



IOWA NATURAL HERITAGE

Protecting and restoring Iowa's land, water and wildlife.

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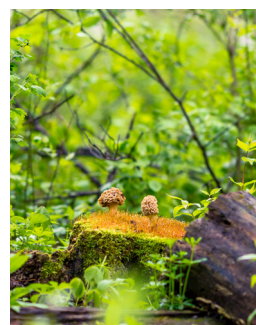
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INHF Land Acknowledgement:

As a land trust it is important for us to continuously acknowledge and understand the full scope of history that has brought us to reside on, protect and steward this land. The land between two rivers is home to many indigenous people, historically and today. We acknowledge the value of indigenous communities and work to honor them on the land.



ON THE COVER

Morel mushrooms grow on a fallen log on a trail near Motor Mill Historic Site in Clayton County, which INHF helped to protect in 1983. Their short growing period and camouflage against the forest floor add to the excitement of hunting for these wild edibles.

Photo by Matt Shaffer



Protecting and restoring Iowa's land, water and wildlife.

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A Spirit of Service

I recently came across a letter written by then-Governor Robert Ray to Iowa Natural Heritage Foundation in 1979 — the organization's first year in existence. The letter prefaced a report prepared by the Iowa Department of Natural Resources, then known as the Iowa Conservation Commission, about the state of Iowa's natural lands. The report was created to facilitate a new public-private partnership that would yield substantial results for Iowans over the coming decades.

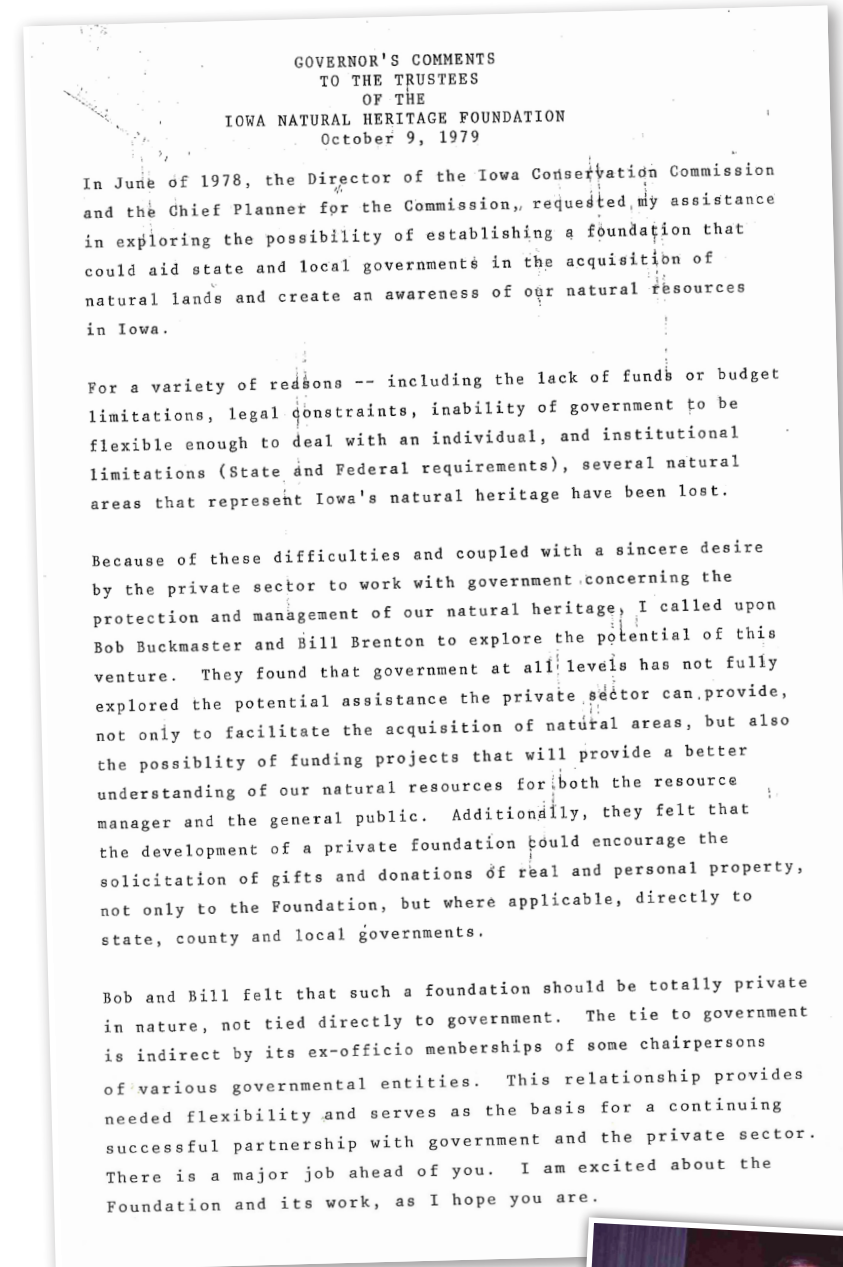


JOE MCGOVERN
President

INHF was created — with the help of Gov. Ray and business leaders — to serve Iowans. Together with our public partners, we have created or expanded parks and trails, we have protected thousands of acres of wildlife habitat, we have restored pieces of our precious native ecosystems — our prairies, wetlands and woodlands — that make our state unique. And we take great pride in working with private landowners across Iowa that share our goals.

We approach our work with a spirit of service, thinking about how land preservation and outdoor recreation opportunities can help our state thrive.

After more than four decades, we continue to work with our partners to create more parks, trails and wildlife areas, hoping to attract and retain young people that prioritize outdoor recreation when deciding where to live. We continue to look for natural solutions to the water quality and quantity issues facing our state. We continue to listen to nature, knowing that protecting and restoring resilient natural lands can help us be prepared for increasing extreme weather events. We continue to



advocate for the voiceless — Iowa's land, water, wildlife and future generations.

We are able to continue to serve Iowa because of you, INHF's supporters, volunteers and partners. We're grateful to you for your time, your resources and especially your friendship. It allows us to be strong in the face of challenges that can seem daunting at times.

So, thank you. Thank you for allowing us to serve Iowa — our home — and make our state a better place.



Top, Gov. Robert Ray's letter to the INHF Board of Trustees. Bottom, Gov. Ray with Daisy Whitham, who donated Whitham Woods in Fairfield to INHF in 1980. It was INHF's first land protection project, now a public park managed by Jefferson County Conservation.

I know, I know, a cliché pasque flower picture. However, if you've read this far, maybe I can get you to sit tight for quick story. You see, there was a reason for this particular photo. The one you see inset here hangs on the wall in my office. Prior to its current residence, it hung on the wall of my room where I grew up. If I'm being honest, I never remember noticing it as a kid. It took an awakening in the world of native plants, sparked by me beginning a career with INHF, for me to notice it on one of my trips back home to see family.

With this newfound education, I was enamored with the photo and desperate for its origin story. Asking my mother for more information revealed who its creator was — my father. Where did he take it? What lens did he use? Was it an overcast day as the coloration implies? Was it taken laying prone in the prairie as I often do to capture the macro flower photos I enjoy so much?

These are the questions I wish I could ask. His passing, years prior, made answers a mystery. But it led me on a quest to recreate it as best I could. A passion for photography ignited in the process (particularly macro photos of native plants) which continues years after my initial journey for the pasque flower re-creation.

