Dwarf Mistletoe	<i>Arceuthobium americanum</i>	Wild Strawberry	<i>F. virginiana</i>
Water Smartweed	<i>Polygonum amphibium</i>	Yellow Avens	<i>Geum aleppicum</i>
Yard Knotweed	<i>P. arenastrum</i> (<i>P. aviculare</i>)	Water Avens	<i>G. rivale</i>
Wild Buckwheat	<i>P. convolvulus</i>	Silverweed	<i>Potentilla anserina</i>
Green Smartweed	<i>P. lapathifolium</i> (<i>P. scabrum</i>)	White Cinquefoil	<i>P. arguta</i>
Sheep Sorrel	<i>Rumex acetosella</i>	Early Cinquefoil	<i>P. concinna</i>
Western Dock	<i>R. occidentalis</i>	Rough Cinquefoil	<i>P. norvegica</i>
Lamb's-quarter	<i>Chenopodium album</i>	Three-toothed Cinquefoil	<i>P. tridentata</i>
Strawberry Blight	<i>C. capitatum</i>	Pincherry	<i>Prunus pensylvanica</i>
Maple-leaved Goosefoot	<i>C. gigantospermum</i>	Chokecherry	<i>P. virginiana</i>
Russian Thistle	<i>Salsola kali</i>	Prickly Rose	<i>Rosa acicularis</i>
		Dwarf Raspberry	<i>Rubus arcticus</i>
		Cloudberry	<i>R. chamaemorus</i>
		Wild Red Raspberry	<i>R. idaeus</i> (<i>R. strigosus</i>)
		Dewberry	<i>R. pubescens</i>
		Mountain Ash	<i>Sorbus scopulina</i>

Plants of Ft. McMurray cont'd.

