



Minnesota Plant Press

The Minnesota Native Plant Society Newsletter

www.mnnps.org

Volume 30 Number 4

Fall 2011

Monthly meetings

Thompson Park Center/Dakota
Lodge

Thompson County Park
360 Butler Ave. E.,
West St. Paul, MN 55118

Programs

The Minnesota Native Plant Society meets the first Thursday in October, November, December, February, March, April, May, and June. Check at www.mnnps.org for more program information.

6 p.m. — Social period

7 – 9 p.m. — Program, Society business

Nov. 3: “For Love of Lakes,” by Darby Nelson, Ph.D. **Plant-of-the-Month:** Watershield (*Brasenia schreberi*), also by Dr. Nelson. **Fall seed exchange:** After the meeting; see details below.

Dec. 1: To be announced.

Feb. 2: To be announced.

Seed exchange Nov. 4

Members are encouraged to collect seeds from native plants on their own property and bring them to the tables just inside the lodge before the meeting.

Seeds must be packaged in envelopes or small containers and labeled with the plant’s name, scientific name (if known), habitat type, location of source, and name of donor.

Ken Arndt is in charge of the exchange. He needs volunteers to receive the seeds, help arrange them, answer questions, and take down the tables.

Fires play critical role in ecosystem of BWCA

by Scott Milburn

It has been very interesting following the events and discussion regarding the Pagami Creek Fire in the Boundary Waters Canoe Area. There is obviously concern for the well-being of those directly affected. Yet, we need to examine the situation for what it is.

The majority of the fire, which impacted more than 92,000 acres, was contained at the time of writing this piece. It has been my impression, based on quotes and commentary in the print media, that some members of the public believe fire suppression should be reconsidered as a management tool, and there is a great deal of outrage towards the Forest Service for allowing this fire to evolve. What appears lost is an understanding of the role and importance of fire on the landscape, particularly in the BWCA.

I find the political theatre by members of the legislature suggesting that the Minnesota attorney general and the DNR sue the Forest Service as sad. Their point is that this fire is responsible for damages to state forest lands and lost revenue. The timber itself is an agricultural commodity and should be thought of in terms of crop success and failure. Farming is by no means a safe financial bet, with good years followed by bad years. It is also disappointing that these legislators do not appear to demonstrate an understanding of ecology, particularly in the districts they represent.

Fortunately a great deal of research has been ongoing in the BWCA, much in part due to the past work of Bud Heinselman. Bud stressed the importance of fire on this landscape. The general concept is easy to understand – it is a nutrient-poor system that relies on fire to release nutrients. His work is a must read. Despite the significant landscape change we are now seeing, this system is a resilient one and one to truly appreciate.

Miron (Bud) Heinselman

Bud, a former forest ecologist with the U.S. Forest Service, advocated for the preservation of Minnesota’s Boundary Waters Canoe Area as wilderness.

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Conservation Corner

by Beth Nixon

Autumn is a time to drum up ideas with your friends and fellow MNNPS members to advance habitat and native plant conservation measures in legislative proposals for the next session.

Some of our best conservation is occurring from the ongoing slowdown in land conversion to suburbia. However, might there be other strategic approaches to this conservation by default? We have financially incentivized private lands stewardship, but how about smart community planning that reverses the decades-old suburbanization of every little town across the state?

I've been following strongtowns.org this year and their wise and rational arguments for long-term fiscal sustainability of local government. This also turns out, in my view, to be a perfect vehicle for advancing a conservation agenda.

What land conservationist hasn't railed against the demise of a local woods or other undeveloped remnant by foolishly conceived local planning? The economic squeeze is not an evil — it is forcing change from local governments' revolving door with local officials and local landowners who work together to concoct quick bucks from land development plans.

The economic squeeze will hopefully continue to force out land-wasting, poorly planned, sprawling towns. But those who stand to lose usually can't be expected to go quietly. Take some time this fall to read up on the progressive ideas at strongtowns.org and consider how you can get your elected officials to embrace change, and, by default, adopt land-planning practices that conserve open areas.

