



Minnesota Plant Press

The Minnesota Native Plant Society
Newsletter

Volume 20 Number 2

Winter 2001

Upcoming Monthly Meetings

Minnesota Valley National Wildlife Refuge
Visitor Center, 3815 East 80th Street
Bloomington, MN 55425-1600
612-335-2323

6 - 6:30 p.m. — Board meeting, Room B
6:30 - 7 p.m. — Refreshments, information,
Room A
7 - 9 p.m. — Program, Society Business
9 - 9:30 p.m. — Socializing

Programs

Feb. 1

"Rare Wetland Plants and Plant Communities in Eastern Anoka County," by Jason Husveth, MN DNR
Plant-of-the-Month: *Carex careyana* (Carey's sedge), by Scott Zager

March 1

"The Minnesota County Biological Survey in Northern Minnesota," by Lawson Gerdes, Minnesota DNR
Plant-of-the-Month: *Sagina nodosa* (knotty pearlwort), by Mike Lee

March 24, 8:15 a.m. - 3:30 p.m.
Annual Symposium

April 5

Great River Greening: "A non-profit restores natural communities in the metro river valleys," by Ethan Perry
Plant-of-the-Month: *Cirsium hillii* (Hill's thistle), by Gretel Kiefer

May 3

"The BWCA Blowdown," by Lee Frelich, U of Minn., NRRI
Plant-of-the-Month, by Karen Myhre

June 7

"Where have all the medicinal herbs gone?" by Tim Blakley
Plant sale

MNPS Web Site

<http://www.stolaf.edu/depts/biology/mnps>

Earthworms may be threatening biodiversity of hardwood forests

by Cindy M. Hale

University of Minnesota/NRRI Duluth

(Abstract of talk at Oct. 5 meeting)

Ask anyone on the street if earthworms are good for ecosystems, and you will undoubtedly receive a resounding "yes!" When asked why, they may say something like "earthworms mix and aerate the soil." It is a basic ecological concept that we may have learned as early as kindergarten.

However, the invasion of these seemingly benevolent creatures into previously worm-free hardwood forests of the Great Lakes Region has seriously challenged that belief. Researchers at the University of Minnesota have documented dramatic losses of native understory plant species and tree seedlings following the invasion of exotic earthworms. The results may threaten the biodiversity and long-term stability of hardwood forest ecosystems in the region.

Native North American species of earthworms, in the family *Megascolecidae*, were extirpated when glacial ice sheets covered the Upper Midwest 14,000 years ago. Natural recolonization happens slowly, with worms covering less than a mile in 200 years. So hardwood forests of the Great Lakes Region developed in the complete absence of earthworms. Lacking a powerful detritivore such as earthworms, decomposition of the annual leaf litter in these hardwood forests is controlled by fungi and bacteria. In this situation, decomposition is slower than accumulation of new litter, and the result is the formation of a thick, spongy forest floor, often called a "duff layer."

The duff layer can be up to four or five inches thick in very rich sites dominated by sugar maple and basswood trees. Dozens of understory plant species are native residents of the forest floor, including the much loved trilliums and other spring flowers. The duff layer provides protection from predation and extremes in temperature and moisture to the seeds of understory plant species, many of which take up to two years to fully germinate and begin to grow. These understory plants and tree seedlings root almost exclusively in the thick forest floor, since this is where most of the available nutrients are found.

European earthworm species, in the family *Lumbricidae*, were introduced by European settlers who brought plants and animals with

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Think Native program underway

White Bear Lake will be the first location for the Minnesota Native Plant Society's "Think Native" grant program. David Crawford will be the local administrator of this pilot project. Residents of the designated area may apply for grants for purchase of native plants for their home gardens. They will also receive educational materials and assistance in selecting plants.

Persons eligible for financial assistance in the purchase of native plants must reside within the boundaries set by the project administrator. Preference will be given to people who have no experience growing native plants. Grant recipients will be asked to maintain their native garden for at least five years and let some MNPS members have periodic access to it. Grants may be received only once.