Alpine Milk Vetch	<i>Astragalus alpinus</i>	Collomia	<i>Collomia linearis</i>
Caragana	<i>Caragana arborescens</i>	Western Bluebur	<i>Lappula occidentalis</i> (L. redowskii)
Wild Licorice	<i>Glycyrrhiza lepidota</i>	Tall Lungwort	<i>Mertensia paniculata</i>
Northern Hedysarum	<i>Hedysarum boreale</i> (H. mackenzii)	Giant Hyssop	<i>Agastache foeniculum</i>
Wild Peavine	<i>Lathyrus ochroleucus</i>	American Dragonhead	<i>Dracocephalum parviflorum</i>
Birds-foot Trefoil	<i>Lotus corniculatus</i>	Hemp Nettle	<i>Galeopsis tetrahit</i>
Yellow Lucerne	<i>Medicago falcata</i>	Ground Ivy	<i>Glechoma hederacea</i>
Black Medick	<i>M. lupulina</i>	Bugleweed	<i>Lycopus uniflorus</i>
Alfalfa	<i>M. sativa</i>	Wild Mint	<i>Mentha arvensis</i>
White Sweet Clover	<i>Medicago alba</i>	False Dragonhead	<i>Physostegia parviflora</i> (D. nuttallii)
Yellow Sweet Clover	<i>M. officinalis</i>	Common Skullcap	<i>Scutellaria galericulata</i>
Holy Clover	<i>Onobrychis viciifolia</i>	Hedge Nettle	<i>Stachys palustris</i>
Showy Loco-weed	<i>Oxytropis splendens</i>	Northern Paintbrush	<i>Castilleja rupii</i>
Alsike Clover	<i>Trifolium hybridum</i>	Butter-and-Eggs	<i>Linaria vulgaris</i>
Red Clover	<i>T. pratense</i>	Cow-wheat	<i>Melampyrum lineare</i>
White Clover	<i>T. repens</i>	Elephant's-head	<i>Pedicularis groenlandica</i>
Wild Vetch	<i>Vicia americana</i>	Yellow Rattle	<i>Rhinanthus minor</i>
Matted Vetch	<i>V. americana</i> var. <i>minor</i> (V. sparsifolia)	American Brooklime	<i>Veronica americana</i>
Tufted Vetch	<i>V. cracca</i>	Common Bladderwort	<i>Utricularia vulgaris</i>
Storks-bill	<i>Erodium cicutarium</i>	Common Plantain	<i>Plantago major</i>
Bicknell's Geranium	<i>Geranium bicknellii</i>	Northern Bedstraw	<i>Galium boreale</i>
Fringed Milkwort	<i>Polygala paucifolia</i>	Sweet-scented Bedstraw	<i>G. triflorum</i>
Crowberry	<i>Empetrum nigrum</i>	Twin-flower	<i>Linnaea borealis</i>
Touch-me-not	<i>Impatiens capensis</i>	Fly Honeysuckle	<i>Lonicera caerulea</i>
Buckthorn	<i>Rhamnus alnifolia</i>	Twining Honeysuckle	<i>L. dioica</i>
Hudsonia	<i>Hudsonia tomentosa</i>	Bracted Honeysuckle	<i>L. involucrata</i>
Early Blue Violet	<i>Viola adunca</i>	Snowberry	<i>Symphoricarpos albus</i>
Western Canada Violet	<i>V. canadensis</i> (V. rugulosa)	Buckbrush	<i>S. occidentalis</i>
Bog Violet	<i>V. nephrophylla</i>	Low-bush Cranberry	<i>Viburnum edule</i>
Kidney-leaved Violet	<i>V. renifolia</i>	High-bush Cranberry	<i>V. opulus</i> (V. triflorum)
Silverberry/Wolf Willow	<i>Elaeagnus commutata</i>	Moschatel	<i>Adoxa moschatellina</i>
Canada Buffalo-berry	<i>Shepherdia canadensis</i>	Harebell	<i>Campanula rotundifolia</i>
Willow-herb	<i>Epilobium anagallidifolium</i> (E. alpinum)	Common Yarrow	<i>Achillea millefolium</i>
Fireweed	<i>E. angustifolium</i>	Northern Yarrow	<i>A. sibirica</i>
Yellow Evening Primrose	<i>Oenothera biennis</i>	Small-flowered Everlasting	<i>Antennaria parvifolia</i>
Wild Sasparilla	<i>Aralia nudicaulis</i>	Rosy Everlasting	<i>A. rosea</i>
Water Hemlock	<i>Cicuta maculata</i>	Shining Arnica	<i>Arnica fulgens</i>
Water Hemlock	<i>C. virosa</i> (C. mackenziana)	Biennial Sagewort	<i>Artemisia biennis</i>
Cow Parsnip	<i>Heracleum lanatum</i>	Tall Wormwood	<i>A. campestris</i> complex [A. caudata]
Water Parsnip	<i>Sium suave</i>	Aster	<i>Aster</i> sp.
Bunchberry	<i>Cornus canadensis</i>	Showy Aster	<i>A. conspicuus</i>
Red Osier Dogwood	<i>C. stolonifera</i>	Nodding Beggar-ticks	<i>Bidens cernua</i>
One-flowered Wintergreen	<i>Moneses uniflora</i>	Ox-eye Daisy	<i>Chrysanthemum leucanthemum</i>
One-sided Wintergreen	<i>Orthilia secunda</i>	Canada Thistle	<i>Cirsium arvense</i>
Common Pink Wintergreen	<i>Pyrrola asarifolia</i>	Short-stemmed Thistle	<i>C. drummondii</i>
Greenish-flowered Wintergreen	<i>P. chlorantha</i> (P. virens)	Annual Hawksbeard	<i>Crepis tectorum</i>
Indian Pipe	<i>Monotropa uniflora</i>	Canada Fleabane	<i>Erigeron canadensis</i>
Bog Rosemary	<i>Andromeda polifolia</i>	Smooth Fleabane	<i>E. glabellus</i>
Alpine Bearberry	<i>Arctostaphylos rubra</i>	Rhombic-leaved Sunflower	<i>Helianthus subrhomboideus</i> (H. laetiflorus)
Common Bearberry	<i>A. uva-ursi</i>	Canada Hawkweed	<i>Hieracium umbellatum</i> (H. canadense)
Leather-leaf	<i>Chamaedaphne calyculata</i>	Common Blue Lettuce	<i>Lactuca pulchella</i>
Bog Laurel	<i>Kalmia polifolia</i>	Prickly Lettuce	<i>L. serriola</i>
Labrador Tea	<i>Ledum groenlandicum</i>	Scentless Chamomile	<i>Matricaria matricarioides</i>
Bog Cranberry	<i>Oxycoccus microcarpus</i>	Pineapple-weed	<i>M. perforata</i> (M. maritima)
Blueberry	<i>Vaccinium myrtilloides</i>	Palmate-leaved Coltsfoot	<i>Petasites palmatus</i>
Bog Cranberry	<i>V. vitis-idaea</i>	Arrow-leaved Coltsfoot	<i>P. sagittatus</i>
Fairy Candelabra	<i>Androsace septentrionalis</i>	Marsh Ragwort	<i>Senecio congestus</i> (S. palustris)
Shooting Star	<i>Dodecatheon</i> sp.	Triangle-leaved Senecio	<i>S. triangularis</i>
Tufted Loosestrife	<i>Lysimachia thyrsiflora</i>	Canada Goldenrod	<i>Solidago canadensis</i>
Mealy Primrose	<i>Primula incana</i>	Stiff Goldenrod	<i>S. rigida</i>
Star-flower	<i>Trientalis borealis</i>	Mountain Goldenrod	<i>S. spathulata</i> (S. decumbens)
Felwort	<i>Gentianella amarella</i>	Common Tansy	<i>Tanacetum vulgare</i>
Spurred Gentian	<i>Halenia deflexa</i>	Dandelion	<i>Taraxacum ceratophorum</i>
Buck-bean	<i>Menyanthes trifoliata</i>	Common Dandelion	<i>T. officinale</i>
Spreading Dogbane	<i>Apocynum androsaemifolium</i>	Cocklebur	<i>Xanthium</i> sp.

