

JULY / AUGUST 2012

IOWA OUTDOORS

THE DNR'S MAGAZINE OF CONSERVATION AND RECREATION



EXCEPTIONAL
IOWAN:

**Miranda
Leek**

*Teen Archer
Seeks Olympic Spot
for 2012 Summer
Games in London*
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TRUE TOGETHERNESS

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Dyersville resident **GERALD MCGRANE** has no shortage of fishing partners. He is a husband, father of seven and teacher at Beckman Catholic High School. When their busy schedule allows, his family can be found fishing an area trout stream, hiking the Backbone, or enjoying the view from Pikes Peak State Park.



JAMES BARNHART has spent his life exploring the outdoors. He has a bachelor's degree in fisheries and wildlife biology, a minor in entomology and a master's in business administration from



Iowa State University. He developed a passion for macro photography 12 years ago and one of his favorite pastimes is getting up at first light and walking through any overgrown field or natural area to photograph small creatures he happens to find. When not exploring with his camera, he can be found wading the shores of Iowa lakes and streams indulging in his other passion—flyfishing. He lives and works in Des Moines.

SANDY FLAHIVE is a Des Moines writer who likes getting in her Jeep and meandering around Iowa, discovering the hidden gems that lay in its many nooks and crannies. She also enjoys spending time at her remote cabin near Stephens State Forest in southern Iowa.



SAM SAMUELS lives in Vermont and studied writing at the University of Iowa. His articles have appeared in *Smithsonian*, *Sierra*, *Discover* and *Real Simple* magazines. Each year he



teaches at the Iowa Summer Writing Festival.

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ABOUT THIS PHOTO

Silver carp, a recent invader to state waters, jump from the electrodes of a shocking boat used to learn about their size and numbers. *Iowa Outdoors* staff photographer Clay Smith dodged a constant barrage of flighty fish while on assignment at Lake Rathbun in Appanoose County. Learn more about these invaders on page 26.

ABOUT THE COVER

Spend time outdoors together to discover "that something about being there that allows us to just be. We take kids to soccer and gymnastics, but it isn't true togetherness," says writer and father of seven Gerald McGrane. "When by the trout stream, in a tree stand or hiking, we're together." Memories are made outdoors.

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Research technicians Jody Ohmacht and Gavin Simmons take soil core samples at Neal Smith National Wildlife Refuge in Jasper County as part of a large study of a prairie's ability to store carbon underground.

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Great Escapes

BY ALAN FOSTER

GOING DEEP IN DYERSVILLE

If you think of Dyersville only for a stop at *the* baseball field—the one made famous by Kevin Costner and James Earl Jones—then you are missing the boat on this eastern Iowa diamond.

The majestic spires of the Basilica of St. Francis Xavier welcome you to Dyersville. Known as the farm toy capitol of the world, there's enough to do to keep you busy from sunrise to sunset. Make it a weekend and camp at the scenic and wooded county-run New Wine Park located roughly three miles north of Dyersville. It has all the amenities one expects, including a two-mile nature trail that winds through a heavily-wooded oasis, a favorite roost for bald eagles. Check out the Dyersville area farmers market—May 17 through Oct. 4—for fresh produce and baked goods to take back to camp.

Rack the bikes and spend a day cruising the Heritage

Trail. Considered by some to be one of the state's most scenic trails, the 26-mile route runs from Dyersville to Dubuque, winding through woodlands, high bluffs, river overlooks and prairies. Follow the once bustling Chicago Northwestern railroad into a 450-foot-deep valley past old mining and mill towns. Take time to stop at interpretive sites, or search for railroad artifacts and fossils along the way.

The smooth, compacted crushed limestone trail is open year-round. Cost is \$2.10 per day or \$10.50 per year for ages 12-62, and \$5.75 per year for those 63 and older. Family passes are available for \$26. Passes are sold at Dyersville City Hall, Dyersville Area Chamber of Commerce or via self-registration tubes located at trail parking lots.

And of course you could opt for a family baseball pick-up game at the Field of Dreams movie site. Who knows, maybe you can "go the distance" with Shoeless Joe.

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Cozy up with thousands of other water enthusiasts to help set a world record for the most paddlers in a flotilla, see the latest canoe and kayak products from vendors, then stick around for free music and eats at Ribfest. It's the third year for Floatzilla, the Quad Cities event that has attracted participants from 20 states and overseas for record-setting fun, music and camaraderie.

"Lots of people come to the Quad Cities and experience the Mississippi River for the first time," says project director Dan McNeil with River Action, the local non-profit that organizes the event and fosters the river's environmental, economic and cultural vitality.

The family-friendly paddlesports festival culminates with a Guinness World Record attempt at the largest flotilla of kayaks and canoes on the protected backwaters of Lake Potter, an inlet and marina on the Rock Island side of the Mississippi River.

"We are always looking for different ideas to bring vibrancy and celebrate our river. We have an ongoing effort to promote paddling and we target sloughs and backwaters that are safest and best for paddling," he says. This year, at least four floats for all experience levels occur, with all paddlers converging at Lake Potter at 2 p.m. for the Guinness World Record attempt. To break the current record, they need more than 1,900 paddlers.

The event coincides with River Roots Live, an annual free concert in Davenport's LeClaire Park, and Ribfest, which features top-tier, nationally recognized barbecue. Registered paddlers get tickets to both events to paddle by day, then enjoy music and succulent ribs by night.