The educational materials will be available to anyone in Minnesota. These will include lists of appropriate publications, native plants, and vendor/supplier sources, and information on basic ecological issues, such as native versus exotic and genetic diversity. Practical guidelines for site preparation and species selection will also be given.

"We expect the Think Native program to raise general ecological awareness of the public by encouraging people to use native plants in their home landscaping projects and by providing opportunities for neighbors to see examples of native plant gardens," said Deborah Strohmeyer, Think Native chair. She and David Johnson are overseeing the program. The volunteer project administrators are the lifeblood of this program. Think Native depends on member participation. Members may serve on the Think Native Committee, volunteer as project administrators, assist project administrators, or donate money to the Think Native fund.

The Board will decide each year how much general-fund money to place in the Think Native fund, and what part of this will be for administrative purposes. They approved \$500 for 2001. Donations that are received will be used only for the purchase of plants and seeds. If this program is canceled, the funds will be donated to another program that pursues similar goals. Donations should be mailed to the MNPS, 220 Biological Sciences Center, 1445 Gortner Ave., St. Paul, MN 55108, or given to the MNPS treasurer at a meeting. Checks should be made out to "MNPS - Think Native Fund." For more information, call Strohmeyer at 612-943-9743.

The Minnesota Native Plant Society

Minnesota Plant Press

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The Minnesota Native Plant Society is a tax-exempt 501 (c)(3) organization as determined by the U.S. Internal Revenue Service. Contact the society by e-mail at: mnp@altavista.net. Dues for regular members are \$12 per year; for students and seniors, \$8; for families, \$15; for institutions, \$20; and for donors, \$25. All dues include a newsletter subscription. Four issues are published each year. Make checks out to: Minnesota Native Plant Society; mail them to: Minnesota Native Plant Society, 220 Biological Sciences Center, 1445 Gortner Ave., St. Paul, MN 55108.

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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 and ecosystems.
6. Preservation of special 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.

Earthworms

Continued from page 1

them from their homelands. Juvenile earthworms and earthworm cocoons hitchhiked along to their new homes.

Minnesota earthworms are exotic

European earthworms have been living in habitats associated with human settlement from the beginning, so we have never thought of them as exotic. But all earthworms found in Minnesota and other glaciated regions of North America are, in fact, exotic species. Nearly all forests in southern Minnesota, where human activity in the state has been the most intense for the longest period of time, have been invaded by earthworms. In more remote areas of northern Minnesota, the invasion of hardwood forests by European earthworms is just now occurring, and worm-free areas still remain. The wide-spread use of earthworms as fishing bait is apparently an important contributor to the spread of earthworms in this region, since the advancing edges of invasion often radiate from lake shores, fishing resorts, boat landings and road ditches.

Dramatic forest changes

An ongoing study of the effects of exotic earthworm invasion on plant diversity and tree seedling abundance in four hardwood forests on the Chippewa National Forest in northern Minnesota was started in 1998. In the first two years of the study, the advancing leading edge of the earthworm invasion has moved about 10 meters into the forest, and the associated changes in the forest are both numerous and dramatic.

When earthworms invade a hardwood forest, they rapidly consume the duff layer, eliminating it in as little as one or two years. They literally eat the duff out from under the plants and tree seedlings rooted there. The thick and spongy duff layer is replaced by a much denser layer of black soil, composed of earthworm castings. Total plant cover decreased from

near 100 percent to less than 25 percent.

The worm-free areas contained more than a dozen native plant species, commonly including large-flowered and nodding trillium, Solomon's seal, blue cohosh, sweet cicely, Canada mayflower, wild ginger, red baneberry, spikenard, lady fern, rattlesnake fern, bloodroot, large-flowered bellwort, rose twisted stalk, false Solomon's seal and downy yellow violet. However, the worm-invaded areas contained only one or two native species, Pennsylvania sedge and Jack-in-the-pulpit. Sugar maple seedling densities also dropped from over 100 per square meter in the worm-free areas to nearly zero in the worm-invaded areas of the forest.

The earthworm population increased nearly four-fold across the advancing leading edge of invasion. This rapid increase in the total earthworm population was accompanied by the successive appearance of five to seven earthworm species.

