Minnesota Plant Press

Vol. 10:1 Newsletter Of The Minnesota Native Plant Society, Fall 1990

Upcoming Monthly Meetings

November - National Wildflower Research Center--Bonnie Harper
December - Forest Intensification--Jan Green
January - To be announced
February - Restoration of the American Chestnut in Minnesota --Charles Burnham
March - Vegetation of Kittson County, Minnesota's Northwest Frontier--Robert Dana
April - Why and How We Burn Prairies--Rick Johnson
May - Nature photography show, field trip preview, plant sale

Some "Do's" and "Don'ts" for Wildflower Gardeners

May Wright's Gardening Notes

Whether you are restoring a large area or just planting a small wildflower garden, you should keep in mind the following considerations.

Be aware of the distinction between the terms "wildflower" and "native herbaceous plant". As used in the wider sense, "wildflower" refers to any non-woody flowering plant that grows without cultivation, i.e. in the wild. A native herbaceous plant is a non-woody flowering species that was present in a particular area before settlers arrived from Europe. In other words, "native" excludes species introduced since settlement. The term is used for a designated area, usually the country, but it could be the state of a more local area.

How can one find out readily which are native to our country and state and which are non'native (alien, exotic, introduced)? Most of the leading books on wildflowers indicate which are alien to our country. The range of the native species given in these books then helps to pinpoint those of Minnesota. A book titled, "The Vascular Plants of Minnesota, Checklist and Atlas" by Gerald B. Ownbey and Thomas Morley is a good source of this information (still in press).

Why is it important to know this difference? Alien plant species are not a part of the area's ecosystem and so do not have the natural check that the native species have. They may become so aggressive as to displace the various native species and disrupt the wildlife that depend on them. A species may show some diversity in its genetic makeup from one area to another. If displaced by aliens from some areas, its genetic diversity will be lost.

The following are introduced species that should be especially avoided. They may appear to be attractive garden plants but they should not be planted because they are known to be aggressive spreaders.

(Continued on pg. 2)

Inside

Editors Notes: Bob Jacobson & Sarah Vest

This fall we assumed the duties of publishing the MNPS newsletter. Our goal is to streamline the process by which articles and information are submitted for publication by the membership. The newsletter is being produced on an Apple Macintosh computer. Articles submitted on a Macintosh formatted floppy disk in would be very helpful (we can also transfer IBM formatted discs to Macintosh.) Articles that are one page or longer should be sent on a **computer disk,** with the name of the computer program written on it. Articles should be no longer than two pages in length. All work should be in final form, ready to go to the printer. Your help in following these guidelines will make our job a lot easier. To submit information for publication in the Minnesota Plant Press, send all material to:

Sarah Vest

Oops! The chart- "Relative Flowering Time, Height and Color of some Woodland Wildflowers in a Central Minnesota Garden", that was printed in the last Minnesota Plant Press was written by May Wright.

Announcements

• **MNPS's Annual Symposium—** The MNPS's annual symposium is to be held at the Minnesota Valley National Wildlife Refuge, April 6, 1991. If you would be interested in coordinating the symposium, chairing a committee such as program, refreshments or publicity, or assisting in any way, please contact a member of the board– names and phone numbers listed on page 10.

• **MNPS Membership Renewals Are Due NOW!**
While new members may join at any time, as stated in our bylaws, all memberships are to be renewed each fall. To avoid a delinquent membership and missing issues of the newsletter, please have your memberships dues paid by **20 November 1990.** Some people have paid their memberships several years in advance, and new members that joined during the past summer are paid through next year, so please **check your mailing label for your renewal date.** Because of rising costs, the board has voted to raise the membership dues slightly. Renewal form is on the page 10. This will be your only renewal notice!

