

ISSUE 58, SPRING 2021

PRAIRIE SMOKE

NACHUSA GRASSLANDS *Annual Stewardship Report for 2020*





Photos by: Fanny Tricone and The Nature Conservancy

STAFF: Bill Kleiman, Cody Considine, Elizabeth Bach & Dee Hudson

We have been productive through this pandemic. Early on, we hustled to find ways to be safe, like purchasing five gallons of isopropyl alcohol from a local distillery. Need some? With masks on when close to others we continued our brush clearing on three new tracts, we chased weeds all summer, set some good fires this fall, picked a respectful amount and diversity of seed. We kept watch on the bison, and supported many scientists who were creative in collecting their field data.

We have been open for hiking all this last year, and we see many cars parked at the trailheads and the bison are popular. We look forward to seeing your smiles again. Keep going outside. Spring is coming.

*Thank you for your support.
Bill Kleiman*

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We are grateful to our donors and volunteers who make our work at Nachusa Grasslands possible. Thanks to your generous support, we have preserved and restored more than 3,500 acres of prairie, oak woodlands, and wetlands. Together we have created a world-class model for restoration and are now providing for its long-term survival.

Thank you for believing in the importance of this marvelous project.

—Your friends at The Nature Conservancy

We are no longer including a list of donors out of respect for privacy.

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COVERS

Front: Thirty-five endangered Blanding's turtles were released as part of the Headstart program.

Back: Stone Barn Savanna

Photos: © Dee Hudson/TNC



Thirty Years of Stewardship

BY BILL KLEIMAN, *Nachusa Project Director, The Nature Conservancy*

Mike Adolph turns 90 and tells us he is retiring from stewardship. For over three decades Mike has been a pillar in our volunteer community. Kind and generous, willing to lift any load, with an easy laugh and a welcome smile. I guess he can retire. You couldn't work till 95, Mike?

Over three decades you see a lot. Mike was on the prescribed fire crew when we controlled fire with backpack sprayers and flappers. He was there as our armada of water sprayers in trucks and UTVs took over. We looked like the Shriners in yellow fire suits in those little cars in the parades driving figure eights. On the weekday brush clearing crew Mike hoisted a saw all day right along with the young folk—which was me at that



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time. With our Youth Stewards team, Mike helped host fourth graders on long hikes through the prairie, showing kids birds and plants and collecting seed. Mike was the steward of the largest unit here, pushing



© Dee Hudson/TNC

hard on brush and weeds for many years. He was on the core team that took an 1868 timber-framed barn apart, moved it to Nachusa, and rebuilt and refurbished it to be our headquarters.

Mike was on the barn project five days a week for 15 months. He was always on the annual Autumn on the Prairie planning team. There are likely other tasks I missed. Thank you, friend, for all your good works. Enjoy your retirement, but can you take care of . . .

Volunteer Steward in the Spotlight

BY BILL KLEIMAN, *Nachusa Project Director, The Nature Conservancy*

I first met Mike Carr while introducing myself to neighbors in the subdivision next to Big Jump Prairie, which we had recently acquired. Mike shared that he thought it was awesome that we had purchased the land and that he wanted to volunteer with us. Right away he was a regular presence at the preserve and has become a long-term volunteer steward.

Mike happened to be a semi-retired union electrician who has generously donated his professional skills to Nachusa over the years. For instance, Mike led a large installation of buried electric cable, running lines to three barns at the Holland Unit including the bison corral.

It is wonderful when a volunteer is excited to help in many capacities, and Mike has surely demonstrated



© Bill Kleiman/TNC

this willingness. When we were learning how to do bison roundups prior to their release at Nachusa, Mike was with us when we visited other roundups across

The Nature Conservancy's bison preserves. He helps us prepare fire equipment for the season. He operates our skid loader, clearing brush. Mike has been the leader of several large brush-thinning projects, applying basal bark herbicide to the base of shrubs. I could go on and on — Mike has been active with the Friends of Nachusa Grasslands since its start.

Mike is fun, enthusiastic, curious, a problem solver, and a hard worker. He is an astute observer of nature. We thank Mike for all his contributions that support the important ongoing restoration work at Nachusa.



© Dee Hudson/TNC

Powering Through a Pandemic

Not quite business as usual...

