



Missouri Master Naturalist™ Loess Hills Chapter



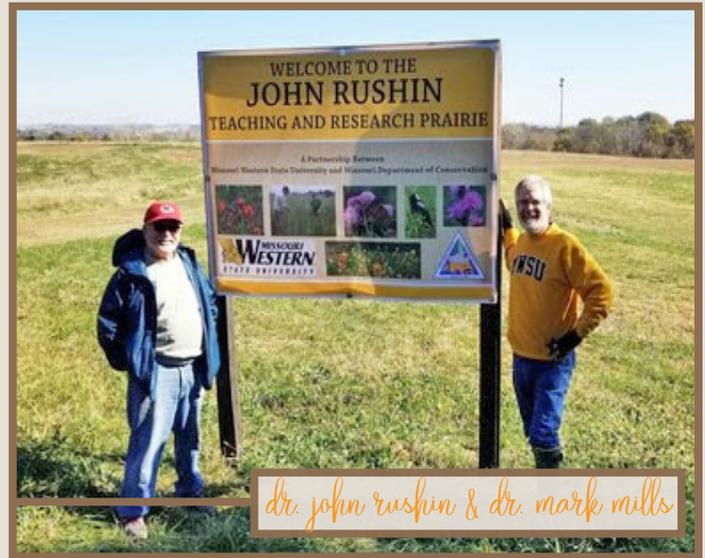
New John Rushin Teaching and Research Prairie Site of Dedication for MDC, MWSU Conservation Collaboration

By: Bruce Windsor

On Halloween morning, October 31st, 2020, biology chair Dr. Mark Mills and the rest of his department gave everyone a special “treat.” The John Rushin Teaching and Research Prairie was officially dedicated, with many in attendance (including several of our Missouri Master Naturalist chapter members) to celebrate the grand opening.

The ribbon-cutting ceremony was to announce that 38 acres of land on Missouri Western State University’s campus is being transformed into a prairie and savanna habitat. The habitat restoration project will be a huge asset to biology students and faculty by giving them many new hands-on research projects and volunteer opportunities.

Missouri Department of Conservation Private Land Conservationist Jeff Powelson has worked closely with MWSU to start the habitat restoration and said that it gives students a huge advantage.



dr. john rushin & dr. mark mills

“Instead of just researching research, they get to do research,” Powelson said. “That’s a big plus to kids going out into the market.”

Along with being a resource for MWSU students, the prairie will also be used by the community. It is located on the cross country course behind the dorms, and since there is already a running course mapped out, there are trails in place for the public to use. Mills expects the plot of land to be utilized by

see page 3

Studying Nature Through Phenology Offers Unique Volunteer Opportunity



By: Mary Jo Ostenberg
Despite the exceptionally trying times of this past year and the challenges still ahead in 2021, I have found one positive result of all the free time gained from my self-isolation and social distancing. I’ve had more time to read, study and research. Recently, while looking into winter leaf bud ID for trees, I stumbled on a wonderful revelation: an activity of mine for over 35 years has a name! Not only that, it is a science.

Every late afternoon,

regardless of weather, I’ve made a habit of taking a stroll around my yard. My yard is not your normal turf farm. Over the years grass has slowly been replaced with native beds. It’s messy and a tangle, but the birds, critters, insects, my dogs, and myself love it. In my strolls with my magic bag of tools, my journal, favorite pencil, camera and magnify loop, I’ve been recording the progression of leaf and flower buds, the departure and return of some of those critters and lots more.

see page 3

Loess Bluffs Fall Seed Collection Enjoyable, Successful

By: Peggy Stickland

On two beautiful autumn days I had the pleasure of collecting seed at Loess Bluffs National Wildlife Refuge.

Earlier this year, I had planned to be a regular volunteer in the visitor center. But with that closed to the public as a result of COVID-19, I was glad the outdoors is still open!

While the visitor center is temporarily closed, the refuge auto tour and hiking trails are open during daylight hours, according to Nikki Horne, Visitor Services Specialist at the Refuge.

