

MARCH / APRIL 2016

IOWA OUTDOORS

THE DNR'S MAGAZINE OF CONSERVATION AND RECREATION

IN THIS ISSUE:

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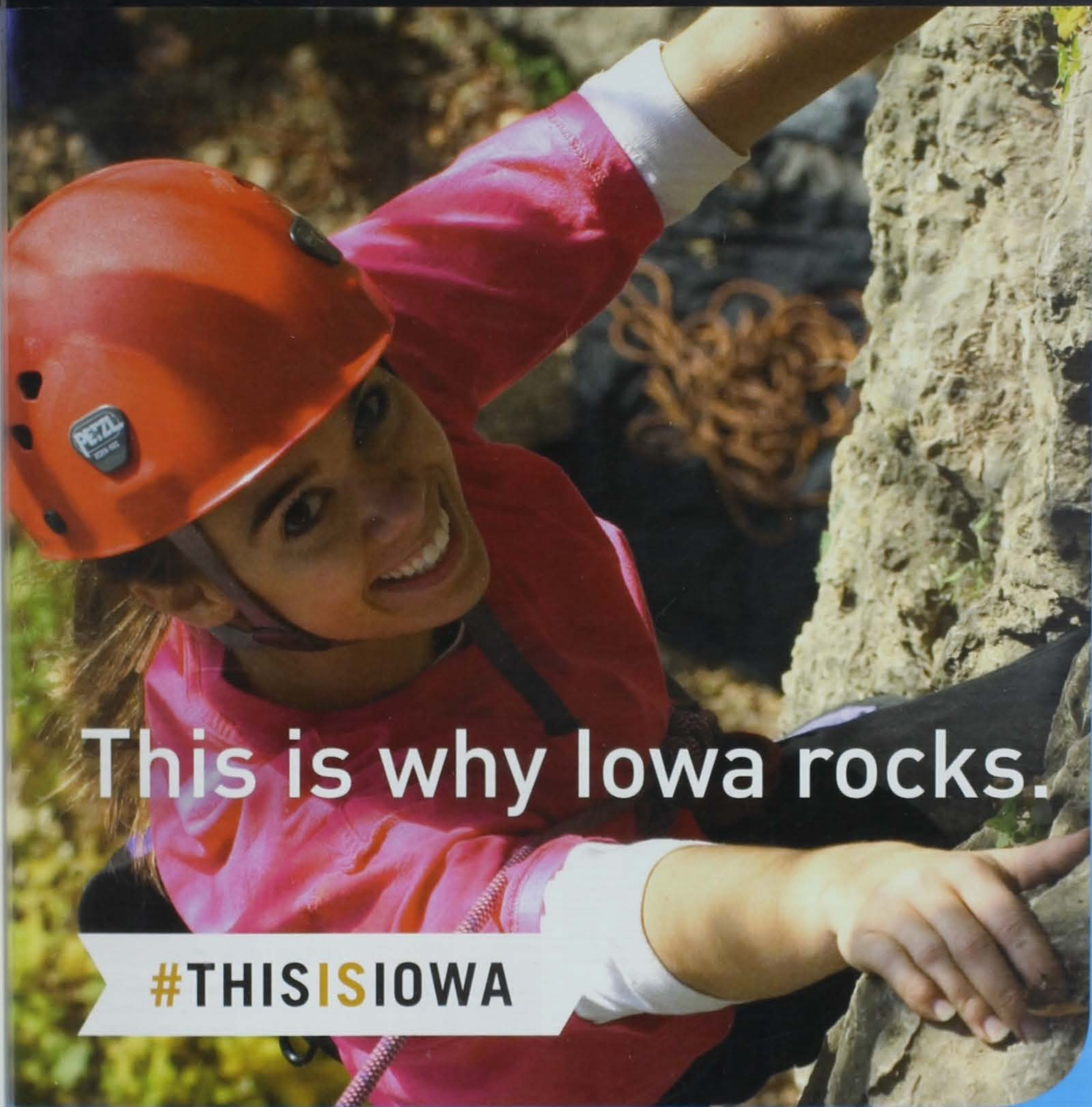
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ABOUT THE COVER

Cold waters gurgle through Mossy Glen State Preserve six miles northeast of Edgewood in Clayton County. The 80-acre preserve features prominent lines of dolomite bluffs with sinkholes, springs and caves. Bloodroot, spring beauty, squirrel corn and white trout lily begin blooming in April, followed by wild ginger, false rue anemone, Dutchman's breeches, bishop's cap, blue cohosh, toothwort, wild geranium, jack-in-the-pulpit, nodding trillium, bellwort and showy orchids. Twelve species of fern and 60 bird species also reside within its rocky outcrops and forests of red oak, sugar maple, ironwood and Canada yew.

PHOTO BY BRIAN GIBBS

ABOUT THIS PHOTO

Americorps photographer **BEN CURTIS** captured this image of Green Valley State Park, which features a restored 390-acre lake. Other lakes, Three Mile and 12 Mile, are located within a few minutes drive, making Union County one of Iowa's hottest fishing locations. Make cabin and campground reservations for a family-fishing getaway to Green Valley at lowadnr.gov or 1-877-427-2757.

Contributors



BRIAN GIBBS, Clayton County naturalist, has been addicted to wild places ever since his father first took him trout fishing in Yellow River State Forest. His passion for teaching others about enjoying and conserving the beauty of this planet has led him to work in such scenic places as Glacier National Park. When not teaching, Gibbs is exploring the natural beauty hidden amongst the bluffs and valleys of northeast Iowa.



JEN WILSON is a travel and features writer based in Des Moines. Her work appears in *National Geographic Traveler*, *Frommer's Budget Travel*, *Midwest Living* and *Esquire*. Find her book, *Running Away to Home*, at www.jennifer-wilson.com.

IOWA OUTDOORS

MARCH / APRIL 2015 • VOLUME 74 • ISSUE 2

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 Jacob Zweibohmer - **ART DIRECTOR**
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Bill Ehm - **ENVIRONMENTAL SERVICES** • Kelley Myers - **CONSERVATION AND RECREATION**

DNR Central Office, 515.725.8200 • TTY users contact Relay Iowa, 800.735.2942

Iowa Outdoors (ISSN 0021-0471) is published bimonthly by the Department of Natural Resources, 502 E. 9th St., Des Moines, IA 50319. Periodicals postage paid Des Moines, IA. **SUBSCRIPTION RATES: \$15 FOR ONE YEAR, \$24 FOR TWO YEARS AND \$30 FOR THREE YEARS. PRICES SUBJECT TO CHANGE WITHOUT NOTICE. Include mailing label for renewals and address changes. POSTMASTER: Send changes to *Iowa Outdoors*, P.O. Box 37831, Boone, IA 50037-0831.**

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To conserve and enhance our natural resources in cooperation with individuals and organizations to improve the quality of life for Iowans and ensure a legacy for future generations.

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We strive to open the door to the beauty and uniqueness of Iowa's natural resources, inspire people to get outside and experience Iowa and to motivate outdoor-minded citizens to understand and care for our natural resources.

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Myth Busters

BY SHELENE CODNER

WOOD SPLITS EASIER WHEN IT IS FROZEN?

Considering Iowa has 2.1 million acres of woodlands, representing 5.7 percent of the state's total land area, wood is a valuable resource. Aside from providing needed habitat for wildlife, wood is harvested to heat homes during cold months. And that requires splitting.

Recently a seed has been planted that leaves some readers stumped and pining for an answer regarding if it is easier to split wood when frozen. To see if we are barking up the wrong tree, we branched out to forestry experts, including Iowa State University Extension and Doug Stokke,

with Iowa State University departments of Forestry and Natural Resources.

According to Stokke, choosing to split wood when it is frozen or thawed is a matter of personal preference. He states some prefer to split when frozen because wood is more brittle and allows a smoother split and they might consider this "easier." Others intolerant for winter conditions may prefer to split during warmer months when the wood is not as brittle as this may be the "easier" option for them.

Regardless, the season of choice for wood splitting does not impact its heat value. Its moisture content determines how productive it is as a fuel. Dry wood has a higher heat output as less heat energy is transferred converting moisture to steam. For maximum heat, the optimum moisture content should be below

20 percent. According to ISU Extension, regardless of when you split live wood, it should be air dried for a year or more before burned. They recommend splitting green wood versus dry wood. The exception is for downed or dead trees, in which the drying process has already started. Also, the ease of splitting and available heat varies by species. Find a listing of heat value by species and a chart identifying ease of splitting by species at Iowa State University Extension's forestry website at <http://www.extension.iastate.edu/forestry/>.

Ask THE Expert

What's the difference between a WMA and a WPA?

THEY MAY LOOK THE SAME, but across the state, Wildlife Management Areas and Waterfowl Production Areas can be vastly different.

WMAs provide habitat for native and migratory wildlife species and are managed to establish and restore habitat to ensure a safe place to breed, rest and feed. While often managed for a variety of wildlife species, habitat and food plot emphasis can be placed on specific animals, like sunflowers for doves or grasslands and corn for pheasants. WMA lands are state-owned and purchased through hunting and fishing license sales and federal excise tax revenue on certain outdoor recreation equipment. The DNR Wildlife Bureau manages more than 356,000 acres of WMA land.

Waterfowl Production Areas are designed to provide wetlands for breeding, uplands for nesting and water for raising broods for migratory waterfowl. WPA managers often control water levels to mimic natural wet and dry cycles, promoting aquatic vegetation growth for food and habitat and cleaner water. Because marshes act as filters, WPAs also reduce erosion

and flooding and clean and protect downstream water sources. An example is Jemmerson Slough in Dickinson County, where restoration substantially improved water quality, which flows from the 932-acre slough downstream to the Center Lake Complex and eventually, West Lake Okoboji. As more WPAs are restored, the eye to water quality is a key component.

Iowa has 75 WPAs totaling more than 25,000 acres, acquired through the Federal Duck Stamp program. While lands are federally-owned, they are state-managed. Because Iowa is on the southern end of the Prairie Pothole Region, Iowa WPAs are the first suitable habitat encountered by waterfowl on their trek northward each spring.

WMAs and WPAs are often part of much larger complexes, sometimes involving federal, state, local and private lands. Both support wildlife-dependant recreational activities, like hunting and wildlife viewing, but portions may be designated refuges and restrictions adopted on uses that interfere with management objectives. While all WPAs require use of nontoxic shot and forbid target shooting, not all WMAs do. Because WPAs target waterfowl, they may have more restrictions on habitat development and land uses than WMAs.



BY BRIAN BUTTON

TIPS, TRICKS AND MUST-KNOWS TO ENHANCE YOUR OUTDOOR FUN

Squirrel Corn OR Dutchman's?

The leaves are similar and from a distance the flowers look somewhat alike. How does a wildflower newbie determine these two spring wildflowers apart? "Squirrel corn flowers are more heart-shaped," says DNR botanist Mark Leoshke. "And squirrel corn is less common," he adds. The Dutchman's breeches flower definitely looks more like a pair of pants, albeit stiffly starched and hanging upside down.

DUTCHMAN'S
BREECHES

SQUIRREL
CORN

Wildflower Pics Without the Mud

Spring ground is often wet from snowmelt and the earliest blooming flowers are low to the ground. Get down but not dirty for close-up shots by packing a trashbag in your camera gear. Lightweight and cheap, you'll stay clean and dry when kneeling or laying down on it for photos. On your way out of the woods, use it to remove any trash you find.

Follow the Dead FOR Early Catfishing

Fish will bite in March. Some of the easiest—and best—fishing all year is for channel catfish right after ice out.

"If I could ever guarantee anytime people can catch fish, that would be the time to do it," says Lannie Miller, retired DNR fisheries biologist.

Catfish are gorging on fish that died during winter. As ice goes out, dead fish are blown to shore, with hungry catfish in tow. Use dead fish—shad, bluegill or chub—and fish in 5 feet of water or less in bays where wind is blowing in.

THE Not-So-Secret Sex Lives OF Conifers

Impress your hiking buddies—tell them the sex of conifer cones. Conifers (Latin for cone-bearers) produce both seeds and pollen on the same tree in cones. There are male and female cones. Male cones produce pollen and fall to the ground after the pollen blows away. Female cones hold on the branch and can remain several years. Junipers however, have male and female cones on separate trees.

ACTIVITIES, TIPS AND EVENTS FOR THE WHOLE FAMILY

GET PAID FOR Sprucing Up Your Land

A new program funds and manages private land improvements in exchange for public hunting access



Imagine highly erodible hillsides with borderline crop profitability, or areas along waterways turned into waves of native grasses and brightly colored wildflowers bursting with sweet sounds of meadowlarks, bobwhite quail, Henslow's sparrows and pheasant calls. Envision acres of worn-out woodlands cleared of invasive species, improved with native tree and shrub seedlings that teem with turkey talk, squirrel chatters and cooing doves.

The DNR's Iowa Habitat and Access Program offers more than just better-looking landscapes. Native plants hold soil, keep surface waters clean, improve lands with deep roots that loosen subsoil to store water during heavy rain and add organic matter. Plus, native plants, shrubs and trees are ready-made for our tough weather.

Public benefits abound: nurturing Iowa's hunting tradition and improving wildlife diversity and survival with winter food and shelter. Not only is scenic value added, so are economic opportunities for rural communities that provide services and products to support hunting and wildlife watching.

Up to 146 landowners with at least 40 acres of CRP land, wildlife habitat or potential habitat may enroll in the program that covers costs to improve or establish wildlife habitat. Retired and absentee landowners, families who have inherited rural land and others with land of borderline farmland value are most likely to benefit by this program that opens that land to the public for walk-in hunting.

COMPENSATION BENEFITS: Payments cover cost to improve, restore or establish wildlife habitat. DNR wildlife experts will plan the work, pay for supplies and seed and manage and pay contractors to do work at no cost to landowners. Land enrolled in federal conservation cost-share programs can have their share paid by IHAP funding, as well as costs to improve land as wildlife habitat.

To start, contact your local private lands wildlife biologist to determine the habitat quality on eligible lands and develop an improvement plan. Landowners choose to make the agreement last three to 10 years. Biologists will submit the application and plan to the DNR IHAP review committee.

If approved, an agreement will allow the DNR to post the IHAP property for walk-in hunting from Sept. 1 to May 31. Iowa hunting seasons and rules will be enforced on IHAP properties by DNR conservation officers.

Landowners have limited liability for hunters on IHAP properties, with the liability protection law created specifically to encourage public access on private lands without worry of lawsuits. The terms of the law are construed liberally and broadly in favor of IHAP enrollees.

To learn more visit www.iowadnr.gov/lhaplandowner/ and click "Biologists location and contact information" or call the DNR main office at 515-725-8200 for your local biologist's contact information to learn more program details.

Together

But Why?

Helping adults answer children's nature questions

BY A. JAY WINTER

A. Jay Winter educates up to 20,000 Iowa children each year as the DNR's training specialist at the Springbrook Conservation Education Center.

EMILY, AGE 3, IN LINN COUNTY ASKS:

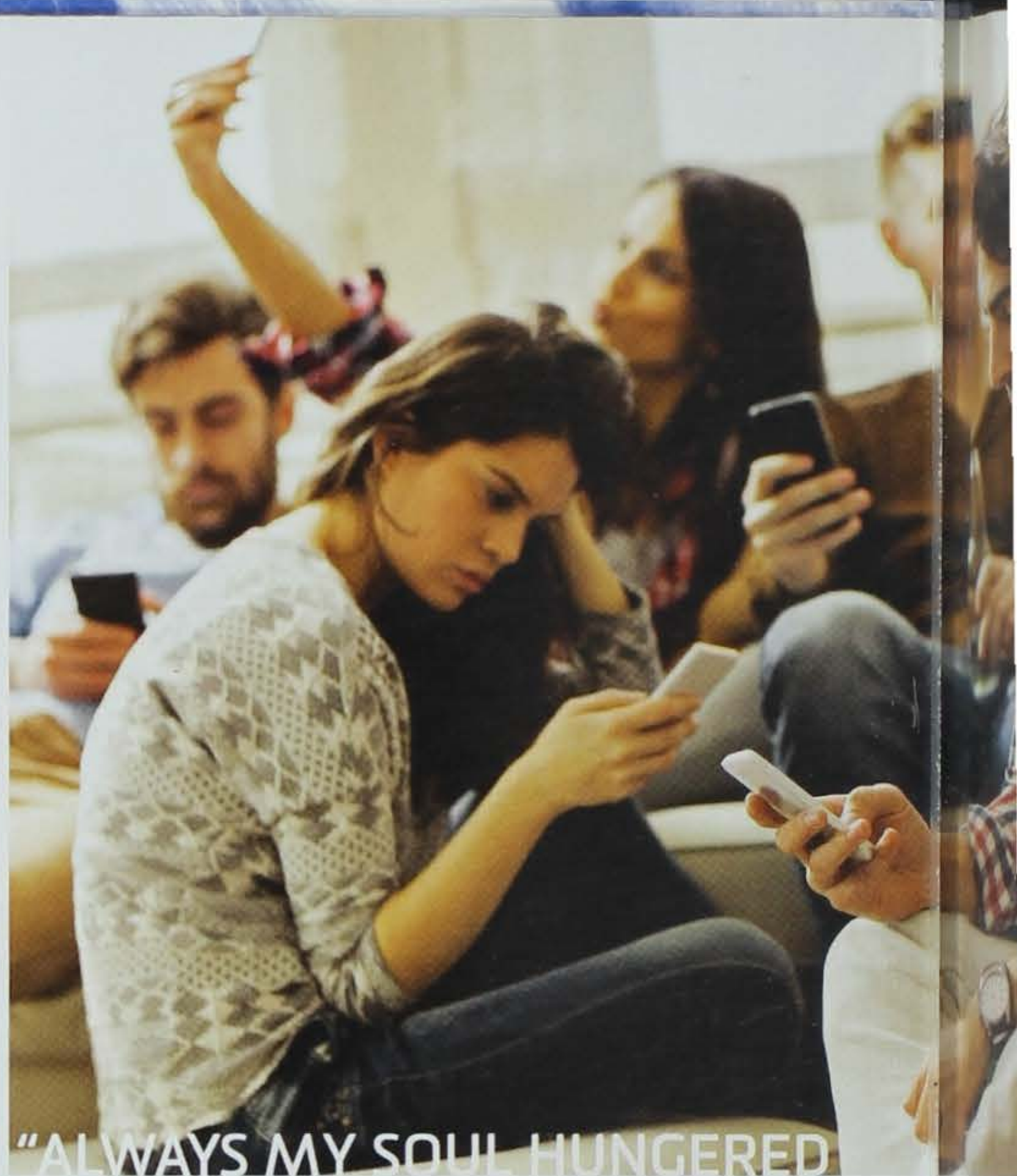
Why are robins so big in the spring?

