Upcoming Monthly Meetings

Restoration of the American Chestnut in Minnesota -- Charles Burnham February -Vegetation of Kittson County, Minnesota's Northwest Frontier-- Robert Dana March -

How Volunteers Help The Natural Heritage Program -- Nancy Sather April -

May -Nature photography show, field trip preview, plant sale

Rare Beauty

Gordon Yalch - The Nature Conservancy

Of Minnesota's rare native plants, none can match the magic of *Platanthera praeclara* the white fringed prairie orchid. Starting out as two rarely noticed basal leaves, this orchid can send up a flowered spike reaching a height of three feet. With up to 17 per spike, the white flowers appear to be gracefully carved out of wax. This orchid can be found in wet draws and drainages in western and southern Minnesota. An associated plant often used as an indicator of where to look is Cicuta maculata the much more common water hemlock.

July of 1990 proved to be quite exciting for the Minnesota Chapter of The Nature Conservancy (TNC). Searches for the white fringed prairie orchid were done on four of TNC's

prairie preserves. Volunteers gathered at the Western Preserves Office near Glyndon, Minnesota for a day of long walks on several prairies. Searching was carried out in areas of the Red River Valley for which there are historical records as well as known existing populations of the white fringed prairie orchid. In addition, a newly acquired tract was searched for rare plants, but only two populations of Cypripedium candidum, the small white lady's slipper, were found blooming. There is still some hope for this tract because much of it had been mowed

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for hay until the spring of 1990. It is possible that the orchid may still be there but hasn't yet recovered enough from the repeated mowing to bloom.

A range of flowering conditions occurred in the populations of white fringed prairie orchids located during this survey. Some known populations had no flowering plants and

(Continued on pg. 4)

Editors Notes: Bob Jacobson & Sarah Vest

<u>Oops!</u> In the last newsletter, the list of plants on page 3 should <u>not</u> be used in small gardens because they spread rapidly and may outcompete the other plants in your garden.

The next newsletter will be coming out in May, if you would like to submit an article please get it to Sarah at the address below by April 1st.

Sarah Vest

Announcements

- Update.on the U of M Endowed Chair -- The Minnesota Native Plant Society board members voted to support the fund drive for the Endowed Chair in the Origin and Conservation of Plant Diversity (see fall 1990 newsletter for background information). To get the ball rolling, an anonymous challenge grant of \$500 was pledged. The MNPS board is adding another \$500. Our goal is to attract contributions from the membership to meet this \$1,000 challenge at a ratio of 3 to 1 and raise a total of \$4,000 for the Chair. You will be receiving a brochure describing the Chair. Should you decide to contribute, please use the envelope provided with the brochure. In this way, we can keep track of contributions coming from the MNPS membership.
- Thank You -- for all of the awesome refreshments that people have been bringing to the monthly MNPS meetings. Most of us can't even dream of matching these performances but let's not be shy. If you are interested in bringing refreshments, sign up at the next meeting (there are several opportunities left) and contribute to the conviviality we all enjoy. We need one refreshment "organizer" to sign up for each meeting. It is this person's responsibility to check with the previous month's organizer to be sure there are enough cups, to contact the other cookie providers and to set up the hot water pot.
- Membership Committee Sought -- The Minnesota Native Plant Society is growing. Volunteers are needed to do the following:
 - 1. Keep the membership roster up to date
 - 2. Send a welcome letter to new members
 - 3. Receive new and renewal memberships
 - Report periodically to the board
 - 5. Help promote membership in the society

Thanks to Ted Tonkinson who has already volunteered. Let's get some additional members for this committee! It's easy! It's fun! It's the perfect way to get to know other members.

