Minnesota Plant Press

The Minnesota Native Plant Society Newsletter

Volume 21 Number 4 **Summer 2002**

Monthly meetings

Minnesota Valley National Wildlife Refuge
Visitor Center, 3815 East 80th St.
Bloomington, MN 55425-1600
952-854-5900

6:30 p.m. — Building east door opens
6:30 p.m. — Refreshments, information, Room A
7 – 9 p.m. —Program, society business
7:30 p.m. — Building door is locked
9:30 p.m. — Building closes

Programs

The MNPS meets the first Thursday in October, November, December, February, March, April, May and June. Check the Web page for additional program information.

Oct. 3: "Buckthorn Busting," by Janet Larson, MNPS board member and landscape designer in Natives Division of Supreme Companies; **Plant of the Month**: to be announced.

Nov. 7: To be announced.

Dec. 5: To be announced.

Plant sale thanks

Thank you, volunteers and plant donors. Your efforts made the June 2002 plant sale a success. There were many species, and plants were in excellent condition. We hope they are flourishing in your gardens.

Proceeds totaled $454.75, compared with $360.50 in 2001 and $424 in 2000. The highest total was $593.35 in 1999. The plant sale is the Minnesota Native Plant Society's primary money-making project.

MNPS Web site

http://www.stolaf.edu/depts/biology/mnps
e-mail: MNPS@HotPOP.com

Botanical illustration melds science, art

by Vera Ming Wong
(Abstract of Dec. 6, 2001 talk)

My mission, and that of my solo company, Arakunem Arts, is to educate and inspire people to help protect and restore nature in our environment. I work towards this mission as a natural science illustrator by creating visual artworks (and writings) that convey significant information about natural subjects accurately, with some aesthetic grace, for nature conservation projects, organizations and agencies. Through my experiences splicing science and art, I've developed strong personal biases. These may differ from those of other artists and illustrators of plants, who have their own perspectives, priorities and opinions.

Labeling

"To illustrate" means to illuminate, clarify or elucidate, usually through visual images, or to demonstrate or provide an example, either in actuality or through visual images.

A "botanical illustration," therefore, is simply a visual image that conveys observations, concepts and information about plants or their processes, usually in collaboration with written text, preferably with some aesthetic grace. A picture may indeed be worth a thousand words, if it can show, quickly and concisely, images that would be difficult to describe. Aesthetically engaging illustrations can also attract attention, enhance the visual appeal, or help visually oriented people learn faster.

Botanical illustration is often equated with infinitesimal detail, but the level of detail rendered should be appropriate to the purpose, message and presentation format of the illustration.

Botanical illustration for research requires accuracy in depicting plants, to avoid misleading or misinforming viewers. Accuracy involves showing the right number of parts, in the right places, at whatever level of detail is used. But "accuracy" is different from "precision" or "degree of detail." Drawing tiny hairs on a leaf may add detail, but if the leaf is hairless, or if the hairs are the wrong shape, those details are inaccurate and misleading. If the leaf edge is the critical characteristic to show, hair details may be distracting.

Continued on page 4

Sharing and Connecting

by Joel Dunnette, MNPS Acting President

Our goal is conservation of native plants. But we often act singly, independently of others. To reach our goal, I feel strongly that we need to share and connect. This connection is needed not only with native plants themselves, but also with other enthusiasts, and with the general public. Sharing can help us and those we share with — intellectually, emotionally, and politically. Sharing is the way that we make the connections that are necessary for accomplishing great things. We need to share experiences — each of us knows some things that nobody else knows! And we need to go beyond sharing with other enthusiasts, so that we connect with neighbors, teachers, students, and the general public.

People today have largely lost their connection with nature. This loss is especially noticeable at the local level; people say they care about nature but express that caring only toward far away, special places. We need to restore the personal connection with nature that people need to make good decisions about their local environment. How can we expect people to appreciate and use native plants if they have no concept of what "native plant" means?

Reach out to those around you and help them make the connection to nature that sustains each of us. There are many opportunities. These include participating in work projects, helping with school projects, writing notes for others to read, helping staff information booths, and just sharing your enthusiasm and knowledge of native plants with friends and neighbors. I lead field trips and give talks on native plants and the animals that rely on them. Articles are always welcome. Neighbors and friends ask about my "wild" plantings; some ask how they can have their own.