Just like the first sighting of a robin marks spring for many people, so does the arrival of animal babies. But in this case, robins aren't big in the spring because they're ready to lay eggs. They're not bigger at all—just really cold.

On cool spring mornings and chilly days, robins puff out their feathers—called rousing—to stay warm. It fluffs air into the bird's down feathers, giving some insulation to help the robin maintain its body temperature. Other times, that large-looking robin could be a male puffing up his chest to claim his territory or attract a female for breeding.

But what about those eggs? It doesn't take long for a robin to create and lay a clutch of three to five eggs. A robin can produce one egg a day, but you'd never know she was a mama by looking at her. She then sits on the eggs for 16 to 17 days and spends another 16 to 17 days at the nest feeding the little hatchlings. Iowa robins usually try for two successful nest attempts between April and August.

You might even catch a glimpse of a cold and "fat" robin in the winter. While most Iowa robins still head south for the winter, robins may stick around in years with good fruit and berry supplies.



"ALWAYS MY SOUL HUNGERED FOR LESS THAN IT HAD."

—T. E. Lawrence (Seven Pillars of Wisdom)

BY TIM LANE

Recently I offered to help a friend remodel an older home. I volunteered to remove a driveway with a sledge and pry bar to generate a great workout and help. But noooo, Todd was in a hurry and rented a jack hammer and crew to sweep it away in hours. He also called me Ned, a very obscure reference to Ned Ludd and the 19th century Luddite movement that bore his name. The Luddites were mostly artisans that feared machines were moving too fast and maybe we needed to slow things down and make sure humans remained the crucial component of progress.

So there are shreds of truth in his characterization. But in my defense, I might point out that even author Steven Hawking worries about too much dependence on technology. In my assessment there is too much technology, too much stuff and too much progress without due process.

Let me start with "stuff." Over the last 30 years the size of the average American home has grown from 1,500 square feet to more than 2,300. But even that growth has not matched the demand; there are now 35,000 long-term storage facilities. Across the country, cars are losing their rightful slot in the garage in exchange for stuff we may not need but cannot bring ourselves to toss or donate (Psychologists estimate 4 million Americans never throw anything away). There are now stores that specialize in organizing stuff, and professional consultants to help in that effort as well. So despite devices becoming smaller and smaller, we need more room for them. It is the same path taken by all those labor saving devices that never seem to provide any appreciable free time.

This new stuff often comes with an audio component. That has led to more folks walking around with high-end ear phones, creating their own personal audio universe. This is actually a



OUTDOOR FIT Together

minor annoyance when compared with those individuals who opt to broadcast their inane conversations as they navigate terminals, restaurants and malls.

On the heels of audio is of course video. Once upon a time families ate together and talked. Then TVs and TV trays entered the picture. Perhaps once or twice a week families would eat together as they watched the same TV show. Now families can consume food in the same room while viewing multiple feeds. They can communicate with friends, watch sports, Instagram, tweet, text and God knows what.

I won't go so far as saying there is a movement to counter stuff, but there does seem to be a growing awareness of the impact these new trends are having. Over the last several months I have noticed a growing number of efforts designed to help folks simplify their lives and be more mindful. This "mindfulness" effort often focuses on basics like breathing or walking. There are seminars, magazines, books, retreats, television reports and classes. My perception is there is an avalanche of information cluttering my inbox

on simplifying my life. (Irony is obviously an equal opportunity condition.)

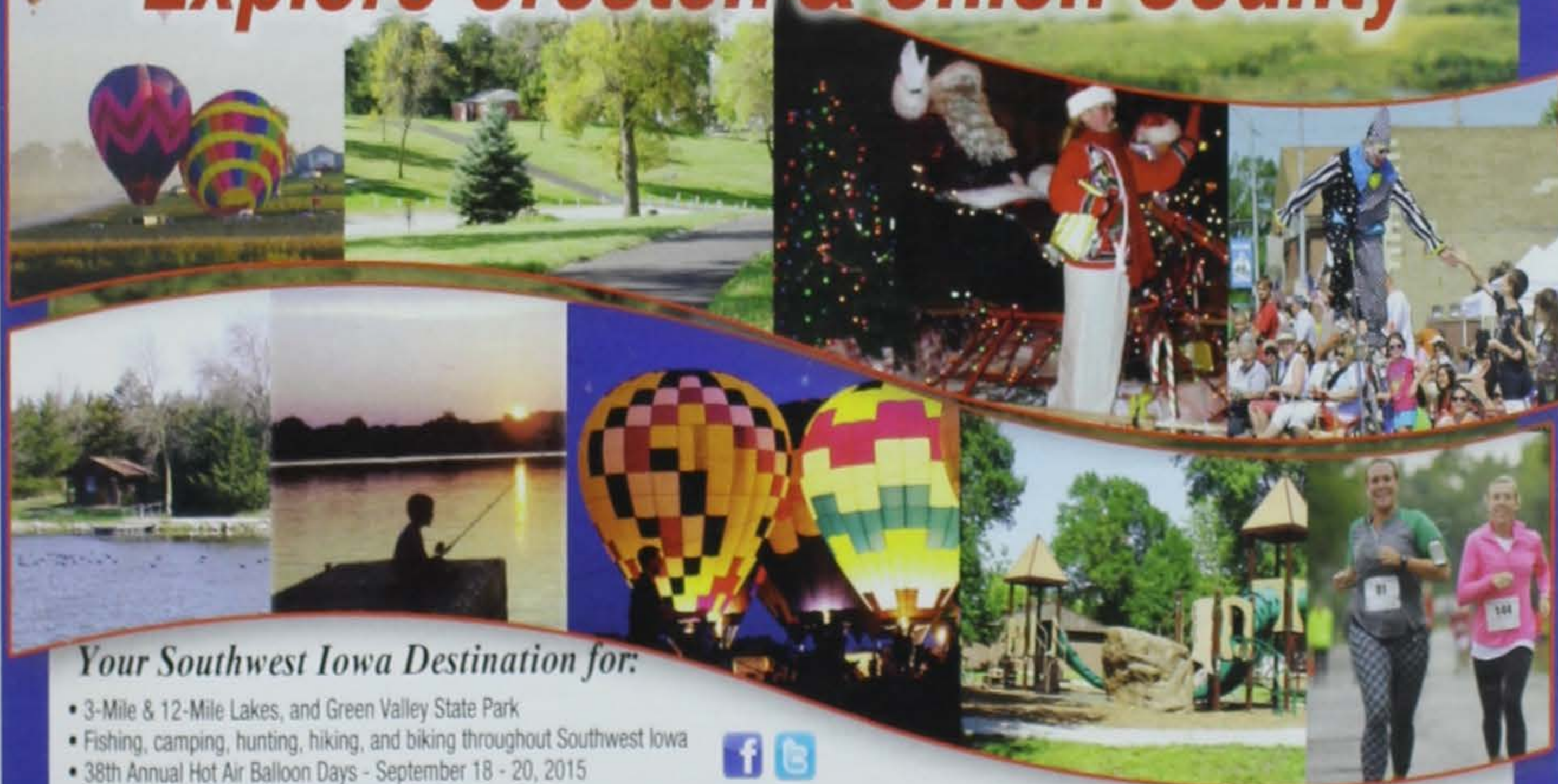
The research seems to indicate "mindfulness," meditation or even just relaxation can contribute to mental health, reduce anxiety and effectively treat depression. These observations are not just originating from some tree hugger in California, but also professional athletes, leading hospitals, universities and many Fortune 500 companies.

So maybe after the long list of attributes we associate with our parks and natural areas, we need to add one more attribute—they offer less. Less sound, outlets, screens, distractions and stuff. Parks are a great location to get back to nature in general, but more importantly back to your nature. Remember, according to Ludwig Mies van der Rohe, "Less is more."

TIM LANE is a nationally recognized authority on public health and physical activity. He is president of the Iowa Association for Health, Physical Education, Recreation and Dance.

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Lost In Iowa

BY JENNIFER WILSON PHOTOS BY JAKE ZWEIBOHMER

Explosive fishing in Union County

Near Creston, the state, county, and community came together to make that little hook at the end of your line a big winner.

"This is a perfect day to fish."

The sky is electric blue on Three Mile Lake, a few miles northwest of Afton in Union County. It's spring, though this is the kind of blaring brightness that July usually deals out, hot under a canopy of shocking azure, scraped white here and there by barely-there clouds.

Bleached-out tines of flooded timber poke out from the water's surface, like sharp memories of a time before this southwest Iowa county turned farmland into lakeland, building a sustainable tourism hub out of three small but mighty fishing lakes—Three Mile, Twelve Mile and Green Valley.

Chris Larson, southwest Iowa DNR fisheries supervisor, perches in his "retirement boat," a sleek black Lund, beautiful in its utility, much like the lake it's currently motoring through. He reels in a 6-pound walleye, admiring his catch through mirrored wraparounds. Tanned, sure, and appearing younger than his 50 years, Larson looks like he was born for this job, for this boat.

Fisheries biologists no longer subscribe to the "build it and fill it" mentality when creating a new or renovating an old lake. Biologists now take an entire ecosystem approach, taking into consideration habitat, community support, water quality and methods to reduce siltation.





He's catching something about every other cast with his red and white tube jig.

Around here, he says, that's a slow day.

"This walleye would be good eating, but it'll get bigger if I put it back," he says, returning the fish to its green-gray home.

It's all part of Larson's grand plan. Because of recent efforts aimed at improving water quality, if you're looking for fish, southwest Iowa is and will be for the foreseeable future, your best bet.

The Making of a Lake

Union County is a good example of the DNR's broader focus on ecosystems, habitat and community when crafting a fishing hole.

It's a policy change that's taken place over the last few decades.

"Instead of just stocking fish and regulations, we look at the whole system," says Joe Larscheid, DNR fisheries bureau chief. "When you fix a whole system, you will have sustained, high-quality fishing."

Here's how it works:

PHASE ONE: When a popular fishing lake is no longer productive, the DNR and other partners study the watershed and put together a grass-roots committee to analyze what needs to be done to fix it—a team that should include stakeholders from area towns, the county, watershed landowners and any other interested party. They'll help outline a to-do list to improve the lake.

In an ideal situation, over the course of the next few years, the team enacts that to-do list, working together to improve the watershed, improve habitat and bring up lake water quality—in some cases the reservoir serves as a drinking-water supply for the area as well.

The equation is a little different for each scenario. In Union County, for example, the city of Creston and the Southern Iowa Rural Water Association approached the DNR for help improving the quality for their drinking water supply (the lakes), which would also boost the recreational use of the area and provide a sustainable source of tourism dollars and a better environment.

"People want clean water," says Larscheid. "They want to drink it, they want to swim in it, they want to boat and fish

The mecca of Iowa fishing might just currently reside in Iowa's Union County, where Three Mile, Twelve Mile and Green Valley lakes—all within 10 miles of each other—are offering some of the best fishing in southwest Iowa, if not the state. Cabins at Three Mile and the campground at Green Valley are often full, and Twelve Mile is a premiere fishing tournament destination.



Cabins at Three Mile Lake are run by the county conservation board.



in it. A clean, restored lake is an attraction for everybody."

PHASE TWO: Once the surrounding area has a better land and habitat management plan in place, the DNR moves on to the lake itself, improving access, increasing amenities such as fishing jetties, boat ramps and habitat features, and underwater structures such as trees, rock reefs, spawning beds and other places that attract fish. Those are documented with GPS locations and contour maps posted on the DNR website with pin-point precision.

"It all starts with a dam that's engineered to the right size for the watershed that flows into it," says Larson, casting from the Lund on Three Mile Lake, which was engineered back in the mid 1990s when it had become muddy and over-run with invasive fish like common carp. A dam was built on Three Mile Creek, which feeds the lake, with a large pipe that includes a shut-off valve to control water levels. The pipe was closed, diverting the creek's water, and the lake dried up enough to add fish habitat and make changes to the lakebed before opening the pipe and refilling the lake.

That's when restocking began.

Larson says they stock bluegill and catfish in the fall, and walleye in the spring. Largemouth bass go in during early summer.

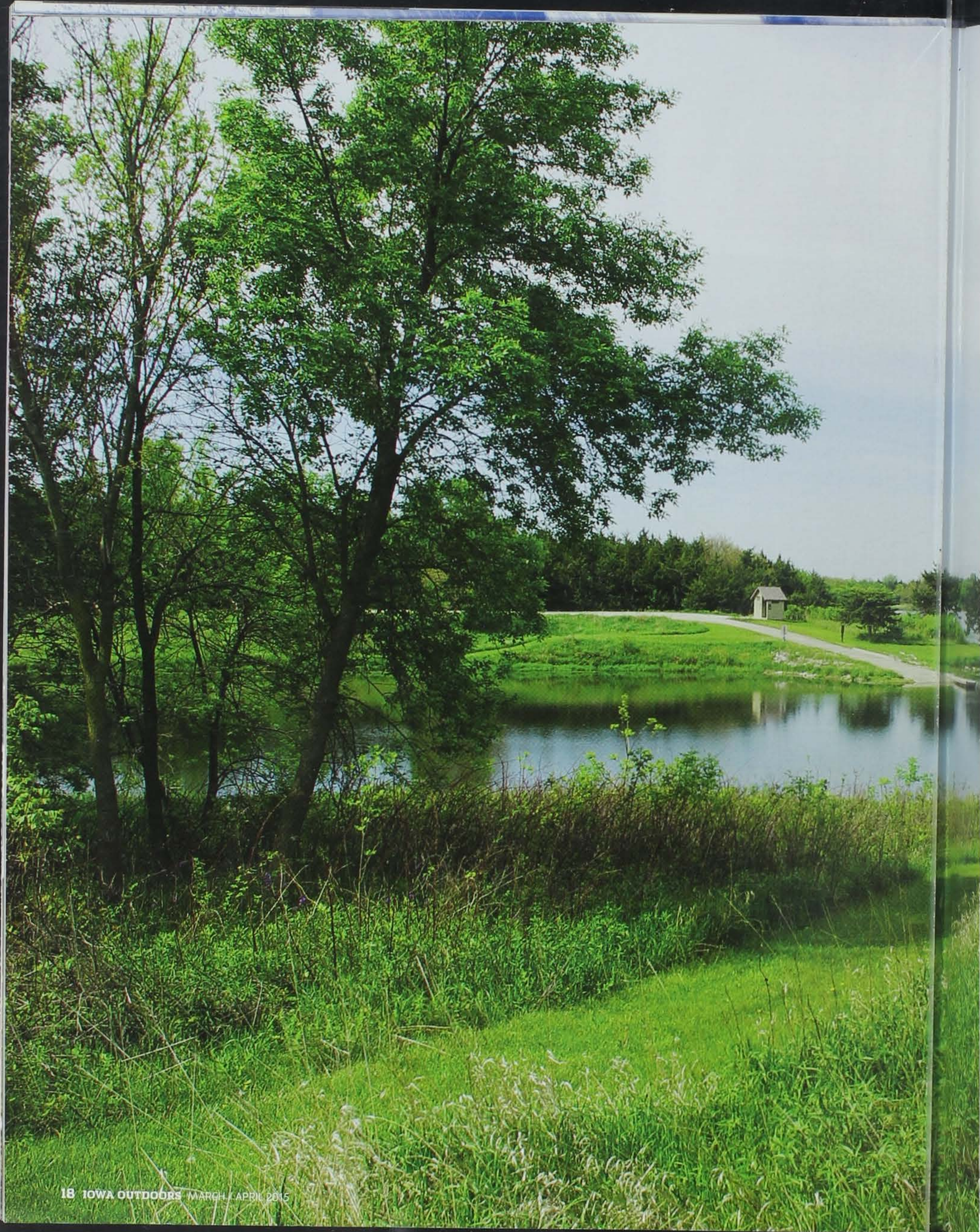
Because the predators come in late, and there's very little competition for food, fish grow unusually fast. Three or four years after restocking will be the best year those lakes will see—lots of big fish, lots of fun. Eventually, the fish in the lake find a balance.

And guess where Union County sits right now? Right in the middle of the boom time.

That's great news for traveling anglers and the surrounding community.

"It's a long-term investment that pays off quickly," says Larscheid. "The legislature has given us money for lake restoration, and we don't go out and hire more staff with that. Those moneys remain right on the ground, fixing these systems."

"When everybody in a community comes together, it's really fun to watch. That's why we have explosive fishing in Union County."





Green Valley (shown here) and Twelve Mile lakes are two of the hottest fishing lakes going thanks to recent renovations that added habitat, improved water quality and replaced an out-of-balance fish population. Both are at or near their peak fishing opportunities. Three Mile, still producing good catches of a variety of species, will be on the renovation list soon to keep desirable fish in and invasive species out.