Interested persons should contact Ellen Fuge or Nancy Sather

• Minnesota Flora -- The long awaited publication of "Atlas of the Flora of Minnesota" by Ownbey, G.B. and Morley, T., 1991; will be here in March. ONLY 750 hard bound copies will be printed. The Minnesota Native Plant Society is offering this book at the reduced price of \$30.00 (from \$39.95) to MNPS members only. If you are interested in buying a book and taking advantage of this offer, please fill out the form at the end of this newsletter and send by February 27 to:

Ellen Fuge

• Fourth Annual Minnesota Native Plant Society Symposium -- To be held April 6, 1991. Volunteers are needed to help serve on several committees. Committee members are listed below. If you would like to volunteer, please contact the chair of the committee on which you would like to serve. The symposium title is still taking shape. The general subject will be centered around why it is important to use native plants for landscaping and the ethics and environmental concerns for the appropriate use of natives. Join in this creative and satisfying process, get to know your fellow members, meet the experts in the field.

Symposium Chrm: Cole Burrell Refreshments: May Wright (Chrm)

Ted Tonkinson Heidi Schwabacher
Esther McLaughlin Laura-Leigh Madsen
House/Hospitality: Ruth Phipps (Chrm) Henrietta Miller

Judy Kenney Carmen Converse
Becky Schriber Publicity: Ellen Fuge (Chrm)
John Anderson Don Knutson

• Summary of MNPS General Meetings -- At the October 3 meeting, Hannah Dunevitz gave a colorful slide presentation about her work with the Minnesota County Biological Survey in Rice and Goodhue counties during the 1990 field season. The highlight of her field work and her presentation to the Society was the rediscovery of *Napaea dioica*, the glade mallow. See "Glade Mallow Relocated" by Hannah Dunevitz page 5 of this newsletter.

On the evening of November 6, Bonnie Harper talked about the establishment of the Midwest branch of the Wildflower Research Center housed in the Minnesota Landscape Arboretum. The center is just getting started in Minnesota. It represents several midwestern states and Bonnie is just developing the agenda. Those members with ideas for projects might want to contact Bonnie with their ideas. Her phone number is

Jan Green addressed the general meeting of the Society on December 5. She is on the advisory committee for the generic environmental impact statement. This committee has been mandated to address the complex issues surrounding the proposed accelerated harvest of Minnesota's timberlands, including such controversial issues as soil erosion, habitat modification, old growth forest dependant species, road development, and others.

On January 2nd, the Open Forum was a great success. Modeled on an impromptu discussion session at one of last years meetings, this gathering was orchestrated and directed by John Moriarty. May Wright, Welby Smith, Cole Burrell and Roy Robison were there to entertain questions from the audience. Several other experts were discovered in the crowd. There were questions raised about rabbit deterrents, city ordinances regarding natural plantings, the legal status of horticultural varieties of purple loosestrife, the myths of orchid propagation, the fate of boulevard trees, and a plethora of other interesting topics.

• National Wildflower Research Center -- A Midwest Regional office of the National Wildflower Research Center opened last summer. The office will serve Minnesota, Iowa, Illinois, Indiana, Michigan, Ohio, Wisconsin, Missouri, Oklahoma, Kansas, Nebraska, North Dakota and South Dakota. The primary function of the office will be to facilitate information exchange about wildflowers and native plants in the Midwest. However, it will also begin establishing a slide and book library, developing landscaping fact sheets for the public and designing applied research projects and demonstration plantings. A regional conference is being planned for next summer. The Center is located at the Landscape Arboretum in Chanhassen and can be reached at

(Rare Beauty, continued from pg. 1)

only the basal leaves could be found. Six populations were re-marked or were new recordings and ranged in number of flowering plants from one up to 2,800. That's right, 2,800 flowering plants in a single population! But with only three people doing the counting this is a rough estimate. This huge population straddles a drainage ditch. There is no sign that the

orchids have suffered any negative effects from chemicals that come through the ditch in water from farm fields upstream, and it is hoped that they never do. The TNC Director of Preserve Stewardship, Brian Winter, used up a roll of film documenting this vast find.

During the fall, firebreaks were mowed in the areas that had been surveyed to prepare for prescribed burns planned for the spring of 1991. At the same time, several of these populations were revisited and seed pods were found on plants scattered throughout the site. Hopefully many new plants will become established and there will be even more orchids flowering in some future summer.

