

## EVENTS

### Basics of Native Plant Gardening Workshops

Saturday, April 6, 9 am, at Raintree Montessori School, 4601 Clinton Pkwy, Lawrence

Thursday, April 18, 7 pm, at Eudora Community Center, 1630 Elm St, Eudora

### Groundhogs Prairie Restoration Work Days

April 20, May 18 at Snyder Prairie, Mayetta, KS. More on p. 8.

Sign up with Frank at [fjnorman52@gmail.com](mailto:fjnorman52@gmail.com)

### Earth Day Celebration

Saturday, April 20. Find GHF at the Kansas Childrens' Discovery Center and Topeka Zoo.

### Mulvane Art Museum Artlab Family Day and GHF Native Plant Sale

Saturday, April 27, 1 pm. Washburn University, 1700 SW College Ave., Topeka

### GHF Native Plant Sale

Saturday, May 18, 9 am to 1 pm, Trinity Episcopal Church Lawn, 1011 Vermont, Lawrence

### National Prairie Day Celebration

Saturday, June 1, 9 am, Burroughs Creek Park, 900 E 15th St., Lawrence

### Leadplant Prairie Party

Saturday, June 15, 10 am, Welda  
RSVP to [grasslandheritage@gmail.com](mailto:grasslandheritage@gmail.com)



## LEADPLANT PRAIRIE PARTY

You are invited to join Grassland Heritage Foundation to celebrate our new purchase of Leadplant Prairie! We'll gather on June 15 at 10 am to share company, refreshments, and summer prairie wildflowers. Leadplant Prairie is in Welda, KS, about an hour's drive from the KC metro or Lawrence, on the Prairie Spirit Trail. RSVP to [grasslandheritage@gmail.com](mailto:grasslandheritage@gmail.com).

## 7th Annual GHF Native Plant Sale

GHF offers over 50 species of native wildflowers and grasses at our annual plant sale, a rare opportunity to find many native species for your garden. All plants at the sale are locally-grown and neonicotinoid-free, and the majority are perennials. If you're unsure of which native plants will work for your garden, where they should be planted, or how to care for them, you can expect to get expert help from experienced volunteer gardeners and plant people!

Discounts are available for GHF members who place pre-orders. We're also taking orders for Garden-to-Go kits! Kits contain up to 15 pre-selected plants for shade, sun, or containers, with garden plans and instructions. Email [ghfplantsale@gmail.com](mailto:ghfplantsale@gmail.com) for ordering instructions or call 785/840-8104.

Sat., May 18, 9:00-1:00, Trinity Episcopal Church, 1011 Vermont St., Lawrence

## Prairie and the Global Insect Crisis

Articles since 2017 have warned about the current global decline of insects. This widespread decline is being described as 'hyperalarming,' 'very scary,' 'a crisis,' and a 'bugpocalypse.' Let's take a closer look at what's happening and at lessons from recent research on insects in Kansas prairies.

Multiple long-term studies have found that invertebrates have decreased by an average of 45 percent in the past 35 years, as reported by a *New York Times Magazine* report from December 2018. Many reports are even worse. The number of monarch butterflies has dropped by 90 percent in the last 20 years. Analysis of butterfly records in the Netherlands *continued, p. 5*



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

**GHF News is published three times a year by Grassland Heritage Foundation.  
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**Kim Bellemere: Education and  
Membership Coordinator  
Frank Norman: Preserve Manager**

## **A Note from the President**

As I write this, spring has officially begun, and the weather is showing signs of matching the calendar. I've actually been able to spend time outside, enjoying the burgeoning green and cleaning up lots of dead things. But one thing I've put off for now is cutting down and clearing out my native gardens. I've been hearing much more about how we need to leave vegetation in place that may be used by native insects for overwintering, or in the coming year as nests where eggs will be laid for the next generation. I have a lot more to learn about this, what insects use what plants, but gone are the days of cutting and cleaning in the fall.

I took my camera out in the sun today while I searched for "green." I found the basal leaves of beard tongue (Penstemon), sprouts of bee balm (Monarda), and yarrow (Achillea), spiderwort (Tradescantia), some leaves of purple poppy mallow (Callirhoe), rose verbena, and the vigorous growth of roundleaf groundsel (Packera or Senecio), which will send up bright yellow flowers in a few weeks.



