IRIS

NEWSLETTER

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

ISSUE 9 **Winter 1991**

COUNCIL NEWS

Alberta Native Plant Council Executive

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

Vice-Chairman: Cliff Wallis (Consultant, Naturalist)

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

Treasurer: Julie Hrapko (Botanist, Provincial Museum)

Director (Northern Region): Linda Kershaw

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

Director (Federation of Alberta Naturalists representative): Derek Johnson (Canadian Forestry Service)
Past Chairman: Dr. Peter L. Achuff (Dept. of Forest Science, University of Alberta)

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If you have questions or comments re the newsletter, please write to: The Editor, ANPC, Box 4524, Station 'SE', Edmonton T6E 5G4.

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COMMITTEES

Education and Information Committee

Joyce Gould reports that the educational display is nearly complete, with a final version to be hopefully completed in time for Wildlife Week.

The Edmonton Plant Study Group has its agenda set for the remainder of the year. Plant Identification workshops started with one on Ferns and Fern-allies., and a new fern (*Cystopteris bulbosa*) for Alberta was discovered! The next workshop will be on orchids (tentatively March 18) and other sessions are planned for April and May (grasses).

An agenda for the fieldtrip for the Canadian Botanical Association meetings has been submitted. Several members of the ANPC have helped with the planning of this and have volunteered to lead.

Dave Ealey has produced a checklist for trees and shrubs that can be used for the tree and shrub project. Checklists will be available to members in future.

Money for a poster on Western Blue Flag is available through *Prairie for Tomorrow*. The committee supports the production of a brochure (factsheet) rather than a poster.

If you would like to join the Edmonton Plant Study Group, or the Education and Information Committee, please call the Committee Chairman, Joyce Gould (449-6619).

Conservation Action Committee

Status reports are still required for *Carex athabascensis, Conimetella williamsii, Douglasia montana, Draba ventosa, Erigeron pallens, Erigeron scotteri, Gentiana aquatica, Lewisia pygmaea, Oenothera caespitosa var. psammophila, Sparganium glomeratum* and *Townsendia condensata.*

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

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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Southern Director's Report

130 member questionnaires were sent out in November 1990 and to date only 35 have been returned to me. Thankyou to those who have returned their questionnaires and, the rest of you, please get them in as soon as possible! If you have lost your questionnaire, please contact me and I'll send another one to you. Don't delay - completed questionnaires will enable us to promote the goals of the ANPC and provide us with valuable feedback from our members!

Dana Bush (Chairman, Reclamation & Horticulture Committee), and I have provided recommendations on the use of native plants in reclamation for the proposed Alberta Environmental Protection and Enhancement legislation. Members may contact Dana (282-3975) or myself (278-3203) for further information.

Linda Kershaw (Northern Director) and I have attempted to define the role of director. We have come up with the following duties:

1. Promote the ANPC to individuals andcorporations with an interest in native plants
2. Be available for member questions, concerns and feedback on what members would and would not like to see in the organization
3. Keep track of regional projects/issues which affect native plants and their habitats. Send letters of support or concern where applicable (member input here is extremely appreciated!)
4. Keep abreast of what ANPC committees in your area are doing, and become involved with the committee of your choice (optional)
5. Put people in your area in contact with ANPC members or other sources who can help them with their questions and concerns relating to native plants. (The completed membership roster will be of help in this regard)

Kathy Wilkinson
Southern Director

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Species of Concern

"<u>Tradescantia</u> <u>occidentalis</u> (Britt.) Smyth - the Endangered Western Spiderwort Rediscovered in Manitoba"

Tradescantia occidentalis, the western spiderwort, is one of Canada's endangered plants. Until this past summer, the one population known to still exist was located at Pakowki Lake, Alberta on partly stabilized sand dunes (COSEWIC status pending, Smith and Bradley, 1990a). This population was only recently discovered in 1986 (Hrapko, 1989). Historical records indicated that two other populations had been found in Manitoba (1923-1953) but their existence had not been verified since the mid-1950's.

The western spiderwort is a monocot and a member of the family Commelinaceae. It is a perennial plant with erect stems from 10-50 cm tall. The leaves are alternate, linear-lanceolate, and often folded lengthwise. The inflorescence is few to many flowered in an umbellate cyme. Flowers have 3 blue (sometimes pink) petals which are broadly ovate. There are 3 sepals and 6 stamens. The fruit is a capsule (Johnson, 1985; Hrapko, 1989).