BY ANNA SCHEIDEL, Resident Fellow, The Nature Conservancy

Our 2020 season was definitely one for the books! It was an unprecedented year, but that didn't stop the crew from doing what we do best: killing weeds and picking seeds. We began the spring season as soon as the stay-at-home order was lifted — a little later than we normally start, with a 4-person crew instead of our usual 6, and following all safety and social-distancing protocols — and took off running. From June to November we picked 180 different plant

pounds per acre depending on the seed mix. One of our highlights was driving our seeders across the field and sowing our future prairie while watching the demolition of the old farmhouse — a spot we later seeded. In addition to our primary crew planting, we overseeded 91 acres throughout five different units.

Our ever-expanding preserve requires ever-increasing weed management. Our late start and smaller crew meant that we didn't cover quite as much

ground as the previous season. That's okay, because we still completed a total of 544 worker hours, covering 1,788 acres. Nachusa continues to utilize the ArcGIS software Collector to track and record management progress for the fourth season in a row. This tool especially came in handy when pinpointing

previous years' work areas as small as one square meter in order to target problem species such as *Linaria vulgaris* (yellow toadflax).

Despite lacking personnel, our crew more than made up for it with our enthusiasm, high energy, and deep passion for prairie restoration!



© Dee Hudson/TNC

Summer crew: Matthew Nugent, Molly Duncan, Connor Ross, and Anna Scheidel (Resident Fellow)

species, which added up to 1,356 pounds of hand-collected seeds.

During the fall, we planted a 22-acre unit at the corner of Stone Barn and Carthage Roads. We converted a former cornfield into one of our most diverse prairies yet, ranging from dry, rocky hilltops to full-blown wetlands. We seeded at a rate of 50–60

New Land Acquisition

Juanita Williams property

BY CODY CONSIDINE, *Nachusa Grasslands Deputy Director, The Nature Conservancy*

In the fall of 2019, we purchased the Juanita and Homer Williams tract located on the corner of Stone Barn and Carthage Roads. One of their sons, Al Williams, was interested in seeing the property protected and restored back to wildlife habitat, all the while being able to retain recreational rights for his family.



© The Williams Family

Homer and Juanita Williams with their children.

“The memories we will have fishing and hunting mean a lot to all of us,” he told us. Al and his siblings have a keen interest

in conservation, and when their parents, Homer and Juanita, passed away, the family knew the sale to The Nature Conservancy (TNC) would protect the land in perpetuity. TNC and Al’s family structured a unique deal that enables them to continue camping, fishing, and hunting.

The 80-acre tract is a wonderful piece of land that has rolling topography, including a range of habitats from dry hilltops with lingering remnant prairie to lower wet inundated areas. The hilltops are overgrown with bush honeysuckle, Siberian elm, and other invasive species which we will work to eradicate. In the fall of 2020, we removed the old farmhouse and some



© Cody Considerine/TNC

The Juanita Williams tract

sheds. Once the corn was harvested on the north half, 22 acres of high diversity prairie seed was planted (see 2020 planting report by Anna Scheidel on page 4). We also created a wetland complex by removing the old soil drainage tile and creating three shallow potholes. We are hoping the only known population of tiger salamanders on the preserve will expand their range into this newly created habitat, and other wildlife such as the rare Blanding’s Turtle should also do well there. We plan to continue the restoration on the south end of this tract in 2021.

One of the shallows ponds created

© Dee Hudson/TNC



Bison

2020 Highlights

BY CODY CONSIDINE, *Nachusa Grasslands Deputy Director, The Nature Conservancy*

We strive to continuously refine and improve our methods of ecological restoration. This same line of thinking goes for how we work our bison herd each year when we bring them in for vet work. This past year we added a few improvements to the overall bison working facility. The largest modification was the

Another improvement to the bison working facility was a new hydraulic pump shed. The new pump shed was built to contain the four noisy hydraulic pumps that operate our gates and squeeze chute. This new shed significantly reduced the overall noise in the work area, especially within the data shed where the pumps

used to be located prior to the new shed. Local carpenters, Brumbly Brothers Construction, built the shed.

Volunteer steward Mike Carr was instrumental this year in helping us prepare for the 2020 roundup. He wired and plumbed new hydraulic lines in the new shed. He also installed a new weight scale on

the squeeze chute and fixed a few electrical issues. We appreciate all Mike's time and effort spent getting the corral ready for the 2020 roundup.



© Cody Considine/TNC

New bison corral roof

addition of a roof over the working area of the corral. The main impetus to adding such a structure was to improve the safety for both human and animal. We now have a more controlled environment that enables us to work safely in the rain or snow without slipping on a wet surface. The roof also aids in reducing shadows, which helps prevent balking and can lower the animals' stress as they move through the corral.



