



Prairie Wind

Friends of Neal Smith National Wildlife Refuge
PO Box 114, Prairie City, IA 50228 • www.tallgrass.org • buffalo@tallgrass.org

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Annual Spring Fling Features #1 Announcement and MOTUS Speaker

By Sharon Tinker, Friends Board

The Friends of Neal Smith National Wildlife Refuge gathered for their annual Spring Fling membership meeting on March 23rd. Fifty-four members and guests enjoyed socializing and a soup lunch buffet before several speakers.

Friends President Sue Tew-Warming announced that the Neal Smith National Wildlife Refuge (NSNWR) had been voted the #1 favorite by USA Today readers from the ten best national wildlife refuges nominated by an expert panel. She also celebrated the purchase of 136 acres of land at the entrance to the refuge by the Iowa Natural Heritage Foundation (INHF) to prevent commercial development until it can be purchased by the U.S. Fish and Wildlife Service for addition to the refuge. Sue also discussed National Wildlife Refuge System (NWRS) budget and staff reduction impacts at Neal Smith NWR and encouraged Friends members to contact their legislators to advocate for increased NWRS funding to maintain refuges across the country. Refuge Manager Scott Gilje gave a short update on refuge happenings including the large spring burn completed during 2023 and the size of the deferred maintenance budget.

Board Member Rachel Ruden introduced the keynote speaker, Anna Buckardt Thomas, Avian Ecologist with the Iowa Department of Natural Resources. Ms. Thomas gave an update on the Motus Wildlife Tracking System implementation across the western hemisphere and in Iowa, including an explanation of the wildlife tagging and antenna technology and current and future planned antenna locations. She also shared examples of how migrating birds tracked by Motus antenna in Iowa have contributed to increased understanding of migration patterns and conservation needs.

AWARDS // TRAVEL



Untamed America: 10 best national wildlife refuges to visit

Wild wonders await

Best National Wildlife Refuge (2024)

MARCH 13, 2024

No. 1: Neal Smith National Wildlife Refuge - Prairie City, Iowa

Home to herds of American bison and elk, the Neal Smith National Wildlife Refuge in Prairie City, Iowa, serves as a living example of the historic prairie landscape, offering visitors the chance to observe these iconic species in a natural setting. The refuge is also known for its efforts to restore and preserve tallgrass prairie habitats once prevalent across the Midwest.

Source: <https://10best.usatoday.com/awards/travel/best-national-wildlife-refuge-2024/>



Keynote Speaker Avian Ecologist Anna Buckardt Thomas from the Iowa DNR Discussing MOTUS Wildlife Tracking System in Iowa



Refuge Manager Scott Gilje demonstrating the Action Track-chair® purchased to provide prairie access for mobility impaired visitors

Bottom photo: Friends President Sue Tew-Warming welcomes Spring Fling Guests



Photos by Mike Cox

Ding Darling Art Gallery, Spring Feature

By Rachel Ruden, Friends Board

We were pleased to have the photographic talents of Iowa-native Nelson Shulenberger grace our gallery walls this winter. Many of his pieces featured native pollinators and native prairie plants using macro photography to highlight the delicate beauty of his subjects. He also had beautiful bison notecards for sale. Nelson will be back this summer with larger framed pieces to complement some familiar works so make sure to stop back! You can also learn more at www.nelsonshulenberger.com.

From March 28 to June 28 we could not be more excited to welcome Pam Ohnemus back to the gallery with her show titled "Prairie Grandeur." Pam last exhibited with us in 2005! Originally from British Columbia, Pam received a BA in Art Education from the University of Northern Iowa, MA from Western Illinois University, and taught art in the Davenport school system for 33 years as well as classes at the Figge Art Museum! Anyone who has seen her work before knows that Pam paints vibrant prairie landscapes where the colors and textures just sing off the canvas. Her work urges viewers to care for and protect our natural heritage and reinforces our own mission as Friends of the largest tallgrass reconstruction in Iowa. A can't miss reason to visit the gallery this spring- get a sneak peak of prairie foxglove below and check out her website at www.pamohnemus.com!