("Do's" and Don'ts" for Wildflower Gardeners continued from page 1)

Avoid These Introduced Species

European Bellflower, *Campanula rapunculoides*
Chicory, *Cichorium intybus*
Ox-eye Daisy, *Chrysanthemum leucanthemum*
Queen Anne's Lace, *Daucus carota*
Orange Hawkweed, *Hieraceum aurantiacum*
Purple Loosestrife, *Lythrum salicaria*

If we as gardeners are careful, we can still save our native flora, unlike the condition in England and Hawaii where they now bemoan the loss of theirs. *(Continued on page 3)*

Another important consideration is that the present wide interest in certain wildflowers may lead to their destruction in their native habitat. This can be avoided if gardeners buy plants from local nurseries that are known to propagate their plants rather than dig them from the wild. Emphasis on research about efficient propagation methods is necessary in this respect.

In choosing native species to be planted, thought should be given their ease of spreading. Those that spread readily may be used in large areas or as ground covers in difficult or separate spots. In small gardens they may be hard to keep in check.

Use These Native Species That Spread Rapidly

Shade

Baneberries, *Actaea* spp.
Wild Ginger, *Asarum canadense*
Waterleaf, *Hydrophyllum virginianum*
Mayapple, *Podophyllum peltatum*
Violets, *Viola* spp.

Acid Soils

Northern Bedstraw, *Galium boreale*
Wild Lily-of-the-Valley, *Maianthemum canadense*
Shinleaf, *Pyrola elliptica*

Sun

Canada Anemone, *Anemone canadensis*
Common Milkweed, *Asclepias syriaca*
Partridge Pea, *Cassia fasciculata*
Sunflowers, *Helianthus* spp.
Goldenrods, *Solidago* spp.

Native Ferns

Ostrich Fern, *Matteuccia struthiopteris*
Sensitive Fern, *Onoclea sensibilis*
Bracken Fern, *Pteridium aquilinum*

"U of M" Requests Funds to Study Native Plant Diversity

Nancy Sather

As those of you who were at the October meeting already know, the University of Minnesota's Plant Biology Department is seeking funding for an endowed Chair in the Origin and Conservation of Plant Diversity. They have come to the Native Plant Society with a request that we help them raise $10,000 toward a private match of 1/2 million needed for the Chair. Because this is a sacrificially large request and because members may have questions about the Chair the first part of the November general meeting included a discussion of the proposal. A representative of the University was on hand to answer member's questions. The topic will also be discussed at the Board meeting immediately preceding the December meeting. Members with a concern about either the level of funding or the Chair itself are encouraged to join the Board at 6:00 PM in the cafeteria of the St. Paul Student Center.

The following paragraphs include portions of the letter to the Society from the Plant Biology Department, an endorsement of the project by Dr. John Doebley, and expressions of some concern about the appropriateness of this fund drive as a Plant Society project by John Moriarty. The issue is not a straightforward one and members of your Board are of a divided mind, some strongly supporting the project and others seriously opposing it. **Your questions, opinions, and input are needed in making this important decision .**

Plant Biology Dept. Requests Fund-raising Assistance

Erwin Rubenstein, Chairman of the Plant Biology Department

The Plant Biology Department at the University of Minnesota has been offered an opportunity that is unique in its history. Matching funds have been made available for up to 1/2 million dollars from the Permanent University Fund to endow a Chair in the Origin and Conservation of Plant Diversity. Our challenge is to raise 1/2 million dollars from private sources. We hope that the Minnesota Native Plant Society will help us to meet that challenge.

Major environmental changes are probable in the near future because of acid rain, the depletion of the ozone layer, the greenhouse effect, deforestation, and agricultural practices, to list a few. Because of Minnesota's location on the border of three vegetational zones- boreal, prairie, and eastern deciduous forest, the effects of these changes on native plants and agriculture will be especially dramatic.

To address these urgent concerns, it is appropriate that a Chair in the Origin and Conservation of Plant Diversity be established as soon as possible in the Department of Plant Biology at the University of Minnesota. By helping to establish this position, the Minnesota Native Plant Society will help provide a source of expanding expertise to students, faculty, government, and all those concerned with Minnesota's flora. Students trained in this intellectual environment will be well equipped to help our state, country, and world meet future challenges to plants and agriculture.