Keep the "big vision," but work locally. I am finding so much to do in the Rochester area, that I will be quite busy with local projects. Those of you in the Twin Cities area may not see or hear much from me in the coming years, but know that I will be busy enhancing the knowledge, appreciation and use of native plants. I hope you will too.

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.

MNPS Board of Directors

Acting President: Joel Dunnette, 4526 Co. Rd. 3 S.W., Byron, MN 55920; 507-284-3914 (W); 507-365-8091 (H); dunnette.joel@mayo.edu

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‘Extinct’ rosinweed moth is rediscovered

by Mark J. Leoschke, botanist, Wildlife Bureau, Iowa Department of Natural Resources

I first heard this wonderful and inspiring tale at a prairie invertebrates meeting at Luther College last October. It is a story of serendipity, discovery (literally in someone’s front yard prairie planting) and return from extinction. We still have a lot to learn about our own fauna.

There is an Iowa connection here too — at least one of the eight historic collections came from Iowa earlier this century. It is quite possible that this moth is lurking out there in Iowa, just waiting to be discovered!

The article that follows is from the Wisconsin Department of Natural Resources Web site. The Web address is www.dnr.state.wi.us/org/es/science/project/projects/ros_moth.htm.

[Note by Charles Umbanhower: This story really does speak of what we are attempting to do with protecting and restoring native plant communities. Rosinweed is not found in Minnesota, but the more general lesson still applies.]

In 1998, DNR Researcher Rich Henderson collected a few insect larvae that he noticed were causing heavy feeding damage on the prairie wildflower rosinweed (*Silphium integrifolium*). He reared these to adult stage, and they turned out to be a small moth. Rich passed the moths along to Les Ferge, an expert lepidopterist in Madison, Wis.

Two years and a couple more experts later, the moths were identified as *Tabenna silphiella*, in the moth family *Choreutidae*. Rich’s collection and the identification process were no small achievements, as this particular species had previously been known by only eight other specimens, and no larval information had been gathered since the species was first described from specimens collected from rosinweed in northern Illinois in 1881!

Formal publication of these findings will be in the near future. Meanwhile, this article and photos have been placed on the Web to provide hobbyist and experts alike with information that will enable them to look for and identify the rosinweed moth on their own, either through feeding sign or by rearing out larvae to adults. This type of work from volunteers will add greatly to our knowledge of the distribution range and life history of this species.

Typical feeding damage on rosinweed is caused by the larvae of *Tabenna silphiella*. The earliest sets of leaves are most affected, during the months of May and June. The plant continues to grow through the attack, producing new leaves. After the larvae pupate, usually in mid June, the plant will continue to grow and produce new leaves not affected by the feeding.

Note the window-pane feeding pattern and the silken webbing that pulls the leaf edges together. Larvae live solely within this webbing as individuals or in small colonies.

Doug Mensing joins MNPS board

by Meredith Cornett

The MNPS Board met at Deb Strohmeyer’s home on June 9 and officially welcomed Doug Mensing, one of our newest board members, into the fold.

Doug is a certified Professional Wetland Scientist and is a senior ecologist with Applied Ecological Services, Inc. He has worked in the ecological, conservation and restoration fields, since1991. “I’m excited to be on the board,” he said. “I want to expand the outreach of the Native Plant Society.”

Many, many thanks to Joel for his two-term presidency, to Deb for going the extra mile as secretary, to Harriet for her service as vice president, and to David Johnson for his extremely reliable and comforting guidance as treasurer.

Officers were to have been elected from among the board members at the meeting. However, a few members were not present, and we decided that all members should give it some serious thought over the summer so that we can make a quick decision at our September board meeting. New members are not expected to serve as officers during their first year.

The slate of officers at this time includes: president (open); vice president, Linda Huhn; secretary, Meredith Cornett; treasurer, David Johnson.

Monarch butterfly field trip is Aug. 18

Tag Monarch butterflies at Iron Horse Prairie Scientific and Natural Area on Aug. 18. This rich tallgrass prairie serves as a fueling stop for thousands of Monarch butterflies on their journey southward. Catching and tagging will start at about 1:30 p.m. Greg Munson of Quarry Hill Nature Center will lead the tagging, and Joel Dunnette will help inform folks about the prairie. For more information about the field trip, call Joel at home, 507-365-809.

Botanical illustrations

Continued from page 1

Botanical illustrations for research, public education, interpretive signs, advertising or other situations might be simple or complex; rough or elegant; detailed, bold or loosely rendered, as long as they accomplish their purpose: to illuminate, clarify or elucidate, or demonstrate plants, or concepts about plants.