Now both photos reside in my office, and the question of where still burns in my mind. Is the prairie where his photo blossomed protected? Was INHF involved? I'll admit, the thought of those answers being 'yes' are alluring.

Oh, and in case you are curious about the answers as to my photo, yes the place is protected, and INHF, along with a plethora of supporters, made it possible. But I'll leave it there for now. Maybe a little mystery will spur you to seek out spring and the mesmerizing flowers it provides for our contemplation.

— ROSS BAXTER,
Senior Land Protection Director and Counsel



Pasque flowers bloom all over the northern hemisphere. Often called "May Day" flowers, these early bloomers are one of the first signs of spring. *Photo by Ross Baxter/INHF*

NORTH AMERICAN PRAIRIE CONFERENCE COMES TO IOWA

This summer, Iowa has the honor of hosting the North American Prairie Conference, the nation's oldest conference dedicated to native grasslands.

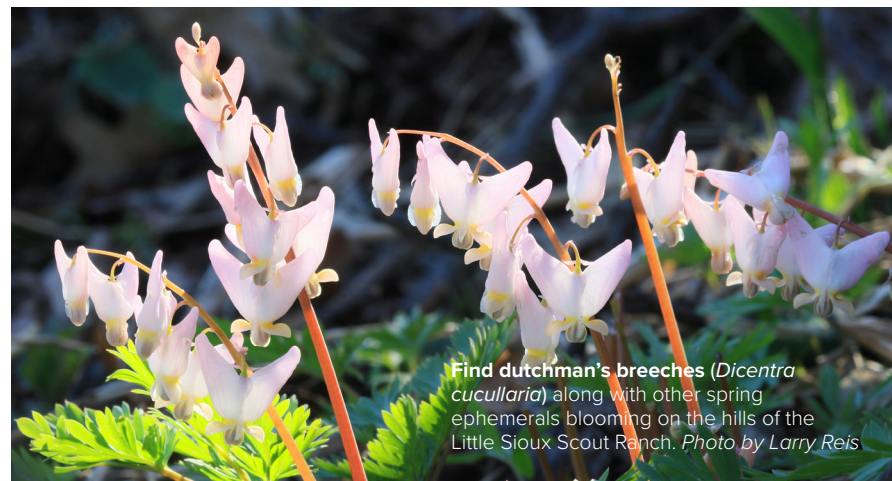
This four-day event from June 26-29 will feature the latest findings in prairie research, offer opportunities to connect with prairie professionals and enthusiasts and invites participants to tour some of the most spectacular prairies in central Iowa, some of which aren't usually available for public access.

Registration, schedule and details on keynote speakers, symposiums and field trips can be found at northamericanprairie.org.

INHF DONORS HONORED AT GIFT TO IOWA'S FUTURE DAY

This March, Iowans who donated land, land value or conservation easements in 2022 will be recognized at a ceremony at the Iowa State Capitol. This will be the annual event's fifteenth year honoring Iowans who choose to permanently protect the land they cherish.

Last year, INHF worked with 22 individuals, families and organizations who made such gifts, protecting a total of 3,656 acres across 19 counties. Their generosity created new parks, trails and wildlife areas for the benefit of all our state's current and future inhabitants — people, wildlife and plants.



Find dutchman's breeches (*Dicentra cucullaria*) along with other spring ephemerals blooming on the hills of the Little Sioux Scout Ranch. Photo by Larry Reis

LITTLE SIOUX SCOUT RANCH PROTECTED

Following an outpouring of support from hundreds of donors — including lead donations of \$500,000 from Polina and Bob Schlott of Crescent, \$500,000 from the Iowa West Foundation of Council Bluffs, \$300,000 from the Gilchrist Foundation of Sioux City and \$250,000 from the MidAmerican Energy Foundation — INHF purchased the Little Sioux Scout Ranch in Monona County. The 1,776-acre property, used as a scout camp for more than 50 years, is destined to become open to the public.

INHF and the Mid-America Council will allow scouts to continue to use the property in the near-term. INHF will also work with partners to open the property to the public and expand use around the adjacent Loess Hills State Forest, which is managed by the Iowa DNR.

INHF continues to fundraise for costs associated with the purchase and management of the property. To contribute, contact **Director of Philanthropy Abby Hade Terpstra** at aterpstra@inhf.org or 515-809-5676.

UPCOMING EVENTS**APRIL 8**

Kothenbeutel Pasque Flower Hike & Workday
Sheffield

APRIL 21

Earth Day Trash Bash
Des Moines

APRIL 22

Earth Day Trash Bash on the Trail
Madrid

APRIL 24-28

Loess Hills Cooperative Burn Week
Pisgah

MAY 3

Mathes Woodland Restoration
Pella

MAY 6

Into the Wild, Out with the Mustard
Heritage Valley, Waukon

MAY 11

Little Sioux Scout Ranch Celebration
Little Sioux

MAY 20

Spring Into Action
Des Moines

JUNE 3

National Trails Day
Pleasant Hill

JUNE 26-29

North American Prairie Conference
Altoona

For more information, and more upcoming events, visit www.inhf.org/events

QUARTERLY PROTECTION REPORT**Newly protected areas****Little Sioux Scout Ranch**

1,776 acres of woodland and prairie in the Loess Hills of Monona County near Little Sioux. Protection of this vast wilderness area preserves a memorial to four boys killed in a 2008 tornado, honors the history of the scout camp and safeguards habitat for numerous plants and wildlife. This project was made possible through the generosity of several major donors and hundreds of other private gifts. (Proposed public ownership)

Boone County

93 acres of oak hickory woodland and prairie in the Des Moines River Valley near Boone. The property is part of a major wildlife corridor, providing benefit to resident and migratory species and protects the family's efforts to restore native habitat. (Conservation easement donated by the Courter Family)

Allamakee County

365 acres of prairie and woodland along the Mississippi River near Lansing. Revered by the family for years and by many generations before them, this preserves an area rich in archaeological resources, provides sanctuary for sensitive species and buffers future development. (Conservation easement donated by Raleigh and JoEllyn Buckmaster)

Floyd County

35 acres of high-quality remnant and reconstructed prairie and woodland near Rockford. Protection of the perennial vegetation positively impacts the Winnebago River watershed and provide food and habitat for pollinators and other wildlife. (Conservation easement donated by Keith and Lisa Emerson)

Wickiup Hill Natural Area Addition

129 acres of woodland and grassland near Cedar Rapids in Linn County. Includes a portion of the Cedar River, offering important habitat and water quality benefits and protects the greenbelt from future development. (Proposed public ownership)

Big Wall Lake Addition

140 acres adjacent to Big Wall Lake near Clarion in Wright County. A high priority for protection of the lake's water quality, future wetland and prairie restoration on this property will provide a needed buffer and habitat for a known population of Blanding's turtles. (Proposed public ownership)

Page County

A 1,243-acre century farm near Shenandoah along the Wabash Trace Nature Trail and the largest land bequest in INHF's history. A strong interest in soil conservation and wildlife preservation led the Boylans to this gift and is evidenced by the habitat and conservation practices applied to the land. (Donated to INHF by Carl and Margie Boylan, owned and managed by INHF) **Read more on page 16**