This summer we set out to rediscover and obtain population data for the Manitoba populations of west ern spiderwort, and for the Alberta population. Our efforts were complicated by the lack of specific records detailing site locations for the Manirtoba populations. Only the general area where the plants had been found were provided on the herbarium sheets (DAO, CAN, WIN). A visit to the Pakowki Lake population enabled us to characterize the habitat in which the species grows, and thus we could narrow down potential sites in Manitoba. *T. occidentalis* prefers sand dune areas, usually partly stabilized by vegetation, which contain some element of active sand. A road map from the early 1950's allowed us to determine the trails and roads in the target areas that early botanists may have travelled to make their collections of western spiderwort. This approach, combined with an abundance of hiking, planning, and good fortune allowed us to successfully relocate the populations at Melita and Routledge in Manitoba.

Our censusof the Pakowki Lake population in Alberta was 210 plants. 66 plants were found at the Melita site and about 1700 plants were counted at the Routledge site. The total number of individual plants found at Canadian sites totalled approx. 2000. Other populations may exist in Manitoba. In the future these sand dune systems should be thoroughly investigated, especially the extensive dune ridge network at Routledge. The Oak Lake and Lauder sand hills in Manitoba, should also be investigated further.

Iniitially, we anticipated that the Pakowki Lake population would be extant since it had been observed in 1986 (discovery site, Hrapko, 1989) and 1987 (Wallis and Wershler, 1988). It is interesting to note that the 1986 population count was approx. 50 individuals at the Pakowki Lake site. The 1987 count was 15 plants. The tremendous increase in population size to 210 in 1990 exhibits the ability of *T. occidentalis* to make great gains in certain years.

We were less optimistic that the Manitoba populations had survived for the 3 1/2 decades since record was last made of them. This was reinforced when we saw overgrazed sand dunes in the Melita area where all the vegetation cover had been destroyed. There was also extensive oil well development in the Routledge area, therefore, disturbance of the sand dune habitat could be expected as a result of road building, well site development, and exploration practices. It was only as a result of the western spiderwort's preference for marginal lands such as sand hills and a great deal of good luck that these populations managed to survive. The Melita population occurs on land preserved by Manitoba Fish and Wildlife as wildlife habitat. The Routledge population is located on land privately owned by W.A. Hellman (Ent. Ltd.), a local businessman and conservationist, who appreciated the uniqeness and beauty of the sand dunes. It is only as a result of Mr. Hellman's interest in preserving the dune ridge ecosystem in its original state that this, the most diverse and populous site in Canada, still exists in a relatively pristine state. Ironically, it is the well-known Pakowki Lake population that is least protected since it occurs on Crown Land and is presently subject to a grazing lease.

Our search for *T. occidentalis* presented some useful information that may be helpful in locating other rare plant populations. Obviously, the need to locate the prospective sites as accurately as possible before beginning fieldwork is foremost in importance. Use of maps from the period in which the plant was last collected is recommended rather than relying on updated maps which may not contain features alluded to by early collectors. The need to pinpoint areas of similar habitat close to the original locations is of equal importance. Hudson (1982) successfully used this strategy to find an additional population of *Abronia micrantha* Torr., a threatened species in Canada (COSEWIC status pending, Smith and Bradley 1990b). Local residents should be approached, when possible, to help with the determination of pertinent information on past land use and ownership.

The need to relocate historic populations and to conduct population studies of rare plant species is critical. There must be more "botanical detective work" if we are to give rare plant species the protection they deserve rather than relying on good fortune to preserve them in perpetuity.

References:

Hudson, J.H. 1982. Plant finds in Saskatchewan, 1980 and 1981. Blue Jay 40(3): 136-138.

Hrapko, J.O. 1989. Prairie spiderwort (*Tradescantia occidentalis*) in Alberta. Iris Newsletter, Winter Issue.

Johnson, K.L. 1985. Another rare prairie plant: the western spiderwort (*Tradescantia occidentalis* (Britt.) Smyth). Rare Plant Alert, Manitoba Nat. Soc. Bull. 8(3).

Smith, B.M. and C. Bradley. 1990a. Status report on western spiderwort (*Tradescantia occidentalis* (Britt.) Smyth) - an endangered species in Canada. COSEWIC.

____ 1990b. Status report on sand verbena (*Abronia micrantha* Torr.) - a threatened species in Canada. COSEWIC.

Wallis, C. and C. Wershler. 1988. Rare wildlife and plant conservation habitats of southern Alberta. Alta. For., Lands and Wildlife; Alta. Recreation and Parks; World Wildlife Fund Canada, Edmonton, Alta.

B.M. Smith and G.M. Lewis

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When is "Native" really Native?

Biologists in this province are generally pleased with themove to use more native plants in landscaping and reclamation projects (see box). But our enthusiasm is not without some concern or debate. The main worry is with the practice of importing so-called native species from out of province.