To put a final touch on such a successful day, Brian happened to glance out of the window while driving back to the office and exclaimed, "Hey! Weren't those orchids back there?" After turning around and driving back, sure



White fringed prairie orchid (Platanthera praeclara)

enough, there they were. In a small hayed field next to a farm house there were three flowering plants. Brian recorded the location and went to work to try and get the landowner to enroll this land into protected status. If any one finds new sites for *Platanthera praeclara* or any other rare plant, they should contact the nearest DNR or TNC office or Lisa Mueller, Endangered Species Specialist for the Minnesota Department of Agriculture at

Glade Mallow Relocated

Hannah Dunevitz, Plant Ecologist - Minnesota County Biological Survey

One of the more exciting discoveries during Minnesota's 1990 field season was the rediscovery of the state endangered plant-glade mallow, *Napaea dioica*. It was found during the Minnesota County Biological Survey (MCBS) of southeastern Minnesota's Goodhue

County. The MCBS began comprehensive inventories of Rice and Goodhue Counties in 1990. Plant and animal ecologists visited potential sites looking for rare plants and animals and documenting occurrences of natural communities in these counties. The inventory for these two counties will be completed in 1991.

One of the plants the biologists were looking for was glade mallow. Confined to a narrow band of habitat stretching from Ohio, west to southeastern Minnesota, the plant was probably uncommon even before European settlement.

Glade mallow is rare because of the conversion of floodplain habitat to agricultural land. In southeastern Minnesota it occurs in alluvial meadows and in floodplain forest openings along major tributaries of the Mississippi River. A very distinctive plant, glade mallow is easily recognized by its tall stature, up to about 2 meters tall, and its serrate, palmately lobed leaves. The small



Glade mallow (Napaea dioica)

flowers are arranged in a panicle and have 5 white petals. The globular fruits are green in mid summer, eventually darkening to a bluish black and splitting into many separate one seeded partitions. The plant is the only dioecious species in the Malvaceae family that is native to the Western Hemisphere, and has no close relatives living today. It is thought to be quite an old species.

Before 1990, there were only three recently confirmed occurrences of glade mallow in the state, none of these from Goodhue County. There were two older records in Goodhue County, the most recent from a 1942 collection. One site in Goodhue County that had been selected from aerial photographs as an area having natural vegetation was a large forested

tract of about 500 acres along the North Fork of the Zumbro River. While searching the floodplain adjacent to the river, the plant ecologist working in the area came upon several glade mallow plants. A subsequent canoe trip along that portion of the river revealed that the plant was growing in scattered patches along a three mile stretch of the river, sometimes clinging to the bank next to corn fields or roads. Later in the season, the plant was also relocated in a former collection site near the town of Pine Island. Additional potential sites will be searched in 1991.

More "Friends of The Fen" Volunteer Work

Steve Eggers

On September 8, 1990, another volunteer work day was held at the Savage Fen Scientific and Natural Area (SNA). The first volunteer work day was held on May 19th and the results were reported in Vol. 10:1 of the Plant Press. As opposed to the first work day weather conditions were ideal and about a dozen people, members of the Native Plant Society and/or The Nature Conservancy, arrived ready to do some "hands on" management work.

First, a botanical tour of the calcareous fen plant community was conducted noting the characteristic calcium-tolerant species of this rare plant community. We observed lesser fringed gentian (*Gentianopsis procera*), grass-of-Parnassus (*Parnassia glauca*), Riddell's goldenrod (*Solidago riddellii*), shrubby cinquefoil (*Potentilla fruticosa*) and other species in bloom. Three of the rare members of the sedge family (listed as threatened or of special concern in Minnesota) were also observed; twig-rush (*Cladium mariscoides*), whorled nut-rush (*Scleria verticillata*) and fen beak-rush (*Eleocharis rostellata*). The field trip happened to coincide with the best time of year to observe the most conspicuous field characteristic of the whorled nut-rush; its bony-white, stone-like achenes.

We inspected the buckthorn that had been girdled in May. Those smaller than three inches in diameter had lost all leaves and showed no signs of life. Larger buckthorn still retained their leaves, although about 50% of the leaves had yellowed. These larger buckthorn had produced a heavy fruit crop. Apparently, there were enough energy reserves in the upper part of the shrubs to retain the leaves and bear fruit. One of the participants stated that producing heavy fruit crop is a survival mechanism often employed by dying fruit trees and shrubs. Hopefully, this was the "last gasp" of the buckthorn. Future control will then consist of cutting buckthorn seedlings, a much easier task than tackling the girdling of dozens of large buckthorn shrubs.

