



GARLIC MUSTARD--Odorous, Edible, Invasive!

By Frank Norman

INTRODUCTION. Garlic mustard (*Alliaria petiolata*) is an exotic, biennial herb of the mustard family that was introduced from Europe purportedly for its medicinal and edible properties. Because of numerous features of its life cycle and biology, garlic mustard has become a problem in many of our woods in eastern Kansas. Current data from the University of Kansas Herbarium reports garlic mustard in 26 Kansas counties essentially from the Flint Hills eastward. Undoubtedly, a more extensive and rigorous survey would disclose additional locations in the state. Nationally, it is mainly distributed in the Northeast and Midwest from Canada to South Carolina and west to Kansas and Texas, but has been observed as far west as Oregon and Washington. That is quite a spread for an obligate, biennial plant first reported in 1868 in Long Island, New York.

BIOLOGY AND LIFE CYCLE. Garlic mustard prefers shady habitat, such as woodland edges and forests. It is a biennial herb, which by definition means that it takes two years to flower and produce seed. So, during the first year, seedlings germinate in the spring (March and April) and by mid-summer the seedlings form basal rosettes. These first-year plants are typically a group of 3 to 8 round to kidney-shaped leaves, which have scalloped edges and a wrinkly surface. The rosettes will

overwinter, so they stay green and are easily recognized growing within the leaves on the ground. Rosettes of garlic mustard can be confused with violets and ground ivy, but violets bloom low, have five petals, and leaves that are not scalloped or very crinkly, while ground ivy spreads along the ground and has low, purple flowers. The smell of garlic from the crushed leaves will dispel any lingering doubt.

The garlic smell can be detected in plant parts of second-year or mature plants, too. Leaves of the mature plants are 1-3 inches wide, heart-shaped to triangular with long petioles, alternately arranged on the stem. The plants reach heights of 1 to 4 feet, after bolting to produce flowers and seeds. Flowers are white, ¼ inch in length, and located on the main stem and side branches. Flowering occurs from April through June. Soon after thin capsules or siliques (1/16 inch wide and 1-2 inches long) appear and quickly lengthen to produce tiny, black, ridged seeds in rows within the fruit. On the average, a garlic mustard plant will produce 400 to 500 seeds that can last in the soil for up to 5 years. This type of seed production in even a small stand of garlic can generate thousands of seeds that allow for garlic mustard to proliferate and spread on an average of 20 feet per year in the undisturbed forest habitat in Illinois. Seeds are also spread by wildlife and birds. Once the mature plant dies dur-

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Have you renewed your membership in KNPS? January is the time to do it. Check the first line in the address to see if you need to renew.

The Kansas Native Plant Society Newsletter is printed four times a year: Winter (January) Spring (April), Summer (July), Fall (October). The deadline for submitted material is the 15th of December, March, June and September.



The mission of the Kansas Native Plant Society is to encourage awareness and appreciation of the native plants of Kansas in their habitats and in our landscapes by promoting education, stewardship, and scientific knowledge.

MESSAGE FROM KNPS PRESIDENT

By Jeff Hansen

This will probably find many of you hibernating and probably not out “botanizing.” I enjoy botanizing in winter. The woods have a different feel without all the foliage. I love the different textures and colors of the winter look of shrubs and trees. Try to get out and enjoy some of our native landscapes in the wintertime.

One thing nice about winter is it gives us a little more time to work on KNPS planning and projects. This is the time of year we set the stage for the upcoming year. It looks as if we

will again be involved with Symphony on the Prairie, which is taking place in Wabaunsee County this year. We are also working on promoting county tours around the state. You can read more about that in this newsletter.

Speaking of the newsletter, I know that we have run into a few problems with getting the newsletter out on time. The last printer had printing press problems that contributed to the delay. Also since the newsletter is shipped non-profit bulk rate, it doesn't move as fast as it would if it were first class.