Botanical art vs. botanical illustration

What distinguishes "botanical illustrations" from "botanical art"? The line between them is pretty fuzzy and perforated, defined mostly by intent, purpose and presentation of the work.

A non-illustrator artist may choose to portray a plant for personal reasons, express subjective thoughts or feelings about the plant, use the plant image as a metaphor for another issue, and employ any preferred style. Plants depicted in the artwork may not be the actual message of the artwork.

Botanical illustrators create collaborative artworks to convey particular ideas, usually in conjunction with text. Illustrations and text share mission and goals, but play complementary roles. Botanical illustrations focus on the plants themselves, or some aspect of the plants. As partner to science, they strive to present the plant objectively; and minimize the illustrator's opinions, feelings or metaphorical views. I like to think of it as trying to look from the plant's point of view.

Aesthetics and styles, in both "art" and "illustration," are subjective and ephemeral, therefore not a useful distinction between the two.

The seed

Creating a collaborative piece with text and illustrations usually involves many roles: experts in the field, authors, publishers, editors, illustrators, graphic designers, and funders. The originator, or seed (often author, editor or expert) generates the idea, then finds people to fill other roles. One person often wears many hats in the process. Occasionally, the illustrator originates a project.

Sprouting

The social, historical, academic and personal environments are the substrate in which the originator's opinions, ideas, goals and objectives sprout, develop a particular message, and find the audience to grow.

Branching

Botanical illustrations serve botany (or other plant-related fields) through art.

The different branches of plant-focused science have different objectives and goals. Illustrations must adjust accordingly. For example:

1. Plant Taxonomy: show diagnostic characteristics to distinguish between taxonomic groups.

2. Developmental Plant Biology: show growth stages, patterns, and responses of plants to genetic and environmental conditions.

3. Plant Ecology: emphasize habitat, environmental needs, associated species, predators, pollinators, symbionts, parasites, etc.

4. Horticulture, Silviculture: emphasize general appearance, form or use of plant; distinction between varieties; demonstrate how-to or pathology.

5. Agriculture: demonstrate planting, growing, harvesting, storing; or parts of plant used/ eaten.

6. Nutrition: show kinds of plants to choose, or preparation or cooking methods.

Budding

Combined with practical considerations of availability and costs, goals and objectives guide such choices as publication medium, format, scope and deadlines, for both text and images. Where and what kind of botanical illustrations would be most effective, and why? Answers to these questions help set many parameters for the illustrations, such as subject(s), size, color or B/W, and sometimes medium or technique. Usually the illustrator makes creative choices affecting the visual image, loosely called the "Art of Illustration," such as: composition, media, technique, and style, which affect the impact, attractiveness, attitude and clarity of the illustration.

Fertilizing

An illustrator who understands the subject, context, and audience of the illustrations can make more choices that "speak" more effectively to the viewer. A botanical illustrator's primary sources of visual information are usually specimens of the plant to be illustrated (alive or preserved), and secondarily, other visual documentation (photos, other drawings or diagrams). Consultations with experts in the field provide additional information, background and context. Expected users of the materials, or production experts, can provide additional advice and direction.

Integrity

Each of the collaborators may have different priorities for the illustration. The illustrator must consider and try to accommodate these different priorities while supporting the goals and objectives, and maintaining message and integrity of the artwork. This is also part of the Art of Illustration.

Flowering

In creating a botanical drawing, an artist/illustrator creates two-dimensional visual images that

represent plants. My drawings start out as rough approximations of general shapes that I see. Yours can too.

We start with the most basic, all-encompassing, simple shape that we can find. Through a process of adding, subtracting and modifying the basic shape with other smaller, relatively simple shapes, we embark on a journey of revisions and refinements. Paying attention to the accuracy of the shapes we're using, both positive and negative, helps us maintain appropriate proportions. Sensitive contour drawing takes care of complex edges and folds. Eventually, a line drawing of the plant grows at the tips of our pencils.

The lines and shapes themselves imply layers of objects in space, but to add to the optical illusion of three dimensions, we can add shading, or color. For dramatic, high-contrast effect, we can push all dark areas into black, and all lighter areas into white. Switching tools, if we cut away the light areas from a linoleum or wood block, we'll print the dark areas. Or, we can reverse our thinking, to draw light areas with white pencil on dark paper.