My first day was spent with Mary Jo Ostenberg in the pollinator garden near the visitor center. This lovely area was created by Friends of Loess Bluffs and is maintained by volunteers. We gathered seeds of the compass plant, *Silphium laciniatum*, which was new to me.

Growing up to 8 feet tall, the compass plant can be identified by its huge, deeply cleft leaves which orient along a north-south axis, avoiding the direct rays of the midday sun.

Since we were there in September, we didn't get to see it in bloom, as Suzanne and Dennis did at 25 Mile Prairie (see *October newsletter*), but the seed heads were ready for collection.

I returned in early October and this time my assignment was at the north end of the refuge. Nikki guided me to the spot off Highway 118 west of Mound City. On this perfect fall day with sunshine, a cool temperature and a light breeze, I had a huge meadow all to myself.

Nikki supplied me with bags, clippers and gloves and her plant ID book and instructed me to collect seeds from common milkweed, cup plant, compass plant, rosinweed, liatris and pale purple coneflower.

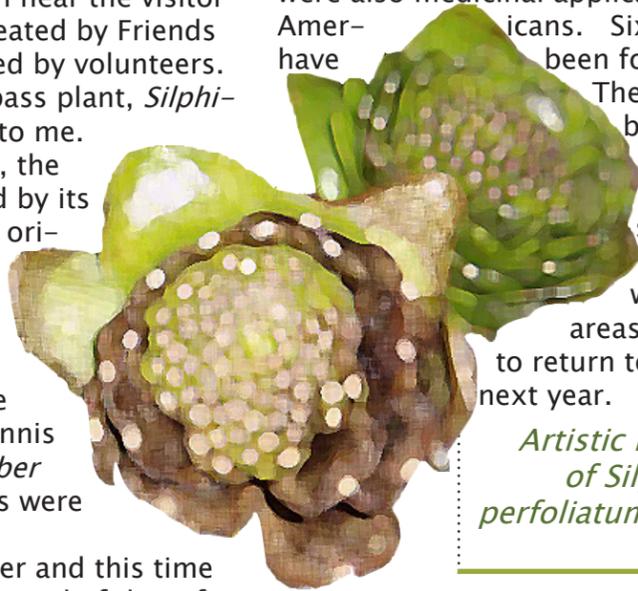
All were located except the coneflower and when I returned to the refuge headquarters later and saw full bags labeled pale purple coneflower, it was apparent someone had beat me to that one. It was fun searching for the plants and comparing them to the ID book to make sure I had the right one.

My favorite was the cup plant, *Silphium perfoliatum*. It grows from 4 to 8 feet tall and is named for its large paired leaves which cup

around the stem and hold water for birds and insects during the summer. It is identifiable by the leaves and also by its sturdy square stem. The leaves fuse together during the growing season to look like one leaf with a square stem through it. Another common name for it is carpenter's weed, alluding to the square stems.

Rosinweed, *S. integrifolium*, is similar and the MDC website states that the gummy resin that oozes from the tissue when damaged led to the name rosinweed for all *Silphium* species. The rosin was used as a kind of chewing gum to prevent vomiting in pioneer days and there were also medicinal applications used by Native Americans. Six *Silphium* species have been found in Missouri.

The gathered seeds will be sorted and cold stratified to prepare for re-seeding in the spring. The goal is to disseminate these wildflowers in more areas of the refuge. I plan to return to see them blooming next year.



Artistic rendering of *Silphium perfoliatum* (cup plant)

SEED COLLECTION AT LOESS BLUFFS

by the numbers

- ☼ 18, 55-gallon bags full of mixed seed
- ☼ 17, 30-gallon bags of mixed seed
- ☼ 16, 30-gallon bags of miscellaneous single-species
- ☼ 18 lunch sacks of single species
- ☼ 29 species collected in 2020 including swamp & common milkweed, tall & stiff goldenrod, New England & heath aster
- ☼ 40 volunteers

cont'd.....rushin

Cub Scout groups, gardening groups, local schools and the general public.

The long process to create a prairie began back in 2014, when a biology student at the time approached Mills with the idea. It was then put on the university's 2015 Master Plan, which is the school's plan for its upcoming years.