Southern Director's Report

Kathy Wilkinson

Thanks to all who attended our 1993 Annual Conference! I hope that you found it as informative and entertaining as I did. Take a bow, Dana Bush and Joan Williams - you did a great job! Thanks also to those who provided displays, and the many volunteers who helped by taking memberships and registrations, operating the projector, transcribing talks, selling T-shirts and sweatshirts, and quietly and efficiently doing all the behind-the-scenes tasks necessary to make the event go smoothly. Your efforts are greatly appreciated.

The 1994 conference will be held in Edmonton, theme to be decided. Stay tuned!

Field Trips

Bob Smith of Canmore, who with Mike McIvor provided an excellent illustrated overview of the Bow Corridor at our '93 conference, has volunteered to lead a field trip to the Yamnuska and Seebe area in June. These sites exhibit tremendous diversity of plant communities and the variety and number of orchids is spectacular! Plan to join him and see the areas mentioned in his presentation, some of which are now threatened by development. Bob has also agreed to take interested hikers on a day trip in the Kananaskis High Country in late July or early August. See the field trip update in May for further details.

Other field trips to note are two planned outings in the scenic Castle River region southwest of Pincher Creek to be led by long-time area resident and well-known conservationist Dave Sheppard. Saturday, June 12 we will hike to the proposed Big Sagebrush Natural Area on the South Castle, meeting at the parking lot across from the store in

Beaver Mines at 9:30 a.m. and returning at approximately 4:00 p.m. Besides big sagebrush, the site is home to over 30 provincially rare plant species, including several that are rare in Canada as well. If you plan to come on this hike, and have a 4WD vehicle, please let me know (278-3203, Calgary), as apparently we cannot get right up to the site with cars. Hopefully it will be possible to "truck pool" from Beaver Mines.

For those who can stay another day, there will be a second trip to glacial alpine Lake Haig in the West Castle area Sunday, June 13. Beside its scenic attraction, this area too supports several rare plants, including mock-orange and Lyall's penstemon. This hike would be classed as fairly strenuous. Further details regarding both days will follow in the next newsletter.

The proposed Big Sagebrush Natural Area has been under the volunteer stewardship of the ANPC, specifically Carole Armstrong, for the past several years. On behalf of the ANPC, I would like to take this opportunity to thank Carole for her dedicated work in monitoring and caring for this site through the seasons, and wish her well in her new pursuits.

Naturalization Project

Bernie Amell, a Calgary landscape architect, is currently compiling a list of native or naturalized species (by habitat) for potential use in natural area reclamation projects. The list has been reviewed by members of the ANPC and Mr. Amell has kindly given permission for it to be published in an upcoming issue of IRIS.

Native Seed Harvester

While on the subject of reclamation, Mr. Vince Petherbridge of Lethbridge has developed a flail vacuum harvester for use in collecting native seed. A rotating nylon

brush strips seed from grasses and forbs, leaving the remainder of the plant intact. A vacuum then sucks the collected seed into a hopper. The harvester may be mounted on a tractor, similar to a front end loader, and has the advantage of very low impact on the soil and vegetation. Mr. Petherbridge will custom harvest and clean the collected seed. For more details please contact him at 327-1902 or by mail at 1213-5th Ave. S. Lethbridge, Alta., T1J 0V6.