Whichever direction we choose, it all starts with a seed, an idea, a need to convey some specific information about this plant, or an idea related to this plant, to fulfill a purpose or work towards a mission. From this flower, perhaps another seed will grow.

Addenda

Illustrate with drawings or photographs?

People often ask why I bother drawing plants and other natural subjects. Wouldn't photography be quicker? Perhaps, but they do different jobs. Often, a perfect, or "average" specimen needs to be illustrated, but may not actually exist (where is the perfectly average human?). An illustrator can combine elements of several specimens to create the perfect average.

Under variable light conditions, an illustrator's eyes adjust more easily and over a wider range than a camera. Wind, extreme temperatures and biting insects can still be limiting factors. Distracting backgrounds are easily eliminated by simply not drawing them.

With very small subjects, the camera's depth of field is very limited. The illustrator's eyes re-focus constantly, to draw the entire specimen in focus. Even with advanced technology, there still seems to be a need for people who can draw plants well.

Sources: specimens or photographs?

Many people ask if I work from photographs, and if not, why not? Yes, I occasionally work from photographs, but I prefer to draw from live specimens, where I can see the gesture, growth form and habit of the plant, how it responds to its environment, and better understand the cause of individual variations.

Drawing from live specimens helps tremendously in getting the drawing to look three-dimensional and "alive," but also requires me to translate three dimensions into two. A photograph does that for me, but doesn't allow me to see the plant from different angles or to look closer. When I'm drawing from a photograph, I find myself looking behind the photo to try to see the other side of the plant.

When live specimens aren't available, I use herbarium specimens. Although the three-dimensionality of the plant is lost, the growth form is retained, and the diagnostic characteristics by which the plant is identified are mostly available. Combining photographs with herbarium specimens is the best substitute for a live specimen.

Which are art, which are illustrations?

How do you categorize highly detailed, delicate watercolors of beautiful flowers, or intensely detailed pen-and-ink drawings of various parts of a particular plant, crammed onto a page?

Botanical illustrations from other times and cultures may be presented in different styles and media:

- Old European wood engravings of stylistically flattened herbs;
- Chinese paintings, in "splashed ink" (calligraphic) or "working brush" (carefully rendered) styles, of garden plants;
- Ancient Egyptian murals of papyrus and wheat;
- Australian aboriginal paintings of important food plant tubers.

From my viewpoint as an illustrator, any of these could be either art or illustration.

Restore native plants to the North Shore

Collect seeds from grasses, shrubs, or trees to custom grow for restoration and regeneration projects in North Shore state parks, such as Gooseberry River, Split Rock Lighthouse, and Tettegouche.

Under the direction of the North Shore parks resource specialist or park manager, volunteers will be trained in how to collect and handle plants, seeds, or cones from specific plants in the park. Volunteers must be able to work outdoors in a variety of conditions, follow instructions, and work safely. A time commitment of one full day, or a couple of half days, during the week is preferred.

The need for volunteers varies each season. Collection generally occurs in late summer or early fall. Contact Harley Hanson, North Shore Parks Resource Specialist, Two Harbors, at 218-226-6376 or harley.hanson@dnr.state.mn.us.

Dakota County bond issue would save natural areas

Dakota County residents will vote Nov. 5 on a referendum that would protect high priority natural areas and farmland, rivers and drinking water in the county. If the measure passes, the county will issue $20 million in bonds to fund the program. Matching funds may increase the total to up to $40 million.

Participation will be voluntary, and protected land can remain private. The funds will be used to purchase perpetual conservation easements or to purchase natural areas. Half of the money is to be spent to protect natural areas, and half to protect farmland that adjoins natural areas or bodies of water. An implementation plan lists criteria and priorities. A citizens' advisory committee will review applications and recommend land to be protected. An annual audit will be conducted.

Hundreds of citizens and nine organizations were involved in four years of planning and research that culminated with the Farmland and Natural Areas Protection Plan. The county board adopted the plan Jan. 29, with a 5 to 2 vote. In April they voted unanimously to hold the $20 million referendum. It will be "County Question 1" on the ballot. The bond issue will cost the owner of an average $160,000 house about $18 annually for 10 years.

A citizens' committee, "Vote Yes for our Land and Water," is supporting the referendum. Co-chairs are Bev Topp, chair of the Eureka Twp. Board of Supervisors, and Rick Hansen, chair of the Dakota County Soil & Water Conservation District Board. Gerry Drewry, editor of the Minnesota Plant Press, is co-chair of the outreach committee.