The first to appear were two small-bodied, reddish-brown-colored, litter-dwelling species (*Dendrobaena octeadra*, *Lumbricus rubellus*) followed by two to four moderate- to large-bodied, whitish-gray colored, mineral-soil-dwelling species (*Apporectodea caliginosa*, *Apporectodea tuberculata*, *Allobophora rosea*, *Octolasion tyrteum*), then finally colonized by the large-bodied, reddish-brown night crawler with which many of us are familiar (*Lumbricus terrestris*).

Forest not recovering

We know, anecdotally, that many native plants of the hardwood forest can grow in soils with earthworms, since we grow them in many of our gardens. However, recovery of the native understory plant species and tree seedling regeneration following earthworm invasion has not occurred in most invaded forests, not even in sites in the southern

parts of Minnesota that have been invaded for a decade or more.

The factors that might prevent recolonization of understory plant species could include the loss of appropriate germination or rooting environment when the duff layer is eliminated. Earthworms may graze on the plant roots and eat seeds in the soil. The rate and intensity of disturbance associated with an advancing leading edge may be so severe as to eliminate the standing populations of most understory species, and with no local seed source, the plant populations cannot reestablish. White-tailed deer densities are much higher in modern hardwood forests than they were a century ago, and this may also contribute to lack of regeneration of herbaceous understory species.

Studies to be expanded

In addition to continuing the detailed study of advancing leading edges of earthworm invasion, researchers at the University of Minnesota will be using both greenhouse microcosm and field-based experiments in worm-free and worm-invaded forests to determine the individual effects that each of the different earthworm species found have on the forest floor and understory vegetation, and to identify the factors affecting recovery of the understory plants and tree seedlings following invasion of earthworm populations. In addition, a regional survey of 90 forest stands across Minnesota, Wisconsin and Michigan will help to assess the magnitude of impact caused by earthworm invasion across the Great Lakes Region.

By using both descriptive and experimental work in the field and laboratory, researchers intend to not only describe the invasion process and impacts, but also to provide insights into the mechanisms that enable the invasion and resulting impacts to occur. This information will be invaluable for the development of strategies to protect and restore hardwood forest ecosystems as earthworms continue to expand their range.

Website: www.nrri.umn.edu/worms

Earthworm follow-up

Anyone interested in helping publicize the damage that exotic earthworms inflict on wildflowers in some Minnesota hardwood forests should contact Ethan Perry, eperry@greatrivergreening.org, or call 651-603-7176. He will arrange a meeting of all those interested, including those who signed up at December's monthly meeting.

One idea is to create an informational poster that can catch the eyes of people who might otherwise dump their worms in the woods. This would inform the public, and slow the establishment of new worm infestations. Other ideas are also welcome. There is a long way to go in raising the profile of this issue. Your help will surely make a difference.

Metro Greenways Seeks Sites for Land Protection

The Metro Greenways program of the Minnesota DNR is a collaborative, public/private effort to develop and manage a regional network of natural areas, parks and other open spaces interconnected by ecological corridors in the seven-county metropolitan region. The Legislative Commission on Minnesota Resources has recommended that Metro Greenways receive \$2.5 million for land protection during the next biennium. If you are aware of an important site and would like it to be considered for protection funding through this program, review the Greenways information on the DNR's web page: www.dnr.state.mn.us/greenprint/letter.html or call Bill Penning, Metro Greenways Outreach Coordinator, at 651-793-3981. Nominations for this year were due Jan. 26, but Metro Greenways will accept site nominations at any time.

Among the site criteria are ecological quality, whether the site connects other natural areas or buffers a high quality remnant, whether the current owner is willing to donate or sell the land, and the level of local community support.

Information sources

Invasive Plant Conference

"Plants out of Place: Invasive Plant Conference for the Upper Midwest" will be held March 1-2 at the Ramada Inn, Eau Claire, Wis. The fee is \$20 for students; \$40 for non-students. Information is on the web at: www.plantsoutofplace.org.

Native Seed Conference

"Seeds for the Future," a national native wildflower and grass seed production conference, will be held in Orlando April 19-20. For registration information, call Nancy at 850-922-7206.