May Species Count in Calgary

Anyone in the Calgary area interested in taking part in the plant section of the Federation of Alberta Naturalists' May Species Count (May 29, 30) please contact Jim Posey (Calgary 243-1921).

Publications

Andrews, J. 1992. *American Wildflower Florilegium*. Univ. of North Texas Press. 127 pp. [\$50 U.S.]

Boreal Forest Conference Proceedings. 1992. Athabasca University. 210 pp. [\$14 Cdn.] (available from: Boreal Forest Committee. Box 1351, Athabasca, Alta. T0G 0B0)

Blooming Prairie will be carrying native perennial flowers & woody plants from Hillson's Nursery. You can place orders now through Blooming Prairie, 431-1451, 10333 University Ave. Edmonton, T6E 1P4

ALBERTA'S WATCHABLE WILDLIFE

CHECKLIST SERIES PROJECT

A project is underway to produce a series of species checklists for some 60 sites where plant and animal viewing is particularly good. Many of the sites, including Natural Areas, Provincial Parks, Wildlife Sanctuaries, Alberta Forest Service Recreation Areas, Buck for Wildlife sites and municipal parks, are profiled in the Alberta Wildlife Viewing Guide (Lone Pine Publishing 1990).

In this project, government offices, private agencies, clubs and individuals are being contacted to solicit species information for particular sites.

There will be three different types of checklists; one each for plants, birds and FARM (an acronym for fish, amphibians, reptiles and mammals). One or more of these checklist types will be prepared for each site. When the project is complete, there will be about 140 site-specific checklists, reflecting the occurrence, abundance, breeding status or flowering period and habitat preference of recorded and/or expected species. Tips on proper wildlife-viewing etiquette are on each checklist. There is a list of the major contributors on the back as well as a contact name with a request for noteworthy wildlife sightings.

Current Status

Four plant checklists have been printed (Wagner Natural Area, Cardinal River Divide, Winagami and Kimiwan Lakes, and Bow Valley & Yamnuska Mountain). Plans are to have nine more ready for printing this spring.

Copies of existing lists can be obtained by contacting the Watchable Wildlife Coordinator, Fish & Wildlife Division, Alberta Environmental Protection, Main Floor 9945 - 108 Street, EDMONTON, Alberta T5K 2G6.

How You Can Help With This Plant Checklist Project

****Right now** Additional information is needed by the end of March 1993 for incorporation into plant checklists for nine provincial parks. These parks include Big Knife, Cold Lake, Cypress Hills, Dry Island Buffalo Jump, Lesser Slave Lake, Red Lodge, Sir Winston Churchill, Vermilion and Wyndham-Carseland.

You can assist with these provincial park checklists by contributing information on plant presence, abundance and site habitats, based on your past experience and knowledge of these parks.

****Within The Next Two Years**

A further 28 plant checklists will be produced within the next couple of years. (Sites are listed on the reverse.) You may want to plan your summer field trips to collect species information at the sites where plant checklists are being produced for 1994.

Message From ANPC's Education & Information Committee

The Committee encourages all ANPC members to consider contributing information to this checklist project.

The checklists which are produced may be used to help in developing ANPC field trips. We always want to boost the profile of botanizing as a fun and profitable way to spend time! These lists will work to bring together the knowledge of our members who are familiar with these sites, and the lists will be a good vehicle for public education about plants all across the province. As well, they may be used in future projects as a basis for expanded plant lists which are based on natural regions in Alberta.

If you would like to contribute information for any of the plant checklists, or if you can suggest someone who could be an information source, please contact Pat McIsaac at 9829 - 74 Avenue, Edmonton, Alberta T6E 1G1 or phone 432-1084.

Don't forget that there are bird and FARM checklists being produced as well — if you, or anyone you know, could contribute information to any of the animal checklists shown on the reverse, contact Chel Macdonald at #174, 52343 R.R. #211 Sherwood Park, Alberta T8G 1A6 or phone 922-6890.