After confirming that all the buckthorn in the southern 20 acres of the SNA had been effectively girdled, the group began cutting back the large willow and dogwood clumps. Here the numerous small stems made girdling impractical so the stems were cut. Some large willows were also cut. A comment was made that this isn't going to have any benefits because the willow and dogwood will simply resprout. My response was that the cutting should be viewed as a "setback" to the shrubs. Even if a program of prescribed burning could be initiated, the shrubs would not be eliminated; rather, they would be set back by each burn. Review of aerial photography shows how the clumps have progressively increased in aerial extent over the last 20 years with the absence of fire. Cutting the clumps will permit full sunlight in areas that have been shaded for as long as two decades. Yes, it will be necessary to cut the resprouting shrubs every few years, but the benefits of greatly reducing shading

should make this effort worthwhile. It will be exciting to see how the sun-loving species of the calcareous fen respond now that they are no longer suppressed.

One result of our industrious cutting was that a number of brush piles were left within the fen. Obviously it would be counterproductive to leave the brush piles as they would be "shading" the fen vegetation as well. On the 18th of November, Ellen Fuge and I dragged the brush to the edge of the upland old field. To give you an idea of how much brush was cut by volunteers, it took 6 person-hours to drag the brush the 100 to 300 feet to the old field. "Exhausted" would be an accurate description of Ellen and I afterwards.

Another volunteer work day is planned for October 19, 1991. Participants will be limited to 15 and reservations are required. The Nature Conservancy is handling arrangements - contact them at 379-2134 to make a reservation.

Wildflower Gardening Notes

May Wright

Now is a good time to plan your wildflower garden. Soon the catalogs will arrive and plants or seeds can be ordered. Growing wildflowers from seed is not for everyone. It usually takes more time from seed to bloom than with cultivated plants. It takes time to transplant and care for seedlings just when other garden chores need attention, but it is rewarding to see the results. It is also an inexpensive way to obtain a good number of plants or to get some special ones. Here are a few suggestions.

The germination of most northern species is benefited by a previous cold period. Seeds obtained in February or early March can still get a couple of months of cold outdoors. Plant them in seed pans or pots (at least 2" deep) and put them in a coldframe. Covering each with a clear plastic bag keeps the surface moist until germination. They should be in light but not direct sun. A sterile soil mix of loam, sphagnum peat and coarse sand, or vermiculite can be used. Soil should not be packed, it should but be loose enough to promote good root growth. If a cold frame is not available, the pots can be put in a container and covered with plastic or glass and set in a shaded spot outdoors. Some screening may be laid over it to keep animals from disturbing it.

A similar effect of cold temperature may be obtained in less time by putting the seeds in a covered container of moist peat and sand and setting it in the refrigerator at about 40°F for 6-8 weeks for most seeds. If there are many seeds they can be layered in the medium. A few species take less time. Lupine (*Lupinus perennis*) needs only a short time of about 10 days. If left longer it germinates in the refrigerator.

After the period of cold treatment, the seeds may be spread in their permanent site or potted up for transplanting later. Some seeds, especially those of prairie plants, need only dry cold instead of moist. They can be put in the refrigerator in envelopes or in containers with dry sand. With small seeds, this sand can be spread later with the seeds. The sand helps to sow them more evenly.

Most seed sources store their seeds at cool temperatures. A few store them at the 40°F temperature so that they are ready to be planted when they arrive. Inquiries can be made about this. The following are a few colorful species that can be grown quite readily after the cold-moist or cold-dry seed treatment. They are arranged by time of bloom.

Early spring:

Virginia Bluebells (Mertensia virginica) - meadow, shade, spring sun. Cold-moist.

Spring: Late spring: Birds'-foot Violet (Viola pedata) - prairie, sun. Cold-dry.

Wild Columbine (Aquilegia canadensis) - wood's edge, partial shade. Cold-moist Light needed for germination.