Therefore we need to get it printed and mailed even earlier. The quality of the print and pictures was not a very good in the last issue. This should be remedied with a different printer. I want you all to know that we want to make sure the newsletter gets into your hands before the events that are included begin. We also want the quality of the newsletter print and pictures to be acceptable. PLEASE let me know if you have any other concerns about the newsletter or anything else. hanjd@cox.net

MEET THE KNPS BOARD

Interviews by Jeff Hansen

1. Where are you from, where do you live, what do you do for a living

I am a native Kansan, now living in Manhattan, Kansas. I am a provider of personal and business management services.

2. How did you become interested in wildflowers and other native plants?

I have always enjoyed outdoors Activities, but didn't fully appreciate our native plants until a few years ago. On a friend's recommendations, I became a docent at the Konza Prairie Biological Station. As part of our training, we had courses and lectures on the many species of plants located there. Contact with many plant enthusiasts, one of which was Craig Freeman, opened up a whole new area of interest for me.

3. What are some of your favorite native plants and why?

Whenever anyone ask what my favorite plant is, I can never decide because I like so many of them. I think that the best answer is you need to go out as often as you can throughout the



year. Whatever one last made you stop and take notice is probably the current favorite.

4. What is your favorite natural area in the state and why?

My favorite natural area is still the Konza Prairie Biological Station, since this is where I really developed my interest in our native plants, and I still spend so much time there. I have been traveling to other parts of the

state observing plants, many of them to KNPS sponsored outings.

5. What do you like best about the organization?

The best thing about the KNPS is the members and their enthusiasm. Everyone is always ready to help you find or identify some species you are unfamiliar with. Our outings always include some laughter along with more serious pursuits, which makes it a good

MEET THE KNPS BOARD cont.

Interviews by Jeff Hansen

JANE FREEMAN

1. Where are you from, where do you live, what do you do for a living?

I was born and raised in Waverly, Iowa. I have lived in Lawrence, KS, for

twenty years, and I am a Customer Service Representative for two State Farm

Insurance agents.

2. How did you become interested in wildflowers and other native plants?

I became interested in native plants while tagging along with my husband,

Craig Freeman. Some of you may be familiar with him and his work.

3. What are some of your favorite native plants and why?

I guess that I could say any native plant that I can identify. Actually, Craig is always

introducing me to some new plant so I really don't have favorites.

4. What is your favorite natural area in the state and why?

This is pretty broad, but the Flint Hills. I just love the colors no matter what time of the year.

5. What do you like best about the organization?

I enjoy being with the great and enthusiastic people that you meet. When you have 30 people show up for an outing and it's raining and we go anyway, that

is EUTHUSIASM!

CRAIG FREEMAN

1. Where are you from, where do you live, what do you do for a living?

I was born and raised in Waverly, Iowa. I have lived in Lawrence, KS, for 20 years. I'll bet you thought I was going to say that I am a Customer Service Representative for two State Farm Insurance agents, but I am not! I am a curator in the R. L. McGregor Herbarium and scientist with the Kansas Biological Survey; both are research units at the University of Kansas. Most of my research involves plants and plant communities of the North American grassland biome.

2. How did you become interested in wildflowers and other native plants?

It all stems from my penchant for collecting when I was young. I collected insects, rocks and minerals, stamps, and a lot of junk of which my mother occasionally reminds me. Our family also spent lots of time outdoors hunting, fishing, camping, and hiking. I got interested in plants while in college, when a professor helped me make my

first plant collection, which became part of the school's small herbarium. While still in college, I spent a summer studying the plants of Konza Prairie, where I got hooked. It was on to graduate school from there.

3. What are some of your favorite native plants and why?

I've studied several groups, including the beardtongues (*Penstemon*) and groundsels (*Packera* and *Senecio*). I still enjoy those genera, but my work allows me to see most of the genera and many of the species in the Great Plains. There are some amazing plants out there.

4. What is your favorite natural area in the state and why?

It is impossible for me to pick one. Again, because I travel so much in the state, work in all of the physiographic provinces, and have visited most of the state's natural areas, each area has unique appeal.

5. What do you like best about the organization?

The enthusiasm - some "outsiders" have called it fanaticism - is contagious. The fieldtrips are especially rewarding. We have such a diversity of talents and interests represented in organization. I find it especially satisfying to watch individuals who join KNPS with limited knowledge of the state or flora, and to see their knowledge, skill, and confidence working with the flora grow each year.