Five years later, the work has now officially begun. Over 100 different types of native seeds were planted back in January by the MDC, and Missouri Western's Student Chapter of the Wildlife Society recently planted native trees. There will be more work in the future, and Dr. Mills said it will take a few years before the transformation is visible. Future projects will include prescribed burning, getting rid of invasive species, planting gardens and building a parking lot.

The prairie is named after previous Missouri Western biology professor, Dr. John Rushin. He is an honorary member of the Missouri Master Naturalist Loess Hills Chapter, and it was such a joy watching him and listening to him at the dedication ceremony. John spent 33 years as a faculty member in the

Department of Biology. In addition to teaching and working with thousands of students over his career, Dr. Rushin also developed the award-winning wild-life conservation program at MWSU and successfully lobbied to get the Northwest Regional Office of the Missouri Department of Conservation on the Missouri Western campus.

Dr. Mills said that with Dr. Rushin's background with prairies, plants and his impact on the university, he was the perfect person to name the prairie after. Of course John is a very humble person and told Mark, "No, no, no you can't name it after me."

At the dedication ceremony, Dr. Rushin said he is overwhelmed by the naming, and will always support projects at MWSU.

"It's a great honor," Rushin said. "It is way more than I would ever expect and probably more than I deserve, but what I will tell you is there have been a lot of people that have put a lot of work into projects like this. It's a cumulative effort, it's not one person." Congratulations Dr. Rushin!

cont'd.....phenology

Well guess what? It's called phenology.

Most of what I'm sharing with you was found on a website sponsored by the Chicago Botanical Garden titled, [About Phenology / Budburst](#).

What is Phenology? "Phenology is the study of the timing of the biological events in plants and animals such as flowering, leafing, hibernation, reproduction, and migration. Scientists who study phenology are interested in the timing of such biological events in relation to changes in season and climate."

Further, "the word phenology comes from the Greek words phaino (to show or appear) and logos (to study). Scientists who study phenology - phenologists -- are interested in the timing of specific biological events (such as flowering, migration, and reproduction). Seasonal and climatic changes are some of the non-living or abiotic components of the environment that impact the living or biotic components. Seasonal changes can include variations in day length, temperature, and rain or snowfall. In short, phenologists attempt to learn more about the abiotic factors to which plants and animals respond."

Aldo Leopold, author of *A Sand County Almanac* and considered the founder of the wildlife management field practiced Phenology and left countless journals filled with his observations. He wrote, "Keeping records enhances the pleasure of the search and the chance of finding order and meaning in these events."

Famed naturalist and author Henry David Thoreau observed budding and flowering progression of almost 500 plant species during his walks through Walden Pond. And here's something really impressive. The Chinese were documenting the progress of our natural calendar beginning in 974 B.C.E. The Japa-

nese have left a written record of peak cherry blossom bloom for the past 1200 years.

Best of all, this practice is still going strong. Questions surrounding climate change have resulted in a surge of interest in the ancient science. And here's the exciting part! We can participate. Check out [Budburst](#) and another site [USA National Phenology Network / USA National Phenology Network \(usanpn.org\)](#). Both organizations want your data.

This is a citizen science volunteer service project perfect for pandemic times. So many possibilities! I've been tracking when the turkey vultures roosting in my barn arrive in the spring and leave in late summer and the same for hummingbirds. And since wild columbine, a favorite nectar plant for the hungry little birds, is usually blooming when they arrive (thank goodness), I track that as well. A couple of my favorite shrubs to watch for flower budding are our native witch hazel (which usually blooms in late January or early February) and false indigo. Other favorites are tulip poplar and wild cherry trees. And I can't forget the dragonflies! As you see, the possibilities are endless. But it gets better. No, hours spent on stewardship on your own place do not count towards your service hours, but you can pick your own yard to practice phenology. Hours you spend recording and reporting do count as citizen science volunteer service. But unless you are tracking invasive species, you need to stick to natives; your tomato plants just won't cut it.