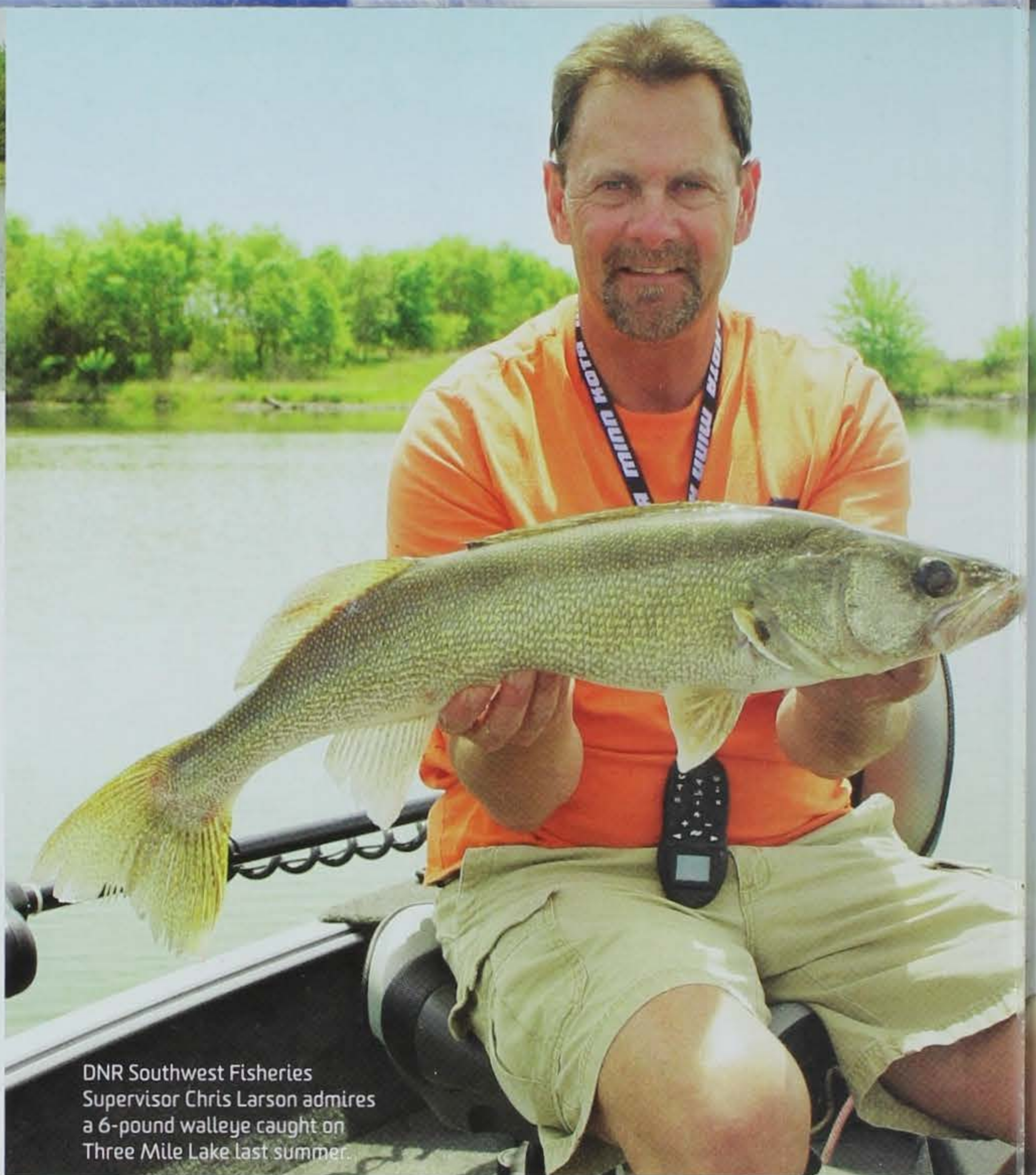
Nice fish, but can I eat it?

Here's the deal on fish consumption, according to the DNR: In the vast majority of Iowa water, including Union County, you'll catch high-quality fish that you can eat a few times a week. In fact, the Iowa Department of Public Health recommends eating fish several times weekly as part of a healthy diet. Larson says he and his staff regularly conduct random contaminant testing for mercury levels, which comes from airborne emissions of coal burned to produce electricity.

The upshot is that Iowa fish, unless on the watch list on the DNR website, are edible.

Now, if you're a toddler, or you're pregnant, stay on the safe side and don't eat more than one meal per week. But you're safe with panfish such as bluegill, crappie and perch.

It's the predators that eat the little ones—walleye, bass, catfish—that tend to have higher levels of mercury, because they accumulate it over time when they eat other, smaller fish.



DNR Southwest Fisheries Supervisor Chris Larson admires a 6-pound walleye caught on Three Mile Lake last summer.

Getting Around

Three Mile is the biggest of the three lakes, but it's actually on the wane after a re-stocking boom. Though you'll still reel in some beauties, including walleye, bluegill, crappie, channel catfish, muskie and wipers, you should also try its neighbors, all within a 10-mile vicinity.

Green Valley State Park, 2.5 miles northwest of Creston, might just be the state's perfect fishing park right now. With small cabins and camping right on the water, it's a great base camp for anglers and families.

The 390-acre lake has fishing jetties, boat ramps, a 10-mile lake circle trail and a section of shoreline with 24-hour fishing. A three-mile paved multi-use trail connects the park to Creston, where you can have a nice cup of coffee, peruse a greenhouse, do some shopping and tour a restored train depot with an art museum, model railroad and presidential doll collection.

"We're starting to see some of the wives coming in for the day during fishing tournaments, when they're bored out of their gourds," says Cynthia Wolf, co-owner of the Upper Crust, a lunch spot and pastry shop on the main

drag. She says about 40 percent of her business is fishing-related in summer—often from the many tournaments that out-of-staters love.

"We have Wi-Fi, coffee and cookies," says Wolf. "It's a great place to sit and chit-chat for a while."

Most find their way around the block to the antiques shops, fabric and clothing stores and an old-school hobby shop. One vintage shop re-purposes old things into funky designs that would make great gifts, such as glassware, garden totems and other salvage.

Back at the park, a dad shore fishes with his daughter as she hunts frogs.

"Pretty much every lake in southern Iowa is man-made," says Larson. "Pretty much every one of them is a great addition to their communities."

Ellen Gerharz, executive director of the Creston Chamber of Commerce, says you can see the economic impact just hanging around on a summer weekend.

"All you need to do is drive by the motels in town and look at the boats that are in their parking lots," says Gerharz. "The campgrounds at both Three Mile Lake and

A state report spanning 2005-2010 had Creston and Union County as one of the fastest growing areas in the state. Job growth during that time was estimated at 10.5 percent, the second highest in Iowa. Many community leaders point to the recreational opportunities at Green Valley, Three Mile and Twelve Mile lakes as part of the reason for that growth. A check of local hotels and boat ramps will find them full of boat trailers, and the downtown shops attract spouses of tournament anglers. Shop owners estimate as much as 40 percent of their summer business is fishing related. Spouses stop by downtown shops for a cup of coffee, a bite to eat and a tour of a restored train depot with an art gallery, model railroad display and presidential doll collection.



Green Valley State Park are usually full, especially on the weekends, and the demand on the eight year-around cabins at Three Mile is tremendous."

The Death of a Fishery

Four miles east of Creston, Twelve Mile Lake is about the hottest fishing spot around right now.

It wasn't always this way.

During its peak in the 1990s, Twelve Mile held nearly 30 fishing tournaments each year. Over the past decade, an overpopulation of common carp stirred up sediment, turning the formerly clear water a murky brown or algae pea green. In a farming community, there's always some soil loss, including excess nitrogen and phosphorus from farm chemicals that wash into the lake and produce algae blooms. In addition, as lakes naturally age and decrease in depth, game species go down, and common carp and bullheads grow abundant. There's little fish managers can do but start over once carp get a foothold in a lake.

Eventually, Twelve Mile became a played-out amenity that no one was using anymore.

"Lake aging is a natural process, but lots of things accelerate that," says Larscheid. "Every few years you have to go in and fix that, or every lake becomes a wetland and then, eventually, land."

The DNR came in, with the help of the surrounding communities, and put into place that local grassroots effort to revitalize the watershed, and the lake's water quality improved. Within a few years, the visitation rate increased more than tenfold. The tournaments are back, too.

The continual grooming process helps keep this sustainable tourism and healthy recreation alive in Union County.

"Anything we can do to improve fish habitat within a budget, we do," says Larson.

Back on the lake, Larson says Three Mile will need help soon, to keep the desirable fish in, and the invasives out. With habitat in place already, the DNR will simply kill out the fish population, then restock with preferred sport species (*see sidebar*).

"We've been fairly aggressive in not tolerating poor fishing and poor water quality," Larson says.

"I've lived down here for 25 years, and the fishing has never been better in southwest Iowa." 🐟

Lost In Iowa

How the DNR manages fish in a lake

If the fish population is out of balance, the DNR will kill it out and start fresh with restocking.

The DNR uses rotenone, a sub-surface spray applied via boat, manufactured from a South American root that blocks a fish (but no air-breathing lake dwellers such as turtles or frogs) from taking oxygen in through its gills, suffocating it. Though larger companies process the root, adding other ingredients for lake application, it's largely the same thing natives use to capture fish, smashing the root against a rock and swishing it in water to immobilize them, according to Larson.

Depending on water temperatures and sunshine, rotenone naturally dissipates from water anywhere from seven days to two weeks, he says. "It's a very quick-acting chemical that's the least harmful to the environment," says Larson.

3 LAKES: A SNAPSHOT

THREE MILE LAKE

880 acres

Motor restrictions: No size restriction, except no jet boats on the south part of the lake (marked with buoys). North part of the lake also has no size restriction as long as they operate at no-wake speed.

Amenities: Boat access, fishing jetty, accessible pier and facility, picnic area, beach, trails, playground, restrooms, camping, hard surface boat ramp.

The largest of the three Union County lakes, Three Mile is also the newest. Because it came later to the angling game, the DNR had a better idea of what works for area fishing, and it's very nicely planned for the proliferation of fish habitat. Because of its size, it's the only muskie lake in southwest Iowa, carrying specimens up

to 45 inches in size, as well as a sizeable wiper population, another exciting sport fish. Two problem fish have begun to show up, common carp and yellow bass, and their populations are expanding to impact the sport fish species, which will eventually lead to renovation in the next few years.

TWELVE MILE CREEK LAKE

635 acres

Motor restrictions: No size restriction, but must operate at no-wake speed.

Amenities: Boat access, fishing jetty, accessible facilities, restrooms, hard surface boat ramp.

The fishing in this lake is really dynamic after its 2006 renovation. Anglers are catching bluegill, crappie, largemouth, walleye and catfish—and plenty of them.

The water quality is excellent.

GREEN VALLEY LAKE

338 acres

Motor restrictions: No size restriction at no wake speed except for ski area.

Amenities: Boat access, fishing jetty, accessible pier and facilities, picnic area, beach, trails, playground, restrooms, camping, hard surface boat ramp.

This is the area's most recent renovation, and the big makeover included lots of local buy-in to create good conservation practices. It's the most clear-looking lake of the three, and smallest, with a diverse population that's peaking right now.

To find out more about the area, visit: unioncountyiowatourism.com

To Make a Lake: What Citizens Can Do

Of the 131 public lakes in Iowa, only 35 received top-priority billing from the DNR's restoration study in the early 1990s. (If the DNR restored every one of those top 35 lakes, it would cost somewhere in the neighborhood of \$250 million, according to fisheries chief Joe Larscheid.)

The legislative support of \$5 to \$10 million each year helps toward restoration efforts, but because the DNR works with limited funding, the bureau prioritizes lakes that give the state the most bang for its buck. Measures include: What's the surrounding landscape like? How much room is there for improvement? How popular is it? Is it big enough to support a visiting population?

Unfortunately, most lakes must rely solely on local efforts to remain vital and well cared for.

If you have an underused lake in your area, contact your regional fisheries biologist and ask: What can be done to make it better?

Your regional fisheries biologist should have ideas for what you can do locally.

One thing we all can do is purchase an Iowa fishing license, which provides the sole source of money for lake habitat work at some state-owned lakes, such as boating amenities, bathrooms, docks, trails and jetties. (Hunting license dollars pay for land management.)



FISHING FORECAST 2015

BY MICK KLEMESRUD PHOTOS BY JAKE ZWEIBOHMER

RENOV

FISH

The 743-acre Little River Lake near Leon in Decatur County was renovated four years ago to fix problems with shoreline erosion, siltation and a dense carp population that contributed to poor water quality and fishing.

Shorelines were deepened, stabilized and habitat like rock mounds and reefs, spawning beds and cedar tree piles were added. Five of the lake's seven jetties were "benched" for great angling and habitat (see photo pages 28-29). The lake was restocked in 2012 with walleye, largemouth bass, bluegill, channel catfish and crappies.

Little River's water quality and fisheries improvements



OVATED

ERIES

are paying off. Last year, anglers frequently caught 13- to 17-inch walleyes and 12- to 15-inch largemouth bass, with some bass exceeding 18 inches. This year will be better with faster growth rates projected. So get a bigger net.

There are good numbers of channel catfish with many already exceeding 5 pounds. Bluegills up to 8 inches and crappies up to 10 can be caught.

The "benched" fishing jetties provide good action in spring for bluegills, crappies and even a walleye when using jigs. Trolling crankbaits along points or along rock structure in the spring offers great walleye fishing. Crankbaits fished along weed lines or plastics fished near or in cedar tree piles in summer are good tactics for bass. In summer, fish the flooded timber areas using liver for

excellent catfishing.

Little River has four boat ramps, electric and non-electric campsites, cabins, modern shower house and restroom, swimming beach, playground, picnic areas and an on-site bait shop; 641-446-7307, mycountyparks.com.

CENTRAL IOWA

The DNR collaborated with city and county leaders to improve water quality and fishing opportunities in central Iowa urban areas.

DMACC Lake in Ankeny received numerous recent improvements. The lake has a fishing platform, excellent shore access and a trail.

Bluegill and crappie congregate near shoreline rocks in April and May. New fishing jetties provide family-friendly access and angling opportunities. Keep your hook, bobber and bait small and fairly close to the rocks to improve catch rate.

The Polk County Conservation Board is leading a multi-agency watershed and lake restoration effort at **Easter Lake**. Improvements to reduce sediment and nutrients delivered to the lake are planned. In-lake enhancements, including dredging, fish habitat and angler access are in the design phase. For details, visit easterlake.org.

The fishery in **Fort Des Moines Pond** has been renovated to address gully erosion and eliminate common carp and grass carp that degrade water quality. The pond is being restocked, and catchable fish should be available in 2016. A master plan to enhance amenities

at this Polk County Conservation Board park has been developed. More information is available at mycountyparks.com.

The City of Johnston is constructing a new, 9-acre **Terra Lake** with the hopes of having catchable fish by 2017. Search "Terra Lake" at cityofjohnston.com.

The Story County Conservation Board has finished the 20-acre **Dakins Lake** complex near Zearing. The lake has been stocked, but fish will not likely reach harvestable size until late 2015 or 2016. More information is available at storycountyia.gov.

The 7-acre **Marion County Park Pond** near Knoxville is in the process of being renovated. Sediment basins are being installed and a significant amount of sediment will be removed from the lake in 2015.

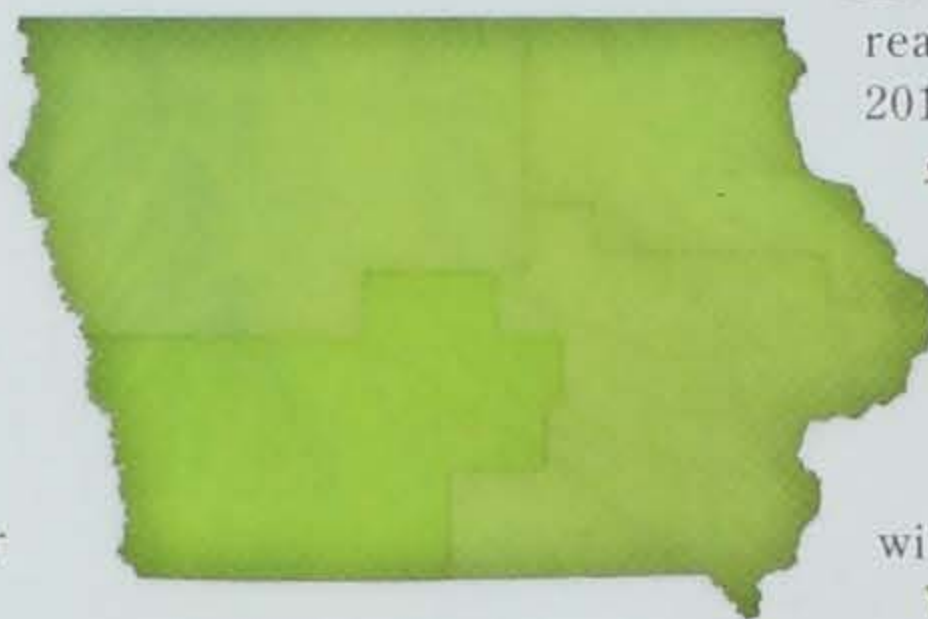
Walker Johnston Pond is a 1-acre pond in Urbandale suffering from stunted bluegill and green sunfish. The fishery was renovated and restocked in 2014, however these fish will not be large enough for harvest until the end of 2015 or 2016.

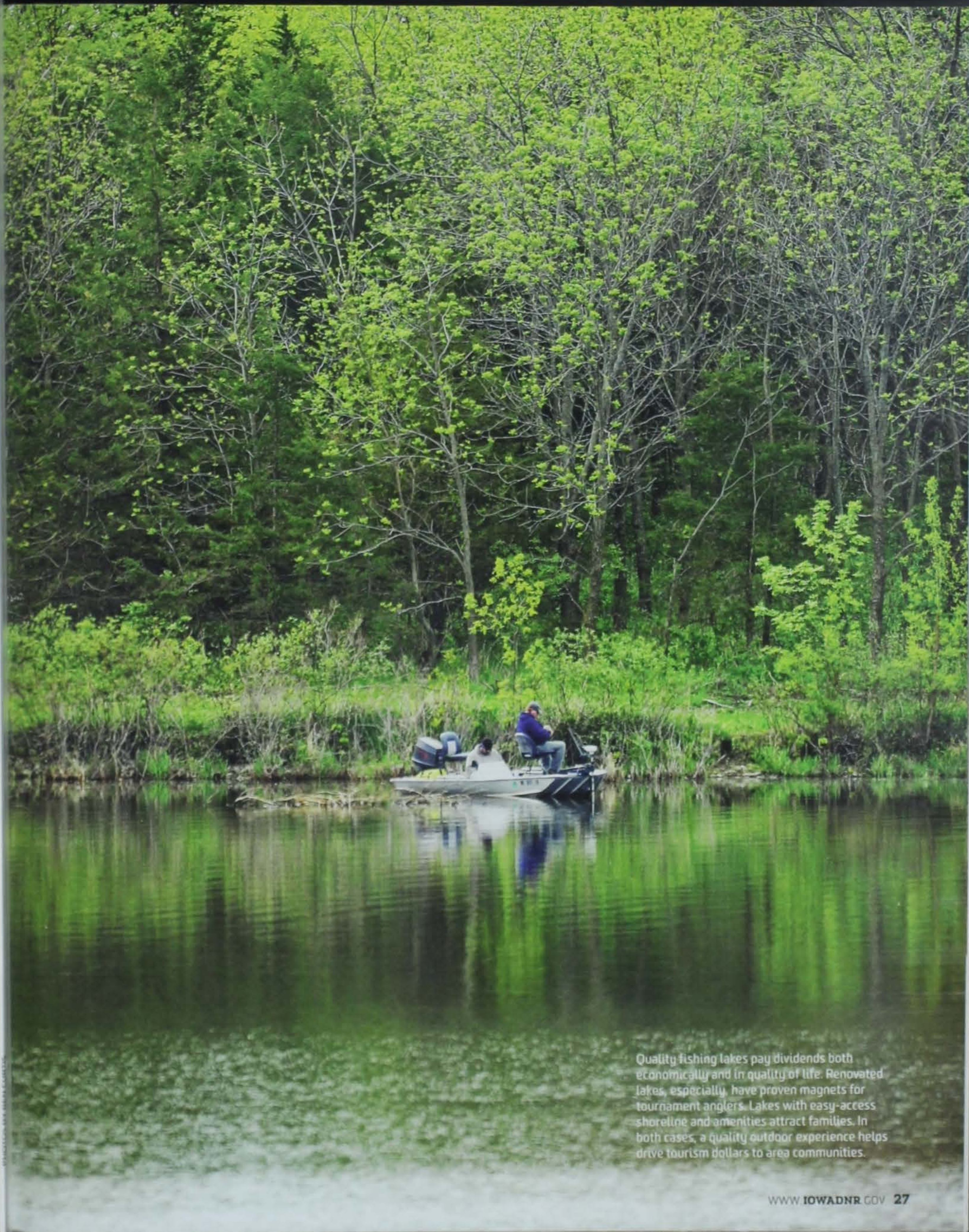
NORTHWEST IOWA

Lost Island Lake, a few miles north of Ruthven in Palo Alto County, has been the focus of a long-term restoration project to improve the health of this large natural lake and its connected marshes.