Advice on Planning County-Wide Wildflower Tours

By Krista Dahlinger

As members and attendees of the KNPS Fall Annual Meetings and all-year-long forays have seen first hand, a stunning diversity of Kansas native wildflowers can be found on pastures and property that is not grazed, hayed or sprayed. However, visiting undisturbed or restored prairie or pasture lands may be restricted by private property access issues or simply not knowing where to locate prime sites. This is just one hurdle foray planners must address. If you have admired the large, well-established county-wide tours offered each spring in various parts of the state and are interested in the possibility of developing a similar outing in your county, help is on the way.

During our July 2006 KNPS Board meeting, a discussion began on the topic of annual County Wildflower Tours, and their success in attracting and smoothly guiding large numbers of people interested in seeing wildflowers in bloom to special locations. The Board was curious to know what planning was required to establish a successful wildflower tour for large groups, and also whether the KNPS could offer to assist counties that do not have established tours to

develop one. Krista Dahlinger volunteered to contact Harold Kline in Barber County, and Anith Smith in Wilson County, to inquire about how their county tours are organized.

At the KNPS Annual Fall Board Meeting in September 2006, Krista distributed a preliminary hand-out "Steps to Success--A Wildflower Tour Planning Guide" based on information from Harold and Anita, Gary Weisenberger, and Carl Paulie, together with suggestions other board

members have made to increase outing attendance and also benefit the communities near tour locations. The draft brochure presents a potential year's worth of planning and is a formidable array of tasks for a county desiring to begin offering an annual tour.

For such an ambitious project, cooperation with an existing governmental agency is almost a necessity. County-wide, Resource Conservation and Development (RC&D) offices, together with federal National Resources and Conservation Service (NRCS) offices, are likely first places to inquire about potential locations for wildflower tour stops. Also, National Parks, State Parks and educational lands should not be overlooked as tour stops for County Wildflower Tours. In

addition, public Wildlife and Wetland areas may be considered for wildflower tour destinations.

The NRCS and RC&D offices are able to assist with publicizing tours through their web pages and other media. In addition, parks and educational/research lands are able to publicize tour events on their web pages and events notices.

Krista will continue to gather information about already established County Wildflower Tours and dates planned for 2007. County Wildflower Tours will be an agenda item at the January 2007 KNPS Board meeting. KNPS can assemble advice and planning facts to be made available for downloading from our website, a sort of "a la carte menu" for tour planning. KNPS members

may also consider assisting established tours where needed, starting a first-time tour, or approaching an adjacent county to explore the possibility of establishing a multi-county outing. There is a great potential to reach wildflower enthusiasts and new members through tours.

Current KNPS membership can also experience the benefit of discovering wildflowers in areas new to them.

YOU CAN HELP PROMOTE KNPS

KNPS has had a couple requests to sponsor educational/publicity booths at major events in 2007. The Kansas Garden Show in Topeka has offered us a 10' X 10' area **for free**. The dates for the show are February 16-18. Volunteers are needed to set up our display, pass out information, and talk with visitors about native plants and the organization. For those of you in the Topeka area, this would be great opportunity to both visit the show and

get our name out to the public.

The Kansas Association of Teachers of Science (KATS) Kamp is held at Rock Springs, south of Junction City. The dates are April 20-22, starting Friday evening and ending Sunday at noon. First priority would be to have a display on Saturday, with Friday and Sunday being optional. Kansas science teachers are an especially important audience for us to share information with about native plants and using KNPS as a resource.

If you live either in the Topeka or

Junction City areas (or are already planning to attend the event) and are interesting in helping with the Garden Show or KATS event, contact Jeff Hansen, hanjd@cox.net and 785-478-1993. The display boards with the stunning pictures of native plants that were constructed last year can be shipped to you, along with brochures, before the event.

2007 Kansas Area Native Plant & Wildflower Events

Information provided by Kansas Native Plant Society, R.L.McGregor Herbarium, 2045 Constant Ave., Lawrence, KS 66047-3729.

