

GHF EVENTS

Fall Native Plant Sales

Thursday, Sept. 12 and 19, 4-6:30 pm, at Cottin's Farmers Market behind Cottin's Hardware & Rental, 1832 Mass. St, Lawrence

Fall Native Plant Gardening Presentation

Wednesday, Sept. 18, 7 pm,
Baldwin City Public Library, 800 7th St.

GHF Oak Hill Cemetery Garden Workdays

Thursday, Sept. 5 and Tues. Sept. 24 at 5:30 pm
Oak Hill Cemetery, 1605 Oak Hill Ave, Lawrence

Fall Seed Collecting at Leadplant and Paintbrush Prairies

Sept. 28 - 9:00 am at Leadplant and 11:30 am at Paintbrush Prairie

Oct. 26th - 11:00 am at Paintbrush and 1:30 pm at Leadplant Prairie

RSVP to grasslandheritage@gmail.com, and we'll send driving directions.

OTHER EVENTS

Monarch Watch Fall Open House

Saturday, September 14, 9:00 am - 2 pm
2021 Constant Ave, Lawrence, KS

KVNPC Native Demo Garden Maintenance

Monday, September 16, 9:00 - 10:30am
Burroughs Creek Park
900 E 15th St, Lawrence, KS

WoodFest music, art, and prairie weekend

Sept. 28 & 29, Camp Wood YMCA
<https://symphonyintheflinthills.org/woodfest/>



FALL NATIVE PLANT SALES

Native plants are beautiful, hardy, and can thrive in home gardens – and pollinators love them!

Fall is a great time to plant natives. Pick up yours at the Fall GHF Native Plant Sales on September 12 and 19 at Cottin's Farmer's Market behind 1832 Mass St, in Lawrence, from 4 to 6:30 pm. All plants are locally grown Kansas natives and are neonic free.

Plants are \$4 each. We'll have different plants on each sale date, and we plan to have plants that we have not offered in previous plant sales! We're not taking advance member orders during the fall sale, but expect them in the spring!

Contact us at grasslandheritage@gmail.com or 785-840-8104 for more information.



Getting to Know Leadplant Prairie

The Leadplant Prairie is very pretty and fun to visit, but could you use it to make a good pilaf? Maybe. Recently, a researcher with the National Plant Germplasm System, or NPGS, contacted us about visiting Leadplant. The NPGS collects and preserves samples of genetic diversity in plants as protection against threats to crops from disease, pests, climate change, or other sources. The researcher wanted to explore Leadplant for a plant called slimleaf goosefoot (*Chenopodium pallescens*), an unassuming, 1-2 foot-tall annual with small flowers and pallid-green leaves. Goosefoot is a close relative of quinoa, a grain from South America enjoying increasing popularity here in the US. We gave the researcher permission to look when he comes through the area in November, although *cont, p. 6*



Grassland Heritage Foundation is a non-profit 501(c)(3) membership organization dedicated to prairie preservation and education.

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Editor: Andrea Repinsky
adheron@yahoo.com**

**Grassland Heritage Foundation
P.O. Box 394
Shawnee Mission, KS 66201**

www.grasslandheritage.org

grasslandheritage@gmail.com

grasslandheritage on Instagram

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**Kim Bellemere: Education and
Membership Coordinator
Frank Norman: Preserve Manager**

A Note from the President

I first got involved with GHF over 20 years ago when my husband and I went to a burn at the Prairie Center, west of Olathe, KS. From there, we started doing Groundhogs, the prairie maintenance group, and I continued to get more involved as the years progressed. During these years, GHF's center of operations was in Johnson County, KS. A majority of our members and nearly all the board were from the greater KC Metro area. Eventually, most of the Prairie Center was sold to the state of Kansas and our role there changed.

Then we began to widen our areas of interest. Rachel Snyder donated her "weekend place" near Mayetta to us to preserve, requiring manpower in that location north of Topeka. Since this was well over an hour away for most of our members, we had to appeal to a new audience. Interested parties contacted us regarding a prairie south of Lawrence that needed protecting. Even though we weren't successful in obtaining that parcel, it did precipitate our move into the Lawrence area. As more board members were living in Lawrence that became our new hub of activity. We have met many kindred minds in Lawrence and have continued to expand our mission of prairie education and protection.