Much of the success in the establishment of this Chair depends on the possibility of receiving additional funding from the Minnesota Environment and Natural Resources Trust Fund. Before any money is granted from that source, it must be shown that this project has broad-based community support. It is in this aspect that the Minnesota Native Plant Society can be especially helpful. We are asking the Minnesota Native Plant Society, to launch a campaign amongst its individual members to raise a total of $10,000 to support the Chair in the Origin and Conservation of Plant Diversity.

Why a Chair for the Origin & Conservation of Plant Diversity?

John Doebley, Associate Professor Dept. of Plant Biology and Director of Herbarium at U of M

The Department of Plant Biology at the University of Minnesota is currently attempting to raise funds for an endowed chair in the area of the origin and conservation of plant diversity. In doing so, the Department has asked for the assistance of the Minnesota Native Plant Society (MNPS). I was asked by Ellen Fuge to briefly outline the purpose of this chair and state how the establishment of the chair could help accomplish the goals of MNPS. I hope that my comments will aid MNPS members in making an informed decision concerning the merits of supporting the proposed chair

The chair is an endowed professorship in the Department of Plant Biology. Once funding is secured, the Department will seek to fill this professorship with a person working in the general area of the origin and conservation of plant diversity. The person will probably be either a systematist, evolutionist, population biologist, population geneticist or ecologist. This person will be an established scholar, recognized internationally as a leader in their field of research. The department will seek a person who has excellent teaching skills and will expect them to offer courses in their area of expertise at both the graduate and undergraduate levels. The department will seek an individual capable of

attracting outstanding graduate students and funding for graduate education. The department will seek an individual capable of providing intellectual leadership in the area of plant evolution and diversity. Depending on the individual hired, they could take a leadership role on issues concerning plant conservation in both Minnesota and the world. With global warming a special concern for Minnesota, intellectual leadership in plant conservation at the University of Minnesota would be highly beneficial.

The extent to which the chair aids MNPS in accomplishing its goals depends largely on the specific individual hired. The chair could be filled by a plant systematist who is involved in floristic studies and has strong interests in conservation biology. I expect such a person would have regular interactions with MNPS. Thus, the chair could clearly make contributions to attaining MNPS's goals of promoting the preservation of the native plants of Minnesota. Alternatively, the chair could be filled by a molecular evolutionist whose interests are more in the origin of diversity and understanding the mechanisms that govern evolution. Such a person would be less likely to be a spokesperson for conservation issues, although they would contribute to the MNPS indirectly via attracting and training students in plant evolution and ecology.

A critical question for MNPS members may be: "What precise type of plant biologist will be hired?" The honest answer is no one knows. Who is hired depends on many factors. Generally, it is easier to attract good candidates in areas in which a department or university is strong and more difficult to attract good candidates in areas of weakness. Major donors (donors providing a considerable majority of the funds) can have significant influence. Ultimately, the decision on hiring will be made collectively by the dean of the College of Biological Sciences, and the head and faculty of the Department of Plant Biology.

In summary, I would say that the establishment of this chair will clearly benefit the University and through it the State. By enhancing the ability of the University to educate students in the area of plant diversity and evolution, I believe that the organizations such as MNPS will also benefit. The extent and nature of the benefit to MNPS will depend very much on who is hired to fill the chair.

Some Reservations on the Endowed Chair

John Moriarty, MNPS Board Member

The Department of Plant Biology has approached the MNPS to help raise money for their new endowed chair on the Origin and Conservation of Plant Diversity. This new chair is an important step for the Department of Plant Biology. But, I feel it might not be as critical or beneficial for the MNPS and our goal of native plant conservation.

Raising $10,000 will be very difficult for the MNPS and would only be successful once. The ability to raise money for other worthwhile and potentially more important projects in the future could be greatly limited.

We do need to support the Department of Plant Biology, but we should not neglect our responsibility to support native plant conservation efforts of other Minnesota agencies and organizations.