For additional information, go to the Web site, www.voteyeson1.org.

McKnight Foundation to launch public service campaign on open space

by Meredith Cornett

In September, nearly two years of planning will culminate in a grassroots public service campaign aimed at protecting vital open space in the Twin Cities region. The 12-month campaign will kick off in mid-September with ads and a campaign Web site.

Planned by an alliance of Twin Cities nonprofits, government agencies, academic centers, and The McKnight Foundation, the campaign will encourage metro area residents to become involved in civic, municipal, and state decisions on how land is used.

The campaign Web site will contain a wealth of information about open space issues in the Twin Cities region, including examples of sites that are endangered. Visitors will also be able to nominate favorite open spaces that they feel need protection.

Other Web site features will include:

- A citizen tool kit;
- Information for landowners interested in alternatives to development; and
- Ways that citizens can get involved with protection efforts already underway by organizations such as Friends of the Mississippi RIver, Great River Greening, Minnesota Center for Environmental Advocacy, Minnesota Land Trust, 1000 Friends of Minnesota, Sierra Club, and Trust for Public Land.

This is an important time for action — many critical land use decisions lie ahead in 2003. Be sure to check out the new campaign Web site in mid-September. Then join in speaking out to protect open spaces. The next generation will thank you.

Visit The McKnight Foundation online at http://www.mcknight.org/, and keep an eye out for links to the campaign Web site in September.

MNPS Web site tells how to help protect native plants

by Meredith Cornett

MNPS members can find out how to get involved with native plant conservation by visiting the Conservation Committee Web site. Go to the society's Web site and click on "Conservation Committee," or type in this address: www.stolaf.edu/depts/biology/mnps/cc.html

Currently, information is available on how to take action on the following topics:

- Help shape the future of Minnesota's national forests (over 4.5 million acres of native plant habitat);
- Advocate equal protection for plants under the Federal Endangered Species Act through the Native Plant Conservation Campaign;
- Spread the word about impacts of non-native earthworm invasions on Minnesota's northern hardwood forests;
- Encourage the City of Duluth to conserve significant native plant communities at Spirit Mountain Recreation Area and on Park Point.

Ideas are shared at North American Prairie Conference

by Joel Dunnette

Every other year folks interested in prairies gather for the North American Prairie Conference. I have had the pleasure to attend a few, including this year's edition, which was held in Kirksville, Mo. As always, it was good to be able to share information and enthusiasm for our prairie heritage. There were four to six concurrent sessions, so I only sampled the diverse information and discussion. Here are some ideas of note:

- Many projects are on a much larger scale than 10 years ago. Projects of 1,000+ acres are now common.

- There is also more urban use of native plants.

- Several states have programs for local origin seed. Although differing, these states are working toward similar goals.

- There was good discussion about the mechanics, economics, and sociology of production of native plants. Missouri's "Grow Native" program is pushing native plants into the general horticultural marketplace.

- Monitoring of plants varies widely. There are some reasons for differences. But we need to do much more to be able to save, recall, share and compare data.

- Discoveries are still being made, especially about insects and interactions that plants have with insects, grazing animals, mychorhizae, haying or burning, as well as interactions between plants.

- We know relatively little about prairie insects, or indeed, native insects in general.

- There is often great specialization of knowledge, and a need to share not only knowledge but also efforts.

- Methods for control of reed canary grass are emerging. Timing and choice of herbicide are important, as is rapid re-vegetation with desirable species.

- There is some very interesting prairie in Missouri, often remaining due to the widespread practice of haying mixed vegetation fields.

- Missouri's dedicated funding for conservation is having a wonderful impact.

- There were not many folks from Minnesota. At each conference, there are many people from the host state; only after attending several prairie conferences do I get a good sense of the widespread interest in prairie across the region.

- Several presentations pointed out the importance of persistence in pursuing goals.

The next North American Prairie Conference is set for Madison, Wis., in 2004. I plan to attend — how about you?

Plant Lore

by Thor Kommedahl

What is Grass of Parnassus?

It is a low-growing, bog plant called *Parnassia palustris*, and it is a member of the saxifrage family. This flowering plant is native to central and northern Minnesota.

How did it get its name?