Plant Checklists Being Produced For Spring 1993

Big Knife PP
Cold Lake PP & area
Cypress Hills PP
Dry Island Buffalo Jump PP & area
Lesser Slave Lake PP & area
Red Lodge PP
Sir Winston Churchill PP
Vermilion PP
Wyndham-Carseland PP

Plant Checklists Being Produced in 1994

Beauvais Lake PP
Beehive NA
Big Hill Springs PP
Big Sagebrush NA
Bridge Lakes NA
Buffalo Lake
Caw Ridge
Chain Lakes PP
Crowsnest Lake and River
East Porcupine Hills NA
Garner Lake PP
Half Moon Lake NA
Hand Hills ER
Kleskun Hill NA
Lake Newell
Moose Lake PP
Mt. Watt NA
Pembina River PP
Police Outpost PP & Outpost Wetlands NA
Red Rock Coulee NA
Rumsey ER
Sheep River Wildlife Sanctuary
Taber PP
Upper Bob Creek ER
Wabamun Lake PP
Whitney Lakes PP
William A. Switzer PP
Whitemud Creek

Note:

(PP = Provincial Park; NA = Natural Area;
ER = Ecological Reserve)

Bird and Farm Checklists Being Produced in 1993 and 1994

Beauvais Lake PP [Bird '94]
Beehive NA [Bird, FARM '94]
Big Hill Springs PP [Bird, FARM '94]
Big Knife PP [Bird, FARM '93]
Big Sagebrush NA [Bird, FARM '94]
Brazeau Reservoir [FARM '94]
Buffalo Lake [FARM '94]
Burnstick Lake [Bird '94]
Cardinal River Divide [Bird, FARM '94]
Caw Ridge [FARM '94]
Chain Lakes PP [Bird '94]
Chip Lake [Bird '94]
Cold Lake PP & area [Bird, FARM '93]
Crowsnest Lake & River [Bird, FARM '94]
Cypress Hills PP [FARM '94]
Dillberry Lake PP [Bird '93]
Dry Island Buffalo Jump PP [Bird, FARM '93]
East Porcupine Hills NA [Bird, FARM '94]
Garner Lake PP [Bird, FARM '94]
Glory Hills/Devils Lake [Bird '94]
Hand Hills ER [Bird, FARM '94]
Hay-Zama Lakes [Bird '94]
Jessie Lake [FARM '94]
Kleskun Hill NA [Bird '94]
Kootenay Plains ER [Bird, FARM '94]
Lake Newell [FARM '94]
Lesser Slave Lake PP & area [Bird, FARM '93]
Little Bow PP/Traver's Reservoir [Bird '94]
McKinnon Flats [Bird, FARM '94]
Moose Lake PP [Bird, FARM '94]
Pakowki Lake [Bird '94]
Pembina River PP [Bird, FARM '94]
Peter Loughheed PP [FARM '94]
Pigeon Lake PP [Bird, FARM '94]
Police Outpost PP & Outpost Wetlands NA [Bird, FARM '94]
Poplar Creek [Bird '94]
Ram Falls [Bird, FARM '94]
Red Lodge PP [Bird, FARM '93]
Red Rock Coulee NA [Bird, FARM '94]
Rumsey ER [Bird, FARM '94]
Sheep River Wildlife Sanctuary [Bird '94]
Sir Winston Churchill PP & area [FARM '93]
Slave River-Mountain Rapids [Bird, FARM '94]
Therien Lakes [FARM '94]
Thunder Lake PP [Bird, FARM '94]
Tyrell/Rush Lakes [Bird '94]
Upper Bob Creek ER [Bird, FARM '94]
Vermilion PP [FARM '93]
Wabamun Lake PP [Bird, FARM '94]
Whitemud Creek [FARM '94]
Whitney Lakes PP [Bird, FARM '93, '94]
Willmore Wilderness Park [FARM '94]
Wyndham-Carseland PP [Bird, FARM '93]

1993 Symposia, Conferences, Workshops

April 19 *An Odyssey from the Cypress Hills to the Rocky Mountains* with Dr. George Scotter. 7:30 p.m. Discovery Centre Auditorium, Calgary Zoo, North Entrance. \$5.00 general admission, \$3.50 for CPAWS, Zoo Society members/ students/ seniors. Sponsored by CPAWS.

April 20-22 *Restoring Diversity: Is Reintroduction an Option for Endangered Plants?* Symposium to assess case studies and current experience with rare plant reintroduction; review current policies of various gov't. agencies, conservation organizations and private sector; develop national policy guidelines for rare plant reintroductions. Sponsored by Missouri Botanical Garden in St. Louis. Contact: Marie M. Brueggmann, Reintroduction Symposium Registration, Center for Plant Conservation, Missouri Botanical Garden, P.O. Box 299, St. Louis, MO 63166 (314)577-9450/577-9451.

May 10 *Gardening with native prairie plants*; presented by Ann Charleton (Landscape Architect) and Bryon Benn (Botanist) 7:30 p.m. Discovery Centre Auditorium, Calgary Zoo, North Entrance. \$5.00 general admission, \$3.50 for CPAWS, Zoo Society members/ students/ seniors. Sponsored by CPAWS.