Native generally means a species which naturally occurs here (or more realistically, is listed in Moss's *Flora of Alberta* as native). The trouble is, that a species is simply a way of identifying a group of similar plants. It does not mean that the plants are all the same. A plant grown in B.C. may not be suitable here, even though it bears the same name. For example, most of the specimens of *Arctostaphylos uva-ursi* (Kinnikinnick or Bearberry) available in garden centres in Calgary are raised in Burnaby, B.C. Not only have they been acclimatized to Calgary conditions, but I have no idea where the orignial plant material came from. Kinnikinnick from the Fraser Valley is not likely to be as hardy as those from the Calgary region, name notwithstanding. There is a discernible difference in the genetics and hence the suitability of plants as we move west to east, north to south, warm to cool, and wet to dry. If you wish to maximize the hardiness of a plant, you need to match certain characteristics with your regional needs. Simply matching the name is not enough.

Plant breeding has traditionally been used to maximize both hardiness and beauty or utility. You choose your species, then grow it in the market area, culling the weak, unproductive, or ugly specimens. Plant breeding may be involved in growing some native plants (I've seen examples of several heights and colours of *Gaillardia* on the market), and may be useful in the home garden market where dependable size and shape is important. In large landscaping or reclamation projects, bred varieties limit the gene pool and potential adaptability of a species. Instead, I recommend that landscapers choose plants which are native to this region. For example, Alberta Forestry, Lands and Wildlife stipulates that reclamation projects collect seeds and cuttings from an area within a 50 mile radius and +/ - 500 feet elevation of the project site, ensuring that the trees, shrubs or grasses will in fact be suitable.

This achieves three things:

1) It eliminates the problem of genetic pollution - contaminating our local gene pool with varieties which may prove over-competitive (weedy) or

2) Under-competitive (susceptible to drought, chinooks, insects, etc.)

3) It promotes local industry, by supplying local growers with a regional market.

So use the seed source list as an interim strategy, but try and buy as much local material as possible. There are several Alberta and B.C. growers who collect regionally, or who will grow on contract. Remember, to be really "Native", plants should come from the region.

PRACTICAL REASONS FOR LANDSCAPING WITH NATIVE PLANTS

Hardiness: Properly chosen, native plants are adapted for drought, cold, chinooks and native pests. In many plantings, they needn't be watered, fertilized or protected in the winter.

Regional Beauty: Using native plants guarantees that Calgary will look distinctively different from Edmonton, Lethbridge, Banff and New York.

Local Industry: Local growers are more likely to stock plants native to Alberta (South, Central or Northern) than will out of province suppliers. In this way we promote local industry.

Wildlife: Native plantings provide suitable food and shelter for our native birds and animals.

Dana Bush

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UPCOMING EVENTS 1991

Field Trips

Jun 20: *Tour of the Southern Cordillera and Foothills.* This trip leaves June 20, 1991 from Edmonton, for a 4 day, 3 night tour of the southwestern corner of the province. Areas to be explored include Big Sagebrush Natural Area (noted for its several provincially rare plants), the foothills and montane vegetation of Mt. Livingstone Natural Area (well known for its northern fescue grasslands), Plateau Mtn. Natural Area (an area of alpine tundra with spectacular patterned ground features), and numerous stops of interest throughout. The return trip to Edmonton on Sunday will be via Kananaskis Country. There may be a 2-3 km hike of easy to moderate difficulty, so wear sturdy footgear, etc. Participants can be met in Pincher Creek or Calgary on Thursday afternoon. Cost/person: $200.00 (includes 3 nights accomm. and box lunches. Leaders will be botanists from Alta. Forestry, Lands and Wildlife and the ANPC. Call the co-ordinator Joyce Gould (427-5209/464-3837) for more information.

Sep 7 or 8 (tentative): *Sunshine Village Reclamation.* Southern Director Kathy Wilkinson reports that a field trip has been organized to Sunshine Village, Banff National Pk. to view reclamation of alpine ski areas using native plants. Gail Harrison (Research Associate, Environmental Assessment Div., Canadian Parks Service), and Brian Smythe (Environmental Co-ordinator, Sunshine Village) will lead the tour. All members are welcome. Further details to follow in future newsletters.

Meetings, Workshops

Mar 18 (tentative): *Identification Workshop: Orchids.* This workshop will focus on the identification of Alberta's native orchids. Dr. Randy Currah, U. of A., will lead this session. Sponsored by the Edmonton Plant Study Group. 7-9 pm. in Rm. B521, Biol. Sci. Bldg., Univ. of Alta., Edmonton.