Marshes were renovated and fish barriers added to block spawning carp, and commercial anglers removed more than 1.25 million pounds of rough fish since 2008. The carp population went from 350 pounds per surface acre of water to 63 pounds.

Bluegills are beginning to return, adding to the





Quality fishing lakes pay dividends both economically and in quality of life. Renovated lakes, especially, have proven magnets for tournament anglers. Lakes with easy-access shoreline and amenities attract families. In both cases, a quality outdoor experience helps drive tourism dollars to area communities.



Enjoy three single-room rustic, log-style cabins with lake-facing patios. The Little River Recreation Area county park also has 30 campsites, archery range, four boat ramps and bait shop. For more details or reservations, call the Decatur County Conservation Board at 641-446-7307 or mycountyparks.com.

Shorelines were deepened, stabilized and habitat like rock mounds and reefs, spawning beds and cedar tree piles were added.

Today, water levels are four feet below the uppermost coarse gravel bench, which provides an easy-to-walk jetty for anglers. The adjacent custom-built pea-gravel beds and deeper rock reefs attract and hold fish.

Anatomy of a Restoration

The 743-acre Little River Lake near Leon in Decatur County was renovated four years ago (shown then) to fix problems with shoreline erosion, siltation and a dense carp population that contributed to poor water quality and sub-par fishing. The lake was restocked in 2012 with walleye, largemouth bass, bluegill, channel catfish and crappies.

PHOTO BY GARY SOBOTKA

Five of the lake's seven jetties were "benched" for great angling and habitat. Benched fishing jetties are employed often in today's lake renovations.

With lake water levels filled, this lower pea-gravel bed is now submerged. The bed is a huge draw for panfish that construct nests here during the spawn.

This deeper rock reef, adjacent the underwater pea-gravel bed, holds swarms of big and hungry predator fish—think walleye, largemouth bass and catfish.

growing walleye and northern pike populations. Yellow perch and crappies are also here.

The Palo Alto County Conservation Board headquarters is on the north shore and manages shoreline on the east side, including a beach, boat ramp and fish cleaning station. Use of the board-run Huston Park and camping has increased since lake improvements took effect with better water quality and beefed-up fishing.

As with any natural lake, the best fishing is often from a boat, but shore fishing can be good at times.

Lyon County's **Lake Pahoja** was renovated in spring 2012 to fix an unbalanced fishery and eliminate common carp and grass carp. It has been restocked with largemouth bass and bluegill.

"Most people would be astonished with what is available at this 70-acre lake," says fisheries biologist Mike Hawkins. "It's a wonderful area."

Lake Pahoja has fishing jetties, trails, playground, cabins and a fish cleaning station. Fishing should be coming on this year, Hawkins says. The lake has a high density of largemouth bass and bluegills, perfect for kids.

The park is near the Big Sioux River with a new arched rapids system at the former Klondike Dam and improved access along the river. Fishing is good during the spring walleye run.

While the **Black Hawk Lake** and watershed restoration project in Sac County continues with many improvements still to come, anglers are already reaping the benefits of improved water clarity and fishing.

The fishery was renovated in the fall of 2012 to remove common carp, bigmouth buffalo and gizzard shad that contributed to poor water quality. After renovation, the DNR aggressively stocked sportfish to quickly get anglers back on the water.

After just two growing seasons, anglers are catching solid numbers of harvestable size bluegill, yellow perch and channel catfish. Largemouth bass numbers are high, and while most are less than 15 inches, they provide great catch and release fishing. With tremendous walleye and crappie fishing likely another year out, and muskie fishing a few years beyond that, Black Hawk Lake has a lot to offer in 2015 and beyond.

In early spring when water starts to warm, anglers should focus around areas of emergent vegetation and shallow bays for panfish. Black Hawk Lake has a wealth

of public shoreline fishing access for anglers looking to capitalize on spring panfish.

On Black Hawk Lake, fish the **Stone Piers** of Lake View's town bay for great access to the water's edge and plenty of room for anglers to fish together. The west stone pier is especially good for attracting panfish within casting distance from shore. A few channel cat and largemouth bass can be hooked here. Parking is available with restrooms on site. **Fish the dock on Ice House**

Point, which is handicapped-accessible and provides great public fishing opportunities. When targeting panfish, the trick is to fish close to shore. Walk out about 20 to 30 feet on the dock and cast parallel to shore to a steep drop off that can hold schools of fish. There is plenty of parking spaces and pit latrines on site.

State Marina. The water is shallow and warms up faster than other parts of the lake, drawing bluegills as the spawn approaches. There are 18 publicly-accessible docks to fish from, with ample parking and restrooms on site.

SOUTHEAST IOWA

Lake Darling in Washington County is returning to premier status after a more than \$12 million investment in the park and lake. One of the unique features is a mile-plus, 8-foot wide trail providing fishing access to anglers on foot or in wheelchairs.

When the lake was drained, the shoreline next to the trail was deepened, and fish-attracting structure was placed within casting distance.

Largemouth bass, bluegills, crappies and channel catfish have been stocked and show excellent growth rates, thanks in part to much improved water quality.

The lake is protected by 160 sediment basins in the watershed, including 27 in the park itself.

New features were not limited to the lake. The state park has a renovated campground, new shower building, beach and beach house, roads, boat ramps and parking lots. Cabins are available for rent with more on the way. There is a lodge and new open air shelter available for reservation. 319-694-2323, iowadnr.gov.

SOUTH-CENTRAL


Hawthorn Lake in Mahaska County was originally built in the late 1970s and for decades provided great fishing. But by the mid 2000s, fishing quality declined dramatically due to a growing common carp population and illegally introduced gizzard shad. The 177-acre lake also suffered from erosion and excessive nutrients.

In 2009, the lake was drained and more than a mile of shoreline restored to reduce erosion. Retention ponds





Much thought goes into renovation of a lake, specifically the watershed, water quality and local support. Done properly with water quality in mind, fish grow quickly and renovated lakes should produce harvestable size fish within three years.

A photograph showing a wooden box filled with various fishing lures. The lures are arranged in rows, with some standing upright and others lying flat. They include a large blue and green lure, a yellow and black lure, a red and yellow lure, a blue and white lure, and a white and yellow lure. The lures have different shapes, sizes, and colors, and some have multiple hooks. The box is made of light-colored wood and has a simple design.

Properly renovated lakes produce quality fishing quickly and for years to come. However, even the best planned lakes will eventually require attention due to sedimentation and introduction, both naturally and illegally, of undesirable fish.

were added to reduce sediment and nutrient flow to the lake, making a clearer and higher quality resource.

Underwater mounds and reefs were installed and the shoreline was deepened to improve fish habitat. More fishing jetties were built.

The fishery developed quickly. Hawthorn has very good fishing for bluegills exceeding 8 inches and provides some of the best largemouth bass fishing around. Anglers consistently catch dozens of largemouth each trip with some up to 19 inches long. Channel catfishing is very good.

Crappies were reintroduced in 2012 and high quality fishing will return soon. Muskies were restocked in 2010 and fish up to 30 inches are already available.

Lake Miami is a historic fixture in Monroe County with a reputation as a crappie hotspot. But high carp numbers coupled with high levels of gully erosion cut down water clarity over the years, and in 2013 the lake was drawn down and the fishery renovated.

Lake improvements include work on nearly two miles of shoreline to reduce erosion and six new ponds on public land in the watershed to reduce sediment and nutrients entering the lake. A carp barrier built in the spillway prevents common carp from reentering the lake.

Largemouth bass (including adult fish), bluegill, crappie and channel catfish were stocked in the spring of 2014. The highest quality fishing is for largemouth bass, which range up to 20 inches and channel catfish that can exceed 20 inches.

Anglers will see vast improvements in Miami angling in 2015 and for many years to come.

EAST CENTRAL

A lake restoration project is underway at **Union Grove Lake** in Tama County to remove years of sediment, rebuild the lake outlet structure and spillway and add fish habitat. Fish populations will be eliminated to remove common carp and yellow bass.

The first completed step fixed watershed problems. The next step begins this spring with construction of dredge containment sites.

Union Grove suffered from poor water quality, frequent algae blooms and few aquatic plants.

Lake improvement plans at **Pleasant Creek Lake** in Linn County are in the early stages, but will not include eliminating fish populations.

Fisheries biologist Paul Sleeper says the project will include lowering the water level, deepening the shoreline

to improve shore fishing, adding riprap to reduce shoreline erosion and installing underwater reefs for habitat.

It could take a few years for the water level to naturally return as the lake has a small watershed.

Restoring the 25-acre **Central Lake** in Jones County is a few years away, but the groundwork is in process.

Work is underway in the watershed to prevent sediment and nutrients from entering the lake, and the campground has replaced its septic system. While the plan includes dredging, it is not yet clear to what extent.

"It's a really nice area," says fisheries biologist Paul Sleeper. "The fishery is not what it should be. We are not yet sure if the lake will be drained completely. We need to increase shore fishing accessibility too."



NORTH-CENTRAL

Crystal Lake is more than six years post-restoration to improve a struggling fishery and poor water quality in the 264-acre natural lake.

Part of the renovation included dredging the middle of the lake. The lake has responded well and now draws anglers statewide.

Bluegill, largemouth bass and crappie fishing is excellent both spring and winter. Anglers have chances to catch northern pike, channel catfish and walleyes stocked post-restoration.

Two rock fishing jetties and a trail running along the south and east side provide good shoreline access. A floating fish cleaning station will be added in 2015.

The Hancock County Conservation Board manages a campground at the lake with three cabins open during warm weather months; hancockcountyia.org, 641-923-2720.

MISSISSIPPI RIVER

Mud Lake Park (Pool 11) in Dubuque County offers camping facilities with handicapped-accessible showers and restrooms and a boat ramp to provide access to Mississippi River Pool 11. Marine fuel is available at the adjacent Hawkeye/Arrowhead Marina. Rentable picnic shelters are available. This area provides access to Mississippi backwaters for ice fishing. A year-round park ranger is onsite.

As part of a large habitat restoration project, the islands at Mud Lake were renovated in 2007 by placing dredged sediment from backwater areas to deepen overwintering areas for fish. The area has an excellent population of largemouth bass, bluegill and crappies, mycountyparks.com, 563-552-2746.



Poule des prairies

BY KAREN GRIMES PHOTOS BY DNR WILDLIFE STAFF

Wooo, woo-ooo, woo-oooh. Stomp. Stomp. Stomp. It's a low haunting sound, once heard from the Atlantic to Colorado, from Texas to southern Canada—resurrecting childhood memories of blowing across the top of a bottle.

It's an eerie pre-dawn sound as soft gray light replaces black velvet. Ghost-like bare spots, sparse short grasses and dried spikes from last year's yucca emerge from darkness. Soon, a thin band of reddish-gold appears to the east, silhouetting a primitive mating dance, a ritual

repeated across this western Nebraska booming ground for thousands of years.

Stomp. Stomp. Left foot. Right foot. The pace accelerates and the rapid succession of stomping proceeds to a drum roll. Bow. Boom. Leap into the air. Twist and turn.

Sunrays pierce the fog, turning the ground gold. Still stomping, tail and neck feathers—like large pointed ears—raised, the male bows, then pumps air into brilliant leathery orange sacks lying on each side of his neck. The males boom, drum and jump, doing their darnedest

A unique partnership between three states, The Nature Conservancy, Blank Park Zoo and local landowners are bringing prairie chickens back to the booming grounds of southwest Iowa and northern Missouri.



to attract a hen. Wooo, woo-ooo reverberates throughout the lek. Well named, they are: *Tympanuchus cupido*. Poule des prairies. Prairie chicken.

Here, near Imperial, Neb., 12 biologists wait on six different booming grounds, traps set, as male after male flies or stomps its way onto the nearly bare surface of the lek, aspiring for female attention. A hen sashays in, attracted by the booming males who parade, posture and pose.

Up at 4:30 a.m. and sitting in a blind since a half hour before sunrise, Iowa DNR biologist Angi Bruce feels goose bumps crawling up her arms and neck. "It's unbelievably exciting and thrilling," she says. "You could hear them coming, the soft 'thrummm' of their drumming and the loud stomping as they approached through the grasses. For a relatively small bird, a mere 1.5 to 2.5 pounds, they make a lot of noise."

With help from Nebraska, Missouri and The Nature Conservancy, research assistance from Iowa State University, funding and assistance from REAP and the Blank Park Zoo, this small band of biologists is out to restore a population of prairie chickens in southern Iowa.

Seven and one-half hours, 444 miles away, prairie chickens act out a similar ritual in Kellerton, Iowa, home to about 26 birds in 2011 and the former home to the last remnant population of 50 then 10 then none in 1956. A long, sad decline for a bird once abundant in grasslands throughout the state, with flights "...half a mile long, 50 yards wide, and three to four birds deep," perhaps 33,000 birds, records James J. Dinsmore in "*A Country So Full of Game*."

Efforts to restore poule des prairies to grasslands of Ringgold County began in 1987, but populations dwindled. "We noticed numbers were declining and we weren't finding a lot of males dancing and booming on the leks. Six or seven years ago, we did some testing, sending blood and feather samples to Texas to see if inbreeding was going on, which can affect eggshell thickness and chick survival," says Chad Paup, DNR wildlife biologist at the Grand River Wildlife Unit near Kellerton.

Results of the genetic testing led to a three-year plan to import birds to the Kellerton Grand River Wildlife Area and also to grasslands extending in Missouri on lands owned by The Nature Conservancy.

Iowa's DNR wildlife chief Dale Garner solicited support from his counterpart in the Nebraska Game and Parks Commission, and a pilot project began in 2012. Goal: bring 50 birds to Iowa that first year. If successful, the project would continue through spring 2015, with hopes of establishing 100 or more birds to increase genetic diversity.

As the cold pre-dawn breaks, biologists wait at privately-owned leks in western Nebraska. At home, Iowans perch on a viewing platform near Kellerton, watching through telescopes, to see males dance, pivot and posture—out to prove who's the strongest and feistiest. The hens nonchalantly stroll through the lek, moving toward the center where the dominant male fends

off contenders. That one dominant male may breed 90 percent of the females.

In Nebraska, as pheasants crow and meadowlarks sing, the woo-wooo-wooo of the booming resounds. "Most of us are off a couple of hundred yards, watching the birds with a spotting scope from a truck," Paup says. "We open the traps—24-inch tall wire enclosures—before sunrise."

Simple traps, they start with a long line of fencing to funnel chickens into tighter and tighter spaces. "They can't seem to figure it out, they just walk along it until they are trapped," he says. "But after a few days (if they haven't been caught) they smarten up and jump on it or stand on it."

Or, if the biologists are in a blind on the edge of the booming ground, they'll trap birds with a drop net. "We wait until at least three or four walk below the net before cutting the cord to drop it, catching them in a lightweight, almost transparent netting," Bruce says.

"Everyone has a designated job. I was a bird holder. As we take them out of the netting, we hold them under our arms. It's an unbelievably exciting feeling to have the warm, live bird in your hands, feeling the soft feathers under the breast," she adds.

By 8 or 8:30 a.m., the show is over and biologists scramble to remove birds from enclosures, put them in pillowcases, one to a case, twisting it closed. "It's a challenge to get just the right degree of tension—enough to immobilize the bird, but not so tight that they might suffocate. You want to prevent injuries," Bruce says.

"It's a lot of fun, but you put in pretty long days," says Paup. Then it's a race against time to process birds—weighing, measuring and aging them, checking their health—taking blood samples for genetic testing and for state veterinarians to ensure they're disease-free. Staff then leg band all birds and attach radio or GPS transmitters to a few.

"We put the birds in guinea pig holders for the nearly 8-hour drive to Kellerton or Dunn Ranch," says Paup. "Our goal is to hold them for as short a time as possible, because we have issues with longevity in translocated birds. Once in Iowa, we move eight to 10 into boxes with individual stalls. We try to let them just walk out all together on the lek, instead of flushing," Paup says.

After relocation, Jennifer Vogel with Iowa State University's Cooperative Research unit tracks them via satellite to map their movements and determine if they nest successfully.

"We had one unsuccessful nest in Iowa in 2013 (out of the 10 females fitted with transmitters) and we had two successful nests in Iowa in 2014 (out of 10 females fitted with transmitters)," says Vogel.

Eventually Vogel will use location information from the birds along with information about their habitats to model habitats suitable for prairie chickens in Iowa.

While most prairie chicken hens nest within a mile of the lek, one hen, relocated to Iowa in 2013, is a four-state marathon flyer. "Bird 112 has traveled 2,478 miles," says Vogel. "We don't really know why."



Family Fun On The Booming Grounds

Load the car with pillows and sleepy kids and head to an early morning ritual none will forget. The DNR-hosted 12th annual Greater Prairie Chicken Day is Saturday, April 4, at the Kellerton Grassland Bird Conservation Area near Mount Ayr.

It's a unique opportunity for public viewing here with nothing like it anywhere in Iowa. Activities begin at daylight, about 6:30 a.m.