Early summer:

Summer:

Butterfly Weed (Asclepias tuberosa) - prairie, sun. Cold-dry.

Cardinal Flower (Lobelia cardinalis) - wood's edge, partial shade. Cold-moist. Small seeds, light needed for germination. Put seeds on layer of sieved peat

over the potting soil.

Blue Lobelia (Lobelia siphilitica) - woods, partial shade. Cold-moist.

Harebell (Campanula rotundifolia) - meadows & rocky banks, sun. Cold-moist.

Prairie Larkspur (Delphinium virescens) - dry prairie, sun. Cold-dry.

June Grass (Koeleria cristata) - prairie, sun. Cold-dry.

Fall:

New England Aster (Aster novae-angliae) - meadows, sun, partial shade. Cold-moist.

Little Bluestem (Schizachyrium scoparium) - prairie, sun. Cold-dry.

Wildflower Sources in Minnesota and Adjacent Areas

Plants = (P) & Seeds = (S)

Name & Adress

Original Source of Material

American Rock Garden Society (S)

15 Fairmead Road Darien, CT 06820

Some from MN (via seed exchange)

Boehlke's Woodland Gardens (P) W 140 N 10829 Country Aire Road

Germantown, WI 53022

Wisconsin

Ferndale Garden Center (P)

P.O. Box 218 Askov, MN 55704 Minnesota

Landscape Alternatives, Inc.(P,S)

1465 N Pascal St. St. Paul, MN 55108 Many from Twin Cities area

Little Valley Farm (P,S)

R.R. 1 Box 287

Richland Center, WI 53581

Wisconsin

Midwest Wildflowers (S)

Box 64

Rocktown, IL 61072 MN

Illinois

Landscape Arboretum (P)

Chanhassen, MN 55317

Minnesota & others

MN Native Plant Society (P,S)

220 Bio. Sci. Center University of Minnesota St. Paul, MN 55108

Many from Minnesota

Fall Seed Exchange; Spring Plant Sale

Name & Adress

Orchid Gardens (P) 2232 139th Ave. NW Andover, MN 55307

Original Source of Material

Minnesota, especially northern part

Prairie Moon Nursery (P,S)

Route 3 Box 163 Winona, MN 55987 Driftless area of MN and adjacent areas

Prairie Nursery (P,S)

P.O. Box 365 Westfield, WI 53964 Wisconsin & others

Prairie Restoration (P,S)

P.O. Box 327 Princeton, MN 55371 Minnesota

Prairie Ridge Nursery (P,S) R.R. 2, 9738 Overland Rd

Mt. Horeb, WI 53572-2822

Wisconsin

Prairie Seed Source (S) P.O. Box 83

North Lake, WI 53064-0083

Southern Wisconsin

Rice Creek Gardens, Inc. (P) 11506 Highway 65 Blaine, MN 55434 Minnesota, Michigan & others

Upcoming Seminars

Gardening for a Greener Planet, Maplewood Nature Center 612-738-9383, Tuesdays, March 5 through March 26, 7:30 & 9:00 p.m.

March 5 - "Landscaping for Energy Savings". Doug Owens-Pike of Evergreen Energyscapes will focus on landscaping techniques for heating and cooling the home, and use of native plants for low maintenance and resistance to drought.

March 12 - "Designing with Native Plants". Cole Burrell, University of MN, will show you how to design a wild flower garden emphasizing color, form, and texture.

March 19 - "Gardening for Butterflies". Mary Risdall, Federated Garden Clubs, will speak on planting a flower garden to attract butterflies.

March 26 - "Landscaping for Wildlife". Carrol Henderson, DNR Nongame Program, will show you how to attract wildlife to your own backyard.

Fee: \$3.00/session or \$10.00 Prepaid Registration. Deadline is Friday before each session.