Mar 28: *Boreal Forest.* Bob Ellis has spent many years workingin the Boreal Forest region of Alberta. He will speak on the habitats and plants found there at 7:30 pm in the Lecture Room of the Provincial Museum, Edmonton. Sponsored by the Edmonton Plant Study Group.

Apr 11: *Identification Workshop: to be announced.* Meet in Rm. B521, Biol. Sci. Bldg., Univ. of Alta., Edmonton. Sponsored by the Edmonton Plant Study Group.

Apr 25: *Trees and Shrubs of Alberta.* Kathleen Wilkinson, author of "Habitat Guide to Trees and Shrubs of Alberta" will talk about these groups in the province. Sponsored by the Edmonton Plant Study Group.

May 9: *Identification Workshop: Grasses.* Don Bradshaw and Dave Downing will lead us through the identificaiton of grasses, including terminology and the use of keys. Meet in the lobby of the main foyer, Biol. Sciences Bldg., Univ. of Alta. at 6:55 pm. Sponsored by the Edmonton Plant Study Group.

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NEW PUBLICATIONS

Banville, D. 1990. Vascular plants of metropolitan Toronto. Toronto Field Nats. 108 p. [Send $5.00 + $1.00

postage and handling to: Toronto Field Naturalists, 20 College Street, Unit 4, Toronto, Ont. M5G 1K2 to obtain].

Morton, Dr. J. 1990. Checklist for the flora of Ontario: vascular plants. [Send $20.00 + $2.00 shipping and handling to: Dept. of Biology, Univ. of Waterloo, Waterloo, Ont. N2L 3G1 to obtain].

Wilkinson, K. 1990. A habitat field guide to trees and shrubs of Alberta. Lone Pine Publishing, Edmonton, Alberta. [$19.95 in bookstores].

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ARTICLES

Excerpt from: March 26, 1990 issue of The Calgary Herald.

"Wild seagrass reaps small profit"

McBEE, S. CAROLINA - Everybody knows beach grass is a wild plant that belongs on sand dunes beside the ocean.

So why is Ben Norwood growing a crop of it a hundred miles away from the nearest ocean in the rolling hills of Chesterfield County, S.C.? The answer is money - and the opportunity to make more of it by filling a small but growing niche.

"Ecology is the big thing now. We'll need to replant wetlands that have been drained and anybody who's spent $100,000 for a lot at the beach is going to take care of it," Norwood, a second-generation farmer, said.

The beach grass that Norwood has planted in the sandy hills near his hometown is *Panicum amarum var. amarulum*, otherwise known as Atlantic Coastal panic grass.

Panic grass, together with sea oats and other native plants, helps keep beach dunes and other sandy areas from eroding. The grass has a thick, extensive root system which holds soil in place while its waist-high stems help capture blowing sand.

With only 30 acres planted to panic grass, Norwood acknowledges that he doesn't have a corner on the market. But he said he's grateful that most of his crop is being dug and transplanted to the South Carolina coast where it will help rebuild sand dunes destroyed by Hurricane Hugo.

The replanting is part of a $1.6 M. U.S. plan to landscape more than 40 miles of dunes scraped up near Myrtle Beach and Charleston in the wake of September's hurricane.

Money for the replanting has come from the U.S. Soil Conservation Service, the South Carolina Coastal Council and the governor's office. Norwood Farms and Legare Farms of Johns Island bid on the project.

Norwood, a former agricultural researcher, said he believes that the replanting effort will help stabilize the dun es and restore the coastal landscape.

And while he says the replanting is a good move ecologically, he believes the planting could be thicker.

Norwood is hopeful that the panic grass business will develop, but in the meantime he's still producing a number of other crops that are used in erosion control and for wildlife planting.

Until he took over management of the farm, it had been planted to traditional crops including peaches, vegetables and cotton, Norwood said. But it became apparent about 1972 that low prices and poor markets dictated a change.

The switch to unconventional crops came easy to Norwood, whose agronomic credentials include a stint as a scientist at the U.S. Dept. of Agric.'s research station at Beltsville, Md.

The office at his farm on the outskirts of town shows he's still a researcher at heart. Petri dishes and textbooks litter counters and shelves in 2 rooms. And even while manageing a busy farm, Norwood has found time to research a new way of seeding his crops, using seed encased in a soluble plastic tape that can be buried beside irrigation pipe.

The research and development projects are a comforting counterpoint to the everyday business of running a farm.

"Eventually I'd still like to get back to some hands-on work. The way the business is today, I'm still too much an administrator" Norwood said.

Bill Hughes
(Knight-Ridder)

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"Temperate but endangered planet,
enjoys weather,
northern lights,
continental drift,
seeks caring relationship with intelligent lifeform"
Friends of the Earth

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