Last year, when we purchased Leadplant Prairie in Anderson County near Welda, we again extended ourselves further afield. In June, we held our first organized outing at that location and were pleased to welcome new groups with whom we hope to collaborate. Our property runs along the Prairie Spirit Trail and several trail supporters came to visit our property. We plan to make our property available to visit by trail riders and walkers. Trent McCown, trail manager for Kansas Department of Wildlife, Parks, and Tourism met with us, and we think this partnership will help both of us maintain our properties in a more



Sue's native plant rain garden in Olathe

natural state. We can cooperate on controlling invasive weeds and allowing burns. The Nature Conservancy also owns prairie in the area that is managed by the Kansas Biological Survey. We hope to cooperate with them, too. Thrive Allen County, which is just south of us, is a health-focused organization which has

done extensive trail work. We're already planning a seed collecting event which will help diversify areas they are planting.

We are on the lookout for people willing to come out to Welda and help us maintain Leadplant Prairie. Let us know if you're interested and available. Hope to see you at one of our prairies!

Sue Holcomb

sholc2003@yahoo.com

Climate Change and Our Grassland Heritage by Ken Lassman

The climate stresses on prairie ecosystems don't garner the same publicity as the impacts being felt worldwide on our economy, cities and communities affected by increasingly severe and frequent extreme weather. But the scientific community has been hard at work documenting the changes already occurring in ecosystems around the world, and our region is no different.

The quickly emerging picture is that varying the climate has a foundational impact on our region's ecoregions, affecting species morphology and population genetic variation, evolutionary plasticity and extinction rates, interspecies interactions including host species selection, migratory patterns, and the nature of ecological niches.



Euphorbia corollata

A. Repinsky

As a result, management practices are being challenged in equally fundamental ways: if habitat fragmentation and destruction isn't enough of a challenge, changing weather patterns threaten the stability of even well protected habitats necessitating close monitoring to detect trends that could lead to unforeseen threats.

In other words, while mitigation/reducing carbon emissions remains a very high priority for our society in order to head off the worst case scenarios of the future, the scientific community is documenting the struggles ecosystems are experiencing as they adapt to the changing weather patterns. One way to get a handle on this is to look at the number of vetted research articles that cite a seminal paper like Parmesan

et. al's 2006 article "Ecological and evolutionary responses to climate change." There are over 6,700 such research papers that cite the Parmesan article (growing every day), and if you do a filtered search using the word "Kansas," 319 research papers published since 2006 emerge. Some of this research is about other parts of the world being studied by research teams who work in Kansas, but the majority of these papers are documenting the changes already occurring in the biological communities found within our state's borders. A cursory sampling of 50 of these reveal a wide range of topics including:

- how climate pressures are affecting genetic variation and population dynamics in species located in the center vs. the periphery of their "normal" ranges;
- identifying genetic triggers for changing the flowering times of plants in response to changing CO2 levels;
- describing avian metabolic and morphological changes in response to changing conditions;
- determining how fish populations maintain genetic diversity, which is threatened by warming waters;
- developing remote sensing techniques to more closely document changing seasonal plant growth/phenology;
- identifying how all the dominant warm season prairie grasses are responding to thermal/water supply stresses and changing CO2 concentrations in the atmosphere;
- describing changing geographic distribution of a wide variety of plants and animals including odonata/dragonflies, the lone star tick, blanchard cricket frog, post oak, crawfish frog, mink, muskrat, various insects, as well as invasive species;
- documenting shifting migration patterns in whooping cranes and other migratory waterfowl;
- how amplification of the hydrological cycle (more droughts, floods) is affecting wetland and mesic prairie composition and dynamics;

So in these uncertain times, the sciences are giving us invaluable tools for helping our prairies have a future by giving us ways to measure our successes and failures objectively.

Snyder Scholarship Recipient Pam Blackmore

Reports on KSU Green Roof Study

Several years ago, it was discovered that the Memorial Stadium seating on K-State's Manhattan campus could no longer support the number of people it was originally designed to hold. The university decided that replacing some of the bleachers with a native plant green roof would limit the occupiable area, help meet fire code restrictions, and, as an added benefit, provide bird and butterfly habitat. My purpose when I came to Manhattan, KS in January of 2017 was to measure and understand effects of the installed green roofs on local biodiversity.