Fire Research Institute

New Journal: In April, a new quarterly, refereed, scientific journal, the *International Journal of Wildland Fire*, devoted solely to issues in wildland fire was announced. The Chief Editor, Canadian ecologist Ross Wein, has assembled an international editorial board with representatives from Australia, Brazil, Canada, France, Germany, South Africa, USA and the USSR. The board is now accepting manuscripts dealing with any issue related to wildland fire science, management or technology. The first issue will be mailed in the fall of 1990. Subscriptions are $50.00 US. Address questions regarding manuscript submission or subscription to: Journal of Wildland Fire, PO Box 241, Roslyn, WA, USA 98941-0241.

New International Directory of Wildland Fire: *The International Directory of Wildland Fire* contains over 500 pages of names, addresses and telephone numbers. Updated annually, it now includes 4915 managers, 3104 academics, 1162 women in fire, 2434 organizations, 844 vendors and consultants, 1680 educational institutions, 2266 libraries, 177 granting agencies, 451 journals and newsletters involved in research, management or publishing concerning wildland fire. Keywords are included to indicate area of interest. The Directory is $34.50 in paperback and $250.00 on disk. The editors are accepting advertisers. Write: Fire Research Institute, (Same address as above.)

New International Bibliography of Wildland Fire: *The International Bibliography of Wildland Fire* contains over 40,000 references to publications concerning all areas of wildland fire including science, management and technology. Articles on urban interface, silviculture, remote sensing, fuels, biomass, air quality, ecology, fire history and more are included. Each entry is keyworded to indicate subject matter and region discussed. The bibliography is updated annually, and available on diskette, the bibliography will be published in June, 1990. The Bibliography is $60.00 (add $5.00 in Canada and $8.00 elsewhere). Diskettes are $150.00. Write: Fire Research Institute, (Same address as above.)

"Friends of the Fen" Volunteer Day - A Success!

Steve Eggers

The first "Friends of the Fen" volunteer workday on May 19th 1990 was a complete success in spite of the worst possible weather conditions (short of a tornado). Thirteen hardy individuals endured a cold, wind-driven rain to girdle buckthorn as well as aspen, dogwood and willow. These shrubs are invading the calcareous fen plant community found on the southern 20 acres of the 30 acre parcel, which is a Minnesota Department of Natural Resources Scientific and Natural Area (SNA). Without management, these shrubs would overtake the calcareous fen community and shade out its characteristic assemblage of calcium-tolerant grasses, sedges, and forbs, including a disproportionate number of rare, threatened and endangered species.

The prime objective of the workday was to girdle all of the 4 to 5 dozen large buckthorn shrubs within the calcareous fen community. This and more was accomplished as there was time to work on some of the aspen, dogwood, and willows. We expect good results from the girdling; a half dozen buckthorn girdled last year showed no sign of life this year.

Much like prairies, periodic burns are necessary for maintenance of the calcareous fen community. However, one result of the urbanization of the Savage/Burnsville area has been suppression of fire. To my knowledge, the last burn of any size in the 500-acre Savage Fen wetland complex, which includes the SNA, occurred in 1970. Compare this 20-year absence of fire with the statement by a 90-year old resident of the area who said they called this wetland complex "the meadows" and a wildfire typically swept across it most every year. Comparison of aerial photography from the 1940s and 1950s with that of recent years is dramatic with regard to the increase in woody vegetation. Whereas less that 1 percent of the 500 acres was shrub/forested up to the 1960s, today about 40 percent of the complex is dominated by woody vegetation. Ideally, prescribed burns would be the preferred management tool; however, the 30-acre SNA lacks good fire breaks. The next best management tool is to girdle the shrubs. This is labor intensive and led to the idea of forming a volunteer group.

Undoubtedly it will be necessary to follow-up the work done on May 19 with cutting of resprouting buckthorn, and many invading willows and dogwood remain. There is enough management work to be done such that the "Friends of the Fen" could keep busy for the next several years at least. This brings up the idea of making the "Friends of the Fen" workday a biannual event. The volunteer group would not be restricted to the 30-acre SNA. I have contacted Terry Shriner of the Minnesota Valley National Wildlife Refuge, which includes a 26-acre parcel with the Savage Fen wetland complex. He would be happy to have a volunteer group available to do management work on the refuge's parcel of the Savage Fen wetland complex.