Environment for the Americas Intern

By Madison Zink

Given creative freedom, I have introduced many new events to the refuge Visitor Center and many more to come. Within my first four months, I have had a few events stand out above the rest. One such success was a celebration of National Rubber Ducky Day. This holiday, which I admit I only knew existed due to a random Google search, led to an order of 100 colorful rubber ducks. Ten of these colorful creatures were hidden around the Visitor Center for young (and sometimes even old) visitors to follow hints to find and learn about ducks through the "Quack Quack Fun Facts." This event seemed at first to be a waste of rubber ducks, as no one was able to attend its scheduled week due to the January blizzard. After careful consideration, the event was allowed to remain up the following week, and then captured the attention of visitors. Finally able to escape their snow-entrapped homes, families flooded Neal Smith NWR and adored the hidden ducks. Despite having planned only allowing the event to stay up an extra week, so many visitors asked if they could share it with friends. I was inclined to allow the colorful birds to take over the Visitor Center for a grand total of four weeks, their reign only ending when the 90 extra ducks used as prizes ran out.

Other such scavenger hunts, such as the recent Peeking at Pawprints search, have been favorites of visitors. While following cutout pawprints on the ground fulfills a child's love to wander and puzzle out riddles, I have also thought of some events to appeal to older ages and parents who would prefer their kids to remain in one location for longer than a few moments.

Two tables have been added in front of the Bison Room, something that I initially expected to remain for a single week... not the last five months. However, the concept of a stand-alone interactive table event became such a hit that I began to think of new concepts to change biweekly. "I know that we have little staff here at Neal Smith NWR and that I won't always be here," I thought. "My idea was to make events that need very little upkeep, but that are still different from our posters by being a hands-on experience." These tables have been filled with everything from prairie-themed logic puzzles, to an interactive Groundhog Day story book and even including a pun-filled Valentine's Day card making station that parents asked if they could do along with their children.

With little over three months left at the refuge, I constantly thank my supervisor, Nancy Corona, and refuge manager, Scott Gilje, for their support of what I often refer to as my "crazy ideas," stating that I have never been able to explore and create as much as I have done in this position. The positive responses of both my coworkers and the public, have validated something that Nancy has assured me many times – that maybe these ideas aren't as "crazy" as they seem. "



Hemorrhagic Disease Caused Seasonal Mortality in White-tailed Deer

By Rachel Ruden, Friends Board Member and Iowa DNR State Wildlife Veterinarian

Refuge staff, as well as pheasant hunters during our Spurs and Tails event in October, reported a total of about 15 dead white-tailed deer on refuge property from the late summer to fall of 2023. This is very consistent with observations that came from nearly 80 counties across the state of Iowa, reflecting our second largest outbreak of hemorrhagic disease to date. Fortunately, though activity was widespread, intensity was low in most places. Coupled with high year-to-year variability in the distribution of hotspots, if present at all, we expect our deer population to recover well.

So what is hemorrhagic disease? This is a disease caused predominantly by epizootic hemorrhagic disease virus in white-tailed deer, and to a lesser extent bluetongue virus, which more commonly affects small ruminants like sheep and goats. These are sister viruses that require an insect vector to infect their host, specifically biting midges in the genus

Culicoides. Female midges require a blood meal to produce eggs. However, when they feed on an already infected deer, they can pick up these viruses and transmit it to other deer thereafter.

The one adult buck we were able to sample was actually coinfecting with both viruses.



Photo by Rachel Ruden

In Iowa, once a deer has been exposed to virus, it will generally incubate for 7-10 days before causing sudden onset of clinical signs and death within 36 hrs. That is why we can see a week to week and a half lag in mortalities once we get later in the fall when the midges become more active during warm spells. The first hard frost will kill most competent vectors, and after two or three frosts, we see outbreaks resolve.

The viruses themselves target the lining of the blood vessels (hence their name), which can drive deer to seek out water as they become intensely febrile. As such, it is common to find dead deer in ponds and other water sources during peak outbreaks, though the viruses become inaccessible to midges after death. Occasionally, deer can survive initial infection and develop chronic lesions like deep fissures in the hoof wall or even complete sloughing from the disruption of blood flow.