To assist me, I selected a registered landscape architect, Lee Skabelund, as my major professor, Dave Haukos, a wildlife biologist, Brent Chamberlain, a geographic information systems specialist, and Jeff Taylor, the lead botanist for Konza Prairie. With this phenomenal team's help and after reading many journal articles, I narrowed my research to measure 1) how the butterfly community at the Memorial Stadium compares with urban and rural native prairie and 2)



how the plant community at each site may be influencing the butterfly communities found at each site. Other studies have suggested that butterflies are ecological indicators for the overall pollinator community, so by studying butterflies, I could better understand the potential benefits of green roofs in the tallgrass prairie to struggling butterfly species, such as

the monarch and regal fritillary, in addition to gauging how green roofs can benefit other pollinators.

Over the course of two years, I repeated the following methods fifteen times at the same eight transects at four study sites:

Pollard walk: I walked the transects and identified butterflies and their behavior

Plant composition sampling: I estimated plant coverage of all species in plots along the transects

GPS study: I walked the transects and flagged all butterfly-plant interactions to quantify the spatial distribution of butterflies and plants used by butterflies

I found that these green roofs provide urban butterfly habitat. Indeed, the number of butterflies was greater at the Memorial Stadium than at either native prairie site. However, tallgrass prairie specialist species, such as the regal fritillary, were only seen at the native prairie sites. Butterfly behavior also varied among sites: butterflies at the green roofs were primarily feeding (i.e., nectaring); whereas, at the native prairie sites they were predominantly flying through the site with not much interaction with the vegetation. The factor that tended to best predict butterfly abundance, richness, and diversity at all my sites was forb coverage and forbs blooming.

I interpret my results to indicate that green roofs can compensate for lost butterfly habitat in urban areas, but only partially. There were few other food resources near the green roofs, so butterflies congregated on the roofs to nectar. While it seems obvious to state, butterflies need flower nectar for food, and they need flowers that bloom while they are active. Some plants at my sites preferred by butterflies were particularly those blooming towards the end of summer when the most butterflies were active. Gayfeather species, milkweed species, and western ironweed were butterfly favorites. The native prairie sites were able to uniquely provide specialist butterfly habitat, so it is important to preserve native prairie for the

benefit of native pollinators. The green roofs provide resources for many species of butterflies, but I found they did not entirely replace the butterfly habitat provided by native prairie. If you would like to support butterfly conservation, consider building a butterfly garden full of native floral resources and host plants, and also promote the protection of native prairie.

I was extremely fortunate to receive funding through the Grassland Heritage Foundation, which allowed me to hire field help. Thank you for valuing my research enough to support it financially, and thank you for continuing to support other grad students studying prairie conservation. If you would like more information about this research, please feel free to contact me at pblackmore@ksu.edu or read my thesis online: <https://krex.k-state.edu/dspace/handle/2097/39694> I hope you feel the funding was well spent!

I am now employed full time with the Konza Prairie Long-term Ecological Research Program as a GIS Specialist. This role is allowing me to continue studying grassland ecology, but from a different perspective than my thesis. I am updating the geospatial information for Konza study sites by conducting GPS field surveys. When I'm not in the field, I've been busy working on spatial analyses related to woody plant encroachment, bison wallows, rare and uncommon

flora, small mammals, or making maps for professors and staff. I am spoiled: I am surrounded by brilliant minds, I get to conduct GIS analyses, and I get to spend my time at the tranquil Konza Prairie—so I still see hundreds of butterflies.



Giant Swallowtail on Western Ironweed

P. Blackmore

GHF's Summer Activities

GHF had our most successful spring native plant sale to date, and we'll offer more sales in the fall to boost our fundraising and help people do fall native gardening.

GHF's contractor completed spraying sericea lespedeza at Snyder Prairie. Over the summer, Mike Campbell, Gary Tegtmeier, Mary Kowalski, Sue Holcomb, and Steve Holcomb made a few visits to Leadplant Prairie to remove teasel.

Kim Bellemere is working on a gardening and restoration manual with Douglas County Extension and the Kansas Rural Center. Extension received a grant from the Douglas Co. Heritage Conservation Council to publish the manual next spring. Three to four chapters are drafted and a photographer is taking pictures now. Drafts of all of the chapters should be finished by December.

GHF continues to manage the Oak Hill Cemetery and Brook Creek native plant gardens.

Mike Campbell is organizing our first GoFundMe campaign for bee house supplies, with more fundraisers to follow.

Andrea Repinsky and Kim continue to connect to through email announcements, Facebook, and Instagram. Follow us there for more updates and news! Kim is considering ways to expand GHF's capacity. We could make good use of additional paid staff. It will require finding new funding sources, organizing more public events, attracting new members, and soliciting donations.