*Roundleaf groundsel in March*

As I transition into spring and getting outdoors to garden, I am also planning prairie outings for this year. From finding the earliest little blossoms in April, to checking out bison calves in May, to finding the brilliant flowers of June, and watching grasses take over as the summer heat intensifies in July and August, to the days of autumn when colors change and seeds



*Roundleaf groundsel blooming*

are flying, prairie needs to be investigated and enjoyed throughout the year. This is obviously not the year I get to check out Nebraska's prairies and the sandhill cranes, but that area may need our support in the months to come. I've not been to the Missouri Tallgrass Prairie near Lamar in several years, so that is on my list. I also love the Nature Con-

servancy's Tallgrass Prairie Preserve near Pawhuska, Oklahoma where we have encountered bison and calves on the roads (and I can check out the Pioneer Woman's Mercantile in town).

Please get out and visit your favorite prairie, whether you are a plant enthusiast, bird lover, or are looking for insects or herps. You can't really appreciate a prairie unless you're in it!

Sue Holcomb

sholc2003@yahoo.com

## Remembering Rex Powell

We are sad to share that our friend and fellow GHF board member, Dr. Rex Powell, passed away on March 14, 2019. Rex was a longtime and steadfast advocate for prairie preservation. He recollected enjoying the wildflowers that once grew abundantly in the unmowed roadsides and remnant wild places around his childhood home in rural Douglas County. Another gift of his rural upbringing was the dark sky that inspired his active pursuit of astronomy. Flowers. Stars. Meteorites. People. Rex grew to love them early in life, and his devotion continued throughout his life as an astronomer, high school science teacher, prairie advocate, collector, friend and husband, father, and grandfather. Rex joined the GHF board in 2005. In GHF, he found prairie protection collaborators and friends eager to discuss the natural world, and eager to hear about woodland restoration and wildlife at his Burton's Hollow home. Rex encouraged curiosity, exploration, and a love of science and the natural world with students during his long teaching career, as well as with his friends and family and everyone he encountered as a GHF volunteer.

We will honor Rex's legacy as a prairie advocate through our prairie education and protection efforts.



## GHF Plans for a Productive 2019

The GHF year begins the prior November, when the Board holds an annual planning session to review our mission, goals, and strategies. The board sets the organization's general direction for the next year and the near future. Next, our Education Committee, the Management Committee, and other working groups meet to set detailed work plans for the next year and to draft annual contracts with our Education/Membership Coordinator and Land Manager. When the Board holds our annual meeting early in the year, we elect new board members, directors, and officers, we approve contracts, and we get to work!

This year, our Education Program, led by Kim Bellemere, and chaired by Megan Withiam, will continue organizing lectures on native plant gardening, land management, climate change and the prairie, and prairie ecology. The series kicked off in February with a talk on native insects by Kathy Denning, in partnership with Jayhawk Audubon Society. Education engagements are already scheduled in Eudora, Lawrence, Lebo, and Topeka, for children and adults. We will continue our annual plant sale on May 18, with another sale in the fall. Kim is working on native plant gardening information materials and a multi-chapter restoration guide. Kim leads our ongoing involvement in the Climate and Energy Project's WEALTH Partnership, and

she continues to share lessons from her own family's restoration project. Kim initiated a fun new partnership with the Raven Book Store to offer a curated collection of prairie-related books.

Our Management Program, led by Land Manager Frank Norman and chaired by Mike Campbell, sets work plans and budgets for Snyder Prairie and Leadplant Prairie maintenance work. Plans were set for spring burns, successfully completed in March, sericea lespedeza control in trade for hay, and additional brushing. We are working with two contractors at Snyder Prairie, and another is interested in providing haying maintenance at Leadplant Prairie. This year, at Snyder Prairie, the Groundhogs volunteer work crew will cut remaining red cedars, reseed disturbed areas, remove fencing, and continue cutting woody growth.

A workgroup of Kim Bellemere, Mike Campbell, Courtney Masterson, Frank Norman, and Joyce Wolf met in February to draft Advocacy Guidelines and Procedures. Gary Tegtmeier, Andrea Repinsky, Mike Campbell, Sue & Steve Holcomb met in late 2019 to plan our next steps with Leadplant Prairie and fundraising. Board members are also reviewing draft chapters of the Lawrence/Douglas County Comprehensive Plan update.