© Cody Considine/TNC

New pump shed construction



© Charles Larry

SPRING 2020: 33 calves were born. To date, this is most born in one season (14 female, 19 male).



© Charles Larry



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L-R: pileated woodpecker, red-headed woodpecker, grasshopper sparrow

A Treasure Hunt

Nachusa bird surveys

BY SUSAN KLEIMAN, *Nachusa Grasslands* volunteer

Unexpected bird sightings are what keeps Karen Lund coming back. She has monitored birds along Stone Barn Road and part of the Savanna for nine years now, after learning from another birder that Nachusa Grasslands might want some citizen scientist monitors.

Karen started bird-watching 30 years ago when a friend talked her into going on a field trip with DuPage Birding Club and, she says, “I was hooked!” After a time Karen was leading walks and monitoring birds for the Illinois Department of Natural Resources and McHenry County Audubon, all while working full-time in a metals distribution company. Now retired, Karen is involved with several bird-monitoring programs. Besides helping at Nachusa Grasslands, she is the DeKalb County compiler for the Spring and Christmas bird counts, participates in the Winter Raptor Survey (sponsored by the Hawk Migration Association of North America), and counts two fall hawk watch sites.

For Nachusa, Karen walks the north loop around the Bennet portion of the Stone Barn Savanna and drives along the public road. She enjoys all birds but especially likes to see the pileated and red-headed woodpeckers. Karen says the most interesting finds are the now-regular occurrence of blue grosbeaks and summer tanagers. Among her most rare finds are a clay-colored sparrow and the typically shy yellow-billed cuckoo.

Eastern Towhee

© Charles Larry



Dickcissel

© Dee Hudson



The bird species she sees and hears nearly each time she comes are indigo bunting, house wren, Eastern wood-peewee, red-eyed vireo, Eastern towhee, dickcissel, grasshopper sparrow, and Henslow’s sparrow.

Karen’s curiosity and commitment keep her coming back to see which feathered friends she will encounter next time. As she says, “It’s a treasure hunt!”



© Vicki Buchwald

Karen Lund

Nachusa Science Excels in 2020

Published Data

BY ELIZABETH BACH
Ecosystem Restoration Scientist, The Nature Conservancy

Science at Nachusa has a lot to celebrate this year! With careful attention to COVID-19 safety protocols, many scientists were able to collect data in the field. In some cases, the radical shift in our daily lives brought opportunities for scientists to analyze data and share results. There are many valuable outcomes to this scientific research, including developing new management practices, increasing populations of threatened species (see pg. 12), and improving ecosystem functioning. Scientific publications are the primary way scientists share the results of their work with each other. In 2020,

data from Nachusa Grasslands appeared in 18 peer-reviewed publications! Each of these papers represents years of work from the authors and rigorous review from fellow scientists. Many of these papers present results from research featured in previous editions of *Prairie Smoke*. Congratulations to all!

In the following pages, two of these scientists, Megan Garfinkel and Phyllis Pischl, provide a deep dive into their publications. You can read an overview of all the papers on the Friends of Nachusa Grasslands blog. The Friends of Nachusa have supported almost all of these research projects through their science grant program.

Nachusa Scientific Publications in 2020:

Plants & Soil

- Blackburn, R. C., N. A. Barber, and H. P. Jones. "Plant Community Shifts in Response to Fire and Bison in a Restored Tallgrass Prairie," *Natural Areas Journal* 40 (2020): 218–227.
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- Thixton, H. L., E. J. Esselman, L. L. Corey, and L. W. Zettler. Further Evidence of *Ceratobasidium* D.P. Rogers (*Basidiomycota*) Serving as the Ubiquitous Fungal Associate of *Platanthera leucophaea* (*Orchidaceae*) in the North American Tallgrass Prairie," *Botanical Studies* 61 (2020): 12.

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- Garfinkel, M. B., E. S. Minor, and C. J. Whelan. "Birds Suppress Pests in Corn but Release Them in Soybean Crops within a Mixed Prairie/Agriculture System," *Condor* 122 (2020): 1–12.

Herpetiles

- Adamovicz, L., S. J. Baker, M. Merchant, and M. C. Allender. "Plasma Antibacterial Activities in Ornate (*Terrapene ornata*) and Eastern (*Terrapene carolina*) Box Turtles," *Journal of Experimental Zoology Part A: Ecological and Integrative Physiology* 333 (2020): 295–305.
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- King, R. B. and J. P. Vanek. "Responses of Grassland Snakes to Tallgrass Prairie Restoration," *Restoration Ecology* 28 (2020): 573–582.