Online: www.kansasnativeplantsociety.org

Email: <kansaswildflowers@yahoo.com>

Visit our website for more events. Please share this information and contact us about additional events to note. Thank you!

Sturdy shoes, long pants, insect repellent, sunscreen, a hat and water are recommended for outdoor events.

 **February 3:** Papermaking Workshop with Kansas Native Plants, Topeka, KS. Betsy Roe, Professor of Art at Washburn University, will teach us how to make paper using native plant fibers. Bring your own plant material or collect from the woods and prairie at Karlyle Woods, NW 35th St & NW Button Rd. This free workshop is limited to 12 people (Ages 12 and up). Please sign up by contacting Jeff Hansen, [Kansas Native Plant Society](http://www.kansasnativeplantsociety.org) President, <email@kansasnativeplantsociety.org> (785) 478-1993.

 **February 17 and March 17:** Volunteers are needed for prairie maintenance and preservation projects. Assist the Grassland Heritage Foundation Groundhogs [www.grasslandheritage.org]. Wear appropriate clothing. No special skills or tools needed. For details, please contact Frank Norman, [Kansas Native Plant Society](http://www.kansasnativeplantsociety.org) Board Member <frank.norman@appliedeco.com> (785) 887-6775.

March 18: Gardening with Native Plants Class at Prairie Park Nature Center in Lawrence, KS, 2:30-3:30. Tired of constantly watering that summer garden? Try a Xeriscape garden using native wildflowers and grasses. Learn to select plants for your yard's special conditions. Native gardens are less maintenance and conserve water. Class is open to ages: 8 and older, fee: \$3. Registration is limited to 20 attendees. (785) 832-7980

April 21st & 28th: Missouri Prairie Foundation Spring Plant Sales 7am - noon. Location: City Market, 5th & Walnut, Kansas City, MO. [<http://www.moprairie.org>] (888) 843-6739

 **April 21:** Volunteers are needed for prairie maintenance and preservation projects. Assist the Grassland Heritage Foundation Groundhogs [www.grasslandheritage.org]. Wear appropriate clothing. No special skills or tools needed. For details, please contact Frank Norman, [Kansas Native Plant Society](http://www.kansasnativeplantsociety.org) Board Member <frank.norman@appliedeco.com> (785) 887-6775.

April 22: Earth Day Celebration at Prairie Park Nature Center in Lawrence, KS, 2-4pm. Games, special programs, and interpretive walks will focus on what can be done to preserve habitat for all living things. All ages welcome. 2730 SW Harper St. Lawrence, KS (785) 832-7980

April 27-29: Wings 'N Wetlands Weekend in Great Bend, KS. Wildlife Extravaganza: Birds, reptiles, mammals & wildflowers! Enjoy Cheyenne Bottoms Wildlife Area, Quivera National Wildlife Refuge, workshops and more. Contact Great Bend Convention & Visitors Bureau <information@visitgreatbend.com> (620) 792-2750

April 29: Gardening for Wildlife Class at Prairie Park Nature Center in Lawrence, KS, 2:30-3:30. Create a mini-wildlife sanctuary in your own yard using plants designed to provide food and cover for wildlife. Learn about: including the right nesting structures, hiding places for birds, amphibians and even those sometimes pesky squirrels. Build it, and they will come! Class is open to ages: 8 and older, fee: \$3. Registration is limited to 20 attendees. (785) 832-7980

May 6: Gardening for Butterflies Class at Prairie Park Nature Center in Lawrence, KS, 2:30-3:30. Attract these little flying jewels to your garden with just the right plants for caterpillars. Make a butterfly sanctuary in your own yard. Class is open to ages: 8 and older, fee: \$3. Registration is limited to 20 attendees. (785) 832-7980

 **May 12:** Barber County Spring Wildflower Tour. Meet at the Medicine Lodge High School, 8:30am. Enjoy continental breakfast and slides of some of the flowers we expect to see. Buses will take us to the first plant stop. Morning participants will return to the school at noon. Full-day participants will travel to a tree-shaded country park for a delicious lunch and entertainment. Ride through the beautiful gyp hills to a second site. Afternoon refreshments will be served before we ride back to the school around 3:30pm. Barber Co. Conservation District and [Kansas Native Plant Society](http://www.kansasnativeplantsociety.org) are co-sponsors. Pre-paid reservations should be sent before May 7th, \$8 half-day, \$15 full-day. Barber Co Conservation, 800 W. 3rd Ave. Medicine Lodge, KS 67104-8002, phone (620) 886-3721, ext. 3.