## Tool Tips for Management

If you like the idea of a non-motorized hand tool for controlling woody weeds for smaller properties or projects, consider a weed wrench. Weed wrenches clamp onto the base of woody stems and pull them from the ground, roots included, in one motion, as the lever handle is pulled down.

Out of a few options available, we chose Pullerbear, a small family business where the owner answers the phone and offers to weld your name onto the handle. For flexibility, we chose the largest option with adjustable jaws to grip stems up to 3". The Pullerbear is 54" long and \$169, shipping included. The foot is built to let you attach a board to widen the ground contact for stabilization in muddy conditions. At 17 lbs, you will want to make sure it's worth the effort to lug it into your back field! It performed very well on 1" single-stem honeysuckle. Very small woody stems and very tough stems, such as red-bud, sometimes break instead of pull out of the ground. You can probably get similar results pulling small plants by gripping them at the base with pliers, mirroring the function of the a larger weed wrench.

We're happy with the weed wrench's ability to save time with woody plant management without using chemicals, disturbing the peace, or disturbing the ground. The Pullerbear works with minimal ground disturbance, certainly less than any shovel. Permanent woody plant removal and easy operation should save you time now and in the future.



*Pullerbear and  
extracted trees,  
with chickens for  
scale*

## Rachel Snyder Memorial Scholarship Awards

We are pleased to announce the 2019 Rachel Snyder Memorial Scholarship Recipients. Thank you to the Lordi Marker Family for generous donations to this fund.

### 1. Kent Connell, PhD student, Biology, Kansas State University

*Maximizing the impact of prairie restoration on carbon sequestration within soil organic matter*

This research will use 8 tallgrass prairie sites that were restored using similar methods and will address molecular composition of soil organic matter, soil microbial community changes and possible correlation.

### 2. Naomi Betson, PhD student, Ecology and Evolutionary Biology, University of Kansas

*Effects of sampling date on observed biodiversity in an experimental tallgrass prairie restoration.*

The purpose of this research is to determine how well data taken at a given point in time represent overall biodiversity, by sampling a tallgrass prairie restoration at three different points across the growing season. Sampling will be done at the experimental Free State Prairie.

### 3. Jaide Allenbrand, Master's Candidate, Biology, Kansas State University

*Investigating the effect of bison grazing on grassland soil fertility and microbial communities across the central Great Plains*

This study will measure soil characteristics and study the microbial community at six bison-grazed tallgrass prairie sites from Nebraska to Oklahoma.

# Prairie and the Global Insect Crisis

Continued from p. 1

from 1890-2017 found an 84% decline, with some species disappearing entirely. A 76 percent decline in flying insects over 27 years was measured in German nature preserves. Invertebrates sampled in El Yunque forest in Puerto Rico saw a 60-fold decrease over four decades. Birds captured in El Yunque decreased 50 percent within 15 years. Much larger decreases were observed in insect-eating birds, frogs, and lizards than fruit- and seed-eating animals. Plummeting insect biomass has had an effect on insect-eating animals.

One challenge in measuring the magnitude of change has been the lack of long-term studies on, well, lots of things. We happen to know a lot about Monarch butterflies, but what about the insect that was only discovered last year? Also, we might fail to observe gradual change, and change that occurs beyond our own lifespan. We've heard examples of dramatically different conditions observed by people in recent centuries, such as seas full of whales and skies blackened by flocks of birds. Anyone can ask good questions by starting with curiosity about things like less bug splatter on our windshields or less bird and frog chatter during our evening walks.

Ecological problems can be stated in terms of loss of abundance of individual plants and animals or loss of biodiversity, such as lists of threatened, endangered, or extinct species. Other markers of problems are decreased species range or functional extinction—the loss of the unique ecological functions of organisms. Vast land area now lacks top predators, and we see the associated ecological impacts. Awareness is spreading of the devastating impact the loss of honeybees and other pollinators, since thirty-five percent of our plant crops are insect-pollinated. Many organisms lack sufficient numbers to provide functions needed in natural areas, such as seed dispersal, pollination of wild plants, decomposition, and soil health maintenance. These functions support the survival of other species throughout their ecosystems. Insects may be the unnoticed food sources or food pollinators for the large animals that we do notice.

Anyone can observe the magnitude of conversion of the landscape from diverse places with insect habitat to human spaces of crops, yards, and highways. The ecological functions of our remnant natural spaces have changed. In northeast Kansas, remnant prairies are, on average, 17.1 acres in size and 2 miles apart from each other. This presents a barrier to seed dispersal and animal movement.