Interestingly, hemorrhagic disease has circulated in white-tailed deer in the southern United States for many decades and rarely causes the intense mortality events we experience in Iowa. That offers some hope that should these viruses become more frequent interlopers, blowing in with midges during strong wind events or even overwintering in our state, our deer will adapt to this new challenge.

Of course, the refuge is also home to elk and bison herds. The literature suggests that natural infection is much less common in these species, with even most infected animals showing few if any signs of disease.

Sedges

By Shami Morse, former Biology Intern

Sedges, grasses, and rushes are collectively known as Graminoids: herbaceous plants with culms (flowering stalks) and long, blade-like leaves. The sedge family (Cyperaceae) is often distinguished by the axiom "Sedges have edges and rushes are round," although there are exceptions. Because they have not had the same agricultural value as the grass family, they are not as widely known, and many species lack a common name. And because they are not as closely associated with human history, there are few invasive species of sedge.

Identifying sedges down to the species level is not easy! Identification is seldom possible from just the vegetative parts (stems, leaves, rhizomes). Even with the inflorescence (flower/seed head), a good microscope may be needed to clearly see the details that distinguish one species from another. For that and other reasons, sedges on the refuge have often been recorded only at the genus level — e.g., as *Carex* sp. (unidentified species in the *Carex* genus). About a dozen *Carex* species (the most common genus) have been identified previously on the refuge.

As biology interns, several of us attended a 2-day class on sedges, taught by Dr. Thomas Rosburg and Dr. William Norris, two experts who have composed keys specific to Iowa for the Sedge Family. After the class, we collected 29 specimens from various locations on the refuge. Over the summer, we worked to identify them, using those keys and other books in the refuge library, as well as online resources.

It's been a slow, and sometimes frustrating, process. We have settled on tentative identifications on about two thirds of the specimens, with 14 unique species. If these hold up to further review, it would add 10 new *Carex* species to the list of refuge sedges, all of them native.

Lessons learned in collecting and identifying sedges: 1) Collect the entire plant, including a piece of the root or rhizome, 2) Record habitat information, 3) Keep the specimens refrigerated in a plastic bag and don't wait too long to identify them, 4) Use the most detailed resources available to you, 5) Take a class.



Photo by Karen Viste-Sparkman

Karen's Book Recommendations

By Karen Viste-Sparkman, retired Refuge Biologist

Here are some of my favorite books about nature that I highly recommend reading. None of these are field guides, but most are non-fiction. These books changed my life and my outlook. Listed in no particular order.

A Sand County Almanac by Aldo Leopold. A classic book of essays on nature from a founding father of conservation.

Silent Spring by Rachel Carson. Published in 1962, this book explains the dangers of the indiscriminate use of pesticides, inspiring the environmental movement.

Braiding Sweetgrass: Indigenous Wisdom, Scientific Knowledge and the Teachings of Plants by Robin Wall Kimmerer. An indigenous perspective on interactions with nature.

Bringing Nature Home: How You Can Sustain Wildlife with Native Plants by Douglas W. Tallamy. The importance of individual back yards and gardens to native plants, insects, the food chain, and ecological diversity.

The Home Place: Memoirs of a Colored Man's Love Affair with Nature by J. Drew Lanham. Beautifully written experiences about nature and belonging.

Last Stand: George Bird Grinnell, the Battle to Save the Buffalo, and the Birth of the New West by Michael Punke. An engaging and personalized telling of the last-ditch efforts that saved our national mammal from extinction.

The Big Burn: Teddy Roosevelt and the Fire That Saved America by Timothy Egan. A compelling narrative of how a deadly wildfire shaped public opinion on the protection of public lands.

The Last Butterflies: A Scientist's Quest to Save a Rare and Vanishing Creature by Nick Haddad. Hopeful stories of some of the rarest butterflies and what people must do to restore their populations.

The Beak of the Finch: A Story of Evolution in Our Time by Jonathan Weiner. Scientists studying Darwin's finches in the Galapagos Islands witness evolution occurring.

The Lost Words by Robert Macfarlane. Charming poems based on words from nature that were dropped from the Oxford Junior Dictionary in 2007.