- Herakovich, A., P. Holly, and H. P. Jones. "Prescribed Fire Has a Greater Impact on Artificial Nest Predation Than a Recent Bison Re-Introduction in Illinois Tallgrass Prairie," *The American Midland Naturalist* 184 (2020): 48–61.

Photos: Dee Hudson/TNC



Insects

Griffin, S. R., B. Bruninga-Socolar, and J. Gibbs. "Bee Communities in Restored Prairies are Structured by Landscape and Management, Not Local Floral Resources," *Basic and Applied Ecology* 50 (2020): 144–154.

Hosler, S. C., H. P. Jones, M. Nelson, and N. A. Barber. "Management Actions Shape Dung Beetle Community Structure and Functional Traits in Restored Tallgrass Prairie," *Ecological Entomology* (2020): 1–12, doi:10.1111/een.12950.

Nelson, M., S. C. Hosler, F. A. Boetzel, H. P. Jones and N. A. Barber. "Reintroduced Grazers and Prescribed Fire Effects on Beetle Assemblage Structure and Function in Restored Grasslands," *Ecological Applications*: 0–2, doi:10.1002/eap.2217.



Mammals

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Vanek, J. P., J. Fliginger, and R. B. King. "Observations of American Badgers, *Taxidea taxus* (Schreber, 1777) (*Mammalia, Carnivora*), in a Restored Tallgrass Prairie in Illinois, USA, with a New County Record of Successful Reproduction," *Check List* 16 (2020): 933–937.

Burke, A. et al. "Early Small Mammal Responses to Bison Reintroduction and Prescribed Fire in Restored Tallgrass Prairies," *Natural Areas Journal* 40 (2020): 35–44.

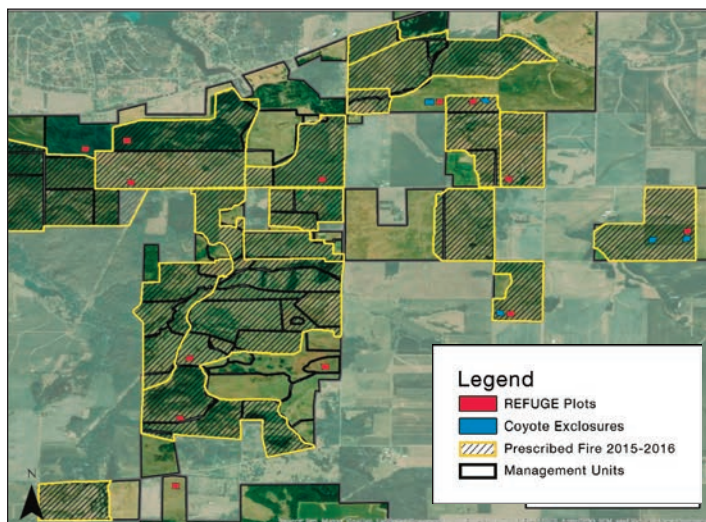
2020 Science Extern

BY ERIN ROWLAND
PhD student, Northern Illinois University

In the absence of a field season, the summer externship looked a little different this year. This summer, I spent my time looking at Nachusa from above in aerial imagery, trying to understand how all the pieces fit together. I spent a lot of my time converting old images of prescribed burn locations into a digital format. Tedious as it may be, this labor



© Dee Hudson/TNC



© Erin Rowland

Prescribed Fire Map

of love will help us see patterns through time in a new way. We can now easily ask how frequently certain areas of the preserve are burned and what that might mean for the plants and animals who live there.

The second aspect of my work this summer was a bit more practical. Collaboration is one of the most valuable components of research at Nachusa Grasslands, and it's part of what makes me so excited about working there. There's such great diversity in the projects at Nachusa, as you can clearly see from the spectrum of projects funded by the Friends of Nachusa Grasslands science grants. One of my goals this summer was to compile a map of all the long-term research sites on the preserve, as well as to describe the types of data collected on these plots. By making information about data more broadly accessible, we can support better science that can benefit Nachusa and other prairie restoration sites. Researchers are better able to collaborate if they know what data exists and who to talk about it with.

Now, I plan to continue building on the work from this summer to understand how the hard work of managers impacts the preserve on the ground and from above.