All ages can sit on the viewing platform to hear cooting and hooting in the dark. As the sun rises you start to see chicken silhouettes on a high spot of ground. Males arrive first, puffed up to look big. They will spar with other males for dominance.

The public grassland virtually guarantees seeing and hearing wild prairie chickens on a booming ground, which refers to the mating ritual, called booming. The chickens are active late March, but peak the first three weeks of April.

Coffee, donuts, good conversation and spotting scopes are provided and DNR wildlife staff offer interpretation. Viewing continues until birds leave the booming grounds—usually by 9:30 a.m. Stick around for good chances to view other grasslands birdlife.

WHAT TO BRING

While binoculars and spotting scopes are provided, extras are appreciated. Be sure to dress for the weather. It can be a morning for long underwear, gloves, hat and a heavy jacket," says Paup. The event is rain or shine, so pack raingear.

WHERE TO STAY

The recently-built Mount Ayr Inn offers some of the best lodging in southern Iowa and includes a continental breakfast. Located in Mount Ayr 20 minutes west of I-35 at the intersection of state highways 2 and 169

at 1304 East South St. 641-464-3500 or 866-464-2093, mountayrinn.com.

WHERE TO EAT

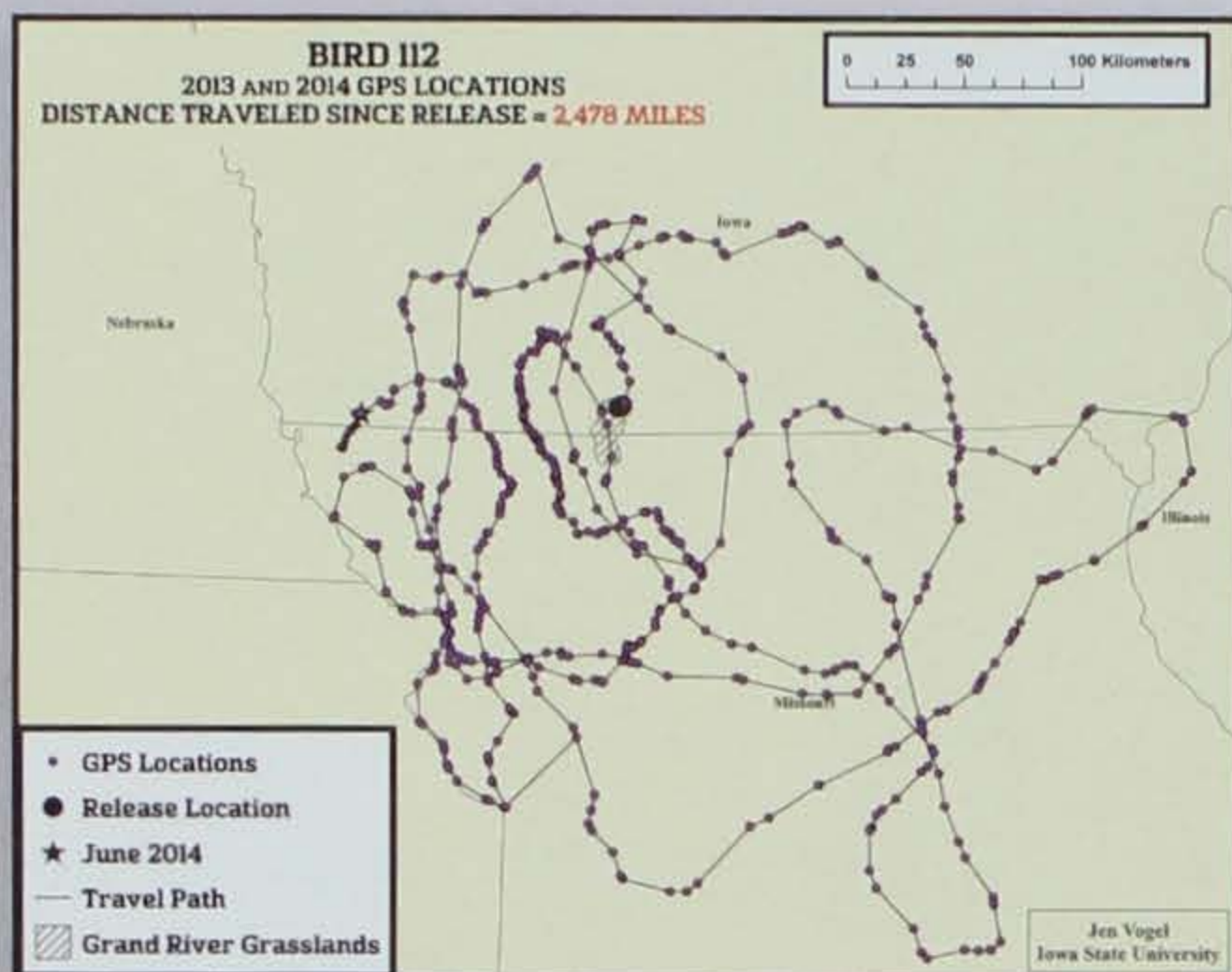
On the south side of the downtown square is Greggo's, a pizza and sandwich restaurant at 103 West Monroe St. in Mount Ayr. 641-464-8889.

TO FIND THE BOOMERS

Travel two miles west of Kellerton on Highway 2 and head south for one mile on 300th Avenue. Ample parking and wheelchair-accessible viewing stand.

HEAR THE BIRDS

The racket the booming birds make sounds more like wildlife in a deep jungle or a Tarzan movie than Iowa grassland. Give a sample listen at prairiechicken.org.



GPS transmitters allow ISU researchers to track bird movements by satellite. While bird 112 is an anomaly, the average prairie chicken travels about 1.25 miles per day, with hens nesting in tall grasses close to the lek. The Kellerton Bird Conservation Area is a premier area for all grassland birds, but especially for prairie chickens, providing a mosaic of working lands and large areas of grass. Research into bird movements and preferred habitats will guide restoration efforts for private landowners and DNR biologists alike—upping the chances that the prairie chicken is back in Iowa to stay.



“Most of her travel has occurred during the spring and early summer months,” says Vogel. “Bird 112 did not attempt to nest in either 2013 or 2014.”

Number 112’s search for the perfect mate or perfect habitat has taken her to 21 Iowa counties, as well as Missouri, Illinois and Kansas. On average, she’s traveled 5.5 miles per day. But she’s flown a whopping 71 miles in one day—quite a departure from what other scientists have observed and recorded in scientific literature.

Her last known location was in northern Missouri

when the juice in her transmitter batteries finally ran out.

So far, as DNR enters the final year of prairie chicken restoration, the program looks successful. “We can confidently report that we observed nine to 10 broods this summer and The Nature Conservancy folks at the Dunn Ranch have observed four or five broods in Missouri,” says Paup. He added probably the biggest contributing factors to success the past couple of seasons are improving habitat and the drier weather last July.



Make a Day of It!

After watching birds booming and dancing at the Greater Prairie Chicken Day near Mt. Ayr, trek north to Blank Park Zoo in Des Moines to revel in Chief Blue Star Eagle, Sherwyn Zephier, and wife Estellene of Yankton Nation on April 4 from 1 to 3 p.m. for a program and world class Prairie Chicken dancers. Native Americans of many cultures valued the prairie chicken as heralds of spring, developing elaborate dances that mimic the males' performances at the booming grounds. Now's your chance to witness these dances. Blank Park Zoo 7401 SW 9th, Des Moines Blankparkzoo.com, 515-285-4722



Habitat is the key.

The highest prairie chicken populations in Iowa weren't during the heydays of tallgrass prairie, but likely peaked in the 1870s or early 1880s after settlers dotted the landscape with small fields of small grains, hay, pasture and native prairie.

With plenty of food, winter and nesting cover, prairie chickens flourished, leading to massive market hunting and trapping. Always a staple food of Native Americans and settlers, by the late 1800s nesting and winter habitat

were beginning to disappear from a more intensively farmed landscape.

As "wastelands" and grasslands continued to disappear, the once abundant prairie chicken became one of the first wildlife species the Iowa Legislature protected in 1856-57, passing a bill to close hunting from Feb. 1 to July 15. Today, habitat is still the limiting factor for poule des prairies, one that Paup and others keep in mind as they manage the publicly owned grasslands of southern Iowa. 🐔

Spring Ephemerals

Hidden Treasures of Iowa's Woodlands

STORY AND PHOTOS BY BRIAN GIBBS

Ephemeral (ephem-er-al) noun:
*Something that lasts for a very short
time, specifically a plant that grows,
flowers and dies in a few days.*


Winter. How dangerous to start a wildflower article with such a cold word. This past winter felt like I was living inside a constantly shaken up snow globe. On one of these winter shakings, my mind evoked an advertisement by the Ad Council and U.S. Forest Service. The ad had one child holding a video game controller and the other child holding a turtle. Between the children are the words: "Unplug—Discover the Forest." After this memory, I click save, shut off my computer and head for the woods.

Grinning in the face of another polar vortex, I drive through the morning snow and sip warm Sumatra coffee. After following a carrot-colored snowplow for several miles, I turn north on an icy gravel road and arrive at one of the wildest places in Iowa: White Pine Hollow State Preserve. A relict landform, this preserve offers a journey back in time to all who dare to navigate its woolly hills. I hike to a remote ridge where countless whorls of

trees tower over me. The high spires above are 170-year-old eastern white pine trees and are the tallest living organisms in Iowa; in the preserve, some reach heights of up to 130 feet.

An airport of eagles is flying about, and one by one they rise out of the frosted evergreens. Fireworks of snow burst off the dark jade needles and fall into the narrow limestone canyon 250 feet below. The eagles rendezvous overhead, their black bodies contrasting with their snowy heads and tails. The birds glide through the valley and cut through the wind, displaying the most royal form of grace I have ever seen. Even a pine-framed eagle print could not capture the beauty of this magical moment. I am on the inside of a winter still-frame looking out to the busy world, and when a strong enough wind blows the snow like confetti off this spine of pines, I am reminded of the birthday of spring, alive and gifted with hope all over again.

Springtime is when images inside the forest change,



Found in Fish Farm Mounds Wildlife Management Area in Allamakee County, this Pasque flower was one of 124 blooming atop a goat prairie overlooking the Mississippi River.



One of many ephemeral treasures of Bixby State Preserve in southwestern Clayton County, this double flower hepatica is caused by natural genetic mutations versus the normal one row of petals.

but the frame stays the same. It is a period when trees are kaleidoscopes of hope, an oil canvas of a dozen different greens. A hopeful bud on a branch turns many leaves into one brave tree. Found growing under these tall oxygen machines are tiny wildflowers called spring ephemerals—short-lived lifeforms in a photosynthetic race against all other forest vegetation, including the trees themselves. Often starting in March, the plants open themselves up to anything, hoping to capture as much sunlight and pollinators as possible before the forest leafs out and reduces sunlight.

Springtime is when flowers melt snow. Though March can be a harsh time of the year, it is also when the fairest of wildflowers glow. Just as the redwing blackbird is harbinger of spring in flight, so too is snow trillium a messenger of light. On an early spring drive to work, the glare produced by the warming sun and melting snow was extraordinarily bright, causing me to remember where a roadside patch of snow trilliums grow. I dismiss the routine of being early to make the coffee at work and drive to the flowers' suspected location. Upon arrival, I am greeted by an elegant unfolding of the three pearl-white petals for which snow trillium is named. Trilliums are simple in their appearance, but a bit strong in aroma. Like most other early wildflowers, they emit a coarse smell to attract young season pollinators, such as beetles and flies. The smell of the first open trillium bending towards the warm spring sun is powerful enough: never mind the long dark winter it has had to overcome.

Springtime is when nature is full of charm. Every April, the allure of seeing a Pasque flower in bloom forces me to leave work early. This flower blooms around Easter time hence the name "Pasque" (meaning "like Paschal," relating to Passover/Easter time). Typically found in Iowa's tallgrass prairies, Pasque flowers also grow on high blufftop openings called "goat prairies" (referring to a hill so steep it was thought only goats could graze on it). Up on goat prairies, dozens of plant, animal and insect species interact with each other to make up a truly unique habitat. Luckily, one of my close friends has the agility of a goat, and after scaling a limestone ridge along the Turkey River, he clued me into a patch of "tiny, amazing wildflowers" he had never seen before.

The next workday I leave early to begin a wildflower treasure hunt. Having no map and only my friend's

descriptive words, I deliberate how to find a flower I've never seen. As I amble through the sunny April woods, a few ephemeral clues appear: hepatica, bloodroots, spring beauty—noble wildflowers that never make the evening news. Thankfully, the climb is not too daunting and I make it to the ridge quicker than expected. On top of the bluff, under an impossibly blue sky, thick mats of small edged plants—sedges—make the ground feel like shag carpet. Chorus frogs call in the distance. Twisting branches of eastern red cedar trees teem with green, blue and yellow organisms called lichens. Though a combination of a fungus and algae, lichens live as one plant, and simply use the cedars to connect themselves. Without knowing their names, I admire the lichens until a tiny, fuzzy flower catches my attention.

Like an ear that was just whispered a secret, my eyes drop to the ground. On hands and knees, I measure the plant to be no more than 2 inches tall and notice the flower's stalk is full of tiny, white, silky hairs. These smooth "hairs" are the plant's adaptation to keep it warm during the cold days of spring. The flower has six beautiful white sepals that contain parallel veins, which lead into its bright yellow stamens. Upon further scientific investigation, I learn this mystery flower is indeed a new species for my records called Pasque flower. I will always value Pasque for its ability to make me forget winter, and associate it with the radiance of a great friend who led me to the origin of discovery.

Hiking Mossy Glen for Flowers

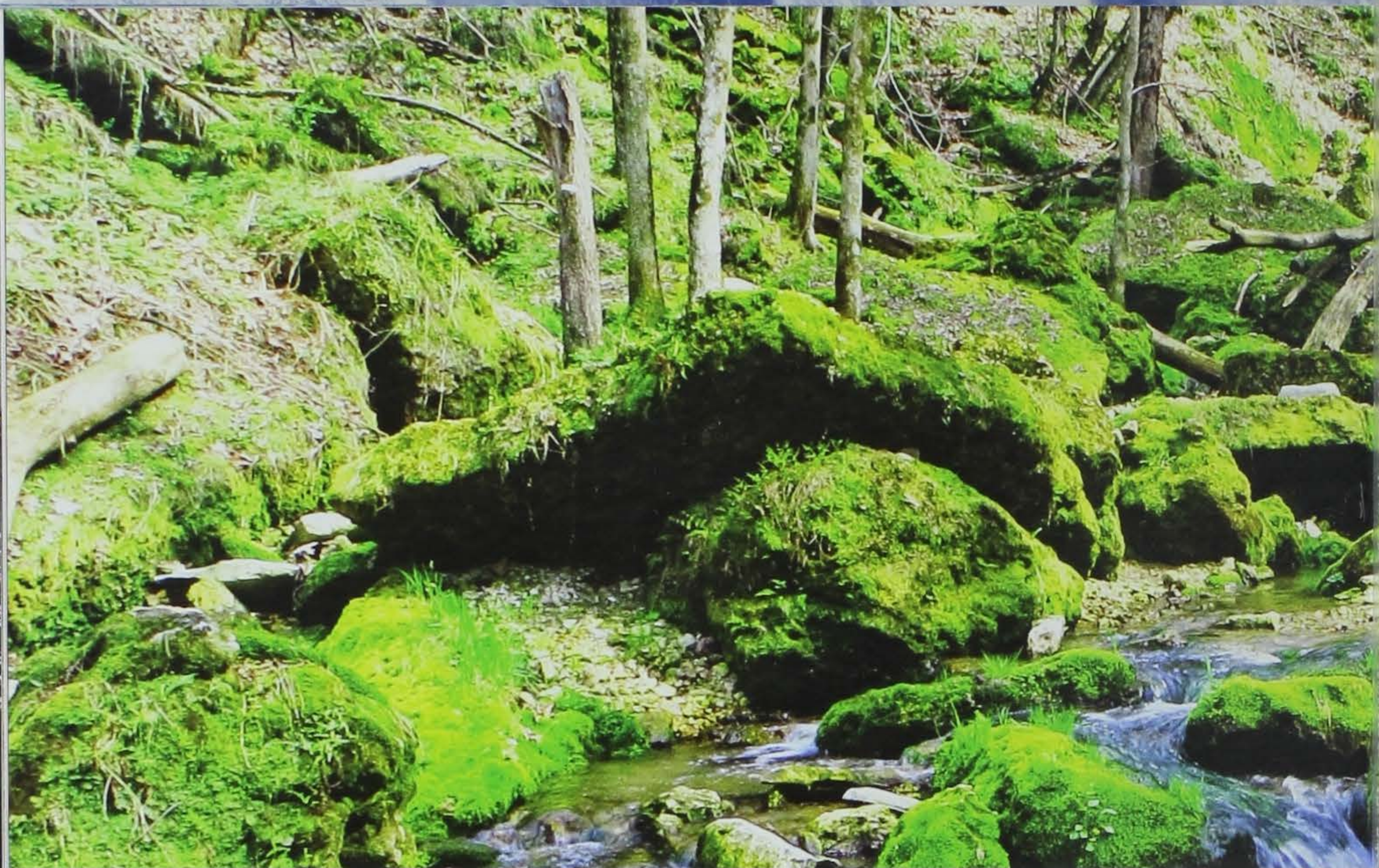
Springtime is when grey rocks turn green. On a warm April day, I invite fellow naturalist Larry Stone with me to photograph the beauty of Mossy Glen State Preserve. I am anxious to discover which of the sanctuary's 326 plant species could be in bloom. Though the preserve is

merely 80 acres, it feels much larger due to its location on what geologists term the Silurian Escarpment. Not only does this prominent jagged feature mark the boundary of two Iowa landforms, its durable bedrock called dolomite (magnesium-rich limestone) was formed in a shallow sea nearly 430 million years ago.

Walking down through Mossy Glen's deeply dissected gorge, Larry and I observe several large rock outcrops and notice the air smells and sounds like rain. With blue skies above us, we venture to the bottom of the valley floor and discover

Yellow trout lily at Mossy Glen State Preserve in Clayton County. Many people are familiar with the white trout lily or dogtooth violet.





a spring bubbling out from beneath the ground. The melody of clear water gliding over rocks composes an enjoyable symphony. Large mature red oaks tower in the floodplain forest and under them a remarkable grove of wildflowers are in bloom. The highlight of these flowers is a stunning species called yellow trout lily. This plant is listed in Iowa as a state threatened species and occurs in less than 10 Iowa counties. On this sunny day, the lilies grow with such vigor they turn the hillside into a gilded paradise. Excitedly, Larry and I continue upstream to see

what other treasures we can find.