Lacey-Keosauqua State Park Addition

62 acres of woodland and grassland adjacent to Lacey-Keosauqua State Park in Van Buren County. This property bridges a gap between the state park and Shimek State Forest, providing continuity of habitat and outdoor recreation opportunities, and protects an area likely to be inhabited by federally endangered Indiana bats. (Proposed public ownership)

A look at INHF protection projects and land transferred between **October 2022-January 2023**

Benton County

215 acres northeast of Dysart in Benton County, protected by a conservation easement and destined to build on a teaching laboratory for University of Northern Iowa and local high school students. Following restoration, this property will provide habitat for wildlife and connect students and future generations with the land. (Donated by Cathy Irvine, proposed non-profit ownership)

Union County

155 acres of woodland bisected by Twelve Mile Creek near Afton in Union County. Large white oaks and a restored wetland provide a great diversity of habitats, and its proximity to Union County Conservation's headquarters lends itself to environmental education opportunities. (Donated by Rebecca Kelley, proposed public ownership)

Brown's Lake WMA Addition

One acre of shoreline on Brown's Lake and adjacent to Bigelow Park near Salix in Woodbury County. Its position on the lake and proximity to an existing boat ramp provide opportunity for future outdoor recreation and conservation education. (Proposed public ownership)

Tama County

A two-acre wooded area in the town of Dysart in Tama County. Preserves natural space and habitat within city limits and opportunity for soft trails and other passive recreation opportunities. (Donated by Cathy Irvine, proposed public ownership)

Nahant Marsh Addition

60 acres adjacent to Nahant Marsh Education Center along the Mississippi River in Scott County. Protection and restoration of this property will prevent sediment from entering the marsh and will improve the overall health of the Nahant Marsh system. (Proposed non-profit ownership)

Lyon County

152 acres of remnant pasture along Little Rock Creek in Lyon County. Species like side oats gramma and hoary vervain indicate that native vegetation is present, and a former quarry pond connected to Little Rock Creek provides potential habitat for a known population of federally endangered Topeka Shiners. (Proposed public ownership)

East Fork Access WMA Addition

65 acres of riparian woodland along the East Fork of the Des Moines River near Livermore in Humboldt County. Protection of this property maintains floodplain integrity and gives opportunity for increased flood storage. (Proposed public ownership)

Land transfers to public partners**Mann Wetlands**

Two properties — one 71 acres and one 144 acres — that together form a new public area south of Albion along the Iowa River in Marshall County. Following restoration, the property will positively impact the Iowa Rivers' water quality. (Owned and managed by Marshall County Conservation)

Paul Errington Marsh Addition

37 acres adjacent to existing public land near Ankeny in Polk County. Permanent protection ensures a buffer from development pressure and adds on to a marsh system popular with birders and waterfowlers. (Owned by U.S. Fish and Wildlife Service, managed by Iowa DNR)

Osceola County

114 acres of remnant pasture near Sibley in Osceola County. Adjacent to existing public land, protection of this property's moderate to steep slopes not only provides contiguous prairie habitat but safeguards the water quality of the nearby Ocheyedun River. (Owned and managed by Iowa DNR)

McCarthy Wildlife Area

101 acres near Bernard in Dubuque County destined to offer public outdoor recreation opportunities and wildlife habitat. (Owned and managed by Dubuque County Conservation)

Wickiup Hill Natural Area Addition

129 acres of woodland and grassland near Cedar Rapids in Linn County. Includes a portion of the Cedar River, offering important habitat and water quality benefits and protecting the greenbelt from future development. (Owned and managed by Linn County Conservation)

Neal Smith National Wildlife Refuge Addition

The last 147-acre piece of a 700-acre addition to Neal Smith National Wildlife Refuge near Prairie City in Jasper County. This fills in a key inholding, providing more of the contiguous habitat so critical for grassland birds and other native wildlife. (Owned and managed by U.S. Fish and Wildlife Service)

Riverton WMA Addition

81 acres of mixed habitat near Riverton in Fremont County. Reconstructed prairie, woodlands and wetlands all within the floodplain provide excellent wildlife cover and recreation opportunities. (Owned and managed by Iowa DNR)

Hogsback Marsh

The final 77 acres in a 612-acre property bisected by more than one mile of the Winnebago River in Winnebago County. Protection of these sandy soils through habitat restoration will provide direct water quality benefits to the river. (Owned by U.S. Fish and Wildlife Service, managed by Iowa DNR)

Little Sioux WMA Addition

The final 77 acres in a 425-acre property bisected by the Little Sioux River near Gillet Grove in Clay County. Further restoration of the floodplain will mitigate frequent flooding events and improve water quality. (Owned and managed by Iowa DNR)

Fourmile Creek Greenway Addition

66 acres of woodland and grassland along Fourmile Creek in Pleasant Hill in Polk County. Located entirely within the floodplain, protection of this property will safeguard it from development pressures and provide streambank restoration opportunities. (Owned and managed by Polk County Conservation)

Kirke Woods WMA

240 acres of a 684-acre woodland along the North River in Madison County. The property includes three miles of the North River, and protection and increased restoration will have lasting benefits for water quality. (Owned and managed by Iowa DNR)

Falcon Spring WMA Addition

The remaining 41 acres of a 104-acre property near Decorah in Winneshiek County. Woodland and restored prairie provides additional habitat for the rusty-patched bumble bee, a federally endangered species, and offers excellent outdoor recreation opportunities. (Owned and managed by Iowa DNR)



PRAIRIE *Perspectives*

BY ERICA PLACE
Communications Specialist | eplace@inhf.org

When you hear the words “old-growth forest,” an image likely forms in your mind. Trees larger around than a hug and much taller than a two-story, the bark painted with multicolored lichens. An undisturbed ecosystem, with all its visible and underground connections still intact. A relict existing through pivotal points in history, standing by while the constitution was signed or the first automobile was built. We’re inherently protective of old-growth forests; they feel special. So why, when we’re instead talking about original prairies that have most certainly outlived the trees, do we not also think in terms of old-growth?

A forest is generally deemed “old-growth” if it meets a handful of criteria: it developed over a long period of time safeguarded from substantial disturbance; it has a complex structure and rare or unique plant communities; and it usually has minimal issues with invasive species. These same concepts characterize a prairie remnant.

Twelve to fourteen-thousand years ago, after the last glaciers receded from Iowa, our blank slate of a state began to transform into a grassy ecosystem. The grasses and flowers that took root and the wildlife that grew to depend on them for food and cover persisted for the thousands of years that followed. While many aspects of Iowa prairie changed following Euro-American settlement, what has survived — remnants — are artifacts of this ancient landscape. Looking at a prairie remnant is a bit like stepping back in time. Their structure, composition and relationships are ancient, just as in an old-growth forest.

Some of the individual plants are ancient, too. Well-adapted to minor above-ground disturbance like fire or grazing, the bulk of the prairie lives below the surface of the soil. While many forbs are relatively short-lived, there’s evidence that bunchgrasses have the potential to live for millennia. Blue grama (*Bouteloua gracilis*), mostly found in Iowa in the Loess Hills, can live for 450 years. That’s older than Iowa’s oldest known white oak.