Studying the Effects of Birds on Agriculture

BY MEGAN GARFINKEL, *Post-doctoral researcher, University of Illinois Chicago*

Nachusa Grasslands is uniquely suited to studying the effects of birds on agriculture because its prairies and grasslands are right next to farmland. Grasslands can host large populations of birds, and those birds are often seen flying back and forth between grassland and farmland. Most of these small birds eat insects during the growing season. Insect-eating birds on farms can provide valuable services by eating crop pests, but they can also provide disservices when they eat beneficial arthropods such as spiders that would otherwise eat the crop pests. In 2016, we set out to determine whether those birds had a positive, negative, or neutral effect on crop growth.



© Megan Garfinkel

An Eastern meadowlark that was measured, given a small identifying leg band, and released back in the prairie. All birds were safely handled by trained researchers and released shortly after where they had been captured.



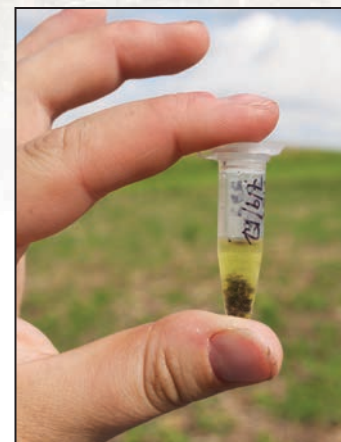
© Daryl Coldren

This Nachusa dickcissel was measured, fitted with a small identifying leg band (visible on the right leg), and released. This photo was taken a year later in almost the exact same spot where the bird was originally captured. All birds were safely handled by trained researchers and released shortly after where they had been captured.

We designed a study to determine if birds provide economically valuable services or disservices in corn and soybean crops located next to a grassland at Nachusa. We set up cages over corn and soybean plants that kept out birds but allowed insects to access the crops. Because these cages only kept out birds, and were designed to not affect plant growth inside, we

knew that any difference in crop production between caged and uncaged plants should only be because of the effect of birds. We also tested DNA from fecal samples collected from birds at the study site to figure out what insects and other arthropods they had been eating.

We found that corn plants produced significantly more grain when they were not caged, but soybean plants produced more inside the cages. This suggested to us that birds provided services in corn, but disservices in soybean crops. We also found that many bird fecal samples contained DNA from both beneficial arthropods and known corn pests, but few soybean pests. For instance, we found that approximately 35 percent of the birds we tested had recently eaten Northern corn rootworms. Birds had also eaten other generalist crop pests such as the tarnished plant bug and a type of stink bug.

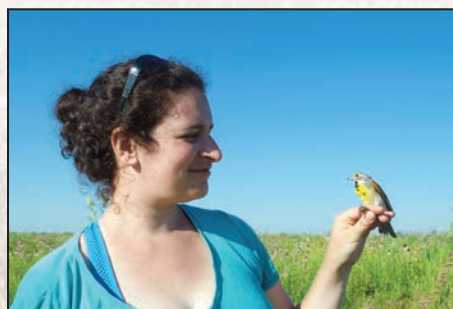


© Megan Garfinkel

A fecal sample collected in alcohol. We used DNA from these samples to figure out what the birds had been recently eating.

We concluded that birds were providing services in corn crops by helping to control corn pests like the corn rootworms. But because the birds weren't eating serious soybean pests, we saw an overall disservice because they also ate beneficial arthropods like spiders. Although this was a small-scale study conducted at a single site at Nachusa, our results show us that birds have the potential to have

large effects on corn and soybean crops simply by eating different kinds of insects.



Megan with a dickcissel.

© Daryl Coldren

Protecting Habitats to Protect Biodiversity

Genetic variation in grasses

BY PHYLLIS H. PISCHL, PhD Candidate, Northern Illinois University

Loss of a species' home or habitat is a major cause for decreasing biodiversity. In the tallgrass prairie of North America, loss of >96 percent of this habitat has led to numerous species becoming endangered or threatened as their numbers and area decrease. In Illinois, eighteen species of grasses have been listed as endangered or threatened by the Illinois Environmental Species Protection Board due to removal of habitat, especially tallgrass prairie habitat.