Restoring Native Ecosystems

The National Arbor Day Foundation is sponsoring a seminar entitled "The Practice of Restoring Native Ecosystems." It will be held in Des Moines, Iowa, Feb. 22, and in Mpls/St. Paul Feb. 23. The cost is \$125 per person. For information and to register, go to website www.arborday.org/programs/conferences/reg23.html.

Native Plants Journal

The *Native Plants Journal* — an eclectic forum for dispersing practical information about planting and growing native plants — is a new, full-color, twice-a-year journal from the University of Idaho. Check the website for information on the magazine, subscriptions, and how to submit articles for the Fall 2001 issue. <http://nativeplants.for.uidaho.edu>

Environmental education plan

by Jeff Ledermann, Minnesota Office of Environmental Assistance

A new edition of "A GreenPrint for Minnesota: A State Plan for Environmental Education" is now available. It reflects the goals and needs of Minnesota's environmental education community and is filled with useful strategies and resources.

The plan can be downloaded, copied or distributed with proper credits given. If you have questions, call me at 651-215-0236 or contact me by e-mail at jeff.ledermann@moea.state.mn.us.

Two restoration training classes set

Great River Greening is conducting Basic Supervisors Training classes in preparation for their busy spring season. There will be two separate sessions: March 29, 6 - 9 p.m., and March 31, 9 a.m.-noon. The training will be held at Minnesota Valley National Wildlife Refuge in Bloomington. The classes will cover all the basics needed to lead an event as a supervisor for Great River Greening. Topics will include planting techniques, exotics and invasive plants, and volunteer coordination.

Great River Greening is a nonprofit community-based organization that exists to help communities restore, manage, and learn about their natural environment through volunteer involvement. Several events for volunteers and supervisors are planned for this spring. The largest is the Shepard Road planting on April 28. The three-hour training will prepare volunteer leaders for that day or for other events during 2001.

Space is limited, and advanced reservations are required. Materials, training and snacks will be provided at no cost to participants. To find out more information about Greening, check their website at greatrivergreening.org or call the Volunteer Hotline at 651-665-9500, ext. 2. Register for the training on the Volunteer Hotline or by sending an email registration from their website.

'Non-Timber' proceedings

by Mike Reichenbach, Forestry Extension Service

Seminars on "Non-Timber Forest Products, Implications for Forest Management" were held in August and September 2000. Participants discussed: "Are current forest management practices adequate to assure the sustainable use of non-timber forest products?" Summaries are available at cost. Contact Mike Reichenbach, 218-879-0850 ext. 123, or mreichen@cnr.umn.edu

What are 'Non-timber Forest Products?'

by Nancy Sather

Do you drink cranberry tea, pick blueberries, or collect wild rice? Do you buy a balsam fir wreath, evergreen garlands, or spruce tops to brighten up December? Or do you fashion your own decorations from pine cones or grapevines? Do you make willow baskets, carve native woods, or dry wildflowers for winter bouquets? Do you gather acorns and other tree seeds to sell to a nursery? Does your model railroad pass through a forest of dried *Lycopodium*? Do you take *Echinacea* when you have a cold or rub *Arnica* gel on your sore muscles after raking too many hours too early in the spring?

All of these things are "non-timber forest products" or "specialty forest products." Commercial harvest and marketing of these products and many other native plants is a burgeoning worldwide industry, increasingly driven by market development before the sustainable wild supply is assessed. Very few studies have been conducted to examine the impact of this increasing commercialization on the native plants themselves or on wildlife that depends on them. Across North America, gathering is moving from hobby or subsistence status to a business worth billions. Increasingly, purchasing and marketing of these products is being concentrated in the hands of a few large regional, national, or even international corporations.