Black walnuts aplenty

Naturalists in southeastern Minnesota are reporting a bumper harvest of black walnuts. Dave Palmquist, naturalist at Whitewater State Park, said it's the best crop he's seen in 38 years at the park.

Minnesota Native Plant Society's purpose

(Abbreviated from the bylaws)

This organization is exclusively organized and operated for educational and scientific purposes, including the following.

1. Conservation of all native plants.
2. Continuing education of all members in the plant sciences.
3. Education of the public regarding environmental protection of plant life.
4. Encouragement of research and publications on plants native to Minnesota.
5. Study of legislation on Minnesota flora, vegetation, ecosystems.
6. Preservation of native plants, plant communities, and scientific and natural areas.
7. Cooperation in programs concerned with the ecology of natural resources and scenic features.
8. Fellowship with all persons interested in native plants through meetings, lectures, workshops, and field trips.

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Questions? Go to our website: www.mnnps.org

30K celebration at Bailey Herbarium is Nov. 15 at St. John's University

The Colleges of St. Benedict/St. John's University Bailey Herbarium will celebrate its 30,000th specimen with a program and tours at 6:30 p.m. Tuesday, Nov. 15.

"A herbarium is a collection of pressed, dried, labeled and identified plants; in essence, a reference library of plants," said Stephen G. Saupe, CSB/SJU Biology Department professor and herbarium curator.

The 30K Day festivities will be held in Peter Engel Science Center, Room 373, on the campus of Saint John's University, Collegeville, Minn. The program will begin with a brief welcome at 6:30 p.m., followed by a presentation entitled "What is the Bailey Herbarium and Why Celebrate?" by Dr. Saupe.

This will be followed by a presentation entitled "A Botanist Loose in the Herbarium" by Michael Lee, a Minnesota DNR botanist who has worked extensively in the herbarium.

His presentation will be followed by a ceremonial stamping of the 30,000th specimen, which is a moccasin-flower orchid (*Cypripedium acaule*) collected by Michael Lee. Welby Smith, botanist with the Minnesota DNR and the author of *Orchids of Minnesota*, will be the keynote speaker and will discuss Minnesota orchids.

Tours of the herbarium will follow the presentations, and visitors will have the opportunity to make souvenir herbarium magnets.

This program is free and open to the public. For more information, contact Dr. Stephen Saupe, CSB/SJU Biology Department, Collegeville, MN 56321, or 320-363-2782, or send an e-mail to ssaupe@csbsju.edu.

This program is jointly sponsored by the Saint John's Arboretum and CSB/SJU Bailey Herbarium.

Remembering Arden Aanestad

Arden Aanestad of Edina, a long-time member of the Minnesota Native Plant Society, died Aug. 27 at age 86. He received a bachelor of science degree from North Dakota State University, and a master's degree in entomology from Washington State University. His career centered on agricultural chemicals; he co-founded the successful Castle Chemical Co., which he later sold.

An early retirement enabled Arden to dedicate his time to his love of nature. He was a park naturalist at Richardson Nature Center in Bloomington for nearly 30 years and was named Minnesota Tree Farmer of the Year in 2009.

He was active in many nature organizations and especially loved birds. He was a past president of Izaak Walton League, Ruffed Grouse Society, and the Lake Washburn Association, and for 25 years contributed to Cornell University's Project Feeder Watch. Arden was a master bird bander, mentored bird banders, taught bird-watching, and led many bird-watching trips. He did most of his bird banding in northern Minnesota, on his tree farm.

Arden belonged to many nature organizations, including the Nature Conservancy, the Minnesota Mycological Society, and the Minnesota Arboretum. He liked to hunt and fish, and traveled to many countries in the world.

Reminder: It's time to pay your dues

The MNNPS operates on a calendar-year basis, so dues are payable in January. Members may pay at the November or December meeting, if they wish. (We do not meet in January.)

We do not send out dues notices, so this reminder will be the only one that you receive.

Download the membership form from our website (www.mnnps.org) or fill in one at a meeting. Mail the form or just send the information and your check to:

Minnesota Native Plant Society
P.O. Box 20401
Bloomington, MN 55420.