To preserve biodiversity, ecologists look at both the number of species and the genetic diversity between the species in an ecosystem. Known as phylogenetic diversity, DNA of species within an ecosystem can be compared to better understand the variation in the genetic background of the species. Genetic variation is seen in features the species have or do not have in common, such as how tall a plant is or when it flowers. In our article in *Ecology and Evolution* (Pischl et al., 2020), we study the phylogenetic diversity of the endangered and threatened species of grasses from Illinois. In order to do this, it is necessary to extract DNA from the species of interest. Since these species are endangered and threatened, we wanted to

avoid disturbing living populations. Instead, we used preserved grass tissue from herbarium specimens (Figure 1). From the extracted DNA, we sequenced genomes from within the chloroplasts of the endangered and threatened species of grass. We used these genomes to infer phylogenetic trees (Figure 2) and relate the genetic background of the species to their ecological characteristics.

These analyses show that the endangered and threatened species

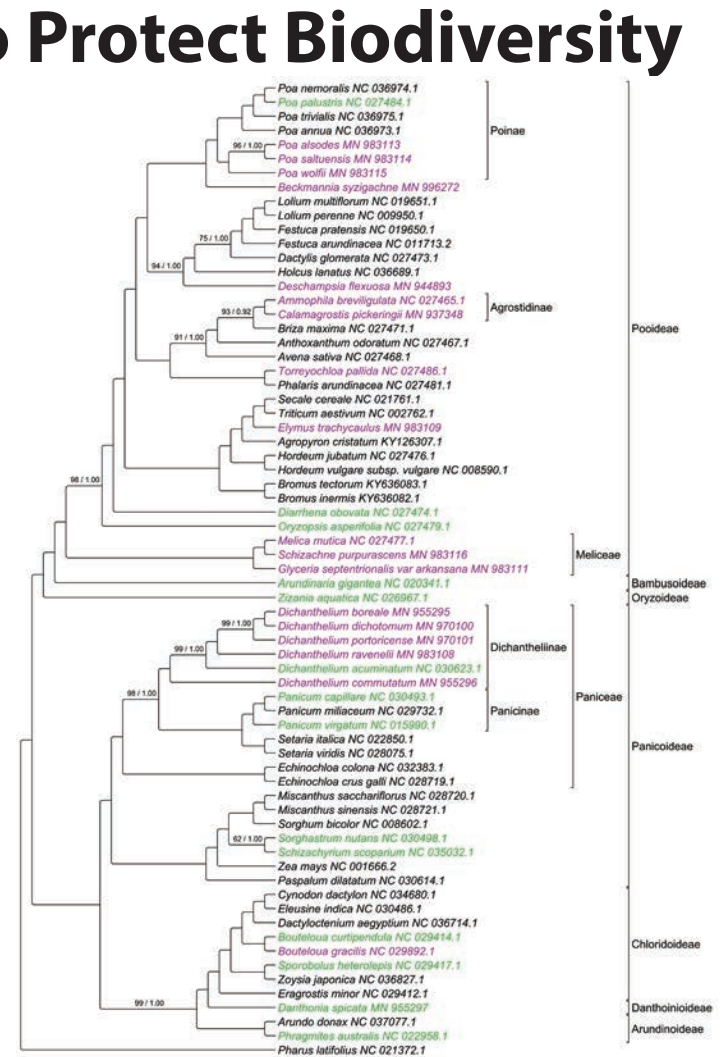


Figure 2. Phylogenomic tree of 69 Poaceae species. Endangered/Threatened species are highlighted in purple. Nonthreatened native species are highlighted in green.

are more closely related than expected by chance and share traits that make them vulnerable to the same threats, such as changes in climate or competition from invasive species. While continuation of those threats would further deplete biodiversity—as well as grass-provided ecosystem services, such as erosion control, soil formation, habitat for wildlife, and carbon storage—addressing these threats would benefit multiple endangered and threatened species.

Among the over 800 species of plants found at Nachusa Grasslands, more than 70 are grasses. The myriad of habitats provided by the diverse landscape of Nachusa Grasslands makes survival of all these species possible.

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- Pischl, P. H., S. V. Burke, E. M. Bach, and M. R. Duvall. "Plastome Phylogenomics and Phylogenetic Diversity of Endangered and Threatened Grassland Species (*Poaceae*) in a North American Tallgrass Prairie," *Ecology and Evolution* 10 (2020): 7602–7615.



© M. R. Duvall

Figure 1. Leaf tissue was obtained from preserved herbarium specimens for DNA extraction.



© Mike Carr

Volunteer Marilyn Carr, thanks donors



© Dee Hudson/TNC

Researcher Antonio Del Valle, surveys bison dung



© Dee Hudson/TNC

Leslie Waterson, a new 2020 workday volunteer, harvests fall seeds

Friends of Nachusa Grasslands

BY BERNIE BUCHHOLZ, *President, Friends of Nachusa Grasslands*

This year Friends is focused on welcoming new volunteers. We're building an even stronger team to pursue our original mission: stewarding the land, funding endowments for long-term protection, and supporting science and education.