^{**}List Compiled by May Wright**

Volunteer Opportunities

- Department of Natural Resources Volunteers needed for rare plant searches. Now is the time to call the DNR at to indicate your interest in searching for rare plants next summer. Prospective volunteers will be sent a volunteer application and added to the volunteer mailing list for a mid-March mailing. The DNR has opportunities for volunteers to search for and monitor 3 federally listed plants: The Minnesota Dwarf Trout Lily in Rice and Goodhue Counties in late April and early May, the White Fringed Prairie Orchid in northwestern Minnesota in late June and/or early July, and the Prairie Bush Clover in southwestern and southeastern Minnesota in August and early September.
- Department of Agriculture Volunteers are needed to assist the Department of Agriculture in documenting the exact location of Dwarf Trout Lilies at presently known sites. Contact Lisa Mueller at
- The Nature Conservancy Volunteers who wish to assist The Nature Conservancy with documenting and monitoring populations of White Fringed Prairie Orchids should contact Brian Winter at

Native Plant Watch....

The Minnesota Department of Agriculture's Endangered Species Program

Lisa Mueller, Endangered Species Specialist - Minnesota Department of Agriculture

By virtue of the Federal Endangered Species Act, the federal government is required to mitigate any risk that its actions pose to federally listed species of plants and animals. One of the "actions" included under the provisions of that Act is the registration of all pesticides by the U.S. Environmental Protection Agency (EPA).

Since the early 1980's, EPA has been grappling with the development of a comprehensive endangered species protection program. The current proposed program would involve the re-labeling of all pesticides determined by EPA, in consultation with the U.S. Fish and Wildlife Service, to pose "jeopardy" to an endangered species. The label statement would refer pesticide users to a county specific bulletin which would identify those species that could be negatively affected by the use of a particular pesticide within the county. The bulletins would include a range map and a brief habitat description for the identified species.

The EPA proposed program has received negative reviews from both the "regulated community" and endangered species resource managers, who have identified a number of shortcomings with the federal approach; not the least of which is the fear that by providing the exact locations of endangered plant populations to the general public, intentional destruction

may occur. In response to the opposition, the EPA gave "the states" the opportunity to develop their own pesticide protection programs in 1988. The Minnesota Department of Agriculture (MDA) welcomed the opportunity to develop a program more uniquely tailored to the needs of the federally listed species which occur in our state.

There are eight Federally listed species which ocurr in Minnesota; three of which are native plants. The list includes: the Gray Wolf, the American Peregrine Falcon, the Bald Eagle, the Piping Plover, the Higgin's Eye Pearly Mussel, the Western Prairie Fringed Orchid, the Prairie Bush Clover and, of course, the Minnesota Dwarf Trout Lily.

At present, the MDA program deals almost exclusively with the plant species, because they are stationary and their "owners" can be identified. Private landowners who own the listed orchid, clover or lily are asked to enter into voluntary Protection Agreements which acknowledge their commitment to protect the species from negative affects due to pesticide exposure. A landowner's signature on the Agreement indicates that they are willing to comply with the provisions of a Pesticide Practice Plan which is prepared by MDA for each listed plant owner. Pesticide use restrictions identified in the Plan typically involve the establishment of "buffer zones" of varying widths, depending primarily on the method of application used by the producer (i.e., aerial applications are more closely monitored than applications of granular herbicides, due to the greater potential risk for off target exposure which they pose).

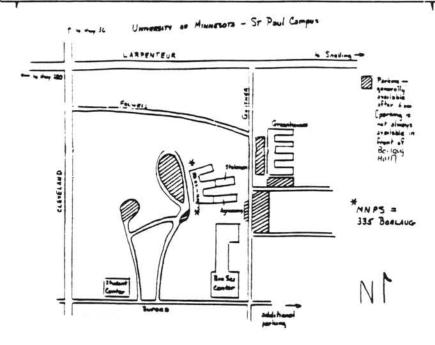
To date the program has shown an admirable "success" rate with a majority of Minnesota's federally listed plant populations receiving protection through the Agreements. If you would like more information about MDA's Endangered Species Protection Program, please contact Lisa Mueller at

MNPS Board of Directors

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Order form for Ownbey & Morley, 1991. "At	las of the Flora of Minnesota"
MNPS MEMBER	SONLY
NameAddress	
Phone Number (include area code)	
Number of books ordered	
Send by February 27 to:	
Ellen Fuge DNR SNA Program Box 7, 500 Lafayette Rd St. Paul, MN 55155-4007	

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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