While the individual microbes and organisms themselves lead brief lives, the undisturbed soil structure of a prairie remnant

is a well-oiled machine, and we know that Iowa’s fertile soils are owed to the breakdown of thousands of years’ worth of organic material from prairie vegetation and roots.

In short, the soil is important. Dr. Mahdi Al-Kaisi, professor emeritus at Iowa State University and creator of Iowa Learning Farms, spent his career as a soil scientist. Aside from physical properties like porosity or mineral content, Al-Kaisi explains that the living components — bacteria, fungi, nematodes, etc. — are just as critical to soil health.

“Imagine the microbial community is the engine that drives the car,” Al-Kaisi said. “Without the engine, you lack richness in the soil makeup.”

Microbes are a huge component of how nature cleans water, how nutrients cycle, how carbon is stored. They’re mighty machines! Many of our modern agriculture practices like tillage throw this engine off-balance. Again, just as with old-growth forests, the system is healthiest when void of substantial disturbance.

The prairie’s biodiversity — both above and below ground — brought strength to the landscape, making it resilient to changes and warding off invasive species. Prairie held hundreds of plant species, each appearing in something else’s life cycle as a host or source of food or shelter. The connections between these living things are intricate, and we likely only understand a fraction of the symbiotic relationships fine-tuned over time.

Some of those relationships still exist; bottle and cream gentian (*Gentiana andrewsii* and *Gentiana alba*) rely almost exclusively on bumble bees for pollination, reserving their nectar only for the insects strong enough to open their closed petals. Other pieces of the prairie web of life are on the verge of being lost, like plains pocket gophers or Franklin’s ground squirrels — both critical in cycling nutrients and creating habitat — but now on Iowa’s Species of Greatest Conservation Need list. Or — in the case of bison, wolves or prairie chickens — the pieces are already lost, their absence having a palpable ripple effect. Even our highest quality remnant prairies, the best examples of what Iowa once was, can no longer

Doolittle Prairie

Vibrant colors light up Doolittle Prairie, pictured left, in Story County. The 40-acre pothole prairie comes alive when wildflowers bloom from May to October. The prairie’s beauty makes it a popular spot for hiking and bird watching. It is also one of Iowa’s few remnant prairies. Photo by Thomas J. Scherer



**“Our earth has a fever.
Prairies are the cure.”**

— DR. LISA SCHULTE MOORE

be considered fully intact.

The fragmented nature of what remains is a problem, too. Some species continue to vanish from our state simply because there’s not enough prairie left. A study done by the Cornell Lab of Ornithology in 2019 revealed that North American grassland bird populations have declined 53% since 1970. Henslow’s Sparrows (*Ammodramus henslowii*), once common throughout the Midwest, are one of those grassland bird species in steep decline over the last half-century. Its preferred habitat is at least 250 contiguous acres of moderately tall, dense grassland vegetation with thick litter, free of woody encroachment or the commotion of heavy grazing. In other words, this bird needs large, diverse old-growth prairies.

Over thirty million acres of prairie once covered this state. It is estimated that less than 0.1% of that remains. Most of our old-growth prairies are lost to the ages. What exactly have we sacrificed? Can we put it back?

One study done by Al-Kaisi and his graduate student at the time, Jose Guzman, examined how soil function differed between cultivated sites, prairie reconstructions and prairie remnants. The cultivated site and reconstructions were located within Neal Smith National Wildlife Refuge in Jasper County, and the remnant at nearby Rolling Thunder Prairie in Warren County, both properties INHF helped to protect. Al-Kaisi looked primarily at the differences between stored and sequestered carbon and microbial

biomass between these sites, finding that not only was the remnant holding the most carbon and boasting the highest microbial biomass, but was able to demonstrate through modeling that it may take more than 100 years for a reconstructed prairie to function as well as (or close to) a remnant by those measures.

Even with the best planting and management plan, a good prairie reconstruction still takes time to establish... maybe even more than previously thought. Indicator species, or plants that are sensitive to environmental degradation but are essential to overall biodiversity and health and function of the ecosystem, don’t readily establish even under ideal conditions. An article published in *Frontiers in Ecology and the Environment* explains that “...old-growth grassland communities require many decades, and probably several centuries, to assemble.” And it goes without saying that there are challenges associated with putting large mammals like bison or wolves back on the landscape to help make the picture more complete.

But truly, there’s not a lot of research that articulates exactly what is gone and how hard it would be to replicate it. Remnant grasslands and their soils are understudied and there’s just not the funding to support the needed basic science investigations. Yet, nearly everyone we talk to who holds prairie near and dear has this innate understanding that the remnants are special. They are old-growth. And we’ve got to do what we can to protect what we still have, and do our best to restore or

reconstruct it where we can.

Dr. Lisa Schulte Moore, professor in the Department of Natural Resource Ecology and Management at Iowa State University and a 2021 MacArthur Foundation Fellow, has been studying what prairie reconstructions can do even on a modest scale. She’s the co-founder of the Science-based Trials of Rowcrops Integrated with Prairie Strips (STRIPS) project, which integrates small amounts of prairie in strategic locations in agricultural fields.

“Reconstructed prairies, once established, can help hold soil and nutrients in place, can help cycle carbon and water, and can provide habitat for a broad suite but not all native prairie-adapted species,” Schulte Moore explained.

Her team’s research shows that by converting 10% of a crop-field to diverse, native perennial vegetation, farmers and landowners can reduce sediment movement off their field by 95 percent, and total phosphorous and nitrogen loss through runoff by 77 and 70 percent, respectively. If that little bit of prairie can do that much good, just imagine the impact of a 100-acre chunk here or there.

INHF’s Conservation Programs Coordinator Emily Martin has been helping guide the creation of the Iowa Climate Assessment, an in-depth analysis of Iowa’s past and potential future climate using the best available science. As work continues on this collaborative document slated for completion next year, it’s clear that prairies need to be a part of our long-

range vision.

“Carbon dioxide is 79 percent of the United States’ greenhouse gas emissions, and in 2021 made up 66 percent of Iowa’s,” said Martin. “There are many different approaches we must take across all industries to reduce our emissions to meet our national goal of a 50 percent reduction in carbon emissions by 2030. Restoring our natural ecosystems, especially prairie, has a significant role to play. We can put carbon back into the soil through prairie plants, but to do that, we need to let the land rest. Iowa is in a unique position to show the power of prairie in helping to solve the climate crisis — both by mitigating emissions and lessening impacts, like flooding. Iowa’s soils are what make this state; we need to tend to them now before we lose in the span of 150 years what took thousands of years to build.”

Al-Kaisi echoes the sentiment, citing that “prairie is more effective than trees or row crops in capturing and storing carbon. It is important to think about any opportunity to convert any piece of land [back to prairie]. It’s a good investment. The multiplier is unlimited for climate benefits, wildlife habitat, aesthetic value or any other measure.”

In a matter of 70 years, we disassembled something we can never really replace. But we can get close, and we have to try. For more reasons than nostalgia. “Our earth has a fever,” Schulte Moore said. “Prairies are the cure.” 🌿

A view of a prairie STRIPS planting in Pottawattamie County. Photo by Omar de Kok Mercado/Iowa State University STRIPS Project

North American Prairie Conference

Join the top prairie experts across North America —including Dr. Schulte Moore— and other prairie professionals and enthusiasts for a week-long conference all about prairies. Learn more about the NAPC on page 4.