Stewardship

Volunteers are the heart and soul of prairie restoration at Nachusa. New volunteers join our veterans by participating in workdays, during which our stewards greet and orient the new recruits. Some volunteers go on to participate in workdays year round and even take responsibility for their own restoration unit. Volunteers annually give more than 7,000 hours of passionate service.

Securing the Future

We are funding endowments that will permanently provide for Nachusa's long-term protection. We are pleased to report that we recently achieved our goal of \$3 million.

Scientific Research

We award grants to skilled candidates conducting scientific research significant to habitat restoration and management practices. In January 2021, we awarded 12 researchers a total of \$49,000. This program has granted \$259,000 since 2011.

Their work will involve Blanding's turtles, native bees, quantifying the effects of prescribed fire, and other topics. In April, Friends will hold its sixth science symposium. For more details, please see the Science section of our website.

Support the Friends

Please help keep Nachusa Grasslands flourishing. Consider volunteering or supporting us financially. Leave your legacy as a Heritage Hero by including Friends in your estate plan or will. Please see the Donate section of our website for options.

SAVE THE DATES

Cancelled. Prairie Potluck
April 24. Virtual Science Symposium
July 31. Annual Meeting

SOCIAL MEDIA

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Pine Stand Harvest


BY CODY CONSIDINE

Nachusa Grasslands Deputy Director, The Nature Conservancy

Recently, my family and I started a remodel project on our house. Since the scope of the work was way beyond my limited carpentry skills, we hired a contractor. As work began, my mind was racing in trying to figure out how the construction was going to take place—I was fascinated by every aspect of the remodel. I often had concerns and many questions that resulted from my limited knowledge of carpentry. Over time, I learned and understood each part of the project and gained confidence that the contractor's methods were the best approach to achieve the final result.

This home remodel experience offered me an awareness about how the general public might feel when they see us doing habitat work at Nachusa Grasslands. Do they understand the purpose and importance of removing certain trees during the restoration process? Over the last few years, we've harvested several acres of pines. Specifically, the large log piles next to Flagg Road likely turned many heads and sparked questions from people as they drove by.

Those logs were white and red pine. Pines were planted at various periods of time dating back to the 1930s, when government programs encouraged landowners to plant trees to "conserve" the sandy soil sites. This was a reaction of the Dust Bowl era. These sandy sites were once prairie and black oak savannas, intact systems that were conserving the soil as well as providing habitat to hundreds of plants and thousands



Pines before removal
in the Williams tract


© Elizabeth Bach/TNC

of animal species. As the sites were converted to row crops, it didn't take long for people to learn that these areas were not conducive to agriculture. Instead of restoring them back to prairie, they planted pine stands with the aim to conserve the soil and produce an economically sustainable product through timber. Unfortunately, most of these stands were never managed for timber. Trees were planted too closely and never thinned. Over time, these stands slowly died and were replaced by weedy undesirable and invasive species such as bush honeysuckle, multiflora rose, Russian olive, and Siberian elm.

Additionally, and unfortunately, these pine stands are not economically productive as it costs more to harvest and transport the logs than the actual wood is worth. We had to hire contractors to remove the trees. However, in an exchange for stump removal and site prep, we traded with a local company that turned the logs into mulch.

After the trees were removed, we planted a diverse mix of prairie seed. Additional seedings, weed management, and annual prescribed fire will help restore these sites back to native prairie and oak savanna habitat, similar to the landscape historically found in this area.

Next time you see us cutting and removing trees from Nachusa Grasslands, you can be assured we are improving native habitat and promoting oak and hickory woodlands and savannas—and you can think of it as a home remodel. It takes time, but soon it will be functioning and more beautiful than before.



The tractor plants
prairie seed after
the pine removal.

© Elizabeth Bach/TNC

Eastern Prairie Fringed Orchid

Seedlings transplanted

BY ELIZABETH BACH, *Ecosystem Restoration Scientist, The Nature Conservancy*

In 2020, we were excited to work with Dr. Betsy Esselman from Southern Illinois University Edwardsville (SIUE) to transplant Eastern prairie fringed orchid seedlings at Nachusa Grasslands. Dr. Esselman has been working for years to grow seedlings of these endangered orchids in the laboratory. Orchids require a fungal partner to germinate and grow, and her lab has identified and cultured these fungi. In 2019, she had success germinating some plants from seeds, a major breakthrough for conservation of this species! The next big step is to see if these lab-grown seedlings can survive after being transplanted

into nature. To address this question, Dr. Esselman wanted to transplant the seedlings to an area with an established population of Eastern prairie fringed orchid and Nachusa fit the bill.