Volunteer Opportunities

DEPARTMENT OF NATURAL RESOURCES - The Minnesota Natural Heritage Program seeks volunteers to assist with the following tasks:

- processing herbarium specimens
- entry of rare plant monitoring data
- statistical analysis of rare plant monitoring data (experience required)
- review of plant distribution maps
- review of herbarium specimens
- telephoning other volunteers, landowners etc.

To volunteer call Nancy Sather at .

UNIVERSITY OF MINNESOTA (St. Paul campus) - The UM Herbarium seeks volunteers to assist in the curation of museum specimens. Duties may include mounting dried, pressed plants onto archival paper, filing specimens into storage cabinets, mapping collection localities, arranging fungal specimens, or typing labels for lichen specimens. Sorry, no evening or weekend opportunities. For more information call Dr. Anita Cholewa, .

MAPLEWOOD NATURE CENTER (Maplewood) - There are opportunities to act as a trail guide, building receptionist, puppeteer, or outreach speaker. You can also become involved in trail maintenance or creative displays. No formal background is necessary, but an enthusiasm and desire to learn about the natural world is essential. For more information call the Maplewood Nature Center, 612-738-9383.

THE NATURE CONSERVANCY: No Dormancy for Volunteers - The Nature Conservancy's Ottawa Bluffs preserve was the scene of seed gathering last August and September-- Indian grass, big and little bluestem, lead plants, gentians, prairie clover-- all collected by an active group of committed Chapter volunteers. An introduction to restoration techniques at the site of Prairie Restorations, owned and managed by John and Ron Bowen of Princeton, "sowed the seeds" of enthusiasm, so to speak! The native prairie seeds will be used to restore natural areas on Conservancy land at Ottawa Bluffs. If you would like to participate please read on...

Prairie Plant Growers Needed - The Nature Conservancy's Minnesota Chapter needs volunteers who are willing to take seeds collected this fall and grow them for planting in the spring. The plants are needed for the Ottawa Bluffs Preserve near Mankato which has several badly eroded areas. Before transporting the seeds to Ottawa Bluffs in early May, The Minnesota Chapter volunteer crew will provide you with clean, stratified seeds that are ready to germinate, and information on special requirements for growing the particular species as available.

You will be responsible for providing soil, flats, and growlights. The seed should be planted in flats in early March, and later transplanted to individual containers. When the seedlings are ready to plant, bring them to the office. If you can volunteer for this project please WRITE to:

Prairie Plant Growers,
The Nature Conservancy,
1313 SE Fifth Street, Box 10,
Minneapolis, MN 55414

Note: Specify how many flats of seed you are willing to grow!

Native Plant Watch: Two Steps Forward and One Step Backwards

Bob Jacobson

Wildflower Routes Focus On State's Native Beauty

Contrasting with blue prairie sky and seamless green fields of corn and soybeans, multi-hued wildflowers thrive along Trunk Highway (T.H.) 9 between Breckenridge and Benson. Flowers such as blazingstar, goldenrod, common ox-eye and Maximillian's sunflower lend color and texture to the traveler's experience along this road, one of six designated by the Minnesota Department of Transportation (Mn/DOT) as a wildflower route.

In addition to the T.H.9 section, Mn/DOT established wildflower routes on T.H.11 from Baudette to Greenbush, T.H.10 from Becker to St. Cloud, T.H.218 from Owatonna to Lansing, T.H.56 from Rose Creek to LeRoy and T.H.212 from Olivia to Stewart. The 250 miles of wildflower routes represent efforts by the Department of Natural Resources (DNR), the University of Minnesota, the Native Plant Society, Mn/DOT and other organizations to preserve native wildflowers and expand their range along state highways.