 **May 12:** Visit the Ft. Leavenworth Woods with [Kansas Native Plant Society](http://www.kansasnativeplantsociety.org). This forest includes outstanding white oak and maple-basswood sections; we hope to see examples of both as well as some rare sedges and real wildflower treats! Be sure to wear blaze-orange colored clothing as we're sharing the woods with spring turkey hunters. Caleb Morse, Collection Manager for the McGregor Herbarium will lead the foray. Meet at the main entrance to the Fort at 10am. To car pool from Law-

rence, meet at 9am in the parking lot for the McGregor Herbarium / Bridwell Lab and Monarch Watch, Constant Ave. & Crowell Dr, West Campus at KU. Please register by contacting Caleb <cmorse@ku.edu> (785) 864-4493.



May 12: Dr. Woody Holland's Wildflower Tour of Neosho County, KS. Kansas Native Plant Society Board Member Carl Paulie will lead the tour. We will be looking for Shootingstar, Indian Paintbrush, Wild Hyacinth, Pale-spike Lobelia and many others. Meet Carl in front of the courthouse on Main St. in Erie, KS at 1pm. The tour will begin at 1:30pm sharp. Questions: (620) 449-2028

May 13: Spring Wildflower Plant Sale at Prairie Park Nature Center in Lawrence, KS, 1-4pm. A variety of native wildflower seeds and seedlings will be on sale. Event sponsored by the Prairie Park Partners. 2730 SW Harper St. Lawrence, KS. (785) 832-7980

May 19-20: FloraKansas: Great Plains Plant Bazaar. The largest native plant sale in Kansas features hard-to-find native perennials, shrubs and trees plus fun 'gardenabilia'. Saturday offerings: classes, demonstrations, and tours from professionals. Hours: Saturday 8am-4pm, Sunday noon-4pm, and Monday 8am-6pm. Contact the Arboretum about becoming a member and special members-only early sale dates. Admission charge is by donation. Location: Dyck Arboretum of the Plains, 177 West Hickory Street, Hesston, KS. Hesston is 30 miles N of Wichita. <arboretum@Hesston.edu> (620) 327-8127

May 19: Comanche County Nature Tour, Coldwater, KS. View native plants, wildflowers, and birds during the morning tour in the Coldwater area. Visit a couple of area ranches for even more beautiful Red (Gyp) Hills scenery in the afternoon. We will meet at the High School (600 North Leavenworth) at 8:30am for coffee and rolls. A catered lunch is also included. A registration fee is needed for lunch. Coldwater Chamber of Commerce is hosting this event. Coldwater is in south central KS on Hwy 160, 60 miles southeast of Dodge City and 135 miles southwest of Wichita. For more information please contact June Kliesen <jkliesen@havalandtelco.com> (620) 738-4340.



May 19: Volunteers are needed for prairie maintenance and preservation projects. Assist the Grassland Heritage Foundation Groundhogs [www.grasslandheritage.org]. Wear appropriate clothing. No special skills or tools needed. For details, please contact Frank Norman, Kansas Native Plant Society Board Member <frank.norman@appliedeco.com> (785) 887-6775.

May 20: Spring Wildflower Plant Sale at Prairie Park Nature Center in Lawrence, KS, 1-4pm. A variety of native wildflower seeds and seedlings will be on sale. Event sponsored by the Prairie Park Partners. 2730 SW Harper St. Lawrence, KS. (785) 832-7980



June 2: Wilson County Wildflower Tour in southeast Kansas. Gather at Fredonia High School, 916 Robinson Street, 8:30am. Enjoy home baked pastries and booths of education and interest. Buses will transport participants to a wildflower site to join small group tours led by professional leaders or opt for self guided experiences. Lunch will be included for the registration price of only \$8, payable by May 28 to: Wilson Co Conservation, 930 N 2nd Street, Fredonia, KS 66736. For further information please contact <anita.smith@ks.nacdnet.net> (620) 378-2866.