May 16-19 *The Challenge of Integrating Diverse Perspectives in Reclamation*, Spokane, Washington. The 10th annual meeting of the American Soc. for Surface Mining & Reclamation, will focus on a variety of topics, including technical sessions and a special symposium on "Restoration Ecology". Contact Benjamin Zamora, Natural Resource Sciences, Washington State University, Pullman, Washington USA 99164-6410.

May 14-16 *Moving Forward to Nature: Sustainable Landscapes*. The Alberta Wilderness Association's Annual Conference will feature a panel discussion, guest speakers (e.g., Dr. William Reese - biodiversity and economic development, Herb Hammond - forest ecology, Dr. Peter Murphy - forestry in Alberta), field trips in Lakeland, and more. To be held at McArthur Place, Lac la Biche. Call 283-2025 (Calgary) or 439-0648 (Edmonton) to register.

May 30-June 3 *Freshwater, Marine and Wetland Interfaces: Dynamics and Management*. Sponsored by the Society of Wetland Scientists, and American Society of Limnology and Oceanography. Contact: Conference Secretariat, Environmental Research and Studies Centre, The University of Alberta, CW-401L, Biological Sciences Bldg., Edmonton, Alta. T6G 2E9 (403)492-6659/FAX 492-8160.

May 31-June 2 *First Canadian Urban Forests Conference*. Winnipeg, Manitoba. Contact: Glen Blouin (613)232-1815.

June 7 *Native Plants for Reclamation, Restoration and Landscaping*. Peter Svarich Centre, Lakeland College, Vegreville. Topics will include selection and development of native plant varieties, native plant production, historical and current perspective on the use of native plants in Alberta, and ecological concepts related to their use. Contact Environmental Services Association of Alberta, #250 10508-82 Ave, Edmonton, Alberta, T6E 2A4, phone (403) 439-6363, FAX (403) 439-4249, Cost is \$294 with a 10% discount before May 15.

June 14-20 *Restoration: Integrated Planning*. Society for Ecological Restoration 1993 Meeting. Symposia on restoration of mined arid lands; islands; animal populations; sage scrub; education programs and workshops. Participate in restoration project, meet with community groups, folk concert. Held at Irvine, California. Register: SER Office, 1207 Seminole Hwy., Madison, WI 53711 (608)262-9547/ FAX same. Contact: John Rieger (619)688-6754/FAX (619)688-3192.

June 20-26 *International Workshop on Sustainable Land Management for the 21st Century*. Lethbridge, Alberta. The objectives of this work shop are to: 1) identify and develop indicators and criteria for evaluation of sustainable land management (SLM) systems 2) develop procedures for integration of SLM indicators and criteria for the use at local, national and international levels; and 3) formulate recommendations for innovative procedures for research and technology transfer in SLM. Contact the University of Lethbridge Conference Services, 4401 University Drive, Lethbridge, Alberta, T1K 3M4.

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June 26-July 3 Grasslands Ecology Immersion Camp. Camping-Learning-Exploring (for Adults). Base Camp will be the Grasslands Nat. Pk. Operations/Research Centre. You will be doing hands-on research (live-trapping; collecting; banding birds; inventorying vegetation and animals); discovering the range of organisms present, their distribution, and learning about threatened and endangered species. Tenting facilities provided. Approx. \$300.00/person. To register or for more information, write to: Peter Jonker Program Coordinator, Environment Science and Technology, University of Saskatchewan Extension Division, Saskatoon, SK. S7N 0W0, or call (306)966-5552/FAX (306)966-5567.

Day 1 - Marie Boehm (Inst. of Pedology) Soils/Fungi

Day 2 - Bob Redmann (U. of Sask., Plant Ecology) Vegetation

Day 3 - Dr. Dan Johnson (Agric. Canada, Lethbridge) Insects

Day 4 - Wayne Harris (Prof. Biologist) Grassland Birds

Day 5 - Curt Schroeder (Exec. Dir., SNHS) Furbearers and Small Mammals

Day 6 - Dr. Dan Nieman (CWS, Biologist) Waterfowl/Dr. Gary Adams (Parks Canada, Winnipeg) Archaeology

Day 7 - George Mitchell (U. of Regina, Biology) Large Mammals

Day 8 - Joe Schmutz (U. of Sask., Biology) Birds of Prey. /Jim Masyk (Supt., Grasslands N.P.) Management and Planning

Day 9 - Peter Jonker (U. of Sask., Extension) Humans in Ecology

August 1-5 Annual Meeting of the American Institute of Biological Sciences will meet in Ames, Iowa to discuss grasslands. Contact: L. Salmon, AIBS, 730-11 St. NW, Washington, DC 20001-4521 (202)685-1500.