I hope you'll look into this. You can start simple and go from there. Both these sites have instructions on how to start and conduct your projects. Think of all you'll learn and, perhaps, some day you can call yourself a phenologist in addition to naturalist.

Member News

Congratulations to those who achieved certification in 2020. It was a trying year on so many fronts and challenging in that many were unable to lend their volunteer efforts to the shared cause of protecting nature. Let's hope 2021 affords us more opportunities to serve.

Volunteer numbers from 2020 Annual Report

Members certified for 2020.....24

Members initial certification.....11

Members reporting hours.....41

Advanced training hours.....386

Stewardship hours.....552

Administrative hours.....1,752.5

Citizen Science hours.....614

Public Outreach hours.....150

**Total Volunteer Service hours:
3,068.5**

Hibargers Share Timeline of Activity Since Enrolling in USDA Pollinator Program to Plant 27 Acres of Natives on Property North of Weston, MO

By: Ruth Hibarger

July/October 2019– Because USDA guidelines recommend killing existing vegetation by applying Round Up weed killer at least twice, Sur-Gro sprayed the first section of 12 acres in July and Oct 2019. MMN member David Laderoute and MDC Natural History Biologist Steve Buback, among others, gave advice on seed purchase. Dr. Ross Shuman, another experienced native grower, was consulted. The seed combination was submitted to NRCS before ordering to be sure specifications were met. 40 seeds per square foot and blooming during all three seasons is required. Numerous companies sell native seed now and prices and mixes vary. A seed mix was purchased from Hamilton Native Outpost for 12 acres in 2019 and for 15.6 acres in 2020. Each year availability of seed influences the content of the mixes.

November 2019– The seeder was available coinciding with deer season.

Randy Keeran and Matthew Schoop, NRCS, delivered the seeder and helped change the adapter on the hydraulic cylinder so it could be hooked to the tractor. Having employees like Matthew and Randy to help with details like this was very helpful. Early the next day, I was busily seeding the section near Dennis Rush's chosen deer stand. After maybe an hour I realized Dennis was up there NOT seeing any deer because of the tractor noise. It was necessary to continue before the precipitation started. Dennis seemed to be happy to see the natives planted instead of a deer that day. Later that day, after about 9 hours of seeding, snow began. Almost all of the seed had been delivered to the surface of the acreage. The small amount of seed left in the bin is so valuable that I vacuumed it out to plant in seed trays so I would have seedlings to identify of the 20 varieties of forbs and five grasses. It is perfect to have snow fall on the seed right away. This gets the seed

see page 5

cont'd.....Hibargers

started freezing and thawing, stratifying, so germination will be enhanced in the spring. Many of the species of natives are slow to get started, and it takes several years for some to germinate. Many spend the first year growing roots and stems but do not bloom.

Spring 2020– Spring of 2020 came, and the 12 acres became an interesting combination of desirable natives and less desirable weeds. One section was particularly thick with natives, but it was covered by a clinging weed I call cleavers or Smother Mothers. We removed two truckloads of that heavy weed, and the natives thrived. Several sections were covered with ragweed and clover. As advised, the acreage was mowed to about 10 inches once monthly to allow light to reach the natives. The employees from NRCS reassured us that the natives were doing alright. Walt spent too many hours digging burdock. Digging or pulling weeds brings weed seeds to the surface where they can grow and is not advised. I pulled hemp and many lambs quarter weeds anyway. Hopefully in the spring of 2021 the first 12 acres will be looking better and the natives will give the weeds some competition. I also grew trays of Illinois bundle flower, golden Alexanders, rattlesnake master, and butterfly milkweed to plant in the flower beds. The Illinois bundleflower did well, and the seed pods were an interesting cluster of small pea pods. After the plants went to seed, I collected that seed and added it to the mix that was purchased for planting the next 15 acres to complete the USDA contract. New England asters in the flower beds were very popular to the bees and butterflies and their seeds were also added to the mix.