Toward Building a Sustainable Landscape

By Loren Lown, Friends Board

One of the most important considerations when acquiring land to add to a natural area is to determine if it further protects the existing area or if not acquired, will it present a long-term threat to the sustainability of the larger area. Often certain parcels of land, regardless of current land use, pose real challenges to the future of adjacent lands.

The Van Pilsum farm is one such parcel. The 136.3 acre farm sits immediately south of Highway 163 at the Prairie City exit. It is adjacent to the city limits and to Pacific Street, the front door to NSNWR.

It isn't difficult to imagine that this parcel is or soon would be a target for development and to foresee the visual clutter and congestion that comes with development.

It is important to recognize all of the supporters and partners of NSNWR for their roles in acquiring the Van Pilsum property as an addition to the refuge. The Iowa Natural Heritage Foundation has partnered with the Friends of Neal Smith to acquire the property and hold it until it can be transferred to the care of the refuge.

So much of the progress made at NSNWR is because of your support.
Thank You!

Book Review: *Tending Iowa's Land: Pathways to a Sustainable Future* edited by Cornelia F. Mutel

By Sharon Tinker, Board Member

Cornelia F. Mutel has assembled a book that presents alternatives to current practices that have degraded Iowa's natural resources and ecosystems during two centuries of Euro-American settlement and agriculture. The book opens with an essay by Mutel titled "Iowa's Life and Land: A Brief History." The rest of the book is a collection of essays by 28 Iowa academic experts and practicing conservationists organized into Soil, Water, Air, and Life sections. Each scientific essay is followed by an everyday practitioner's essay. A Vision for the Future essay concludes each section. All the authors provide their personal connection to Iowa's natural resources and perspective on the current status and steps needed for recovery of Iowa's soil, water, air, and wildlife in an easy-to-read format.

Recurring and interconnected themes in the essays are loss of soil fertility and porosity, soil erosion, water contamination, flooding, climate change, and loss of biodiversity. The book focuses on agricultural practices as the largest opportunity to reduce Iowa's contribution of methane and nitrous oxide greenhouse gas emissions and increase carbon dioxide removal from the atmosphere by carbon sequestration.

There are numerous references to the Neal Smith National Wildlife Refuge (NSNWR) in the essays. Notable are Pauline Drobney's "Knitting It Back Together: Iowa's Tallgrass Prairie" about recreating the tallgrass prairie at NSNWR, Keith E. Schilling's "Slurries of Sediment: The Problem of Soil Erosion" about research at NSNWR on soil loss and watershed export of sediment, and Lisa Schulte Moore's "The Regenerative Agriculture Movement: A Vision for the Future" including discussion of prairie strips resulting from research at NSNWR.

The authors' recommendations for ecosystem recovery are based on continuing Iowa's agricultural tradition and bounty while making changes to farming practices that allow Iowa's soil and water to recover from their current degraded conditions to provide future productivity and reduce flooding. Each of them recommends a combination of conservation and sustainable farming practices as part of regenerative agriculture:

- Converting row crop fields in floodplains and on highly erodible lands to hayfields and pasture grazed by livestock to reduce soil erosion and increase rainwater infiltration and carbon sequestration in the soil.
- Planting filter strips and waterways with pollinator habitat to filter rainwater runoff and increase pollinator populations and wildlife species diversity.
- Practicing no-till and planting cover crops in row crop fields with livestock grazing of cover crops to provide year-round cover of soil to reduce soil erosion, cycle soil nutrients, increase rainwater infiltration, and improve carbon sequestration in the soil.
- Using diversified crop rotations including legumes like clover and alfalfa to fix nitrogen in the soil to reduce use of chemical fertilizers that destroy soil biota.

- Restoring wetlands to filter water, hold rainwater runoff to reduce flooding, and provide habitat for migrating birds.
- Installing riparian buffers planted with native vegetation along stream banks to filter rainwater runoff, reduce streambank erosion, and create connected water corridors to reduce species isolation and promote genetic diversity.

These changes keep the most productive land in agricultural production while improving soil health to maintain productivity and converting marginal land to more productive uses.