And there is a bonus for Mn/DOT---lower costs for roadside maintenance and reduced use of chemical herbicides. "The program is a win/win situation for Mn/DOT," said Leo Holm, Materials and Research. "It can cut maintenance costs, reduce the use of chemicals and create a nice appearing roadside." Holm added that the program earned good reviews from DNR, district maintenance employees and communities on the wildflower routes. Breckenridge City Clerk Blaine Hill also praised the program. "It's an excellent idea," he said. "It's important to save the natural beauty of the prairie lands."

The article above appeared in the October 1990 issue of the Mn/DOT Express, a monthly publication for Department of Transportation employees. A companion article focussed on prescribed burn schools sponsored by Mn/DOT and DNR which trained state employees in how to safely conduct controlled burns to manage roadside prairie remnants.

It is exciting to realize that **finally** native plants are getting recognized as being something other than roadside weeds. This recognition has been slow to come, and even though progress is being made in preserving remnants of native prairie on roadsides, there is still a long way to go.

Efforts at preservation do not come easy. This summer, at the same time that five of the above wildflower routes were being designated, 12 miles of very good quality prairie along highway 60 in southwestern Minnesota were being bulldozed during road construction. The destruction happened despite genuine efforts by the DNR and Mn/DOT to protect the remnant. The culprit, a gung-ho contractor and poor communication both between, and within, Mn/DOT and DNR. A very hard lesson was learned. Efforts to communicate better are being made as a result and the rest of the remnant should be preserved. Sometimes it seems that for every two steps that are made in a positive direction we take a step backwards as well. It can be very frustrating for the individuals involved who are working hard to preserve what few remnants that are left. Of course, the real losers in the whole scheme of things are the native plants and the wildlife that depends on them.

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MNPS Renewal Form:

Fill out this form and mail to:

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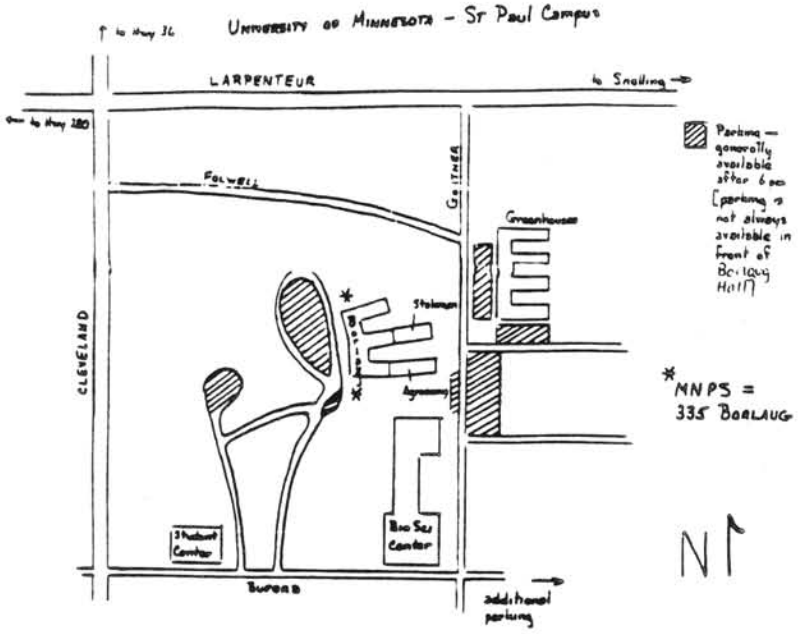
Donations made to MNPS are tax deductible.

Minnesota Plant Press may be obtained through membership in the Minnesota Native Plant Society. The newsletter is distributed 3 times each year. Items of interest for inclusion in the newsletter may be submitted by anyone but must be typed and double spaced. The editors reserve the right to edit for grammar and clarity.

Minnesota Native Plant Society

All meetings are open to the public and take place on the first Wednesday of each month.
They begin promptly at 7:30pm in 335 Borlaug Hall on the University of Minnesota St. Paul Campus
If you have suggestions regarding future topics or speakers, please call Don Knutson.



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