Land, Water, Wildlife WORKFORCE

BY ANNA GRAY
Public Policy Director | agray@inhf.org

“Help Wanted.” Walking down Iowa’s main streets, you are bound to find at least a few businesses looking to fill open positions. Workforce development has become a paramount challenge facing businesses across the country. With workers having flexibility to choose where to live and work, the quality of life that Iowa can offer is an essential component for helping businesses and rural communities thrive. But how does Iowa stand out as the place that people choose to make their home and build their careers? A study from the Iowa Economic Development Authority (IEDA) sought to answer this question, and the results illustrate the undeniable role that parks and trails play in fostering a high quality of life and ability to attract workforce.

In order to bolster tourism, economic and

community vitality, IEDA commissioned a study to better understand how Iowa is perceived and the factors that motivate individuals to visit and relocate. Time and time again, participants described both their ideal vacation and place to live as having ample outdoor activities and scenery. Research shows that natural landscapes and recreation are two of the top factors that motivate someone to move. Iowa’s lakes, rivers, forests, trails and open spaces fill it with natural beauty and chances for adventure. Yet, the study found that Iowa is not perceived as having the desired recreational amenities. IEDA’s findings underscored the value of our natural resources and identified the untapped potential of our open spaces. As we look to grow and diversify Iowa’s population, we must prioritize quality of life initiatives and leverage the opportunity

available in our parks, trails and wildlife areas. Fortunately, several programs already lay a framework for successfully promoting community vitality.

Fully Fund the Resource Enhancement & Protection Program (REAP)

For over 30 years, REAP has supported more than 15,000 natural resource and community improvement projects across the state. Local parks, hunting areas, historical and cultural landmarks and soil and water conservation practices have all been made possible by REAP, including some of Iowa’s most cherished outdoor spaces. Backbone State Park, for example, has used REAP to maintain its iconic historic structures built in the early twentieth century. Thanks to REAP, Iowa’s first state park continues to draw tens of thousands of visitors to rural Delaware County each year. Newer REAP projects like the ongoing Iowa River’s Edge Trail in Hardin and Marshall Counties will connect communities to other outdoor spaces that REAP has supported over the years, such as Pine Lake State Park in Eldora and the Iowa River Greenbelt.

REAP was created with broad legislative support and signed into law by Governor Branstad. The program has history of strong bipartisan backing and has been extended by the legislature twice. Although it is currently authorized to receive \$20 million in annual funding, REAP funds are regularly diverted, and the program has never been fully funded. Fully funding REAP is a logical first step in investing in our communities and the quality of life they offer.

Increase Funding for the State Recreational Trails Program

Iowa’s State Recreational Trails Program supports the development of trails that connect communities, provide safe transportation and serve as a gateway for exploring Iowa’s towns and businesses. The High Trestle Trail spanning from Ankeny to Woodward has earned national recognition, attracting visitors from around the world. A staple in the Ankeny community, the High

Trestle Trail contributes to the city’s reputation of offering a great quality of life and becoming one of the fastest growing cities in the country. But trails also bring life to Iowa’s smallest towns. In southwest Iowa, the Wabash Trace Nature Trail attracts over a thousand people each week for the Thursday night Taco Ride from Council Bluffs to Mineola. The ride brings people together for recreation, food, music and fun that generates excitement in the surrounding communities and offers riders a chance to discover places that might otherwise go unnoticed.

With the tremendous popularity and demand for trails, requests for funding average five times the amount available, hindering Iowa’s ability to leverage a favorite recreational amenity in workforce attraction. Increasing funding for the State Recreational Trails program is a proven way of supporting communities working to draw in new visitors and residents that can support their local economies.



Once named one of the prettiest rails-to-trails in the United States by Outside Magazine, the Wabash Trace Nature Trail travels through four counties in southwest Iowa. The trail stretches 63 miles along an old railroad corridor, offering a picturesque journey through the scenic Iowa countryside.

Fund the Natural Resources & Outdoor Recreation Trust Fund

The Natural Resources & Outdoor Recreation Trust Fund was created in 2010 when Iowa voters amended the state constitution to create a dedicated fund for improving water quality, enhancing parks, trails, and wildlife areas and conserving agricultural soils. More than a decade later, the Trust Fund remains empty, requiring legislative action for funding and implementation. Polling shows that 70% of Iowans support the legislature taking steps to finally fund the Trust Fund to support programs like REAP, trails, water quality, soil health and quality of life initiatives.



The connection between outdoor recreation and workforce development is simple: if people play somewhere, they might consider living and working there. Encouraging people to visit Iowa and see what it can offer is an important first step in attracting new residents. Funding existing programs to provide sustainable, dependable resources to improve community vitality and quality of life is next. 🌿

These three perspectives demonstrate the role that parks and trails play in attracting and retaining Iowa citizens. A business owner shares her thoughts on how open spaces and recreation support her workforce recruitment efforts, a community leader who left Colorado shares what he has come to love as an Iowa transplant, and a small-town tourism professional shares what it was like to grow up in rural Iowa, move to one of the largest cities in the country and return to support her hometown.



THE BUSINESS OWNER

Lori Schaefer-Weaton, Fairfield

Founded by Dick Smith in 1978, Agri-Industrial Plastics Co. specializes in the production of fuel tank systems for non-automotive industries and parts for a variety of other products. Our ability to grow and to service our customers is all about hiring, developing and retaining the right people who want to be part of our company for the long run. **In rural Iowa, workforce availability is limited, and more than ever, people are looking for more than just a job.** They want to feel connected to their company and to the community. In Fairfield, we are lucky to have an Arts and Convention Center, a Parks and Recreation Facility and a beautiful trail system around our community. We also have parks that give families access to a wide variety of outdoor activities. **These amenities make it easier to attract and retain employees.**



THE TRANSPLANT

Eric Obergfell, Johnston

Originally from Indiana, I spent time in county and state parks and enjoyed hiking, canoeing or simply picnicking at a nature center or playground. I have always enjoyed being in nature and in 2007 I was able to achieve my dream to move to Denver. My recreation time was marked by countless hikes, summiting 18 of Colorado's 14,000+ ft peaks (known as 14ers to the locals), regular camping trips, a few whitewater rafting trips, several concerts at Red Rocks, and winter weekends spent skiing. When family and friends contacted me, I described my life as living the dream. And I truly was. I loved my work, was enjoying everything Colorado had to offer, and was building friendships, often with other Midwesterners that had left their home states.

I thought I'd never consider leaving Colorado where my wife and I started our family. But for a variety of reasons, deep down in my gut, the Midwest began to call me home.

Since settling in Johnston, our family has enjoyed visits to many of Iowa's state parks. No, it's not the Rocky Mountains, but **there is natural beauty right here in Iowa. We just need to help more people recognize it and continue to add to and preserve the natural treasures, destinations and attractions we have.**



THE BOOMERANG

Delaney Evers, Centerville

Growing up in a rural community, I always dreamed of a life in a big city outside of my comfort blanket of Iowa—and at age 19, I set out for Los Angeles to attend school. For five years, I thrived on the city's energy, marveled at the natural beauty of the ocean and beaches and soaked up the California sun. Yet, I found myself longing for the close ties of a small town and room to breathe. Now, I am proud to call myself an Iowan once again and serve as the Tourism and Main Street Director for Promoting Appanoose County Together (PACT), working to promote, preserve and develop the community assets of my hometown. **Our parks, trails and hunting areas are essential to helping attract visitors, providing safe routes to school and keeping rural Iowa vibrant to help meet the needs of our local citizens and businesses.** Moving back home, I have come to appreciate the value of our open spaces. As we look to grow our community, and encourage others like me to move back to Iowa, there is tremendous opportunity for enhancing, connecting and growing our outdoor amenities.