illinois bundleflower

November 2020– The weather was warm and pleasant for the planting. The vegetation had been properly killed using Round Up weed killer. The seeder was delivered and in spite of some difficulties, the seeds were planted. The following week NRCS representatives Mary Beth Jungk and Eric Cameron came and looked at the acreage and had paperwork to be signed. As with other government programs, following the specific rules is necessary or payment will not happen. Mary Beth Jungk has planted 76 acres on her own property in natives near Platte City. Mary Beth suggests the mowing of the natives is NOT beneficial, and that these next 15 acres might do better unmowed. She offered me the privilege of picking seed on her property next fall. This year I had a little collection of MO primrose seedpods and liatris seeds. The MO primrose seedpod pulls apart somewhat like a crab rangoon appetizer and is pictured below. The shape and variety of seeds and pods are very interesting. At the pandemic pinning ceremony in the parking lot off Interstate 29, Mary Jo Osterberg gave me some rose mallow seeds, a native hibiscus type. She suggested these seeds will do well near a pond or in other wetter areas. The seed sharing is a lovely part of growing natives.



mo primrose seedpod

2021 and beyond–The pollinator planting program is based on a five-year cycle, but the actual goal of growing natives is a much longer endeavor. Weed management and using controlled burning are also necessary and may start in 2021 or 2022 on the first 12 acres that were planted. I have taken the workshop on controlled burning, and we also spent time watching a big burn at the King Lake Conservation Area. That fire cleared 120 acres before their eyes in about 4 hours. The preparation for that burn was extensive including tilling and mowing fire breaks around the acreage. Future controlled burning on our land (north of Weston) might be an opportunity to do service work for some of the Loess Hills chapter members. Walt and I would also be happy to show members the native plantings.

2021 Advanced Training Schedule*

January 12, 2021.....Missouri Owls presented by Mark McKeller, former MDC naturalist, present owner Backyard Bird Center.

March 9, 2021.....The Food We Eat & Its Effect on the Environment---presented by Dana Ripper, director of Missouri River Bird Observatory

May 11, 2021.....The Part MDC Fisheries Plays in Conservation in Missouri presented by Tory Mason, fisheries biologist for Northwest Region MDC

February 9, 2021.....Elk Restoration in MO presented by Aaron Hildreth, MDC cervid biologist

April 13, 2021.....Bears in Missouri presented by Laura Conlee, MO bear biologist

June 8, 2021.....Missouri Prairie Foundation presentation. More details to come.

**schedule subject to change*



A Great Winter for Bald Eagle Viewing



By: Bill Blackledge

Right: An adult bald eagle perches on a muskrat den at Loess Bluffs NWR.

Top left: An adult bald eagle flies below the dam at Smithville Lake.

Bottom left: An immature bald eagle flies above Smithville Lake.



William D. Blackledge

Our region of the state has seen an impressive number of migrant bald eagles this winter. Loess Bluffs National Wildlife Refuge alone has seen numbers in excess of 600 eagles at times. Other areas of open water such as Smithville Lake have also had impressive numbers. Every winter in the Midwest, bald eagles follow the large flocks of migrating waterfowl south as streams, rivers, and lakes freeze solid farther north. Unfortunately, Eagle Days had to be cancelled at both locations this year, but the word has spread and people are getting outdoors to enjoy great views of these spectacular birds.

Member Participates in Prescribed Burn at Charlotte Sawyers Nature Area

By: Charlie Higdon

December 28, 2020 - On a beautiful morning, I had the opportunity to support the Platte Land Trust for a prescribed burn. Carla Dods, President of the Board for the Platte Land Trust, and Tom Jacobs, Volunteer Coordinator, as well as four team members of Blackwell Forestry, Chillicothe, MO, plus six additional volunteers participated.

The weather conditions finally came together contributing to an excellent burn. The last prescribed burn was three years ago, so the fuel supply was good. The burn is part of the management plan to move this 20 acres back to mixed native prairie.

The team from Blackwell Forestry was very well organized, again contributing to the success. We started around 8:30 am moving brush and creating a burn buffer, which took until

11:30 am. Once the burn started, it took about another 2.5 to 3 hours to wrap it up. Below is the volunteer works days' schedule and activities that are greatly appreciated and a great way to get winter volunteer hours. This is a great partner for those of us who live south.