CALL TO ACTION FOR ALL IOWANS

This book is a "Call to Action" for all Iowans to make their contribution to restoring healthy ecosystems. There are numerous actions beyond agriculture that each of us can take to make a difference. As consumers our choices impact agricultural markets. Other actions we can take include planting native plants, growing a garden, reducing chemical fertilizer and pesticide use, volunteering at a prairie restoration to remove invasive species or harvest seeds, increasing energy efficiency, installing renewable energy solar panels, making financial contributions to a land trust, and voting for legislators that support conservation and regenerative agriculture through policies and programs.

"Prairie Strip in Iowa Soybean Field" from www.nrem.iastate.edu/research/STRIPS/content/what-are-prairie-strips



"Livestock Grazing Cover Crop in Iowa Corn Field" from practicalfarmers.org/2016/07/latest-and-greatest-cover-crops-research-by-practical-farmers/

Photo

President's Message

By Sue Tew-Warming

Greetings from the prairie! Spring is starting to arrive and before long the Refuge brown vistas will be green again. Our bison herd will grow as bison calves (also known as 'red dogs' because of the orange/red color at birth) will begin to arrive in March and April.

If you haven't been out for a visit lately, take the time to step away from your daily routine, and pause to enjoy the beauty that we have at the Neal Smith National Wildlife Refuge! Be sure to stop in the Visitor Center and say Hi!

The Friends Board of Directors went through several changes and transitions in 2023.

- Joan Van Gorp retired as President and Community Liaison after 16 years.
- Mark Lyle retired as Treasurer after 12 years.
- Jim Johnson retired as Grant Coordinator and Special Projects after 7 years (this time.)
- Daryl Howell retired as Nature Store Liaison and Research Projects after 7 years.
- Sydney Algreen-Hunter retired as Events Liaison after 5 years.

The current Board and I want to express our gratitude for the years of service, amazing ideas, ongoing commitment, and passion that each of these individuals shared during their tenure on the Friends of Neal Smith NWF Board of Directors. Thank you.

2024 will be a year of reviewing where we have been, investigating what's happening, and looking to the future of where we want to be. We need individuals who value and enjoy this place as much as we do. Areas that we need your support include:

- New Board Members who will provide leadership in 2024 and beyond,
- Volunteers who have time, gifts, and skills that they would be willing to share, and
- Individuals who enjoy brainstorming opportunities as we explore ways to increase numbers for both visitors and revenue to support the Refuge.

If you have questions, ideas, and/or want to be more involved, please contact me at Sue@heartlandwellbeinginstitute.org. Peace to all.

Time to renew your Friends Membership?

Our Friends members are our greatest asset in providing funding for the refuge and the many events and programs offered to the public. We value each and every donation no matter the amount. If you haven't renewed your membership, an easy way is online through our secure website. This takes just a couple minutes and is so vital for the Friends to continue our goals to promote awareness, support, education and appreciation for the natural ecosystems of the Neal Smith National Wildlife Refuge. Can we count on your donation? Go to www.tallgrass.org / Click on "Get Involved" / "Become a Member"

You Can Make a Difference!

The power of a Friends group is its members. Please support this all volunteer, non-profit organization with your tax-deductible gift and be a part of the learning, growing and discovery happening at the Neal Smith National Wildlife Refuge every day. Thank you!

____ \$25 -- Big Bluestem Friend ____ \$50 -- Bison Buddy
____ \$100 -- Savanna Saver ____ \$250 -- Prairie Patron
____ Other -- \$ _____

Be sure to find out if your company will match contributions.

Name _____
Address _____
City _____ State _____ Zip _____
Phone _____ Date _____
E-mail _____

You may make your donation online and choose to make that gift recur monthly, quarterly or annually. Or you may make a one-time gift!

Please make checks payable to Friends of Neal Smith NWR, PO Box 114, Prairie City, IA 50228

Spring Events

By Doreen Van Ryswyk

Nature Tots

Saturday, April 6 from 10:30 a.m. - 11:30 a.m.

Saturday, May 4 from 10:30 a.m. - 11:30 a.m.

Children ages 3-5 accompanied by an adult are invited to attend a free, fun, and educational program. Activities will include: storytime, a nature craft, and an exploration of the tallgrass prairie (weather allowing). Lessons focus on engaging children's senses and using hands-on and interactive activities. Registration is requested. To register or to get additional information, please call 515-994-3400 or email nancy_corona@fws.gov.