Dioscorides, a first century Greek physician and author of *Materia Medica*, named the plant "Agrostis en parnasso," the grass of Mount Parnassus — a place in Greece sacred to Apollo and the Muses. The name *Parnassia* was selected either to honor the name used by Dioscorides or else to recognize this as an alpine plant; it grows in northern latitudes around the world. "Palustris" means boggy or marshy, to show it to be a bog plant.

How can one recognize the plant?

It is a smooth perennial growing in calcareous fens, has a bare stem arising from basal, heart-shaped leaves, and has prominent veins in the five white petals. The "bare" stem does have a single, small leaf about a third of the way up the stem. The fruit is an egg-shaped, four-parted capsule.

Is the plant useful economically?

Not really. Some have transferred plants to their gardens. Dioscorides wrote that juice from the roots, when mixed with wine, honey, some myrrh, pepper, and frankincense, is an "excellent medicine for the eyes"— maybe in his day!

Environmental Web site has local information

ForMyWorld, an Environmental Defense and National Wildlife Federation Web site, has local information by Zip codes. The address is www.formyworld.com.

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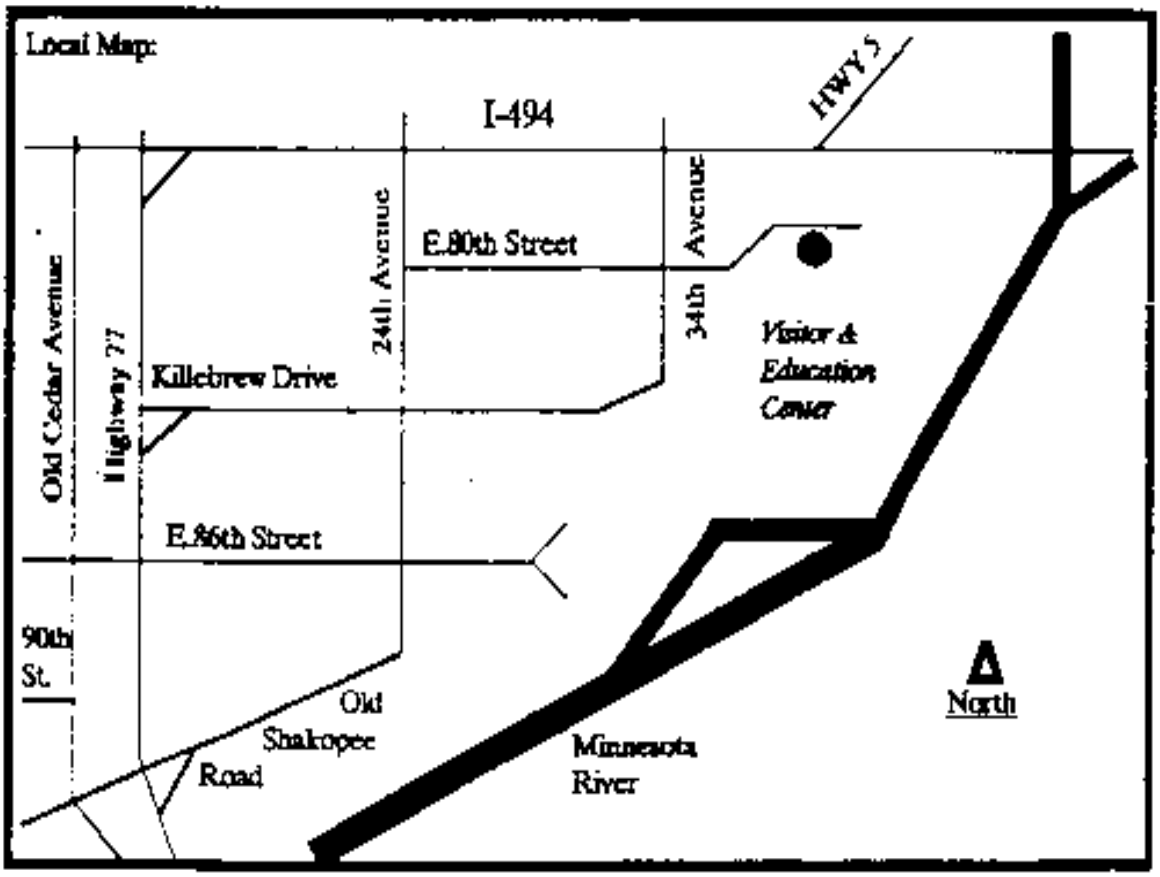
Summer 2002 Issue