Along our journey, the Louisiana waterthrush, a lover of healthy forest streams, sings a loud ringing call and bobs its feathered tail. Larry is up to his knees in carpets of false rue anemones and alongside me are more than 20 different drops of color blooming on the forest floor. I have never seen such diversity of plants in flower. Be it a bumblebee in bellwort, the unique shape of squirrel corn, or the snowflake bloom of miterwort, wildflowers are tiny magicians of fleeting joy. In springtime, I am weightless in the luxuries they so freely provide. After photographing several of them, Larry and I make it to the origin of the preserve's largest spring.

At the canyon headwall, several crystal clear waterfalls cascade over dozens of van-sized boulders. Though these dolomite rocks are erosion resistant, the incessant movement of ground and rainwater has dissolved small pits into the rocks called "vugs." Growing on many of these damp, porous rocks are countless species of ferns and mosses. The rocks, water and plants work together to form an intricate assemblage that looks like a vast river of emeralds.

Out of the corner of my eye, I notice Larry photographing a single patch of yellow plants growing next to a spring. I had seen the plants elsewhere in Iowa, but couldn't recall their names. Fortunately, for my sanity, Larry informs me the plants are marsh marigolds. We take turns photographing and later learn this wetland

Jeweled shooting stars on cliffside at Turkey River Mounds State Preserve, Clayton County.





Mossy Glen State Preserve in Clinton County features a rugged forested area along the Silurian Escarpment—a prominent line of bluffs consisting of massive outcrops of 430-million-year-old dolomite. More than 300 native plants reside here. Plants are protected in all preserves, so take only photos and leave flowers and plants intact.

plant was previously unidentified in the park's floristic surveys. However, the biggest discovery learned in the preserve was that any spring day lost among the wildflowers of Mossy Glen has the ability to extend human life from joy.

Climbing the Heights of Turkey River Mounds

Springtime is when floral stars are shining above the Mississippi River. On an early May morning I prepare to climb 225 feet up from the Mississippi River to a sacred ridge known as Turkey River Mounds State Preserve. The refuge contains 38 Native American burial mounds and is home to one of the state's most rare spring wildflowers called the jeweled shooting star. This state threatened plant grows in Iowa on moist shaded areas of north- and east-facing limestone bluffs. Because of its unique habitat requirements, it is only found in five of Iowa's 99 counties, with all populations in northeast Iowa.

The hike to the ridge top is a steep adventure. Halfway up the vertical eastern slope, I lose my footing in the rich, black soil that has been created through decades of decomposition and shade. I am not prepared to take the 10-story tumble, and in a last ditch effort, I reach out to the nearest tree. Luckily, as it has countless times, the strength of a small musclewood tree saves me. I regain my composure and feel the cheers of spring beauties near my feet. A crowd of nodding trilliums are at my knees. "Climb higher, reach for the sun, there is a jewel at the

top," is what I convince myself they are saying.

I reach the preserve's summit. Sweat drips down my face. A coyote takes off down the ridge line and an eagle soars above me. The raptor is so close that I not only feel the large shadow it casts, but also the cool wind its wings produce. I rest on a ridgetop prairie and watch an ant crawl inside the showy yellow flowers of a plant named hoary puccoon. Eventually, the warmth of the sun forces me to trek further down the ridge until my feet are halted by clusters of jeweled shooting stars bursting on a rocky precipice. The flowers peek out into the abyss of the Mississippi's floodplain and as a lonesome freight train rolls below me, 10,000 of last fall's maple leaves are afloat, verdantly blazing all the way down to the sea.

Springtime is when Iowa is most proud. In early June, the forest canopy has leafed-out and big songs come from little birds called warblers. These birds annually fly thousands of miles and use the forests of Iowa either as a resting point or a home to nest in. Below the trees, many of the spring ephemerals have succumbed to the shade and are no longer in flower, yet I've waited all spring to look for one elusive flower.

On a June weekend, I choose a steep location to end my yearly spring ephemeral wanderings. After several minutes of strenuous hiking, I am greeted with a blast of cold air coming from beneath a pile of slumped rocks. Putting my hand under the cold rocks reminds me of winter. Forested places such as these in northeast Iowa



Yellow lady slipper in the June rain,
White Pine Hollow, Dubuque County.

are called algific talus slopes, meaning the rocky forested slopes stay cold year round. The end result of this phenomenon is a rich microclimate of species uncommon to the rest of Iowa. A few of the woody species growing directly from the cold rocks beside me are Canada yew and yellow birch, two species typically found much further north in Minnesota and Canada.

On one of the slopes, a state-threatened orchid is in bloom called the showy lady's slipper, or moccasin flower. I've only read about the magenta-colored plant in books and shake with childlike joy as I photograph its allure. In her poem, "Moccasin Flowers," poet Mary Oliver articulated the beauty of this flower. "All my life—so far—I have loved best how the flowers rise and open, how the pink lungs of their bodies enter the fore of the world and stand there shining and willing—the one thing they can do before they shuffle forward into the floor of darkness, they become the trees." Before the orchids can become trees, they must first interact with a fungus in the soil to derive food supplies.

Showy lady's slipper uses strands from a fungus to break open its own seed, and then attaches itself to the fungi's threads. The fungus will pass nutrients to the orchid's seeds until the orchid can produce most of its own nourishment. When the orchid is mature, the fungus will then turn the table and extract nutrients from the plant. In nature, this mutually beneficial relationship between two different biological species is known as a symbiosis.

On an adjoining hillside, a federally-threatened northern monkshood opens its hopeful flowers. It grows in damp, cold air drainages and only occurs in four states. The plant's deep, purple flowers are pollinated by bumblebees that open the blooms to gather pollen and nectar. Growing nearby are potions of love called red columbines, unique plants whose bell-shaped flowers contain five petals. Each flower petal ends in a long nectar-tipped tube or "spur." Because of the spurs' concealed location, columbine is often pollinated by long-tongued animals such as hummingbirds. Growing among the columbine and monkshood is the greatest assembly of yellow lady slipper orchids I have ever seen. I try to count all the yellows in bloom, but after 70 orchids, realize there is no quantitative way to capture them all. I cherish all these tiny wildflowers that make my Iowa heart feel big.



Squirrel corn grows infrequently in northeast Iowa woodlands, shown here at Mossy Glen State Preserve.

Springtime is when the trees of Iowa have the audacity to sprout from the richest soils in the world.

Explorations in the woodlands of Northeast Iowa have taught me, as nature writer Rick Bass advocated, "We need wilderness to protect us from ourselves." Though there is no federally-designated wilderness in Iowa, public access to wild places still exist, albeit in small percentages. According to the 2012 Outdoor Recreation in Iowa Plan, "Iowa has about 56,239 square miles between its borders with only about 2

percent of natural resources in public ownership managed by federal, state, county and city governments." In many parts of Iowa, wildness is disappearing faster than it can be saved or even recognized.

According to the U.S. Forest Service in 2012, Iowa lost a historic 42,000 acres of woodlands, or the equivalent of 65 square miles of trees. For comparison, this demise of timber is more than the 36,000 acres of woodlands growing in DNR state forests. Confronted with the realities of rising land value rates and high commodity prices, Iowa's woodland ecosystems may continue to vanish quicker than they can be grown. With an oak-charred heart, I wander into pathless woods, in hopes that I may find a flowering grace that is strong enough to overcome all this loss.

If wildflowers and birds cannot save our woodlands, maybe our children can. But first we must accept that in such rapid destruction of our native forests, our children and grandchildren are denied access into living laboratories full of quiet green beauty. Where else can our kin be infused with the simple facts that every bumblebee that pollinates each wildflower, each waterthrush that drinks from a forest stream, every parcel of oxygen producing trees, matters.

In our ephemeral lifetimes, we may never fully be able to read the deep-rooted language of our woodlands because their layers mature so slowly. To protect the diversity of life co-existing in Iowa's woodlands, we do not need to hug every tree, or know each plant or birdsong by name (one does not have to know every star to realize the importance of a whole constellation.) Collectively as Iowans, we must empathize that we need the promise of springtime just as much as we need the patience of trees. I would rather have the strength of one acorn in my hand, then the infertile glow of a thousand distant stars overhead. 🌱

Gone But Not Forgotten

BY KAREN GRIMES

PHOTOS BY BEN CURTIS, CLAY SMITH AND KAREN GRIMES



Iowa's prairie cemeteries shelter not only the graves of early settlers, but showcase the complex prairie communities that created Iowa's rich, fertile soils through the millennia.

OPPOSITE PAGE: This 1-acre prairie adjacent the cemetery in Crawford County is an important reference for scientists studying soil formation and changes following cultivation.

It's a passionate love affair, carried on for more than 30 years. The object, the ever-changing, multi-floral, deep-rooted, soil-building factories of the Midwest, Prairie.

Some call the tallgrass prairie the most endangered ecosystem in the world. Glenn Pollock is out to save it, building a second career out of preserving scarce remnants, all that remain of a vast sea of grass that once stretched from Texas to Canada, Indiana to eastern Nebraska.

Closest to his heart is a miniscule scrap of a prairie, an integral part of a Crawford County pioneer cemetery established by the King family in 1854. Just a stone's throw from a Native American trading trail, today you'll see corn and bean fields on three sides. But look to the west, and a plethora of plant species greets you through the seasons, advancing from yellow to white to purple to red-brown. The same floral progression welcomed early settlers and Native Americans.

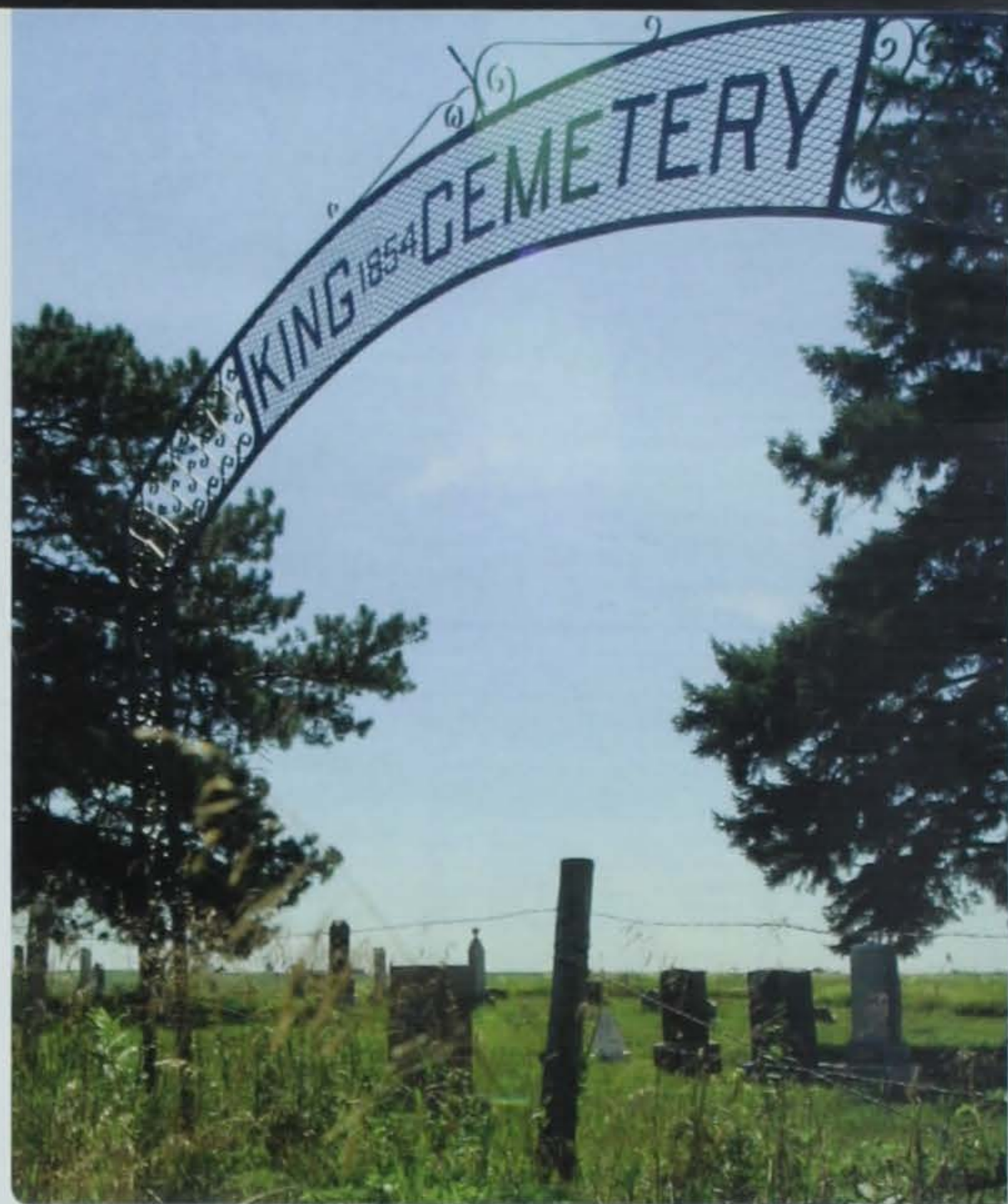
Friendly and personable, he campaigns to preserve that diverse landscape. On a rainy June day, he herds a huddle of wet prairie enthusiasts around his favorite one-acre virgin prairie adjacent King Cemetery. The rain pours down, umbrellas and jackets drip incessantly. At least one prairie enthusiast heads to the car as the towel he sports, his only protection, becomes soaked. It's no day for the easily-chilled.

The rest are undaunted. The air is fragrant—not quite fresh cut hay, but pungent, spicy and grassy. The prairie is cloaked in yellow golden Alexander (*Zizia aurea*) masking the smaller, less showy plants beneath. Hoary puccoon, prairie phlox, big bluestem—which will tower over all plants by end of July—and, not yet blooming, coreopsis.

"Come back in two weeks, and you'll see a carpet of white flowers," Pollock says. "Two weeks after that, the prairie will be yellow again as the coreopsis blooms."

Although he obviously loves flowers, he hooks many people on human history. "King Cemetery is named for George Caldwell King, who bought the land when he and his wife Catherine moved to Crawford County from Missouri in 1854." They were among the first 50 settlers in the county. When King died, they plotted off part of the prairie, called it a cemetery and buried him there.

"Here as elsewhere, one of the first things settlers did was pick out a hilltop with a great view and beautiful natural wildflowers," Pollock says. "They didn't have Earl May or plastic flowers like we do today. They didn't have lawn mowers or weed whackers." And, they had no time or energy to groom their cemeteries. So they honored their dead by placing them in a garden decorated with a constantly changing display of native



"Grassland soils have been thoroughly protected by the unbroken mantle of prairie vegetation. The vegetation and soil are closely related, intimately mixed, and highly interdependent upon each other and upon the climate. Hence, prairie is much more than land covered with grass. It is a slowly evolved, highly complex organic entity, centuries old. It approaches the eternal. Once destroyed, it can never be replaced by man."

J.E. Weaver, *North American Prairie*, 1954.

flowers—the only maintenance being the prairie fires, which the pioneers dreaded.

"In his native Crawford County, Glenn has kept an eye on natural areas, little pockets of our original prairie, and he became especially interested in the remnants of prairie in cemeteries," says Dianne Blankenship, educator and organizer of the Loess Hills Prairie Seminar.

A founding member and past president of Iowa Prairie Network, Pollock shares his mission with novitiates and fellow enthusiasts alike through field trips and talks, some 300 since he first fell for prairies.

"He ties in the cultural history with the natural history, hoping people become more interested in the native plants, too," says Blankenship. Pollock's adept at weaving the two together.

At King Cemetery prairie, early spring brings a blush of knee-high clusters of golden Alexander. The prairie



array changes to white as wooly low-lying pussy toes, then false white indigo blossom. Mid to late summer, purple leadplant dominates the prairie. Look closely to find yellow star-grass or blue-eyed grass. In late summer, tiny blooms embellish the tall grasses, but find the real gems amongst the showy yellow sunflowers and goldenrods, mixed with spikes of purple atop blazing stars, lavender-pink milkweed and lavender ironweed. Look lower for brilliant blue clusters of downy gentian. After the first frost, Indiangrass and big bluestem gleam red-brown, backlit by new snow.

It's ironic the original prairie once covering up to 85 percent of Iowa now resides largely in scattered remnants amongst the graves of pioneers and adjacent to railroad tracks that brought many to Iowa. Yet, it's also inevitable as these are two places on the landscape left unplowed.

In 1833 when Iowa's earliest settlers arrived, they discovered waves of grass, not forests, starting a few miles west of the Mississippi River. At first they thought it was infertile, a desert, a place to pass through on their westward journeys. If the land couldn't support trees, how could it support farms?

As they broke sod and planted crops, they soon discovered grasslands—with their 15- to 20-foot deep roots—out-yielded woodland soils by far. Prairie ecosystems created some of the most fertile soils in the world, building up the rock-studded till left by glaciers with rich deposits of organic matter.

Early Iowa farmers urged friends and family members to join them. Railroads, speculators and land companies enthusiastically advertised Iowa's fertility. By 1839, news in the *Buffalo Journal* touted "...taking into consideration the soil, the timber, the water and the climate, Iowa territory may be considered the best part of the Mississippi Valley. ...the Sioux and Fox Indians, on beholding the exceeding beauties of this region, held up their hands, and exclaimed in an ecstasy of delight and amazement, I-O-W-A, which in the Fox language means 'this is the land.'"

Settlers responded. In 10 years, the state's population jumped nearly five-fold from 43,112 in 1840 (when Iowa Territory stretched north to Canada) to 192,214. By fall of 1854 an estimated 20,000 people crossed the Mississippi River by ferry, with one in 100 wagons bound for Nebraska, the rest for Iowa. Land offices could not keep up. By 1860, the population more than tripled to nearly 700,000.

As the tour group huddles under a large juniper, Pollock pulls out an 1875 Andreas Atlas showing a Native American trail running east of the cemetery. He passes around a stone ax head he found along the same trail close to the Boyer River. "If the Native Americans or King were alive today, the crop fields would look foreign to them, but they could still recognize the prairie to the west," he says. "It is ours to save that bit of history."