Over 300 Minnesota species from both forests and prairies are listed in the nationwide database of non-timber forest products being developed by the Pacific Northwest Research Station of the US Forest Service and the Center for Culture and Ecology. That number does not include those that are in the nursery trade, only those that are harvested for ornamental, decorative, craft, edible, medicinal, and traditional uses. Over 60 species were identified in a study of commercial gathering in Michigan's Upper Peninsula. Tons of *Lycopodium* leave Michigan and Wisconsin forests each year, some of them entering markets as far away as western Europe. Minnesota is one of the leading states in the nation in production of Christmas wreaths, and tons of wild berries are leaving Minnesota forests each year to enter the market as commercially-produced wild fruit products such as jams, jellies and wines.

The majority of these products are "wildcrafted," or collected from the wild. Some, like ginseng and goldenseal, have been collected so long and so intensively that they are imperiled. Others, like bloodroot, are receiving enough collection pressure in the southeastern United States to warrant study. Others, like berries and greenery, have appeared to be so abundant that discussion to date has centered on production efficiency and market development.

In an effort to address overcollection, some herbalists have banded together into their own conservation group, United Plant Savers. In the Pacific Northwest, National Forests have been grappling with permits, fees, road closures, and policy development in an attempt to protect native plant resources on public lands. In some parts of the country cultivation in natural settings, or agroforestry, is being developed as an alternative to collection from the wild. Overcollection of *Echinacea* in North Dakota and Montana has resulted in statewide moratoria on collection. In Montana, this moratorium extends to all species, and the Governor has appointed a task force to address how the state should handle the growing wildcrafting industry.

March 24 symposium is on non-timber products

The Minnesota Native Plant Society's annual symposium will address this timely topic. The symposium will take place on March 24, 2001, from 9 a.m. to 3:15 p.m. at the School for Environmental Studies, 12155 Johnny Cake Ridge Rd., Apple Valley. At the time this newsletter went to press, additional co-sponsors of the Symposium included the Minnesota Natural Heritage and Nongame Research Program, Minnesota DNR and the Center for Continuing Education, College of Natural Resources, University of Minnesota.

Keynote speaker is Nan Vance, a nationally recognized authority who understands the non-timber forest product industry from biological, socioeconomic, and management perspectives. Additional speakers will address the history of market development for non-timber forest products in Minnesota; an herbalist's perspective on Minnesota plants; efforts to use agro-forestry to take the collection pressure off species at risk; and a series of talks on birch, balsam fir, *Lycopodium*, *Echinacea*, and ginseng. Closing speaker will be Robyn Klein, chairperson of the Montana governor's taskforce on non-timber forest products.

Mark your calendars for the symposium today. A conference registration form is included in this newsletter. Pre-registration closes March 10. Morning break refreshments and lunch are included in the cost of the symposium. Pre-registration is \$18 for Plant Society members and \$20 for non-members. Registration at the door is \$20 for members and \$22 for non-members.

Arboretum discount

Because the Minnesota Native Plant Society is a member of the Minnesota Landscape Arboretum, all MNPS members are entitled to a \$5 discount on their Arboretum membership.

Prairie Passages National Wildflower Route

A route to rediscovery of the North American prairie

by Kathy Bolin, DNR, MnDOT
(Abstract of talk at Dec. 7 meeting)

"What is life? It is the flash of a firefly in the night. It is the breath of a buffalo in the winter time. It is the little shadow which runs across the grass and loses itself in the sunset." Crowfoot, Blackfoot orator, spokesman, great hunter and brave warrior. Born 1821, died 1890.

It has been called many things: a sea of grass; a treeless plain; an utter desert; a fruitful champayne countrie; a treeless ocean of wildflowers, birds, animals; a land too poor — it can't even grow trees; a place where you can see forever; God forsaken; my wildflower garden; as flat as a pancake; as naked as the back of your hand; where the winds always blow; the bread basket of the world.

It has been written about by hundreds: Aldo Leopold, Walt Whitman, William Cullen Bryant, Ada Hayden, James Fenimore Cooper, Patricia Duncan, Mari Sandoz, Bill Holm, Paul Gruchow, Mark Twain, Ole Rolvaag, John Weaver, T.J. Fitzpatrick, Donald Peattie, Carol Lerner, John Madson, Ann Sigford, Carl Sandburg, James Zimmerman, Joseph Nicollet, George Catlin, David Costello, Bette Castro, the Lakota, Blackfeet, Algonquin, Mesquiteo. Willa Cather, one of it's most lyrical writers:

"This country was mostly wild pasture and as naked as the back of your hand. I was a little homesick and lonely, and my mother was homesick, and nobody paid any attention to us. So the country and I had it out together and by the end of the first autumn, that shaggy grass country had gripped me with a passion I have never been able to shake. It has been the happiness and the curse of my life."