Membership categories

- \$15 - Individual
- \$15 - Family (Two or more individuals at the same address)
- \$8 - Student (Full time)
- \$8 - Senior (Over 62 or retired)
- \$20 - Institution
- \$25 - Donor
- \$300 - Lifetime member

Include your name, full address, telephone number (work and/or home) and e-mail address.

MNNPS welcomes new members

The Society gives a warm welcome to eight new members who joined during the third quarter of 2011. Listed alphabetically, they are:

Gary A. Carson, Brainerd;
Paul Dubuque, Duluth;
CarolAnn Hook, Burnsville;
Thomas Huetten, Cass Lake;
Kathleen Jones, Wayzata;
Sheila Marfell, Oakdale;
Kathryn Resner;
Ed Wehling, Coon Rapids.

MPCA Begins Statewide Wetland Quality Survey

by Michael Bourdaghs

This summer, staff members from the Minnesota Pollution Control Agency (MPCA) have been busy sampling vegetation in wetlands across the state. It's part of a statewide wetland condition assessment aimed at measuring the overall quality of Minnesota's wetlands.

The survey works much like a political poll, where the opinions of a group can be estimated by randomly surveying a limited number of individuals. First, wetland sites of all types were selected at random throughout the state. Sampling crews then visit the sites and conduct a detailed vegetation survey and, at a subset of sites, collect more detailed data such as soils and water chemistry.

This information will then be used to make an assessment of wetland quality at the site based on previously established metrics and criteria. Because all of the sites are selected at random, the results should reflect the overall quality of Minnesota's 10+ million acres of wetlands.

This work is being done in conjunction with a similar national

effort conducted by the U.S. Environmental Protection Agency and will support Minnesota's goal of achieving no net loss in the quantity, quality, and biological diversity of wetlands by providing the first comprehensive statewide estimate of wetland quality. It will also complement an ongoing survey from the Minnesota DNR that tracks the status and trends of wetland quantity in the state.

From June to September, crews traveled to sites from Eagle Mountain in the far northeast to Pipestone County in southwest and many points in between, sampling vegetation in all varieties of swamps, bogs, fresh meadows, and marshes. Many of the state's wetland orchids were observed, and a modest number of listed species records were made.

The highlight of the field season was accessing nine sites in the peatlands of north-central Minnesota via helicopter. The linear-leaved (*Drosera linearis*) and English (*D. anglica*) sundews, which only occur in the patterned fens in the heart of these vast wetland complexes, were both observed at a few of the sites. To date, the MPCA has sampled over 100 of the 150 sites targeted for the survey, with sampling scheduled to be completed in 2012.

Research grants

Prairie Biotic Research is again offering grants of up to \$1,000 to individuals for the study of prairies and savannas. This all-volunteer Wisconsin nonprofit was established in 2000 to foster basic biotic research in prairies and savannas.

Many previous grants have supported graduate student research. Proposals must be received by Jan. 5, 2012. For additional information, go to prairiebioticresearch.org

'Barney' traps reveal spread of ash borer

Three-sided purple "Barney" traps are being used to detect the leading edges of the emerald ash borer infestation. The traps, which are named for the cartoon dinosaur of the same color, are baited with a chemical lure and coated with glue. They were developed by the U.S. Forest Service, which distributed 61,500 to state and local conservation groups in all 48 states this year.

Since the beetles were discovered near Detroit in 2002, they have spread to 15 states and Ontario. Foresters no longer consider eradication a possibility; instead, they want to slow the spread to protect as many of the nation's 9.5 billion ash trees as possible. The Barney trap is the strategy's centerpiece. If officials know where the beetles are and where they are going, they have a chance to slow them down.

Each side of the trap is corrugated plastic, 14 inches wide by 24 inches high. They are tinted a deep purple (the color the beetles preferred), folded to form a prism and coated with glue. The chemical lure includes manuka oil from a tree in New Zealand. Each trap costs about \$9; the lure packet costs \$5.