Sky's the limit

Boylan family's gift protects a special landscape and strengthens INHF

BY ABBY HADE TERPSTRA
Director of Philanthropy | aterpstra@inhf.org



On September 25, 1881, Louis Fischer purchased 160 acres of land in the Grant township of Page County just east of Shenandoah for \$33. Over the subsequent years, the farm passed down to his son, John; his grandson, Carl; and to his great-granddaughter, Dorothy Fischer Boylan. At the Iowa State Fair in 1981, Dorothy and her family — husband Don and children Betty Boylan Miller, Donna Boylan Stewart, and Carl Boylan — were presented with century farm designation.

Carl Boylan met Margie Keller while they were both at Iowa State University and they wed in 1984. They enjoyed traveling together, loved their dogs, and ran Boylan Farms as a conscientious and conservation-minded operation, especially when it came to protecting soil health and promoting habitat for wildlife.

Margie, in addition, worked for 32 years at the Shenandoah Medical Center as a registered nurse, in the oncology department, and as Chief Operating Officer. She served on the board of the Shenandoah Public Library and was instrumental in securing funding to build the new library addition. Margie was a well-respected advocate of access for all people to the things she loved including reading, healthy food, and nature.

“She was a brilliant and kind-hearted woman who was a source of strength and inspiration for our entire extended family and the community of Shenandoah,” said Angie Schmidt, niece-in-law of Carl and Margie.

“Margie was a caregiver. She was principled and articulate and a teacher at heart. She was a mentor to many,” said Laurie McGargill. Laurie and George McGargill were longtime family friends of the Boylans. “She and Carl were the poster children for moderation. They had no bad habits.”

“They were just the kindest, most gracious, most intelligent — and most humble — people. The best kind of people they could possibly be,” adds George.

You could often find Carl driving with a dog in his truck, carefully maintaining his John Deere equipment, or joyfully hosting family and friends. His commitment to land conservation is evidenced through the grassed waterways, carefully placed terraces, wide field borders and



Family and friends fondly remember Carl and Margie Boylan and weren't surprised to hear that they left their historic farm to INHF based on their generosity and conservation priorities. Left, you can see terracing on one of their fields. *The historic photos on page 16 and the left photo were provided by family members Chris Miller and Angela Schmidt.*

help," he adds. "They helped me get my farming operation started as a young farmer, and I will be forever grateful to them."

In 2001 Boylan Farms was incorporated and now sits at 1,243 acres with two homesteads. One hundred acres of that are enrolled in the Conservation Reserve Program (CRP), and that grassland provides quality habitat for small mammals and nesting birds. The hayfield behind the east homestead is home to many birds including Dickcissels and Bobolinks, bird Species of Greatest Conservation Need.

One mile of the gravel Wabash Trace Nature Trail curves along the property's wooded south border. The adjacent woodland consists mostly of walnuts, cottonwoods and maples and provides excellent habitat for white-tailed deer, Baltimore Orioles, Wild Turkeys, and Rose-breasted Grosbeaks. A small creek parallels the trail and provides habitat for mink, raccoon, and muskrat.

"Not only were they great stewards of their land, they were great neighbors for the Wabash Trace to have," said Rebecca Castle Laughlin, former president and current board member of Southwest Iowa Nature Trails Project. "I was fortunate to know Carl and Margie through mutual friends. They were the type of people you were always happy to get the chance to visit with. Upon hearing that they had left their land to the Iowa Natural Heritage Foundation, I can't say that I was shocked, because it fit with their character. What I knew about their practices made it a natural fit that they would want to see their legacy perpetuated in this manner."

The fundraising campaign for the Wabash Trace was how Carl and Margie were introduced to Iowa Natural Heritage Foundation, and the gift they gave in 1990 was the only time they had contributed financially to INHF, until now.

Margie passed in October of 2019 and Carl passed in April of 2021. In leaving the farm to INHF, Carl and Margie laid out their wishes clearly for the land to not be sold and for profits from the lease of the land to be used as a reserve for the farm, to support INHF's mission statewide, and to aid Shenandoah-area animal shelters. While it may take several years to

begin bearing the fruit the Boylans imagined, there is no doubt that the lasting impact of this gift is tremendous.

"It didn't surprise me at all (that they left their farm to a non-profit)," said neighbor and family friend Bruce Ketcham, "and that says something about them. They looked out for the betterment of the country, the world, the people around them. They were the best people."

"The care, time, energy and more that have gone into creating Boylan Farms is a marvelous legacy," said Cheri Grauer, retired INHF Donor Relations Director and one of the INHF staff that worked with Carl and Margie while they were crafting their legacy plans. "Carl always referred to the farm as 'a work in progress' and I am sure INHF will continue to hold that view."

Chris Miller, nephew of Carl and Margie, said "They were that strong, quiet type, never really calling attention to themselves, but there to help everyone, and support the community. The gift to the INHF is just another example of their support. They saw the farm as an everlasting place that would produce a bountiful crop for generations, so they gifted the property to an organization that will protect its agricultural productivity, and continue to embrace its natural landscapes, and use the proceeds from farming to expand their vision across Iowa and time."

"This farm has a different twist. Agriculture and conservation can't be separated here," said Kody Wohlers, INHF's Loess Hills Land Stewardship Director. "A gift like this is a game changer. The best thing we can do is keep true to our mission, since that is what compelled the Boylans to make their decision."

INHF has been spending the last year while the estate was in probate learning about the farm, meeting with the current tenants, and noting the healthy farming measures that are in place. The long-term ownership of Boylan Farms will allow us to build on the conservation practices that the Boylans modeled and extolled. While we may never be able to fill the big, meticulous boots Carl and Margie left behind, we will strive to be a neighbor that the community of Shenandoah can be proud of in our care of the land. 🌱

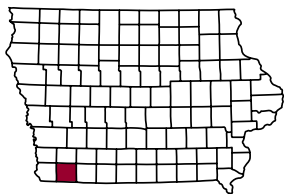
"A gift like this is a game changer. The best thing we can do is keep true to our mission, since that is what compelled the Boylans to make their decision."

– KODY WOHLERS, LOESS HILLS LAND STEWARDSHIP DIRECTOR



Carl and Margie Boylan used conservation practices throughout their farm, as seen in the field above planted into a CRP mix. *Photo by Ross Baxter, INHF. Photos of Carl and Margie provided by Chris Miller and Angela Schmidt.*

Boylan Farms
Page County



LAND: 1,243 acres of agricultural land, including 106 acres in CRP and 34 acres in walnut and maple woodland

SPECIAL FEATURES: A century farm stewarded with conservation practices, protecting soil health and promoting habitat for wildlife

no-till practices found on the farm. Carl and his father, Don Boylan, put in some of the first terraces in Page county. Always learning, the evolution of water control features can be seen across the farm.