A nearby headstone bears the name of World War I

veteran John Slechta, who died 10 days before the Armistice in the Battle of Verdun in France. "It was one year before his parents were notified of his death, although as others came home from the war, the parents figured it out. It was two years before they received his bones for burial," recalls Pollock from his historical research.

The mowed, groomed ground around the headstones stands in stark contrast to the colorful, diverse prairie. Further west, the fenceline marks another vivid change, the ground dropping off 2 feet from prairie to cornfield, mute testimony to erosion of Iowa's organic-rich topsoil.

Hazel eyes flashing, Pollock is passionate when he talks about the power prairie plants have to build roots, create soil and hold it in place. As Daryl Smith, founder of the University of Northern Iowa Tallgrass Prairie Center says, "I see Glenn at very many prairie events. He's representing western Iowa. He's always there. He can be quiet and unassuming, but when he gets going on prairies he really becomes quite passionate and strong in what he has to say." It's that passion and many long-term efforts toward conserving prairies that led to Pollock receiving the 2013 Prairie Advocate award at the Iowa Prairie Conference.

The very fertility of the soils caused the prairie's swift demise. In 20 years, millions of acres bearing a bouquet of 250-plus species of flowering forbs and grasses decreased to a few crops: Indian corn, flax, wheat, oats, barley, rye, buckwheat and vegetables. Today, experts say about 0.1 percent of the richly diverse 23 million prairie acres remain.

Why save it? Some want it saved out of nostalgia for the past, a remnant of Iowa's pioneer heritage. But Pollock's passion for prairie comes from its value as a living laboratory showcasing the multitude of organisms and interactions that create soil.

"The prairie plants created this rich soil in Iowa. We don't know exactly how it happened. We don't understand the process. We don't know the medicinal value of the plants. So we don't want to destroy it, because we might be saving ourselves when we save it," he says.

Of course, sheer beauty, diversity, history and nostalgia also factor into Pollock's preservation efforts. He takes aim at different audiences tailoring appeals to their interests, leading about 10 talks or field trips per year on

CAPTIONS: While emblems, icons and headstones record human history, prairie blooms adorn and decorate their graves from spring through fall. Early settlers prized the beauty of native prairie as they chose pretty resting places to honor their relatives. Long before plastic flowers, these natural areas provided low maintenance and year-long showy blooms among the graves. As seasons change, so do the predominant colors. Clockwise from upper left: The whites and creams of New Jersey tea in late May, prairie at King Cemetery in May, golden Alexander (behind WWII icon) in June, showy black seed pods of baptisia and white asters in September and goldenrod in August.



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prairies and pioneer cemeteries.

Prime targets are the county boards and cemetery trustees who have the power to save prairie remnants or destroy them. For this audience, including historians and genealogists—often unfamiliar with prairies—he talks about the rich natural and human heritage found in those plots.

Life on the prairie was hard, with winter blizzards, floods, fires, disease, childbirth and accidents taking a heavy toll. Sadly, one of the pioneers' earliest needs was a cemetery. When Pollock talks to trustees, he appeals to their sense of history and reverence for those buried.

He's armed with information. He's researched the identities of the deceased, their nationalities, the sayings and decorations on the headstones and the symbols mounted at the side of the headstones. He's visited the cemetery, taken photos and identified many plants. If there are prairie remnants, he knows how many species inhabit them.

While the pioneer history might go back to the 1840s or 1850s, Pollock reminds them the natural history

reflects tens of thousands of years, encapsulated in the deep fertile soils and native plants. It's a perfect blend of human and natural history.

If he can, he gets the trustees outside, leading field trips where even 130 or so years later, it's easy to feel the pain of someone who lost a beloved spouse or child. In Kennebec Cemetery, established high on a Loess Hills bluff above Castana in 1866, he shares the poignancy of the graves with an intrepid group of attendees at the Loess Hills Prairie Seminar. As they huddle in their raincoats and ponchos on a cold, rainy, blustery day in May, he points to a small stone lamb, symbol of innocence. The lamb safeguards the childhood grave of Tommy R. Carrit, who died in 1879, age "3 ys, 7 mos, 21 dys, son of T. R. and Mary M. Carrit." With uplifted head, the lamb lies on a stone that proclaims, "Vigile Keep."

He points to one of the oldest graves, William B. Flower, who died April 29, 1874. We're touched to learn he was 52 years, 3 months and 29 days old. At the top of the stone, a hand points up, signifying the pathway to



Looking east from King Cemetery, no trace of a Native American trail remains on the crest of a soybean field. But traces of the trail remain along the Boyer River to the south where prairie promoter Glenn Pollock found a stone axe head.

heaven, highlighting a banner that says simply, "At Rest."

But Pollock stays on task, revealing why these cemeteries are unique, with more than memories to share. While most gravesites at Kennebec lie in mown grassy areas, an untended wild area caps the steep slopes to the east and south. Pollock points to *Ceanothus americanus*, New Jersey tea, a shrubby plant bearing small clusters of pinkish-white flowers. It's pretty and fragrant. It hosts the caterpillars of summer azure and skipper (mottled duskywing) butterflies, an Iowa species of greatest conservation need. The pioneers and Native Americans dried the leaves for tea. However, he tells us settlers hated the plant and found it near impossible to remove from the dry hillsides where it thrives.

It's the plants hidden among the mowed grass or lurking in a back corner of the plot—the plants that look like weeds to the uninitiated—which are jewels to Pollock. At the foot of the weatherworn stones and barely decipherable lettering often hide the wild, fragrant brilliance of Iowa's prairie remnants. Here Pollock

reveals the myriad of wildflowers Iowa's earliest settlers chose to decorate their first burials of family and friends.

Several graves bear bronze five-pointed stars, at least two bearing initials GAR in the center. Five emblems, an anchor, crossed swords, crossed rifles, crossed cannons and a bugle decorate the five points of the star. GAR stands for Grand Army of the Republic, a men's fraternal organization for Union Army soldiers who fought in the Civil War.

"The pioneer cemeteries weave the history and natural history together into one intertwined basket which can only be destroyed by our modern habits of overly tending the cemetery—mowing, grooming, weeding, applying herbicides," he says.

"Iowa has more native orchids (26) than there are in Hawaii (3), the so-called orchid state," says Pollock. "The prairie fringed orchid is rare in Iowa, but it's been documented in two pioneer cemeteries." Other beauties include hairy puccoon, orange Turks cap or Michigan lily, magenta prairie smoke, and *Baptisia*, which can be yellow, blue or white and is related to soybeans. The

seasonal procession marches on: spiderwort—sometimes known as cow slobbers—sand milkweed.

Just as he extols the diversity of the plants, he encourages the tour group to notice the symbolism in the headstones, emblems and grave markers. Above Alma Riley's stone, a dove flies over a flower and the letter R. The base of the emblem is a waning moon decorated with seven stars. "That symbol, (the dove), tells us Riley was a member of the Daughters of Rebekah, an auxiliary of the Independent Order of Odd Fellows."

On the northeast hilltop, Pollock leads the group to a towering monument under a pine tree. The foundation is moss-covered stone or concrete, simulating the criss-crossed logs of log cabin construction, with "Smith" inscribed at the base. Looking up, columns of branches and ivy leaves arch above the four-sided obelisk. Here lie Ellen Smith, 51 when she died in 1892; Ellen's brother Seth, and Socrates Smith who was 81 years, eight months and 1 day old when he died in 1895. The fourth side remains blank.

The Smiths must have been a healthy bunch as trees often denote a life long-lived, immortality or everlasting hope. A tree stump or broken branch, however, indicates a life cut short. A broken branch may indicate a child's death.

Warmed up now, the group treks down to the far southeast corner of the cemetery. Pollock guides them to a few unmarked slabs—the equivalent of a potter's field. "These are the graves of travelers who literally fell off the train," he says as he points to railroad tracks on the east, "their names never known." Their relatives never notified. They were likely some of the earliest burials. How sad.

On a less manicured hillside, Pollock and knowledgeable members of the group enthuse over prairie plants emerging from the grass—tart tasting wood sorrel to wooly-leaved, low-growing pussy toes and the shrubby lead plant.

Small and harder to identify in early summer, the mere presence of these plants shouts "this is a high quality prairie." To the knowledgeable. To prairie aficionados, like Pollock, lead plant and pussy toes tell volumes about the soil conditions (dry, sandy or clay), the deep roots (which help control erosion, increase water permeability and add to soil fertility), and the status of the prairie (a remnant, not a newly established reconstruction).

Take note, the Kennebec cemetery trustees have a treasure here. They've been wise to set aside the uninhabited portions of the cemetery, allowing it to stay natural. These prairie microcosms provide a history lesson embedded in the seeds themselves—a local ecotype seed source that could be endangered.

In an ideal world, Pollock would convince every pioneer cemetery trustee to abandon mowing and manage cemeteries naturally by periodically burning them. "It won't hurt the headstones as much as weed whackers do," he says. "At the very least, let the grass grow in the unpopulated portions of the cemetery,

allowing it to go natural."

Although he says he can no longer run up and down the bluffs, Pollock aids a western Iowa prairie burning team—keeping trees out and welcoming in wildflowers. "We're doing a lot of prescribed burning in the Loess Hills trying to restore our savanna and prairies," says Chad Graeve with the Pottawattamie County Conservation Board. "We use two-way radios for communication on our burns. In this rugged terrain, cell phones are not rapid enough for our work, especially where safety is involved."

Cell phones only reach two people, take too long to connect by the time you look up the number, dial it, wait for an answer. Radios are instantaneous and everyone on the burn hears the message.

"For years, every partner had their own frequency. So Pottawattamie County could talk to their own people and Harrison County could talk to their own people, but they couldn't talk to each other," Graeve said. "Glenn's worked on radios for my crew and now all our other partners—other county conservation boards, The Nature Conservancy, DNR—everyone can all talk together."

The collaboration lets everyone work on a burn project together, sharing scarce resources and learning from each other.

No stranger to technology, Pollock developed a list of 116-plus pioneer prairie cemeteries in eight Midwestern states using the 1875 Andreas Atlas and other sources to locate pioneer cemeteries. After visiting each and evaluating it for prairie remnants, he records global positioning coordinates to share with others. He's added a few as far-flung as Scotland.

Although he's travelled the world, visiting cemeteries and learning about native plants in Scotland and Australia, this retired Omaha medical technologist's favorite cemeteries are in the county of his childhood home. He knows—knows being he has a deep visceral understanding of, the wild lands and prairies of Crawford County.

Pollock compared the native plants found in

Eganstown Cemetery in Australia, with the native daffodils in Scotland cemeteries and the native prairie flowers in western Iowa cemeteries. The Irish settled in Denison and in Eganstown, both moves to far places driven by cheap land prices.

"I can just imagine two men sitting in a pub in Dublin, one saying 'I hear there's cheap land in Australia,' and the other replying, 'I hear there's cheap land in Iowa.'" And,

CAPTIONS: Pioneer cemeteries have many tales to tell—love, loss, courage, hope and faith. Glenn Pollock (upper right and lower left) connects the human history to natural history while leading cemetery tours and regaling attendees with stories of Iowa's pioneers. The cemeteries—Kennebec in Monona County, Old Catholic in Denison and King's near Vail—are repositories for prairie plants that turned bare glacial till into organic-rich, fertile soils. King Cemetery's tiny prairie remnant provides an inordinate amount of false white indigo seed, which AmeriCorps member, Sarah Nizzi (bottom), helps harvest.





they came, settling, cultivating and harvesting.

In Denison, the Old Catholic Cemetery bears witness to this immigration. Here gravestones vie with tall prairie grasses, competing for the greatest height. Big bluestem and Indian grass brandish head high. Shoulder-high black-eyed Susan, coneflower and goldenrod compete for attention with Celtic crosses and Irish names on the headstones.

Pollock can't say exactly when he became interested in prairies, although the first Earth Day—April 22, 1970—sparked and fueled his environmental activism. The national event galvanized 20 million Americans, educating people about the 1969 Santa Barbara, Calif., oil spill and Cayahoga River, Ohio, fire; smog in L.A.; eagles dying from pesticide pollution—all the environmental problems that led to federal acts to protect air and water.

Early on, Pollock got involved, joining Audubon and Sierra Club. Now, he enjoys helping young naturalists become successful. "When I first met him, I was fresh

out of college and he took me under his wing and started teaching me about prairies," says Graeve. "He took me to IPN meetings and introduced me to people, helped me make connections."

Pollock's interest in nature came from growing up on a farm near the Boyer River, fishing, hunting and trapping. His mom picked wildflowers from a nearby hillside for bouquets as a child. He had an early interest in native plants. "Someone told me there might be prairie in King's Cemetery. I started picking plants and taking them to a botanist friend saying, 'What's this?'"

As he gained knowledge, he searched the steep Loess Hills bluffs, the plains and floodplains of Nebraska and the farms, fields and cemeteries of Crawford County. He discovered prairie remnants, became convinced of their unique value and rarity and started working to restore them, recruiting others to his quest.

"Glenn has been a real asset to prairie plant



Seed harvest at King Cemetery, where 20 pounds of *Baptisia alba* (false white indigo) seed will be multiplied through the DNR's Prairie Resources Center near Brushy Creek, to meet demand for wildflower seed plantings on public lands managed for wildlife.

conservation in Iowa in many different ways," says John Pearson, DNR ecologist and Iowa preserves expert. "His accomplishments include not only cemetery prairie preservation, but also stewardship of state preserves. He's found rare plant species, and alerted us to his discoveries. For Natural Areas Inventory, that's our bread and butter," Pearson adds. Accurate information in the inventory is essential to direct conservation actions toward worthy projects.

From that start, Pollock identified high quality prairie plants in the less-tended, unused half of King Cemetery, working with the Crawford County Conservation Board and gradually removing thickets of wild plum, filling a large hole in the ground and putting up a new fence—one friendlier to prairie fire managers than barbed wire.

And why not? After 20 years of tender care, the restored prairie at King Cemetery has nearly as much variety as the 240-acre Hayden prairie in Howard County.

It has another asset—it's a good source of *Baptisia alba*, false white indigo seed. Perhaps because it's so small, the prairie at King doesn't have any weevils that normally infect *Baptisia alba*.

"There is nothing else like King Cemetery Prairie," says Bill Johnson, DNR biologist and Prairie Resource Unit manager as he brings a team in to harvest seed. "This is the most white indigo I have ever seen on a prairie in Iowa. The indigo there—some of it is almost 4 feet high. On most prairies, you get two to 2.5 feet tall. The conditions must be ideal for indigo. *Baptisia* is almost the dominant plant on that prairie.

"In 2012 Glenn harvested 20 pounds of seed by himself and donated it. This year he met us out there," Johnson says. "It's a pretty valuable wildflower seed. Any wildflower seed, if you had to buy it, would probably run about \$200 to \$300 a pound. It's just a fantastic site. It's just a postage stamp, but it's a gem."



Johnson grows the seed in plots, then harvests and distributes seed to reconstruct prairie on more than 2,000 public acres per year over the last five years. "The origin of our seed all comes from these remnant populations, like King Cemetery."

If Pollock has one goal for prairie preservation, it's making people understand that we don't know how to make soil, we are still learning. "That's our bank, what we have left, and we shouldn't destroy it," he says. "Each prairie chunk is different. It's all unique—each one in Sioux or Iowa or Keokuk or Lee County. We don't just have an example of one, we have a museum of many."

Just four or five miles to the south, a tour group explores Vail Cemetery where they discover an entirely different plant community. In August, there's no butterfly milkweed at King Cemetery, but it's common at Vail and nearby Lutheran cemeteries. "That just shows the diversity of prairies," Pollock says. "Go up one hill, find some plants and go on to another to find different plants."

"It's an accidental gift from our ancestors and we don't recognize it. Some people do. Scientists do," he says. Scientists, particularly those from the USDA Natural Resources Conservation Service are studying prairies as a way to understand how these grassland communities developed, including how site characteristics such as soil types and climate influenced plant communities and ecosystems.

Pollock is pleased that USDA picked King Cemetery as a Reference Community in Iowa—a plant community that existed at the time of European settlement—one that developed in dynamic equilibrium with its environment. Learning more about these sites will enable NRCS to inventory, analyze and help landowners make better management decisions. Information on soils, climate, topography and environmental factors will add to Pollock's knowledge of his favorite prairie.

Recently when corn prices rose and many of the few remaining undisturbed landscapes rapidly disappeared, Pollock knew he was in a race against time. But his strategy of educating people about prairie pays off.

"Vernet and Esther Soenksen went on a prairie hike of mine and Vernet said, 'I've got some natural land.' And I said, 'Let's go look at it.'" It was a super quality woodland. Pollock suggested the Soenksens could pursue a conservation easement. Later when they wanted more protection for their land, Pollock suggested a donation. Some three years ago, the Iowa Natural Heritage Foundation received 155 acres of land for permanent protection.

Pollock's fear is that land without permanent easements or other protection could easily be lost. So when the Loess Hills Preservation Society and the Iowa Natural Heritage Foundation purchased a farm near Council Bluffs owned by the Vincent family, Pollock worked to clean up the site, removing trash, including 220 tires. "Restoring a beat up, never-plowed prairie is like finding an old, rusty '57 Chevy and repainting it," he says.

Pollock's quick to give others credit for their work

on the site. He says he didn't do it alone. But he worked hard on a management plan, presented it to the Iowa State Preserves Board for approval and a year and one-half later, Vincent Bluffs was designated as a State Preserve, giving it the highest level of protection in Iowa. Today, the deep roots of healthy grass have cut water runoff to a trickle, helping protect homes downhill. Signage, an information kiosk and porous pavement parking entice neighbors and prairie enthusiasts to enjoy the gentle undulations of waving grasses and beauty of flowering forbs.

The tallgrass prairie occupies a unique place between eastern forests and western shortgrass prairies, and in Iowa, between two great migratory flyways. Step onto a prairie and breathe in the spicy fragrance from a complex intermix of hundreds of plants. Unlike neighboring monocultures, the prairie hums with insects—crickets, bees, beetles, grasshoppers, aphids, ants, flies, wasps, dragonflies, butterflies and moths. The soil teems with tiny plants and animals, as many as 6 billion in a teaspoonful. It smells rich. Iowa place names—Elk Horn, Badger, Beaver, Buck Grove, Buffalo, Coon Rapids, Raccoon River, Mallard, Otter Creek, Trappers Bay, Elk Creek, Curlew, Buffalo Creek, Wolf Creek, Skunk River, Little Fox River, Buck Creek—reflect this species' richness nurtured by prairie soils and cherished by pioneers.