The effects of insect loss ripple throughout ecosystems. We've observed less insect food for fish, drops in farmland

birds in Europe, and fears that human food crops will diminish with lack of pollinators.

Among the studies, the insect crisis has been attributed to a variety of causes, and many of them are aspects of climate disruption. The causes include temperature increases, pesticides, pathogens, droughts, and habitat loss. Invasive species crowd out native plants and act as predators to animals that haven't evolved defenses.

The role of amateur scientists has been credited with a lot of what we know now. Scientists, expert amateurs, long-term study funding, and opportunities for citizen scientists to share observations are all needed. The availability of volunteers with advanced insect identification skills, with cultures that encourage these skills as hobbies, has been essential to the European studies. Their data and the awareness of, and alarm about, the results is credited for the progress made in the European Union to ban nicotine pesticides.

We can also respond with policy and regulation, with funding for long-term studies, farm practices that incorporate natural areas and limit pesticides, and integration of natural habitat into available spaces in our landscape.



*Kathy Denning and Anna Tatarko sampling on a remnant prairie*

In a landscape with so little remaining native prairie and woodlands, ecological restoration is an important strategy. In a February presentation sponsored by GHF and Jayhawk Audubon Society, Dr. Kathy Denning, KU graduate and past recipient of GHF's Rachel Snyder Memorial Scholarship, shared her research on the potential of replanted prairie to support insect communities. We know that native prairie is an extremely complex and diverse community, and it cannot be completely restored. Can some of the ecological services and functions be restored?

*Continued p. 7*

## Prairie Sites to Visit

GHF Board members have listed some of their favorite prairie sites to visit. More sites and information are on the GHF website: [www.grasslandheritage.org](http://www.grasslandheritage.org).

Olathe Prairie Center (formerly owned by GHF) Olathe, KS  
Akin Prairie, Douglas County, KS

Tallgrass Prairie National Preserve, Strong City, KS

Maxwell Wildlife Refuge, Canton, KS

Ivan Boyd Prairie Preserve, south of Black Jack Highway Park, Wellsville, KS

Konza Prairie Trails open to the public, Manhattan, KS

Joseph H. Williams Tallgrass Prairie Preserve, Pawhuska, OK

Missouri Prairie State Park, Mindenmines, MO

Knapp Prairie, a Nature Conservancy Loess Hills prairie north of Sioux City, IA

Chesney Prairie Natural Area, Benton County, AR

Niobrara Valley Preserve, Brown, Cherry, and Keya Paha counties in Nebraska

Nachusa Grasslands in Illinois, 'a must-see'

Schulenberg Prairie at the Morton Arboretum, Lisle, IL

Glacial Ridge National Wildlife Refuge, MN

More information:

KC Wildlands sites in the Kansas City area <https://bridgingthegap.org/kansas-city-wildlands/>

Johnson County Park & Recreation District prairie remnants and restorations <https://www.jcprd.com/31/Parks>

National Prairie Day was started by Missouri Prairie Foundation. This site shows all the Missouri Prairie Foundation prairies as well as others. <https://nationalprairieday.org/visit-a-prairie/>

## Donations & New Members Dec. 2018 to March 2019

We've started to receive gifts to the GHF Prairie Protection Fund in memory of Rex Powell. We will list the memorial gifts in the next newsletter.

Gift in Honor of David Wagner & In Memory of Larry Wagner by Martha Wagner

Gift in Honor of Gary Tegtmeier to Land Management Fund by Ann Simpson

Gift in Memory of David C Jenkins, M.D. to Prairie Protection Fund by Gary Tegtmeier

Gift in Honor of Gary Tegtmeier by Rick Mitchell

Gift in Memory of Joseph O Berger to Prairie Protection Fund by Byril J. Sanders

### Land Management/Maintenance Fund

David L. Wagner, Toni & Chip Taylor, Krista Dahlinger, Stan & Sandy Noland, Linda Lehrbaum, Sandra Tholen, Roger & Virginia Emley

### Prairie Protection Fund

Robert G. Barnhardt Jr., Travis Weller, Mike & Elizabeth Stoakes, Dennis & Susan Lordi Marker, Melvin Deperschmidt, Mary Cottom, Kathy Witherspoon, Margie Lundy, Barbara Brewer, Richard A. Brune, Bitsey Patton, David Dvorak, Wayne Morton