August 9-13 Symposium of the Ecology, Restoration, and Management of Prairie Wetlands. Sponsored by the U.S. Fish & Wildlife Research Center, Jamestown, N. Dakota. Contact: Dr. N. Euliss, Jr., U.S. Fish and Wildlife Service, Northern Prairie Wildlife Research Center, Route 1, Box 96C, Jamestown, ND 58401-9736 (701)252-5363.

August 11-13 Landscape Change: Opportunities and New Approaches. Lindsay, Ontario. This is the annual meeting of the Canadian Land Reclamation Association. It will explore the role of reclamation activities within surrounding ecosystems and bioregions. For more information write Moreen Miller, Harington & Hoyle Ltd., 91 Anderson Avenue, Unit 2, Markham, Ontario, L6E 1A5.

Edmonton Plant Study Group

April 22 Annual Members' Night / May Count Warm-Up.

Pick out your best slides from last year's crop (or earlier), think up stories to tell about them, and join us for a sharing evening. We'll also refresh our memories in preparation for the May Count and for a new season of field trips with a look at spring flowers. Meet 7:30 pm., Provincial Museum Lecture Theatre 2, 2nd Floor. This group is sponsored by the Alberta Native Plant Council and the Edmonton Natural History Club. See their report in the 1993 AGM meeting minutes. Everyone is welcome to attend meetings. For more information, call Patsy Cotterill, at 481-1525 (evenings).

Other Upcoming Events

April 4-10 - Wildlife Week

April 17 - Ann and Sandy Cross Conservation Area is hosting a Volunteer Work Day from 9 am-4 pm at the Cross Conservation Area, 160 St. off Hwy 22X. The purpose is to prepare the area for the first school group use in May. Bring lunch and work gloves. Snacks and drinks will be provided. For details or to register, call Alison (931-2042).

May 1993 - Edworthy Park Heritage Society. Volunteers required for extensive wildflower planting and trail restoration program during weekends in May (planting) and onward (trail repairs) at Edworthy Park, Calgary. Call 686-2690.

June 4-11 - Environment Week

Fieldtrips, 1993

Skyline Hikers of the Canadian Rockies will be holding their 1993 summer camps in the Sunset Pass area, Banff National Park. These hikes are an excellent opportunity to observe alpine flora and fauna. For details, write to P.O. Box 3514, Sun. B, Calgary T2M 4M2.

TBA The Calgary Field Naturalists' Society will be hosting a bus trip to Wagner Bog, a recently designated natural area in the Edmonton area that sports an incredible variety of habitats and at least 15 orchid species! Watch for the *IRIS Summer Field Trip Update* in May for more information.

May 1 Sandstone Coulee Morning Walk. The coulee has both marshy and wooded areas; expect ducks, geese, hawks and prairie crocuses. Meet at 9 am at the Southcentre parking lot near overpass to Anderson LRT, in Calgary. Sponsored by the Calgary Field Nats.' Society. Contact Don Stiles (271-4689) for details.

May 29-30 Province Wide May Species Count. Identify and record the flowering species in bloom in your area. Contact the coordinator Derek Johnson (Edmonton; work 435-7306, home 436-823) for information on setting up or joining observer teams. He has species checklists for some areas.

May 30 Rumsey Aspen Parkland. Join Cheryl Bradley and gain insight into the natural and cultural history of this unique area. This is also the ideal opportunity to learn the management issues that surround the largest representative block of aspen parkland in Canada. Bring a lunch, rain gear and your binoculars and field guides. Meet at 9:15 at the Highway 585 crossing of the Red Deer River (east side campground), approximately 15 km. east of Trochu. Allow 2 hours travel time from Calgary; from Edmonton, approximately 2 1/2 hours. From the meeting place you will travel approximately 30 km. to the south boundary of the area, and begin the guided hike at 10:00 a.m. The hike will end between 3:30 and 4:00 p.m. Contact Cheryl Bradley at 328-1245 (Lethbridge) or Fax 380-4969.

June ? Yamnuska-Seebee Tour with Bob Smith. Orchids galore! See the Southern Director's Report and check the May fieldtrip update for more details.