It's a heritage worth preserving. As fall fades to winter on King Cemetery, the fiery red of a milkweed bug contrasts with a faded yellow milkweed leaf. Brilliant torches of goldenrod stand out while other flowers brown and wither. "Goldenrod does not cause asthma or hay fever," Pollock emphatically declares. "It is ragweed that is the culprit, causing fall sniffles, not goldenrod." Beneath goldenrod, clusters of cream and bottle gentian show off, two of the most beautiful prairie flowers.

Soon wine-red stems and turkey-foot racemes of big bluestem dominate the prairie landscape—waving 3 to 6 feet tall against the brilliant sapphire of a cold,

winter sky. Pollock asks, "Have you heard the story about how 'Turkey in the Straw' was written? They used to put loose hay up in the lofts of barns. Someone saw the seed head or turkey foot sticking out of the straw and decided to write a song about it."

"So many flowers." From spring through winter, from showy forbs to tiny grass seed heads, blossoms decorate the graves. "Truly those pioneers knew what they were doing." 🌻

CAPTIONS: *Prairies are never boring, except from a car far away. Up close, you'll find an ever-changing procession of prairie plants and insects. Top center: July is peak season for flowers at King Cemetery where false white indigo stands tall and sunflowers show off. By September, when tall grasses dominate, look beneath to find bright blue downy gentian in bloom from August to October. Milkweeds turn yellow in late fall, and the red-brown stems of grasses sway through winter. By design, the Crawford County Conservation Board and Glenn Pollock burn the prairie every few years in the spring, encouraging flowers to grow and continued beauty in this gem of a prairie.*

North American paddlefish (*Polyodon spathula*)

North American paddlefish are one of the oldest freshwater fish in existence, with fossil records dating back 300 to 400 million years—roughly 50 million before the first dinosaurs appeared. Considered primitive, they evolved with few changes over the last 70 to 75 million years.



RAMMING SPEED

The mouth is specifically designed to filter tiny zooplankton from the water, although they may occasionally feed on small insects, larvae, fish and crustaceans. When a swarm of plankton is located, the paddlefish swims through it with its mouth open to catch the tiny organisms in tightly set gill rakers, a process called ram suspension filter feeding.

A NEW DAY

Paddlefish fishing was banned on the Missouri and Big Sioux rivers in 1986 due to low numbers caused by extensive habitat loss from channelization. Due to growing populations, beginning this year a tightly controlled season will be allowed on both rivers. Annually, 1,000 special paddlefish licenses will be sold Dec. 15 through Jan. 31. Paddlefish anglers fishing the Mississippi and interior rivers do not need a special license, however all paddlefish anglers must have a valid fishing license. The Missouri, Mississippi and Big Sioux paddlefish season is March 1 to April 15. There is no closed season on interior rivers. Regulations differ by waterbody, so consult the *Iowa Fishing Regulations* booklet for more information or visit iowadnr.gov.

ON THE MOVE

Highly mobile, paddlefish have been documented moving more than 2,000 miles in a river system in search of spawning, feeding and seasonal habitat. They search out sluggish pools, bayous, lowland oxbows, deep water, gravel areas and low-gradient rivers rich in plankton.

THE PRESSURE IS ON

Paddlefish were once common in central U.S. rivers, but populations declined due to sedimentation and river modifications, such as lowhead dams, floodplain levees and channelization. Dams in particular degraded quality spawning and nursery habitats and blocked movement to remaining habitats. Recent collapses in world sturgeon stocks have fueled demand for paddlefish caviar, adding more pressure on the species. Today only recreational paddlefish fishing is allowed in Iowa, with restrictions to maintain sustainable populations.

I'LL TAKE IT GRILLED WITH A SIDE OF EGGS

While they process water through their gills and swim like other fish, beyond that they don't look or act much like other fish. They have a few bones in their head, but otherwise their body is primarily cartilage. Paddlefish flesh is essentially boneless, lending itself to a variety of cooking methods, and the coveted eggs make some of the world's finest caviar.

THINK OF THEM AS TASTEBUDS

Scientists once believed paddlefish, also known as spoonbill, used their signature paddle, or rostrum, to excavate bottom substrate. Today it is known the rostrum is instrumental in locating tiny food organisms. The rostrum and cranium contain thousands of sensors for locating swarms of zooplankton. Even if a paddlefish has a damaged or truncated rostrum, it can still feed effectively.

NOW THAT'S A KEEPER

One of the largest freshwater fish species, they are commonly known to exceed 5 feet in length and weigh more than 60 pounds. The record Iowa paddlefish was taken from the Missouri River in 1981, tipping the scales at 107 pounds. Although not considered a world record due to the timing of record keeping, the U.S. Geological Survey Bureau and local legend say the largest paddlefish ever caught came from the Iowa Great Lakes almost a century ago and weighed just under 200 pounds.

ONE OF A KIND

Only two of five paddlefish taxonomies remain—the North American paddlefish and the critically endangered Chinese paddlefish (*Psephurus gladius*). The latter species is documented only in the Yangtze River Basin in China and has not been seen in the wild for more than a dozen years, leading experts to believe they may be extinct.



Wild Cuisine *KITCHENSIDE*

BY ALAN FOSTER PHOTOS BY JAKE ZWEIBOHMER



This spring, search fields and roadsides for wild asparagus—a food foragers goldmine—or use stalks from the store or farmers' market to make this popular asparagus sandwich.

Simple Ingredients, Big Taste

Come Together at Crane and Pelican Cafe

In a nearly 165-year-old former family residence overlooking the Mighty Mississippi River lurks a culinary treat. And when you visit the quaint community of LeClaire, you must taste what has been voted the best of just about everything in the Quad Cities area. Open since 2009, the Crane and Pelican Cafe serves what executive chef David Hipkins calls "good American Midwest comfort food with a new spin." And like so many other independent restaurants that bought into the "slow food movement," Crane and Pelican focuses on simple, local ingredients, using herbs and veggies from the restaurant's garden or found nearby.

"The only canned vegetables I use are garbanzo beans for the hummus," Hipkins says. Two favorites are the asparagus sandwich, featured here, and owner Mandy Harvey's secret family recipe meatloaf. "The asparagus sandwich has been around longer than I have," Hipkins says, "and we sell a couple hundred pounds of meatloaf a week." Enjoy a melt-in-your-mouth open-faced roast beef sandwich, featuring Sawyer Beef from nearby Princeton, along with your favorite spirit made at LeClaire's Mississippi River Distillery, or a glass of Ms. D'meanor white from Wide River Winery in Clinton. Make sure to sip it, to soak in the ambiance of the fanciful Italianate Dawley House, a popular 19th century construction design for upscale homes of the time. Built in 1851 and placed on the National Register of Historic Places in 1979, the now-restaurant was home to Daniel Dawley, a popular clerk and steamboat captain on the Mississippi River and LeClaire postmaster in the mid- to late-1800s. Since purchase, Harvey has made every attempt to restore the former home to its original glory, from refinishing original pine wood floors to restoring the side deck. Take in the grand wood trim, original coal-burning fireplaces, 12-foot ceilings and original doors and hardware. Open 11 a.m.

to 9 p.m. Monday through Saturday; reservations are appreciated. Private parties up to 75 people available. During your stay, check out LeClaire's unique gift and specialty shops, or satisfy your nature photography bug along the river and Lock and Dam 14.

ASPARAGUS SANDWICHES FOR FOUR

8 slices pumpernickel rye bread
2 tablespoons garlic lemon aioli
(recipe follows)
4 tablespoons roasted red peppers—
drained if using canned
1 cup fresh arugula
8 ounces cream cheese sliced lengthwise
to fit bread
1 to 1.5 pounds blanched asparagus

To make four sandwiches, trim woody ends of asparagus before blanching. Layer four base slices of bread with cream cheese. Add four or five stalks asparagus to each slice with quarter cup arugula and tablespoon of peppers per sandwich. Drizzle with aioli and top with remaining bread. For aioli, combine 2 teaspoons lemon juice, 1 cup mayonnaise, zest of one lemon and 1 teaspoon minced garlic.

PAN-ROASTED DUCK BREAST WITH CHERRY DEMI-GLACE

4- to 8-ounce duck breast
1/2 cup beef demi-glace
(homemade or packet)
1/4 cup sweet, dried cherries
1/2 cup balsamic vinegar,
reduced to half
1 tablespoon brown sugar
1 tablespoon dry red wine
Pinch of dry thyme,
marjoram, chervil
and rosemary

Salt and pepper to taste
2 tablespoons olive oil

Season duck breast with salt and pepper. Score skin and fat. Preheat oiled pan to medium-high, add breast skin side down and reduce to medium heat. Render fat several minutes, then flip breast and sear remaining side. Place duck in 400°F oven and cook to desired doneness, about six to 10 minutes. Remove and allow to rest. Place pan back on medium-high heat and deglaze with red wine and vinegar reduction. Toss cherries lightly in pan. Add demi-glace, brown sugar and herbs. Reduce heat and simmer two to three minutes.

Crane and Pelican Cafe
127 2nd Street South
563.289.8774, craneandpelican.com.



Warden's Diary

BY ERIKA BILLERBECK



So You Want to be a DNR...

For students graduating high school and college, there aren't too many things more important, or more stressful, than a job interview. For a candidate interviewing for a DNR Seasonal Patrol Officer (SPO) position, the only thing more intimidating than the interview questions is the moment they enter the room and find 10 uniformed law enforcement officers situated around a single chair meant for them.

Typically, SPOs are college students or recent graduates looking for experience in law enforcement in the hopes of someday snagging a full-time position as a conservation officer. SPOs are temporary officers hired to help enforce navigation and ATV laws during the busy summer season. As you can imagine, this job isn't a cake walk. SPOs often work alone. They work in all kinds of weather conditions, at night and sometimes around angry and intoxicated people. They deal with accidents, testify during court proceedings, issue citations, write police reports, give public programs and safety classes and generally attempt to keep anglers, boaters and ATV riders safe.

As part of the interview panel to select new SPOs for the summer, for three days I watched potential (and often terrified) candidates sit in the lonely chair and answer questions. Many did a great job, and probably have a good chance at a future with the DNR. Others....could use a few pointers.

I put together a short list of advice for future candidates. I'm pretty sure these tips apply to just about any job interview.

1. Picky though it may be, I'm a firm believer when

one applies for a job, one should know what the job is. Specifically, don't walk into the job interview, sit down and ask, "So can you guys tell me about this job?" It is very likely we were just about to ask you the same thing.

2. Whether you like it or not, English class is important. Pay attention—you may learn to incorporate concepts as correct spelling, punctuation and grammar into resumes and cover letters. Hopefully it will help you avoid peppering your paperwork with "natural recourse" as opposed to what I can only hope was meant to be "natural resources." Also, pay attention to capitalization rules. Specifically, proper names should be capitalized—an example of a proper name would be your own.

3. Don't tell the interview panel, or any conservation officer in the field for that matter, that you have always dreamed of "being a DNR." This most often comes in the form of a question while checking licenses, "So, what do you have to do to be a DNR?" I'm always baffled by this line of questioning, mainly because I have no idea how one becomes a department. It is like saying you have always dreamed of becoming the Department of Homeland Security, or asking if you need to go to college to become the state capitol building.

4. If the job you apply for requires you to wear a professional uniform, it is best to dress accordingly for the interview. After all, members of the interview panel have spent three long days stuffed into uniforms, body armor and duty belts. Therefore, if you lean back in the

chair, stretch your muddy cowboy boots in front of you and fail to remove your sweat-stained baseball cap, we are likely to be rather unimpressed.

5. Law enforcement interviews almost always contain a question or two that involves some type of scenario. Sometimes the scenario calls for the candidate to imagine they are working as a seasonal officer and encounter a situation with an ethical decision. If asked your course of action if you caught a group of your friends breaking the law, an incorrect answer might be: "I would immediately call for back-up and let my supervisor handle it."

6. If you want to throw up a few red flags for the panel, go ahead and ask "What kind of power will I have? Can I carry a gun?" Though valid, the questions tend to come off as creepy and worrisome. It might be best to find out prior to the interview.

7. Insisting repeatedly that "public speaking is one of my biggest strengths" is only effective if you aren't mumbling.

8. Increasing the number of words in your answer does not necessarily equal a better answer.

9. Because you have specifically applied for a job in law enforcement, it might be best to take care of that pesky arrest warrant before walking into your interview. Though we (and I'm speaking only for myself here, and definitely NOT my supervisor) may appear to be unintelligent, we are indeed bright enough to run a background check. As a general rule—it's always best not to leave the interview in handcuffs.

Rest assured, seasonal patrol officers you may encounter this summer as you enjoy Iowa's waters and ATV parks did not need any of the above-mentioned advice. Those wearing a DNR uniform have successfully navigated the interview process and the proper training. For those who still strive to someday "be a DNR," keep your chin up, work hard, proofread, and most importantly, continue to enjoy Iowa's "natural recourse." 🐾



BY JESSIE ROLPH BROWN

Find a volunteer project or post your own event at www.iowadnr.gov/volunteer or call 515-725-8261.

FINDING INSPIRATION IN TRASH

6TH AVENUE CORRIDOR, DES MOINES

Group moves community to clean up litter, invest in neighborhood



Think. Hope. Care. Three simple messages with lofty goals—to get residents and visitors to the Sixth Avenue corridor in Des Moines to cut back on litter and focus on revitalizing the historic area. But these aren't abstract thoughts; they're spelled out in 6-foot-tall three-dimensional letters, stuffed full with litter picked up by community residents. "Litter has been an ongoing issue," says

Laura Peters, director of 6th Avenue Corridor, noting that people tend to litter in places where they don't feel ownership. With about 60 percent of people in the area renting their residence, Peters researched anti-litter campaigns looking for a way for residents to invest more in the area. She settled on the Litter Letter Project, which started in Louisiana.

"It was a way of addressing litter that also created these vibrant pieces of public art," Peters says. Once some of Des Moines' premier neighborhoods, the River Bend and Cheatom Park neighborhoods have faced challenges since the 1970s when residents left for the suburbs.

"The neighborhood is very diverse and it's sometimes hard to bring people together for a common cause," says Peters. "However, people have really felt a sense of ownership in the letters and have a sense of pride in them." The community rallied to hold litter cleanups around Earth Day, filling the words "think" and "hope" with trash picked up in the neighborhood. Another cleanup held with the Corridor's annual Jazz in July event filled "care." The words were selected because they could easily apply to littering and the community in general—but "hope" was chosen specifically by a group of elementary school students from Moulton Extended Learning Center and Children and Family Urban Movement, as Peters knew that involving youth was necessary to make a long-term difference in the community.

"Getting kids involved gave them a stronger connection to the community and a sense of ownership for the words that were sculpted," says Martha McCormack with Keep Iowa Beautiful, who led the kids through a process to choose their word. "They selected the word 'hope,' picked up litter and helped fill the letters. When they were picking up litter they became more aware of how the neighborhood looked." Des Moines North High School, just across the river from the neighborhood, wants to create a "believe" litter letter project, and other Des Moines neighborhoods have reached out to Peters about starting their own. Des Moines Area Regional Transit added anti-littering signage at bus stops in the area. Peters says that there was noticeably less litter over the summer, and she plans to keep the project alive by emptying the letters out and holding more cleanup events to refill them. For more info: www.6thavedsm.org and www.thelitterletterproject.com.

A RIVER RUNS THROUGH IT

BOB AND MARY LOU GUNDERSON, ELDORA

Rolling through Hardin and Marshall counties, the Iowa River Greenbelt offers a strong but beautiful contrast to the flat farmland surrounding it—valleys, bluffs, woods and streams that provide a home to a number of habitats. Endangered and rare species, like three species of freshwater mussels and the northern monkshood plant, call the corridor home. Protecting them, and this 42-mile stretch of river, has been the mission of Bob and Mary Lou Gunderson for more than 25 years. The couple founded the Iowa River Greenbelt Trust in 1987, advocating for projects during the construction of Highway 20 that would have the least impact on the natural area.

"We lived on a bluff over the river in Eldora, right across from Pine Lake State Park. We just had a real interest in preserving the natural beauty of the area," says Mary Lou. They've helped permanently protect land, put in trails and portages, helped with nature centers and education programs, helped with reintroducing trumpeter swans and reforesting Pine Lake State Park, and more. Those efforts earned them the prestigious Hagie Heritage Award from the Iowa Natural Heritage Foundation (INHF) in 2012.

"The Gundersons have not only been incredible supporters of our natural resources through their time and financial support, but they have been instrumental in promoting that mentality to those around them," wrote John Schuller, a board member of the Iowa River Greenbelt Resource Trust, in his Hagie award nomination for the Gundersons. While they spend winters in Arizona, the Gundersons remain actively involved in Iowa River Greenbelt efforts. "Anything that had to do with the river, we were right there, interested and ready to help," says Bob. Now, a 10-acre land donation from the Gundersons will become a nature park within Eldora city limits, one that will serve as a gateway to Pine Lake State Park and another 15 acres held by INHF. The park will include a paved loop trail, grass trails, expanded prairie and savanna plantings, picnic areas and a shelter. It will also have an emphasis on serving kids. "Younger children are not getting out in nature as much as they have in the past," says Bob. "A lot of people are going to enjoy these places for a long time."

HELP LEAVE A LEGACY INHF still needs donations to construct the Iowa River Trail, a 34-mile trail in the greenbelt on a former railway corridor that will connect to a number of local, county, regional and state trails, allowing Iowans to experience the scenic area with diverse wildlife and landscapes. The Iowa River Trail will offer wildlife viewing, walking, running, cycling, geocaching, cross-country skiing and snowmobiling. For more information, visit www.inhf.org or contact Anita O'Gara at 1-800-475-1846 ext. 18.



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A close-up photograph of a bumblebee on a white bloodroot flower. The bee is positioned in the center of the flower, facing right. The flower has five large, white, pointed petals and a bright yellow center. Below the flower is a large, green, deeply lobed leaf. The background is a blurred mix of brown and green, suggesting a natural, outdoor setting. A white library label is affixed to the top left of the image, and a smaller, blank white label is in the top right corner.

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DES MOINES, IA 50319

On a cold and rainy April morning, this bumble bee takes refuge in a bloodroot at Fish Farm Mounds Wildlife Management Area, seven miles north of Lansing in Allamakee County.

PHOTO BY BRIAN GIBBS