Michael Johnson, who farmed some of the Boylan land and continues to do so under INHF's ownership, shared, "When Carl and Margie first asked me if I would be interested in farming some of their ground, I told them to make sure they told me the names they used for each of their fields. I wanted to make sure I referred to their fields the same way they did from the start to avoid confusion. I soon had an entirely different perspective on what this farm meant to them. One of the first fields Carl pointed out he called "south of the railroad." While I could see where the railroad had once been, it had been closed in 1938, before Carl had even been born. We then drove by what he called the "cherry tree" which Margie quickly pointed out that in 30 years she had never seen a cherry tree there, but that was how Carl's dad referred to the field. What started out as me wanting to know which fields were which turned into me wanting to carry on the legacy and tradition that had been put in place over the last hundred years. Carl and Margie always wanted to do what was best for the land, not because they had to but because they knew it was there before them and would continue on after them, and that is something for which I continue to strive."

"They were always more than happy to

A MILESTONE IN MAKING CHANGE

BY JOE JAYJACK
Communications Director | jjayjack@inhf.org



Anniversary Events

To celebrate the 10-year anniversary of the volunteer program, there will be events across the state each season. You won't want to miss out on these fun opportunities with special swag to show off your support for the INHF Volunteer Program.

March 23
Winter Workday in Plymouth County
Sioux City

May 6
Into the Wild, Out with the Mustard
Waukon

June 3
National Trails Day
Pleasant Hill

October 5
Kahler Prairie Seed Harvest
Iowa City

For more information, visit inhf.org/events

Iowa Natural Heritage Foundation has been made stronger by volunteers since the organization was founded in 1979. Board members that volunteer their time and expertise to help direct and carry out INHF's mission. Volunteers in the office that help to keep us organized and running smoothly. And, of course, volunteers on the land — those that hack at honeysuckle, pick prairie seed and tidy up trails.

They have all been integral to helping INHF protect and restore Iowa's land, water and wildlife. But for years, volunteer opportunities were sporadic, and INHF supporters were asking for ways they could do more. INHF also wanted a way to meet new people eager to give time and talent to conservation, regardless of whether they could provide financial support.

One gift created a sea change in how INHF could engage with volunteers and accomplish more together. Geitel Winakor's bequest (read more about her gift on page 22) allowed INHF to hire its first volunteer coordinator, Mary Runkel, in 2013. INHF's choice to use part of Dr. Winakor's unrestricted gift to launch a volunteer program continues to bring innovation and many new faces to our work.

Melanie Schmidt has been in the volunteer coordinator role since 2017, helping new volunteers find their niche and organizing events where volunteers can help care for land. And it is amazing to see how the program has grown since that first year, when we held 7 organized events.

In 2022, INHF held 40 volunteer events across the state, engaging 904 volunteers that put in more than 2,700 hours of work.

"I am always blown away by how much a group of committed, dedicated and passionate volunteers can accomplish together. It never

feels like work and it's the best part of my job when I get to get my hands dirty right alongside folks who care deeply about Iowa's land, water and wildlife," Schmidt said.

Beyond connecting people with nature and accomplishing more land stewardship, INHF has expanded how it can work with volunteers to raise its capacity everywhere. In 2018, INHF was certified as a Service Enterprise by Points of Light, which recognizes nonprofits committed to effectively delivering on their missions by strategically engaging volunteer time and talent. INHF has benefited from volunteers in advocacy, communications and trail-mapping, to name a few areas, and is always analyzing how best to raise its capacity while creating meaningful experiences for volunteers.

The organization has also trained and trusted volunteers to work on INHF properties on their own time through its Land Ambassador program. In 2022, INHF had 25 Land Ambassadors caring for 10 properties, helping staff give the land in these special places the care it deserves.

"The volunteer program shows INHF's values at work. People choose to volunteer with INHF because they feel it worthy of their free time," said Conservation Programs Coordinator Emily Martin. "I so appreciate the work volunteers do. But even more, I enjoy connecting with people in a way that is meaningful for both of us."

With the recent addition of land stewardship directors in the Loess Hills and eastern Iowa, INHF has been able to hold more volunteer events and engage more people in our work. This year, INHF plans to hold more than 40 events across the state, working on woodlands, prairies and trails that benefit Iowa's wildlife and people. 🌿

2013 Tree Planting

80 volunteers, alongside INHF staff, planted 900 tree saplings along the Raccoon River near Booneville.



2016 Seed Harvest

With help from many volunteers, over 100 different species and 75 pounds of prairie seed was collected.



2018 National Trails Day

Each year, INHF partners with Polk County Conservation to lead a workday to build, maintain and advocate for trails in Iowa.



2022 Kothenbeutel Workday

Two volunteer Land Ambassadors lead regular workdays at Kothenbeutel Prairie, often to remove invasive species. Find 2023 events at inhf.org/events.

See the Volunteer Program grow!

2013

Geitel Winakor's gift enables the creation of the INHF volunteer program and the first volunteer coordinator, Mary Runkel, joins the staff.

In April, the first official volunteer event is held with ISU graduate students in Boone

885 volunteer hours in 2013

2015

First Moonlight Seed Harvest with Polk County Conservation

2016

Land Ambassador Program established

2017

Melanie Schmidt takes over as volunteer coordinator

2018

INHF recognized as a Service Enterprise

2019

40 Years of INHF

2021

2,900+ volunteer hours recorded, the most of any year

Melanie Schmidt receives Certificate in Volunteer Administration

2022

Volunteers begin collecting data on bat populations

Reach 20,000 total volunteer hours

2023

INHF Volunteer Program turns 10!

A LONG-LASTING LEGACY: GEITEL WINAKOR

Born in 1929, Geitel Winakor was an academic and professor in the fields of textiles, clothing, and home economics. She was an author, collector, crafter of jewelry, watercolor painter, and weaver. From 1960 to 1992, Dr. Winakor taught at Iowa State University in the Department of Textiles and Clothing. She enjoyed watching birds, taking long walks outdoors and was drawn to INHF's protection of wildlife and wildlife habitat. When she passed away in 2011 she left a third of her estate to INHF without restriction.

Over the years and through visits and phone calls, INHF staff enjoyed Dr. Winakor's lively and inquisitive mind. She was always curious about what new initiatives were underway, and supported a variety of public land protection projects around the state as well as promoting private conservation by donating to the conservation easement program. Often she chose to put her annual giving toward general support.

Upon receipt of the final disbursements from her estate in 2013, the INHF board of directors discussed how to make best use of Dr. Winakor's legacy gift to build conservation capacity in Iowa. One way was by hiring a volunteer coordinator to formalize and bolster volunteer efforts. But Dr. Winakor's impact didn't stop there. A portion of her bequest went toward a number of short term needs like

land protection projects, growing the youth internship program, helping develop the original Iowa By Trail app, and elevating INHF's policy work regarding IWILL. Still today, her generosity continues to provide support to the conservation easement program as a source of legal defense and monitoring funds, and lifts INHF as a whole through being invested in INHF's endowment. The annual earnings from this investment are used where they are needed most, year to year, giving INHF stability and the capability to do more for land, water and wildlife.