June 12 Proposed Big Sagebrush Natural Area Trip. Meet at the parking lot across from the store in Beaver Mines at 9:30 a.m.-return approximately 4:00 p.m. See the Southern Director's Report for more details.

June 13 Lake Haig Hike—rated spectacular and strenuous. See the Southern Director's Report and check the next IRIS for more details.

June 12-13 Peace Parkland Naturalists' Wild Flower Hunt—Grande Prairie. You can expect to find prickly pear cactus, western wood lilies and striped coral-root orchids all on one trip. Saturday's tour to Saskatoon Mountain, 25 km. west of Grande Prairie, will take you through 5 major vegetation types: aspen woodland, balsam poplar woodland, white spruce woodland, paper birch woodland and alder willow shrubland. Enjoy a barbecue and slide show that evening. On Sunday, travel to a unique patch of Peace River Grasslands in the Kleskun Hills, a few kilometers NE of the city. Grande Prairie has several motels and two excellent campgrounds. Billeting also can be arranged. A species list of the area is available upon request. Contact Joan Snyder —ANPC Northern Director H 532-0709, W 539-2846 or Rick Scott (H 532-2764 W 539-2952) Please call at least 1 week before the trip.

June 19-20 Lac La Biche Tour. This weekend trip starts Friday night with a stroll along the boardwalk in Sir Winston Churchill Island Provincial Park. Saturday visit the orchid bog west of Lac La Biche, the Lac La Biche Mission, a national historic site. Then take a boat trip to Black Fox Island, a newly designated natural area, and go for a hike along Portage La Biche. Sunday travel to Lakeland Provincial Park and hike along Jackson Lake trail in search of round-leaved bog orchids. The meeting times for Friday is 7:00 p.m. at the McArthur Place-Town Civic and Cultural Centre, located on Churchill Drive along the lakeshore. For the Saturday meet at

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McArthur Place at 9:00 a.m. Lac La Biche is only 200 km. from Edmonton, and offers an unusually diverse set of habitats—come see. There is a selection of good accommodation in the area and camping is available at Churchill Island Provincial Park (reservations available—call 623-7961). For more information contact Tom Maccagno (Mayor of Lac La Biche) Home 623-2447 or Carla Zelmer Home 436-0994, work 492-0083.

July 3-4 or 10-11 Backpacking the Headwaters of the Cardinal River. Contact Allison Dinwoodie (Edmonton 437-7183). For description of the area, see July 29-August 2 trip.

July 10 & 11 Ram Mountain Field Trip. Come and enjoy the beautiful alpine meadows of Ram Mountain while keeping a look out for Big-horn Sheep. Meet 9:00 a.m. Saturday at the Strachan Forest Recreation Area, about 22 km. south and west of Rocky Mountain House on Hwy. 752.

Ram Mountain II. Meet 9 a.m. Sunday at the Strachan Forest Recreation area, to look for another interesting location. The trip on this day will be decided by the group. One possible choice is Swan Lake; an area where Trumpeter Swans have been spotted and where an osprey nests. Another is the North Ram-Nice Creek Candidate Natural Area at the junction of the Ram River and Nice Creek. The fescue grassland and foothills woodlands make this a botanically interesting spot to visit. For more information on either of these trips contact Darrell Smith, Rocky Mountain House 845-8250 or Lorna Allen, Edmonton 427-5209.

July (late)-August (early)-Kananaskis High Country with Bob Smith. See the Southern Director's Report and look in the next IRIS for more details.

July 29-August 2 Backpacking the Headwaters of the Cardinal River. Join the ANPC for an adventure to discover and inventory the rare plants of this mountain oasis. Both the ANPC and the Alpine Club of Canada have applied for stewardship of this proposed natural area. Many rare alpine plants and interesting periglacial features can be found in these headwaters, an area nestled between Jasper National Park and the Cardinal Divide (Tripoli and Cheviot Mountains). This area is in danger of being negatively affected by motor-bikes and ATV's. Meet on the evening of July 29 at the Whitehorse campground south of Cadomin (south of Hinton and Edson-highway 16). Friday we will hike up the Cardinal River on an established trail and set up a base camp (total distance 18 km.). Saturday and Sunday will be spent exploring the area, including a pass into Jasper National Park. Monday we hike out. Contact Elisabeth Beaubien, Edmonton, H 438-1462, W 987-3054.

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Membership fees are: \$ 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:

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