### Scholarship Fund

Dennis & Susan Lordi Marker, Barbara Brewer

### Education Fund

Dennis & Susan Lordi Marker

### Monthly Recurring Donations

Kenneth & Gayle Nicolay, Jessica Daniels

### New Members

Bill & Ann Busby, Anne Harvey, Karen Folsom, Mike & Elizabeth Stoakes, Andi Back, Evelyn & Dennis Karney, Regina Rohlfs, Greg & Patty Hylton, Dwight Platt, Tad Kramar, Brian Roh, Judith Taylor, Kathy Porsch, Rick Mitchell, Lenora Larson, Kathryn Gates

### Renewing Members

Ken Tillery, Frank Norman, Janet & Stan Roth, Karen Dove, Denise Brubaker, Jean Hiersteiner, Georgiana Baer, Julia Cotter, Dale E Nimz, Carol Fields & Charles Downing, Bill Cutler & Elisabeth Suter, Jim Hillesheim, Lee Boyd, Mary Kowalski, Stan Brower, Helen Alexander, Carole & John Hunter, Jane Drury, Carol Morgan, Julie Elfving, Chuck & Ruth Herman, Deborah Borek, Gloria Hiller, Bruce & Lucy Cutler, Cathy Wasson-Lewis, Jerry Jost, Mary Conrad, Jean Hiersteiner, Barbara Mason, Mike, Pam & Lia Miller, Catherine Reed, Carol & Dave Kyner, Ronald L Sisk, Kelly Kindscher

**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.

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\_\_\_ Prairie Protection

\_\_\_ Education Programs

\_\_\_ Prairie Management

**Membership renewals and donations  
can also be sent to GHF online at  
[www.grasslandheritage.org](http://www.grasslandheritage.org)**

**Thank you to . . .**

Megan Withiam and Andrea Repinsky for helping at the GHF table at the Kaw Valley Seed Fair.

Dr. Kathy Denning for presenting information on native bees, and Jayhawk Audubon Society for partnering with GHF to host Denning's presentation.

Jack Bellemere for helping at the GHF table at Kansas WEALTH Day 2019.

Snyder Prairie burn volunteers Ted Abel, Bruce Yonke, John Flavin, Mike Campbell, and Brian Roh.

The plant sale committee is already busy! Thanks to Kim Bellemere, Roxie McGee, Sue Holcomb, and Steve Holcomb for organizing the event, and thanks to Courtney Masterson for expanding our Gardens-to-Go!

Thanks to Kevin Bachkora for accounting services.

**Don't miss an event or announcement!****Do we have your email address?****Send it to :****[grasslandheritage@gmail.com](mailto:grasslandheritage@gmail.com)****Global Insect Crisis** Continued

Denning surveyed and compared unplowed remnant prairies, including GHF's Snyder Prairie, and replanted prairies on former cropland. She collected samples of pollinating insects and plants, and she identified 97% of the insects and forbs to genus or species, including 326 insects and 127 forbs. The 7,000 samples Denning collected included 2,228 beetles, 2,196 bees, and 962 butterflies or other hymenoptera.

Denning found that remnants have higher forb diversity and more early-blooming forbs, and the plant composition differed between remnant and replanted prairie. Still, pollinators and bees were equally diverse and abundant in both types of sites. Replanted prairies had different bee species, which was attributed to non-native legumes that would attract different bees. Denning concluded that prairie replanting seems valuable as a tactic to support pollinator communities.

Read more:

*'Hyperalarming' Study Shows Massive Insect Loss*, The Washington Post, October 14, 2018

*The Insect Apocalypse is Here*, Brooke Jarvis, The New York Times Magazine, December 2, 2018

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Enjoy your newsletter in full color on our website: [www.grasslandheritage.org](http://www.grasslandheritage.org).



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## Volunteer Opportunities

Kim Bellemere, our membership and education coordinator, can use your help visiting with people about the prairie and GHF! Call 785-840-8104 or email her at [grasslandheritage@gmail.com](mailto:grasslandheritage@gmail.com) if you can assist or would like to volunteer in some other way.

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](mailto: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.



Spring burns at Snyder Prairie  
Photos: GHF Preserve Manager Frank Norman