June 2-3: Maxwell Wildlife Refuge Prairie Days 9am-4pm. Celebrate the prairie, buffalo tours, stagecoach rides, mountain man camps, traders, demonstrations, wildflower and bird walks, cowboys, crafts, and music. Admission is \$1.00. The Refuge is located 6 miles north of Canton, KS. <maxwell@kitusa.com> (620)-628-4455



June 9: Visit Snyder Prairie near Mayetta, KS, 9am. Grassland Heritage Foundation has done a lot of work at Snyder and opened up new areas. This outing is co-sponsored by Grassland Heritage Foundation and Kansas Native Plant Society. Frank Norman, KNPS Board Member, will lead us and help us identify the plants we see, but he'll also show us the different management areas and how the plants have responded to burning, red cedar removal, etc. We'll most likely walk until we get too hot, possibly until 11 or 11:30, weather permitting. Snyder Prairie is about 15 miles north of Topeka on Hwy 75. To get to the site, drive east on 158th Road at Mayetta and go about 3 miles to U Road, and then go south approximately another half-mile and park along the roadside next to the Hug's driveway. Make sure not to block their driveway or any potential movement of large vehicles in and out. Contact the GHF office with questions, <email@grasslandheritage.org> or (913) 262-3506.



June 9: Dr. Woody Holland's Wildflower Tour of Neosho County, KS. Kansas Native Plant Society Board Member Carl Paulie will lead the tour. We will be looking for Showy Beardtongue (*Penstemon cobaea*), Tube Beardtongue (*Penstemon tubaeflorus*), Pale Purple-coneflower, Prairie Phlox and many others. Meet Carl in front of the courthouse on Main St. in Erie, KS at 1pm. The tour will begin at 1:30pm sharp. Questions: (620) 449-2028



June 10: Friends of Konza Prairie Annual Wildflower Walk, 7pm. The walk will be co-lead by Valerie Wright, Kansas Native Plant Society Past President, and Konza Docents. There is a charge of \$5 for those who are not Friends of Konza

GARLIC MUSTARD—Odorous, Edible, Invasive! Cont.

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ing the summer, the stalks often remain standing during the winter and into the following spring and summer.

IMPACTS. With its ability to seed prolifically and spread quickly, garlic mustard has become a common forest herb because it can grow in dense colonies out-competing most native herbaceous wildflowers. Its supposed allelopathic or phytotoxic properties may also give it a competitive edge over its woodland neighbors. One recent publication reports that these phytotoxins interfere with the mutually beneficial relationship between forest trees and mycorrhizal fungi by inhibiting germination of fungal spores, with the potential of altering the growth of the next generation of dominant canopy trees. In addition, garlic mustard appears to be toxic to the mustard white and Virginia white butterflies when they lay their eggs on the garlic mustard plant. This invader produces the same chemical—*sinigrin*—that attracts the butterflies to the native woodland toothwort (*Dentaria* spp.), which are displaced by garlic mustard in woodlands in the northern Midwest.

CONTROL. The type of control measure you adopt for garlic mustard will depend on the degree of infestation, the type of community invaded, the work force available, and the specific stage of the life cycle. Regardless of the measures used, they will need to be conducted annually until the seed bank is depleted, which could take up to 8 to 10 years. “Vigilance” is the op-

timum word here.

Probably the most effective control measure is a combination of methods—pulling the second-year plants (preferably before they bloom), followed by a late winter or early spring burn to kill the new rosettes. However, the burn needs to be hot enough to kill the rosettes and followed up with burns in successive years. Also, pulling large stands of garlic mustard is labor intensive and disturbs the soil surface, opening it up for additional infestation by garlic mustard or other opportunistic weeds. Cutting the stems is an alternate method, but is also laborious and should be done at or just below the ground surface to avoid resprouting. Whether you pull or cut, proper disposal of the plants is important because if garlic mustard is flowering, it can produce seeds after uprooting or cutting. So flowering (and fruiting) plants should be placed into large bags and removed from the site. Bagged plants should be disposed off properly by burning or deeply burying. A less preferable option is to send them to the landfill.