New York State has spent \$1 million this year to survey and slow the spread of the beetles. Campgrounds are among the target areas.

Foresters are using information from 6,560 Barney traps and making "sink trees." They remove a strip of bark about six inches wide all around the trunks of the designated sink trees. Great numbers of the beetles are drawn to these locations instead of spreading throughout a forest. In winter, the sink trees will be cut down, and most of the larvae will die.



Bog at sunrise with Tussock cotton grass (*Eriophorum vaginatum* ssp. *spissum*) and Bog rosemary (*Andromeda polifolia* var. *glaucophylla*) in bloom, Pine County. Photo by Michael Bourdaghs.

Peatlands are focus of county surveys

by Erika Rowe, MCBS plant ecologist

As part of the ongoing statewide survey by the DNR's Minnesota County Biological Survey (MCBS), recent attention has been focused on the patterned peatlands of northwestern Minnesota.

Peatlands cover over six million acres, or more than 10 percent of the state, and are internationally recognized for their ecological significance. In addition to their ecosystem-level importance, Minnesota's peatlands provide habitat for over two dozen rare plant species, including linear-leaved sundew, English sundew, twig-rush, and montane yellow-eyed grass.

MCBS plans surveys in many of the peatland communities throughout northern Minnesota in the coming field seasons, despite

many problems with accessing these remote places.

The Red Lake Peatland has been of particular focus for the past two summers because it is the largest and most diversely patterned peatland in the United States. It is also the southernmost of the boreal peatlands in North America. Its southerly position makes it a bellwether for the impacts of climate change on northern peatlands.

One of the most pressing concerns is that climate change will dry peat surfaces, causing rapid decomposition of peat and the release of large quantities of carbon dioxide and methane into the atmosphere.

During the past two summers, MCBS has worked with Dr. Paul Glaser, University of Minnesota, to set up permanent vegetation monitoring plots at a variety of sites within the peatland. Many of these plots represent sites where he and Botanist G. Wheeler collected data in the late 1970s and early 1980s.



This *Botrychium crenulatum* plant was discovered in the Chippewa National forest. Photo by Otto Gockman.

State record plant is first found east of the Rockies

It is always big news when a new state record plant is found. It is especially exciting news if this is the first time the plant has been found east of the Rocky Mountains.

Botrychium crenulatum was a surprising discovery this past June in the Chippewa National Forest.

The species was observed with *Botrychium ascendens*, also marking the first time for that species to be located in a native plant community in Minnesota.

Apart from this being a major range expansion for *B. crenulatum*, it is hoped that this discovery will shed more light on the presence of *B. ascendens*, a species of hybrid origin between *B. crenulatum* and either *B. campestre* or *B. lineare*.



Patterned fen, called the western water track, in the Red Lake Peatland stretches for approximately 14 miles and makes up the western-most extent of the peatland. The linear bands are ridges of peat called strings, and the pools of water are called flarks. Photo by Erika Rowe, DNR. For more information, go to http://files.dnr.state.mn.us/eco/mcbs/peatland_poster

Native plant communities of Lake Vermilion State Park

by Tavis Westbrook, Minnesota DNR resource specialist, Division of Parks and Trails

On June 8, 2010, Lake Vermilion State Park became Minnesota's newest state park. Situated near Soudan, Lake Vermilion State Park is roughly 3,000 acres in size and is directly adjacent to Soudan Underground Mine State Park. Both parks combined boast nearly 10 miles of undeveloped shoreline on the east end of Lake Vermilion and about 4,000 acres of land.

The mapping of the native plant communities of Lake Vermilion State Park began in earnest in early 2010. We knew some of the recent land-use history on the parcel already:

- It had been owned by US Steel since the late 1800s;
- It had been managed for timber continuously through the 20th century; and
- It contained very rugged upland terrain as well as many hundreds of acres of open and wooded wetlands.

We also were able to look at its landscape position and make some assumptions about its physical characteristics using the Ecological Classification System developed by the Minnesota DNR.