As spring 2020 unfolded and COVID-19 locked down both Nachusa and SIUE, it became clear that our original plan for transplanting was not going to work. In early May, Dr. Esselman and I coordinated a contactless drop-off of the seedlings at Nachusa headquarters and I transplanted the plants to the field. I caged the plants and kept an eye on them through the summer; we'll have to see how they do this spring!



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Cranes Nest at Nachusa

First documented successful nesting



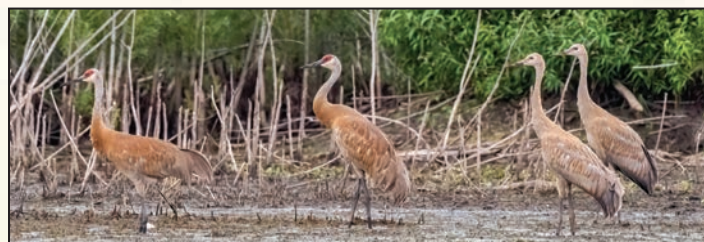
Photos: © Charles Larry

BY DEE HUDSON, *Administrative Assistant, The Nature Conservancy*

In 2015, the Bluestem Bottoms tract was restored to shallow wetlands by scraping and moving a large amount of soil, thanks to the help of the Army Corp of Engineers.



As the restored habitat began to develop, more and more wildlife found and used the wetlands. In the spring of 2020, the preserve was treated to its first documented successful nesting of sandhill cranes. Two colts fledged and were seen throughout the summer months, until they migrated with their parents in the fall.



Nachusa Forward

Strengthening partnerships for people and nature, on the prairie and beyond



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Fire destroyed Nachusa's pole barn

BY ALICE COYNE

Development Communication Specialist, The Nature Conservancy

Since 1951, TNC has gathered strength from both our global reach and our boots-on-the-ground impact. Nachusa Grasslands is a best-in-class example of the value of conservation from a community to global scale.

What Happened: In February, a fire at Nachusa destroyed the site's pole barn along with much of the equipment that helps our stewardship staff, volunteers, and researchers effectively care for this landscape.

Our Vision: This incident provides an opportunity to strengthen and expand our work in the following ways:

- Updating where we work: Starting simple, the pole barn needs to be rebuilt. But it doesn't stop there. In the spirit of regrowth, we aim to also reimagine our headquarters barn and the distribution of functions across these two facilities.
 - ◆ Create a space for partners in an expanded headquarters barn.
 - ◆ Build stronger connections between science and stewardship through an enhanced research space in the rebuilt pole barn.

- Evolving how we work: Updated facilities provide a launchpad for impact as we work toward our long-term goals at Nachusa Grasslands. These goals inform one another as they foster collaboration and allow us to scale and sustain.
 - ◆ Inspire people for nature to support land conservation—locally and across the state, region and beyond—by engaging with partners, scientists, and volunteers and by training the next generation of conservation leaders.
 - ◆ Support biological diversity, including rare and threatened species, through enhanced stewardship, monitoring and science.
 - ◆ Engage diverse communities, perspectives, and backgrounds in conservation work at Nachusa and beyond.
 - ◆ Protect and restore more land through acquisition in order to extend our bison habitat and ensure connections across the preserve. Protecting land and water continues to remain central to our mission.

How You Can Help: Thank you for considering an investment in our vision at Nachusa as we rebuild and reimagine. Partnerships like yours are invaluable. Especially in these uncertain, unprecedented times, we remain inspired by the resilience of nature, the generosity of supporters and the difference we can make together.

- Contact: Jacob Smutz, IL Donor Relations Manager, at 765-532-9460 or Jacob.smutz@tnc.org
- Via Check: If you would like to mail a check please use this address: The Nature Conservancy in Illinois 400 North Michigan Avenue, Suite 1100, Chicago, IL 60611. Please make the following note on the memo line of your check: Nachusa Forward
- Wire Transfer: Instructions available upon request



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The Nature Conservancy

Nachusa Grasslands Preserve

8772 S. Lowden Road

Franklin Grove, IL 61031

815.456.2340

www.nature.org/illinois

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