For larger infestations, where manual methods are prohibitive, herbicide application is the logical approach. Using a 1 to 2% solution of glyphosate (Roundup is one brand) on rosettes during periods when other vegetation is dormant—late fall to early spring—will work well. Since glyphosate is a non-selective herbicide that will kill all green vegetation, extreme caution should be exercised during application.

If you dislike using herbicides and

don't have the volunteers for hand pulling, perhaps biological control will be more to your liking. You'll have to wait though as it is in development. Scientists in Europe under the auspices of Cornell University are researching the effects of 69 weevils that feed on various parts of the garlic mustard. It appears that 4 solely feed on garlic mustard. More research is required to determine the feeding habits of these weevils and meet USDA standards.

MISCELLANY

The garlic smell and flavor in garlic mustard has prompted a number of recipes including ones for pesto and mayonnaise (made with the seed). Worth a try, but wouldn't be a very effective control method without most of the citizenry participating. More detailed information on *Alliaria petiolata* and its biology and control can be found at the following websites:

The Nature Conservancy's stewardship abstract obtained on-line at www.tncweeds.ucdavis.edu.

Wisconsin Department of Natural Resources Department website-www.dnr.wi.gov/invasives/fact/garlic.htm -contains a summary of garlic mustard information and links to other sites.

Wild Ones Natural Landscapers has a great newsletter and information on garlic mustard. They are out of Appleton, Wisconsin, and can be reached at www.for-wild.org for Wildman Steve's garlic mustard recipes.

NEW MEMBERS 9/17/06 TO 12/1/07

Jan Alderson - Grain Valley, MO
Mark Batesel - Lawrence
Beth Dollman - Joplin, MO
Angela Elam - Lawrence
Lisa Fairchild - Carbondale
Steve Grieb - Lawrence
Renee Maichel - Lawrence

Ron & Cynthia Pederson - Mound City, MO
Sue Smith - Alta Vista
Marianne Tornatore - Hinsdale, IL
Diane Wilson & John Regier - Lecompton
Bev Yankey - Berryton

Welcome!

COMMITTEES, COMMITTEES

Altogether Kansas Native Plant Society has 13 standing and *ad hoc* committees. One of the goals for KNPS this year is to increase active participation of the general membership in the organization, including members serving on many of these committees. At the annual meeting this fall, members were given an opportunity to volunteer for committee membership and a number responded. Because we are a state-wide organization and frequent face-to-face meeting would be difficult, much of the committee business is conducted by e-mail. The work of most committees is somewhat sporadic, depending on the responsibilities of the committee. If you joined a committee in September while at the Holton meeting, you will, at some point, be contacted by the committee chair. For those of you who are not yet working with a committee, the following information may help you find your niche.

Some of the committees deal with the planning and organizing of specific events such as the "Annual Meeting Committee" and the "Symphony on the Prairie Commit-

tee." Others, exemplified by the "Award" and "Newsletter" committees, are on-going committees that make policy and procedural decisions about their area and then carry out their tasks. The **Awards Committee, chaired by Valerie Wright** is responsible for preparing applications and soliciting nominees for the Rachel Synder Award, the Excellence in Botany Award, and the Mary Bancroft Scholarship; then evaluating the applicants and making decisions about the awards. They also organize the KNPS Photo Contest at the Annual Meeting. **Sr. Pat Stanley and Nancy Goulden are co-chairs of the Newsletter Committee.** This committee supports the editor by helping to plan each issue, write articles, proof-read and be alert for relevant topics for future issues.

Another committee category includes committees that primarily generate and distribute information. **Education, chaired by Michael Heffron**, oversees a large group of: programs (e.g. Prairie Patch Program and PowerPoint presentations); publications (e.g. *Growing Native Wildflowers*, flower identifi-

cation guide), and lists that serve to educate Kansans about such topics as natural and public areas to visit, and helpful books. **Plant Resources, chair Cindy Ford**, focuses on fact sheets that provide information on seed and plant nursery sources, landscaping using native plants, and seed collecting.