That hierarchical system told us that the park was in the Border Lakes Subsection. This subsection consists of "scoured bedrock uplands or shallow soils on bedrock, with large numbers of lakes. Topography is dominantly rolling with irregular slopes and many craggy outcrops of bedrock." Another term commonly used within this subsection and certainly for this park would be "Canadian Shield" topography

If you have visited the Boundary Waters Canoe Area Wilderness

(BWCAW) and Quetico Provincial Park to the north and east, you have a pretty good idea of what I am describing.

Next, we used a Geographic Information System to obtain other relevant data that also existed for the parcel: streams, lakes, wetlands, topography, and soils data were particularly helpful. Additionally, color infrared photography was essential when determining land cover types because of the way different plant communities, even tree species, have different photo signatures. After acquiring and analyzing all of the data, it was then up to park resource specialists, with help from the DNR County Biological Survey, to go in the field and verify (or "ground truth") our assumptions that we made from the GIS analysis and supporting data.

'Ground truth' results

We identified 21 different plant community classes in eight different ecological systems in Lake Vermilion State Park.

The vast majority of the uplands were classified as Northern Mesic Mixed Forest (FDn43). The dominant tree species were aspen and birch, with some pockets dominated by young red and jack pine. The stand ages throughout most of the park were young to very young, confirming that most of this land was logged in the late 1970s and early 1980s. This is a fire-dependent plant community, but fire was not at all frequent historically, averaging over 200 years between significant fire events.

One anomaly discovered during our field reconnaissance was the presence of small pockets of Northern Mesic Hardwood Forest (MHn35). This plant community is common statewide but does not

appear to be common this far north in the state. More study is needed why this plant community is present in the park.

Not surprisingly, over 50 percent of the park is wetland and peatland. Most of the wetland systems we mapped can either be classified as wet ash forest (WFn64), wet cedar forest (WFn53), or beaver wetland complex. Even in the wetlands there was clear evidence of logging, most likely for cedar and tamarack posts. With that said, many of these wetlands are in good condition, with cedar regenerating quite well in areas not flooded regularly by beaver. Interestingly, there is very little acid peatland in the park. The rugged terrain, small basin size, and beavers all likely contribute to this fact.

Lastly, there are dozens of small to medium rock outcrop and cliff features that give the property variety, relief, scenery, and botanical interest. It is likely that some of these features may harbor less common plant species. Again, more survey work will be needed to confirm this hypothesis.

To conclude, this is just one aspect of the inventory work conducted by the Minnesota DNR at Lake Vermilion State Park. We anticipate many different surveys of the flora and fauna will be conducted as the division develops the park for recreational use. A new state park comes along maybe once in a career, and I have been fortunate to be on the ground helping the division in its initial natural resource inventory efforts.

Treasurers' report

Ron and Cathy Huber report that on Sept. 30, the MNNPS had total assets of \$19,763, including \$10,769 in the checking account, \$8,939 in CDs, and \$55 cash. Income for the nine months totaled \$11,094. Expenses totaled \$8,192. Net income was \$2,902.

Plant Lore

by Thor Kommedahl

What is northern bush honeysuckle?

Bush honeysuckle is *Diervilla lonicera* in the honeysuckle family, native to Minnesota.

How did it get its names?

Diervilla was named after a French surgeon, Dr. Diéreville, who visited Canada and brought the plant to the French botanist Tournafort in 1699. *Lonicera* refers to the resemblance of the leaves to honeysuckle (*Lonicera* spp.). *Lonicera* was named after the German botanist Adam Lonitzer.

Where does the plant grow?

Bush honeysuckle grows mainly in wooded areas, often in Jack pine stands, in dry, or rocky, well-drained soil. It is often associated with hazel, dogwood, alder, chokecherry, and blueberry.

What does the plant look like?