It's even in the Old Testament book of Isaiah. It has been painted and photographed by hundreds and studied by dozens more.

Well, perhaps it is all too obvious, but this is the prairie, the North American Prairie. It covered millions of square miles from the foothills of the Rocky Mountains east of the Mississippi River into Ohio, Michigan and Illinois, and from the far reaches of the Canadian Provinces deep into the heart of Texas and to Mexico. This is the heartland of the United States. The prairie is why, in many respects, we as a nation are who we are in terms of our economic wealth and strength as a world power.

The prairie ecosystem, as you know, is one of, if not the, most complex and diverse systems in the world. It was home to hundreds of different species of grasses and wildflowers, dozens of different species of animals and birds and thousands of different insects, bees, butterflies, moths, beetles and more. The processes of life that interact in and on the prairie are as yet not understood except for a small fraction. And given there is but a fraction of the native prairie ecosystem left, much of what we know about it is found in the stories passed on by writers, settlers, dwellers, researchers, artists and folks like you and me.

"July 1879: Three-year-old Ann Pederson and her parents stepped off the train in Taopi, Minn. The plains surrounding the small southeastern Minnesota town were a stark contrast from the wooded mountains of Norway the family had left several months earlier. What the immigrants saw was a summer prairie; a bouquet of wildflowers amid the grasses. From her perch atop an oxcart, Ann saw the head of her cousin Adolf Christianson as he jumped through the tall prairie grass, trying to catch a glimpse of their arrival." (Taken from Ann Pederson's mother's journal entries.)

From Tallgrass and Trouble by Ann Sigford: "One scientist dug up a chunk of prairie soil that measured

three feet on each side and four inches deep and started picking out the grass roots. He estimated that the roots, when all pieced together end to end, would span 20 miles.

The roots of the prairie grasses and wildflowers reach deep into the earth, often 15 to 20 feet or more down. These roots are a gnarled mass of vegetation that when it thawed and decayed, assisted by the literally thousands of different kinds of bacteria and fungi and insects and microorganisms, created the deepest, most productive soils in the world. These prairie soils are very simply why this part of the world is called "The Bread Basket of the World."

David Costello once told a student that when picking and pressing prairie plants for a collection, he should always include the roots. The student had no trouble until he decided to collect a specimen of the bush morning glory. After an afternoon of digging, he still had not gotten the root out, even though the hole he had dug was "large enough to hold a cookstove!" I believe there is a similar story about compass plant and Aldo Leopold.

There are dozens of other soil stories of the prairie: the Dust Bowl; creation of soil conservation programs and land stewardship organizations; threshing machines and the cultural stories of threshing crews and food cars that followed them as the millions and millions of bison were replaced by millions and millions of bushels of wheat, corn and beans on the changing prairie.

Perhaps your favorite story is about the bison - "Ni-Ai" to the Blackfeet. "Ni-Ai" means "my shelter and protection." Just close your eyes for a moment and think about it ... At one time 60 to 75 million bison roamed the North American Prairie. It's been said that it was the most numerous wild ruminant the world has ever seen.

Mari Sandoz in *Love Song to the Plains*: "He moved in millions over the rich grasses of the Plains, so secure that the weak little eyes under the curly mat of hair were no handicap. He depended almost entirely upon his nose as he grazed into the wind, which, in the cyclonic character of the Great Plains, drew the four great herds in roughly four-hundred mile migrations, southward in the fall, northward in the spring." Paul Gruchow in *Journal of a Prairie Year*.