It is an act of supreme trust to give without restriction, leaving the decision of how to best make use of your legacy up to future staff and board members that you may have never met. We find ourselves in this position now, nearly ten years after receiving Dr. Winakor's impactful final gift. The staff she knew best have since retired, but the commitment to INHF's mission and donors stays strong. And will continue on, for years to come.

Leave a legacy for future generations: If you would like to discuss how best to create a legacy with your giving, please contact Abby Hade Terpstra, Director of Philanthropy, or Stacie Couvillon, Planned Giving and Major Gifts Officer, at 515-288-1846.



Photo by Larry Reis

Spring Peeping

BY SYDNEY ALGREEN-HUNTER
Communications Assistant | shunter@inhf.org

Each spring, amphibians head to shallow water bodies to mate. Some years when conditions are just right, American toads will descend in mass quantities to nearby wetlands and ponds all at the same time. Before you see the water, your ears are filled with their constant trill — a drumroll welcoming the warmer weather, longer days and the toadlets to come.

From the golden eyes of toads to the tropical-looking tadpoles of tree frogs, there is so much to discover when it comes to Iowa's amphibians and spring is the best time to do it! You need few supplies or preparation and are highly likely to find several species at the same time.

Amphibians are often the canary in the coal mine for the health of our ecosystems. They have moist, permeable skin through which they can breathe and drink. This permeability also makes them highly sensitive to chemicals and other environmental factors, and in part explains amphibians' worldwide decline.

The Iowa DNR has been collecting data on toads and frogs for over 30 years, enlisting volunteers to survey

the number and species of frogs and toads they encounter at specified locations. This community science is a significant tool in assessing the health of amphibians and their environments. Visit the DNR's website or contact vwmp@dnr.iowa.gov to learn more.

Here are a few tips to help as you search for amphibians this spring and summer:

- Most amphibians are nocturnal or crepuscular so evenings are often the best time to search.
- An aquatic net and flashlight can be helpful in catching them.
- Most Iowa species prefer a semi-permanent but shallow body of water for reproduction.
- Many county conservation departments offer public events focused on frogs and toads. Visit mycountyparks.com to find an event near you.

TRIBUTE GIFTS

IN HONOR OF

Mark Ackelson
Roy Adolphson
Brady Belcher
Don Beneke
Kevin Cahill
Lowell Carlson
Mary Crawford
Olivia Crew
Phillip Cummins
Mark Edwards
Zimmerman Family
Erinn Fry
Liz Garst
J. C. Van Ginkel
Chris Hall
Neil D Hamilton
Michael, Amy, and Max Havlik
Lisa Hein
David John Heine
Alysia Hess
Patti & Bob Jester
Sandy Ker & Kacy Kamphoff
William C, Andrew W, and Robert C Kellner, Eagle Scouts

Jim and Laurie Klosterboer
Glenn and Russ Leggett
Nathan & Jamie Lein
Joe McGovern
Mountain's Top GOAT
Mountain's Top Woody Sage
Frank Olsen
Richard and Carolyn Ramsey
Steve Reisetter
Rod Richmond
Audrey Van Roedel
Carol Gustine Rogers
Donald Rowen
Pat Ryan
Earl and Isabelle Salterberg
Tylar Samuels
Eagle Scouts Joshua and Wesley Schulz of Omaha troop 331
Ruth Heckman and Barb Stone
Kristin Davis and Ken Taylor
Ann Werner
Rick Young
Cole and Sean Zimmerman

IN MEMORY OF

John and Barbara Bergren
Sylvester G Blank
Syl and Emma Jean Blank
James Bodensteiner
Tony C Clark
Mary Cowguill
Germaine Deutmeyer
David Erbes
Jennifer Erbes
Steve Erusha
Paul G and Elnora M Farnsworth
Greg Fay
Walt Githens
Natalie Grover
Barbara Gwiasda
Traverse and Roberta Hall
Terry Handley
Elsa "Muffy" Harmon
Fred Ho
Diana Horton
Gerald Houts
Theodore M Hutchison
Helen & Irv Jarkovsky
Sherry Jensen
Paul Johnson

Robert Allen Hagins Jr.
Kirby
Elwood Kleese
Chuck Klohs
George Knapp
Amy Knapp
Betty Knudson
Tom Link
LaVon Lohmann
Susan Connell-Magee
Bernard Marek
Dan Monat
Max Mugge
Thomas Murphy
David Neuhaus
Peggy Hielt and Kaye Ockeman
Helen I and Vernon T Olson
Oscar and Beverly Omundson
Sandra Ostwinkle
Persis Pooley
Tom Potts
Ken and Claudia Price
James Redmond
Sandra L. (Williams)

Reisinger
Gerald Rockou
James Rotter
Sister Mary K. Doughan. RSM
Annette Ruedenberg
Dick Sempel
Walt & Jane Saur
Jill Schreiber
Ronald Schwitzer
Tom Sentman
Sharon Smedal
Neal and Bea Smith
Harold Steinfeldt
Ray and Nancy Stockdale
John Strain
Bob Studer
John R. Taylor
Vern Terlouw
Harriet Thomas
Mike Trettin
Dr. Russell H Watt
Dennis Robert Weaver
Delores Werling
Jeffrey Ross Westercamp
Wilbur Wilson

Species	Distinguishing Features	Habitat	Size	Song ID
American toad <i>(Anaxyrus americanus)</i>	Brown to gray, warty back, dry, short and squatty	Breeds in shallow water; summers in forests, grasslands, gardens	2-3.5 inches	Long, high-pitched, trill; April - mid-June
Boreal chorus frog <i>(Pseudacris maculata)</i>	Usually tan with 3 black stripes, 1 stripe through eye	Breeds in shallow water; summers in forest edge/ grasslands	.25 - 1.5 inches	Finger running down comb; Late February - May
American bullfrog <i>(Lithobates catesbeianus)</i>	Green with no ridges on back	Lives/breeds in permanent water bodies	3.5 - 8 inches	Rrr-uum or jug-o-rum sound; mid-May - July
Cope's/Gray treefrog <i>(Hyla chrysoscelis & H. versicolor)</i>	Large toe pads, underside of hind legs yellow	Breeds in shallow and temporary water bodies; summer in forest, grasslands, urban areas	1.25 - 2 inches	Short musical trill; April - June *only distinguishable by call
Blanchard's cricket frog <i>(Acris blanchardi)</i>	Bumpy back, dark triangle between eyes, sometimes green/rust color on center of back	Permanent water bodies with low or no water flow	.625 - 1.5 inches	Two marbles knocked together; April - mid-July
Northern leopard frog <i>(Lithobates pipiens)</i>	Green or brown with dark spots	All water types and sometimes found in grasses or woodlands	2 - 3.5 inches	Low pitched snore ending with chuckling noise; mid-March - mid-June
Spring peeper <i>(Pseudacris crucifer)</i>	Tan with darker X mark on back	Breeds in temporary wetlands; summers in forested areas	.75 - 1.25 inches	Short, loud, high-pitched peep; late-February - May



Iowa
Natural Heritage
Foundation

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Des Moines, IA 50309



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The white spots on a fawn's back are actually a defense mechanism. The dots mimic sunlight filtering through leaves, helping the young animal blend in and remain hidden from predators. *Photo by Ty Smedes*