It is a low shrub two to four feet tall with slender, ridged twigs and opposite, finely toothed, egg-shaped leaves. It has funnel-shaped, yellow flowers, often reddish in spring. Bumblebees, butterflies, and moths pollinate the flowers. Leaf colors in fall are yellow, orange, and red. Fruits are long-pointed capsules. Plants spread mainly by rhizomes, and plants regenerate rapidly after a fire or after logging, e.g., after paper

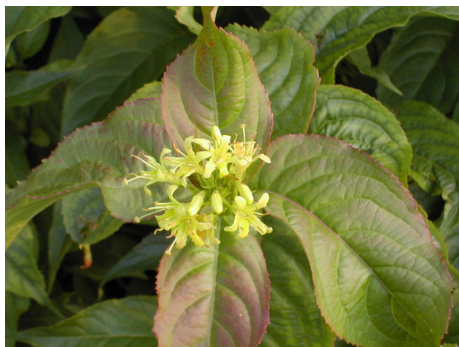
birch or balsam fir logging near Duluth.

Are they edible, medicinal, or poisonous?

The Potawatomi Indians made tea from rhizomes or leaves for use as a diuretic. They are neither edible nor poisonous, although one report is that leaves contain a narcotic principle that induces nausea.

Is bush honeysuckle useful in other ways?

Deer and moose browse shrubs in winter. They are useful as a tall ground cover and to hold banks from erosion. Plants can be propagated by seed or cuttings. Seed can be stored.



BWCA fires

Continued from page 1

Earlier in his career, he studied the ecology of black spruce and the extensive patterned peatlands of northern Minnesota.

He then turned to the much more complex task of deciphering the ecology of northeastern Minnesota's coniferous forests. The BWCA's vast stands of virgin forest enabled Heinselman to identify and document the forest dynamics – particularly the major role fires have played in determining the structure and composition of the wilderness forest.

Heinselman wrote several books about the Boundary Waters Canoe Area. Limited numbers of *The Boundary Waters Wilderness Ecosystem*, published in 1999, are still available.

Diervilla lonicera

Top left: Closeup of flowers, photo by Shirley Mah Kooyman.

Center left: Blooming branch, photo by Peter Dziuk.

Bottom left: Bush, photo by Shirley Mah Kooyman.

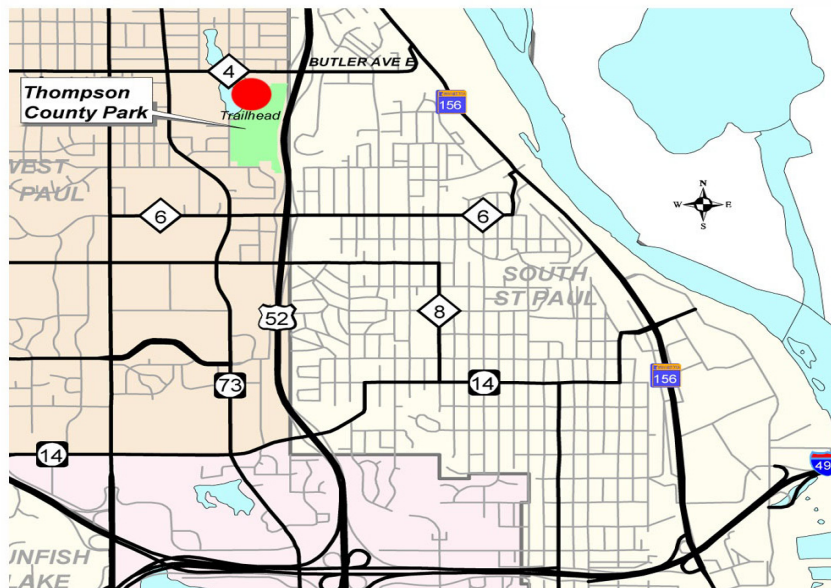
Below: Moose damage on Isle Royale, photo by Peter Jordan.



Minnesota Native Plant Society
P.O. Box 20401
Bloomington, MN 55420

Fall 2011

Thompson County Park:
360 Butler Ave East, West St. Paul, MN 55118



Directions:

Take MN Hwy. 52 to the Butler Ave. E. exit in West St. Paul.
Go west on Butler 0.2 mile to Stassen Lane.
Go south on Stassen Lane to Thompson County Park.