In 1886 the U.S. National Museum (Smithsonian) realized that it did not have any good display specimens of bison. William Hornaday and his party were dispatched to Montana and hunted 18 days before coming across a band of seven bison. They managed to kill four of them. Over the next two months they found and killed another 17. The next year the American Museum of Natural History sent a party to scour the same Yellowstone/Missouri divide. After three months they went home empty handed, having never encountered even a single bison.

A few years ago Paul Gruchow gave presentations using the story of the bison and the amazing similarities to our use of and dependence on corn and corn-based products. It is likely that everything you ate today, everything you have on and everything you have used today has corn in it, or some derivative of it. There are days that I rather cynically think about a collapse in corn and the impacts that would have on today's society.

No other country in all the world has seen this kind of progress — and perhaps some of you, like me, aren't always sure that it has all been progress. A saying goes like this: "If you are standing at the edge of an abyss, a step backwards is progress." I think there is a lot of wisdom in that.

Much of what Prairie Passage is about is at least a look backwards — as well as ahead. Prairie Passage is about the passage across the prairie landscape, and it is about the

passage of time and the multitude of stories that are held there to be told.

Sites that agencies in Minnesota have selected include: Old Mill, Buffalo River, Glacial Lakes, Camden, Upper Sioux Agency, and Blue Mounds State Parks; Chicog, Tympanachus Wildlife Management Areas; Bluestem Prairie Scientific Natural Area, Verlyn Marth SNA; Lower Sioux Agency, Jeffers Petroglyphs and Birch Coulee MHS; Pipestone National Monument; and of The Nature Conservancy tracts, Wallace C. Dayton Conservation Area, Glacial Ridge, Red Rock, Hole-in-the-Mountain, Plover, Ordway, Seven Sisters, Chippewa Prairies; Laura Ingalls Wilder Museum in Walnut Grove; Marshall County Historical Museum in Warren; and possibly others.

Maps and guidebooks, informational kiosks at rest areas and other existing interpretive sites will tell the story of the North American Prairie, from the story about the 60 to 75 million bison grazing the prairies to the story about the 60 to 75 million bushels of wheat, corn and beans that were and are still harvested from the prairie soils, and all the stories that fall in between. Stories that will be a route to rediscovering the prairie, what it was, what it is, and perhaps what it will be.

Whatever the story is, the prairie seems to have that ability to impact people's very souls. Do you have a favorite prairie story or prairie experience? Most people who know prairies, do.

William Cullen Bryant, born 1794, died 1878: "These are the gardens of the desert, these the unshorn fields, boundless and beautiful, For which the speech of England has no name: the Prairies."

What Willa Cather wrote "... that shaggy grass country had gripped me with a passion I have never been able to shake. It has been the happiness and the curse of my life" seems to ring true for young and old alike and across the passage of time.

Plant Lore

by Thor Kommedahl

What is creeping snowberry?

Creeping snowberry is *Gaultheria hispidula* and a member of the Heath Family. The genus was named after Jean-Francois Gauthier, a botanist and court physician at Quebec.

What kind of a plant is it?

It has prostrate, very leafy stems and half-inch, oval, evergreen leaves, with tiny, bell-shaped flowers and a white berry. The berries have a spicy, aromatic odor when crushed.

Where does it grow?

It is present in woods of northeast Minnesota, in bogs and wet woods, often growing on rotten logs.

Is this also called wintergreen?

Not usually, wintergreen usually means *G. procumbens*, which is a larger plant that grows in the same area and habitat. Both species produce an oil containing methyl salicylate which has aspirin-like properties.

Does this imply medicinal qualities?

Yes. Early settlers in the United States used wintergreen tea as a remedy for headaches, muscle aches, and colds. Wintergreen oil has been applied externally to reduce painful swellings caused by injury and to treat inflammation.

Is the plant edible?

Thoreau describes making a tea from creeping snowberry that was "better than the black tea" that he had taken with him on a trip to Maine. Young leaves of both species have been eaten raw as a trail nibble, and brewed as a tea. The berries can be eaten fresh or in pancakes and baked goods.

For myself, the prairie has for the most part been happiness, even in the midst of the near extinction of the bison and the devastation that it had on the Plains Indians cultures. The prairies do evoke a sense of peace and pleasure, and in that there is happiness.

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