We discussed ways to further streamline our operations. We'll be able to move to a smaller storage unit for our equipment and educational materials.

Getting to Know Leadplant Prairie

Continued from p. 1

our previous surveys have not found goosefoot on our property. We also put him in touch with some members able to suggest other areas to search. And, we still hold out hope that germplasm from our prairie might someday give a boost to quinoa and contribute to a nice side dish cooked up with shallots and lemon.

As we settle in to our property at Leadplant, we've had the opportunity to meet some of our new neighbors including an innovative organization called Thrive Allen County. Based in Iola, the group is a unique hybrid that works on both economic development and community health. Part of their efforts include the creation of an extensive network of bicycle

trails throughout the county, both along established roads and in a green space known as the Lehigh Portland trails. The 100-acre space is on the property of an old cement plant and includes both wooded areas and grasslands. Thrive Allen County has already done an impressive amount of work on the area to improve diversity and push back against aggressive invasive plants. We met with them this July to talk over how we might collaborate, joining together their local contacts with our knowledge of prairies remediation and preservation. Our seed collection days this fall represent our first joint project, as we plan to split what we collect between each group to use on our respective restoration projects.

Donations & New Members March to August 2019

Special Donations in Memory of Rex Powell

We are very grateful to the following donors to the memorial fund in memory of Rex Powell. Your gifts for prairie protection totaled over \$3,000. Thank you to Marie-Alice and all of Rex's family for designating Grassland Heritage Foundation for memorial donations.

Bill & Ann Busby, Ralph & Roma Earles, Baldwin City, KS, Gail Hill Teach, Belmont, MA, Toni & Chip Taylor, Berryton, KS, Richard Alford, Brimfield, IL, Rebecca Gore & Warren Flewellen, Chelmsford, MA, Ronald Capen, Colorado Springs, CO, David Edds, Emporia, KS, Pierre & Marie L'Heureux, Glastonbury, CT, Larry Akin, Jennifer Brown, Susan Hazlett, Reid Nelson, Richard Rawlings, Cathy Reinhardt, Stan & Janet Roth, Steve Stemmerman, Carol & Earl Waisner, Lawrence, KS, Ron & Joyce Wolf, Lecompton, KS, Linda Akin Renner, Long Beach, CA, Steve & Sue Holcomb, Olathe, KS, Semiramis Rogers & Thomas Pond, Overland Park, KS, Gary Tegtmeier, Westwood, KS, Steve & Glenda (Powell) Bascom, Marilyn Brune, and Anonymous Donors.

New Members

Robert Hagen, Sally McGee, Jan Butin, Verna Berry, Pat and Ned Kehde, Lindy Eakin, Dana Chance, Kurt Look, Lucie Black, Alice Dale, Kimberly Patterson, Hannah Lewis, Maggie Wagner, Steve & Glenda (Powell) Bascom, Clay Marcusen, Joan Kenny, Melissa Parsons, Judy Burch, Linda Akin Renner, Larry Akin, Ralph Earles, Tori Willmon, American Century Investments Dollars for Donors Fund-Alex Eddins, Jessica Lee, Coffey County Library Lebo Branch, Jennifer Delisle

Other Special Donations:

Land Protection Fund Donors

Jessica Lee—in honor of Marina DePiesse

Myron Leinwetter—in honor of Frank Norman

A. J. Loscalzo—in honor of Gary Tegtmeier

Wade & Rachel Myslivy—in honor of Kim Bellemere

Kathryn Lange—in honor of Sue and Steve Holcomb

Ozark Wilderness Waterways Club Scholarship Fund In memory of Rachel Snyder a former member of OWWC

Pepsico Foundation matching gift for Charles Herman

Coffey County Library Lebo Branch as a thank you for presentation that Kim did in April

Tad & Margaret Kramar—Prairie Protection Fund & Land Management Fund

Jessica Daniels and Kenneth & Gayle Nicolay—monthly contributions

Other Renewing Members

Margaret Rose, Mary & Mike Schnebly, Lorie Vanchena, Ruth Stepien, Alexis Powell, Barbara Clark, Kathy Kinder, Becky & Lisa LaBlanc-Willis, Meredith Fry, James Morrissey, Evelyn Davis, Tracey Graham, Mary Powell, Janet Bouley & John Robertson, Craig & Jane Freeman

We depend on your contributions! Please help GHF protect prairie by sending your donation today.