Youth Photography Workshop

Saturday, April 6 from 1:00 p.m. - 3:00 p.m.

Join photographer Greg Punelli for a Youth Photography Workshop. To register or to get additional information, please call 515-994-3400 or email nancy_corona@fws.gov.

Morning Photo Walk

Saturday, April 13 from 8:00 a.m. to 9:30 a.m.

Join Photographer Mike Cox for an outdoor photo walk along the ½-mile Overlook Trail loop to explore nature's spring beauty. The surface of the trail is concrete and wheelchair accessible. All ages and skill levels are welcome! For additional information and to register contact nancy_corona@fws.gov or call 515-994-3400.

Second Saturday Stewardship

Saturday, April 13 from 9:00 a.m. - 12:00 p.m.

Saturday, May 11 from 9:00 a.m. - 12:00 p.m.

For additional information and to register contact nancy_corona@fws.gov or call 515-994-3400.

Macro Photography Class

Saturday, April 20 from 1:30 p.m. - 3:00 p.m.

Join photographer Mike Cox and learn all the skills of close up photography. Bring your camera and tripod if you have one for an informative hands on class. For additional information and to register contact nancy_corona@fws.gov or call 515-994-3400.

Test Your Senses Exhibit

Thursday - Saturday, April 25 - 27, 9:00 a.m. to 4:00 a.m.

For information on this exhibit contact nancy_corona@fws.gov or call 515-994-3400.

2024 Photo Contest

Watch the Friend's website or Facebook page and the next issue of the Prairie Wind for a few changes to the contest, but in the meantime - Keep Taking GREAT Photos at the Refuge!

2023
Best
of
Show
By
Scott
Olson



Eagle Scout Project Adds Bike Repair Station

By Sharon Tinker, Board Member

Blake Owens from PCM BSA Scout Troop 348, Sea Scout Ship Buddy Tag #3304, organized the installation of a bicycle repair station on the bike trail at the Neal Smith National Wildlife Refuge entrance kiosk as an Eagle Scout project. The project required installation of a concrete pad and a Dero Fixit Repair Stand that allows bikers to put air in a tire, tighten wheels, and other minor repairs.



Blake Owens at the Bicycle Repair Station

Blake developed the project idea based on his brother's participation in the Dream Team biking program. Project steps included fundraising, gathering the materials, and installation. His family helped by driving during fundraising and his scout troop helped with the installation. Blake described the project "it was a lot of hard work, but it paid off in the end."



Mixing Concrete for the Pad



Installing the Repair Stand

The addition of a bicycle repair station at the entrance to the refuge and the existing bicycle repair station located at the Visitor Center provides bicycle repair stations at both ends of the refuge's bike trail. Last year's connection of the refuge bike trail to the Red Rock Prairie Trail between Prairie City and Monroe gives bikers more trail options in Jasper County.



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Do You Know a Graduating High School Senior That Loves Nature and Will Be Going to College to Study Environmental Science or Conservation?

This student may be eligible for the Friends of Neal Smith National Wildlife Refuge (NSNWR) Scholarship! The Friends of NSNWR annually looks to support a graduating senior from a local high school who is planning to study for a career in environmental science or conservation.

The graduate must be pursuing a degree in natural resources conservation or management, wildlife management, wildlife biology, botany, forestry, fisheries sciences, environmental science, sustainability, or a related field. The scholarship is \$1000 per year for up to four years of postsecondary education for an associate or bachelor's degree.

Students graduating from these area high schools are eligible for the scholarship: • Bondurant-Farrar • Colfax-Mingo • Newton • PCM (Prairie City Monroe) • Pella • Pella Christian • Southeast Polk

The scholarship application is posted on the Friends website at www.tallgrass.org. Scholarship applications must be received by April 22, 2024, to be considered.

Prairie Wind

is published by

**Friends of
Neal Smith National Wildlife Refuge**

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Prairie Wind is a newsletter about the activities of Friends of Neal Smith National Wildlife Refuge and the Refuge.