- **WINTER WORK DAYS AT CSNA**
- **WHERE:** 6075 NW Union Chapel Road, Parkville MO
- **WHEN:** 9:00 to 12:00 noon on Sundays
January 17 & 31; February 14 & 28
- **WHAT:** Woodland thinning - girdling marked trees, cutting cedars and autumn olives; chain-saw work, piling the brush; Cut and treat invasive woody plants - back woodland, prairie, or utility corridor
- **FYI:** Loppers and Tordon are provided, or you can bring your own tools. PLT follows COVID-19 recommendations. Any cancellations due to weather will be posted on the [PLT Facebook page](#).

FROST FLOWERS

By: Suzanne Rush

Though cold and windy was the the day
I walked out on the meadow,
Expecting nothing more to see
Than dried seed-heads in the shadow.

Even they revived my soul for need
Of jewels of creation.
Their tiny star-shapes multiplied
Brought delight to my imagination.

But, what is this among the stalks
Of old dried *Echinacea*?
The tilting stems reveal a form
...some marvelous fantasia!

The purest marble, smooth and white
a sculpture so unflawed,
Twisting, curling gracefully.
...It's from the hand of God.

I knelt down and saw that here
Was ice, not marble sculpture.
Crystals hugged the dried old stems
To form this awesome structure.

I often marvel at the gifts
God gives in unexpected ways.
I'll cherish the magic of these Frost Flowers
For days, and days, and days.

Writer's Note: Like most wonders in nature, there seems to be a scientific explanation. Such is the case with Frost Flowers. This does not, however, take away from their magic, as the opportunity to see one is often by chance.

*The MDC website suggests the best time to see them is in late fall when the first freeze arrives. However, I saw mine in late January 2018. Few plants are known to produce frost flowers. In Missouri, crownbeard (*Verbesina virginica*), dittany (*Cunila organoides*), and stinkweed (*Pluchea camphoroto*) are among those that do. The conditions necessary for the formation of Frost Flowers also include a time when the air temperature is freezing, but the ground temperature is still warm enough for roots of some plants to remain active. When plant juices move up through the stem into colder conditions and freezes, these expanding ice crystals push through the stem in ribbon like strands or break open the stem and emerge in thin, curling sheets.*

I planted dittany in my garden this past spring. Maybe that will up my chance to encounter more frost flowers in the future.

Sparrow ID Improves With Help of Cornell Lab Feeder Watch Project

By: Sue Knight

I used to call all of the little brown birds I saw LBJs (little brown jobs) but after I joined the Master Naturalists and really started looking more closely at birds, I wanted to identify these LBJs. A good starting point for me was the *Missouri Conservationist* article "Winter Sparrows" by Mark McKellar, but I still didn't know exactly what I was looking at until I worked a little harder and joined the [Cornell Lab Feeder Watch Project](#).

To start out with, Cornell Lab sent me a poster showing most of the birds expected to come to feeders in North America during the winter months. This reference helped, but the improvement in identification came from counting the birds on a regular basis for a couple of hours a day. I focused on positively identifying every bird in order to count accurately.

A few things that helped me with sparrow identification is first realizing that sparrows only hang around feeders a few minutes at a time and

are easiest to sport on the ground and flitting in tall grass and weeds. I gained confidence early by learning to quickly and positively identify female house finches and female purple finches that at first I confused with sparrows. By becoming very familiar with the birds that routinely visited my feeders, I was able to quickly spot a new visitor that I hadn't previously seen. Using my binoculars was a must, even at close range, for seeing details. Juncos and house sparrows were the most common sparrow visitors and did hang around the feeders quite a lot. Every other sparrow sighting was pretty elusive and fleeting, but I did see each of them on at least two separate occasions. New Year's Day with ice and steady snowfall was my best sighting day!

As of today, I have identified the American tree sparrow, the fox sparrow, the white-crowned sparrow, the white-throated sparrow, the Harris sparrow, and the song sparrow in my feeder environment. I find them all to be beautiful little birds and no longer refer to them as LBJs!