The date of your last contribution is printed above your name on the mailing label.

Send to: Grassland Heritage Foundation, PO Box 394, Shawnee Mission, KS 66201

Membership Categories: \$20 Friend \$35 Family \$50 Steward \$100 Sustaining \$250 Conserver
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**Membership renewals and donations
can also be sent to GHF online at
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Thank you to . . .

Native Plant Sale Volunteers: Matt Garrett, Megan Merryman, Megan Withiam, Sue and Steve Holcomb, Mary Kowalski, Martha Hagen, Jane Medina, Jennifer Delisle, Ken Tillery, Pat Kedhe, Margaret Rose, Roxie McGee, Mike Campbell, Gary Tegtmeier, Andrea Repinsky, Jason Keezer, and Judith Taylor

Thanks also to Sue and Steve Holcomb, Gary Tegtmeier, Roxie McGee, Courtney Masterson, and Mike Campbell for tagging plants prior to the event and for helping sort member orders.

Frank Norman and Courtney Masterson for leading the walk at Leadplant Prairie in June.

Ken Lassman and Pam Blackmore for sharing your work in GHF News

Kevin Bachkora for accounting services

Don't miss an event or announcement!

**Do we have your email address?
Send it to : grasslandheritage@gmail.com**

Restoration Success Story

As a prairie organization, we spend a certain amount of time cutting down trees. That doesn't mean we don't like seeing trees growing in the right situations. We just heard an interesting story on the podcast *In Defense of Plants* which is hosted by a graduate student from the University of Illinois. A recent two-part series discussed efforts to restore a nearly extinct species known as the Ozark chinquapin. This species is a type of chestnut, and not related to chinquapin oaks. Once common from southern Missouri south to Louisiana, and east to the Alleghenies, Ozark chinquapins largely disappeared because of the chestnut blight. Their loss was a real blow to wildlife because chinquapin nuts can be up to 20% protein, an extraordinary amount that makes them a great source of food. Thankfully, the species is making a comeback thanks to breeding and restoration efforts by the Ozark Chinquapin Foundation, whose founder is featured on the podcast.



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Volunteer Opportunities

Kim Bellemere, our membership and education coordinator, can use your help! Call 785-840-8104 or email grasslandheritage@gmail.com.

We're doing some light weeding at the GHF garden at the historic Oak Hill Cemetery—one of three gardens planted in partnership with the City of Lawrence Parks and Rec. Dept. Planted in 2018, the city supplied the plants and watered the gardens through the first summer. GHF is continuing to weed and maintain our garden through the 2019 season, including Sept. 5 and Sept 24 at 5:30 pm. It's a fantastic project and a great opportunity to host a beautiful, permanent native garden in one of Lawrence's most historic sites. The Jayhawk Audubon Society and Blue Moon Neighborhood Group hosted gardens as well and all three are located near the oldest part of the cemetery. Bring a trowel, gloves, and water to drink. No RSVP is required. If a workday is cancelled because of the weather, we'll post it on our Facebook page. Signs will be posted along the cemetery roads directing you to the GHF garden.

Join the Groundhogs volunteer restoration crew to preserve and improve GHF's Snyder Prairie! No experience is necessary. We just need people willing to cut trees, lop sumac, help with burns, collect seeds, and remove invasive plants. Snyder Prairie is near Mayetta, Kansas about 20 miles north of Topeka.

Groundhogs usually meets the third Saturday of the month at 9:00 am. Contact our preserve manager, Frank Norman at 785-691-9748 or fjnorman52@gmail.com. Please don't show up without contacting us, as we may need to cancel or move a workday. Always dress for the prairie with long pants, gloves, a hat and sturdy boots, and bring water.

Please see Page 1 for more events and details.



Fall Native Plant Gardening

Wednesday, Sept. 18

7:00 PM

Baldwin City Public Library
800 7th St., Baldwin City, KS

Native plants beautify our landscapes, lift our spirits, and nourish the life around us. Join the Douglas Co. Extension Master Gardeners and GHF to learn how you can include more native plants in your environment.

Roxie McGee, Master Gardener and Coordinator of the KU Medicinal Plant Garden and Kim Bellemere, GHF Education Coordinator, will cover topics such as natives and wildlife, site assessment, plant selection, and fall planting and maintenance.

Hosted by the Tom Swan Demo Garden Committee and the Baldwin Garden Connection.

Email GHF at grasslandheritage.com for more information and to RSVP.