A new **Public Policy Committee, chair Fred Coombs**, was formed at the Annual Meeting to work on ways to influence public policy as it pertains to native plants. We also have an active **Publicity Committee, Phyllis Scherich chair**, that promotes KNPS and its events through developing and distributing the brochure, writing and submitting news releases to the media, and posting information on our Listserv.

For additional information on these and other committees, check our website: www.KansasNativePlantSociety.org If you would like to be a member of any of the committees, contact Jeff Hansen at hanjd@cox.net or 785-478-1993.

KNPS Representatives Needed

With the exodus of Gary Weisenberger from the board, two positions to serve as a representative from KNPS to other organizations have opened up. We desperately need interested volunteers to be our connection to these organizations, which have interests and goals related to KNPS.

A KNPS member is needed to represent us with the Tallgrass Legacy Alliance (TLA). Only 4% of the North American pre-settlement tall grass prairie remains and 80% is located in

Kansas. The TLA was initiated in 1999 as a partnership effort among local ranchers, agricultural and conservation organizations, and representatives from state and federal agencies. The TLA is a vehicle with ideas and funding sources to enable conservation measures to be applied directly on the ground, taking concepts and dreams and turning them into habitat improvements. TLA's philosophy is, "If we are to save the Kansas tall grass prairie, the first step will be to keep the ranch-

ers on the landscape." TLA meets every other month in various locations in the Flint Hills. For detailed information, see their website <http://tallgrasslegacy.org/> and/or contact Jeff Davidson at jdavidso@oznet.ksu.edu.

The other organization is Kansas Nongame Wildlife Advisory Council (KNWAC). KNWAC was formed in 1980 as the Chickadee Checkoff was being introduced in the Legislature. Since then, the council has operated at

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FEATURED PLANT-FROST FLOWERS

Text by Dr. Stephen L. Timme, Pittsburg State University

Drawing by Dr. Cindy Ford, Pittsburg State University

Frost flowers are not true flowers, nor are they frost, but are instead ice that forms around the base of the stem of at least several plant species. The most common species are *Verbesina alterniflora* (L.) Britt. (ironweed or wingstem) and *Verbesina virginica* L. (frostweed), both members of the sunflower family. The other species is *Cunila origanoides* (L.) Britt., a member of the mint family.

The frost flowers occur in the late fall when the air temperature is at or below freezing, but moisture is still being pumped up from the roots. As



the moisture in the stem freezes and expands, it causes the stem to split. The internal cells of the stem form fissures in which fluid is pumped out and through the splits in the stem. This

results in the ice forming in layers. The air trapped in the ice gives the frost flower their frosty white appearance. As the ice forms it will often curl inward around the stem. Frost flowers are extremely delicate because each layer that is formed is extremely thin. They will easily shatter when touched and melt quickly from warming morning temperatures.

So the best time to see this phenomenon is generally late in the fall, October, maybe November, and early in the morning before the sun's rays melt nature's art. It is also helpful to know where the plants grow that form frost flowers. The best place to see these plants and possibly frost flowers is in Cherokee County, particularly the oak/hickory forests of the very southeast corner.

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the pleasure of the Secretary of KDWP to serve as a sounding board for non-game policy and direction. It has 14 members; three are *ex officio* in status (non-voting) and meets twice a year, usually March and November. The *ex-officio* members are Kansas Department of Wildlife and Parks Commission, Kansas Biological Survey, and

Kansas Association for Conservation and Environmental Education. The meetings typically go from 10 to 3:30 with a lunch break at the Secretary's office in Topeka. For more information contact Ken Brunson at kenb@wp.state.ks.us.

If your special interests focus on the concerns either or both of these organizations support and you are interested

in attending and representing KNPS for either of these groups, please email Jeff Hansen at hanjd@cox.net.

Kansas Native Plant Society

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Annual dues are for a 12-month period from January 1-December 31. Dues paid after December 1 are applied to the next year.

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