Float Options to Let the River Roll

Registration began in February, and due to the popularity of floats that pass through river lock 15, those trips fill first.

Most float trips include free shuttles for registered paddlers, but those camping overnight at Credit Island will make a short return paddle back to the island without a shuttle. Most participants just put in at Lake Potter for the record attempt, choosing not to do any float trip.

Advanced Float

Embark from Empire Park at 8 a.m. in East Moline, Ill., to paddle 11 miles going through lock and dam 15 to Lake Potter. Use a shuttle service to return after the 2 p.m. record attempt.

Intermediate Floats

At least three intermediate floats range from a half mile to nine miles in length. All end at Lake Potter.

Option 1) Depart from Ben Butterworth Parkway in Moline at 8:30 a.m. and pass through lock 15 at the dam on a nine-mile paddle. **Option 2)** Depart at 8:30 a.m. from Harold's Landing in Moline, Ill., and proceed down the Rock River, which empties into the Mississippi near Lake Potter. Total distance is seven miles. **Option 3)** The shortest intermediate paddle departs from Credit Island in Davenport for a half-mile paddle to the Lake Potter rendezvous at 2 p.m. After the record attempt, paddle back to Credit Island.

Easiest Float

Beginners, those with time constraints, or those just



FLOATZILLA

wishing to set the Guinness World Record can put in at Lake Potter at the Sunset Marina on the Mississippi in Rock Island, Ill. for the 2 p.m. record attempt. Check in from 10 a.m. to 1 p.m. Here's how:

Launch your boat on Lake Potter at Sunset Marina, Rock Island for fun and educational water activities.

- Check-in from 10 a.m. to 1 p.m. - Floatzilla Guinness World Record attempt at 2 p.m.
- Recommended for participants with no paddling experience, casual paddlers and late arrivals
- Beginners can receive safety and technique lessons from certified instructors
- Intermediate and advanced paddlers can join the fun with timed races and kayak rolling competition
- Large unloading/loading area
- Day-of registration and packet pickup
- Free, but limited, on-site parking
- Free off-site parking nearby with complimentary shuttle service—participants should unload at Lake Potter first and leave their kayaks/canoes in the free check-in/check-out security area prior to parking at the off-site parking area.

How to Join the Fun

Registration is \$15 per paddler through July 31 and \$20 for registrations starting Aug. 1. Kids paddle free. Registration includes a Floatzilla T-shirt, boat decal, registration wristbands, free music and Ribfest at "River Roots Live," free parking, and free shuttle to off-site parking for floats from Moline. T-shirts and decals subject to availability for

registrations after Aug. 8. For details and to register, visit <http://floatzilla.org> or call 563-322-2969.

Guinness World Paddling Records

- The greatest distance paddled on flat water in 24 hours is 150.34 miles by Carter Johnson on Lake Merced, Calif., on April 29 and 30, 2006.
- The farthest distance paddled on flat water in 24 hours by a woman is 121.37 miles by Robyn Benincasa on Lake San Antonio, Calif., on Oct. 29 and 30, 2010.
- Bob Bradford and Clark Eid paddled the length of the Mississippi from Lake Itasca, Minn., to Mile Zero in the Gulf of Mexico in 18 days, 4 hours and 51 minutes in May 2003.
- The largest raft of canoes and kayaks consisted of 1,902 boats sponsored by the Central Adirondack Paddlers Society and took place on Fourth Lake in Inlet, NY, on Sept. 24, 2011. (This is the record the Quad City organizers hope to beat.)

Other Iowa-related Guinness World Records

- The tallest parsley plant was grown by David Brenner and reached 7 feet 9.38 inches when measured in Ames on June 10, 2009. Brenner, a germplasm curator at Iowa State University originally planted the parsley plant in March 2008 to produce seeds for a seed bank.
- The oldest person to fly in a hot air balloon is Emma Carrol, born on May 18, 1895. She made an hour-long balloon flight at Ottumwa on July 27, 2004 at the age of 109 years and 70 days.

Together



JOY FROM THE WORLD

BY TIM LANE

Last July, I witnessed three small events that seemed to have profound yet somewhat disproportionate impacts. The first was utter joy on the face of a first-time visitor to Iowa from Los Angeles upon her first encounter with fireflies. The second was the visible and weighty emotions of volunteers preparing a teachers' memorial on the State Capitol grounds. The third was seeing what Cathedral Church of St. Paul's in Des Moines did to create a pocket park/rain garden/labyrinth. Continued efforts will hinge on an application to the TKF Foundation that converts open spaces into sacred places.

The TKF Foundation notes the migration from rural to urban living and replacement of natural with built environments can add to stress. Creating sacred and open places is not new, as evidenced by such amazing efforts as Stonehenge in 2,500 B.C. and Iowa's own mound builders as early as 200 B.C. But the need is unprecedented, with eight in 10 Americans residing in cities. The foundation believes every neighborhood needs a Walden Pond so people can be in nature, reconnect to themselves, the land and each other.

I am sure Dan Buettner, author of *The Blue Zones: Lessons for Living Longer from the People Who've Lived the Longest* and a force behind Iowa's Healthiest State Initiative, would agree. Buettner identified nine characteristics from the world's long-lived people. In addition to physical activity and nutrition, these traits include purpose, passion and connecting with others.

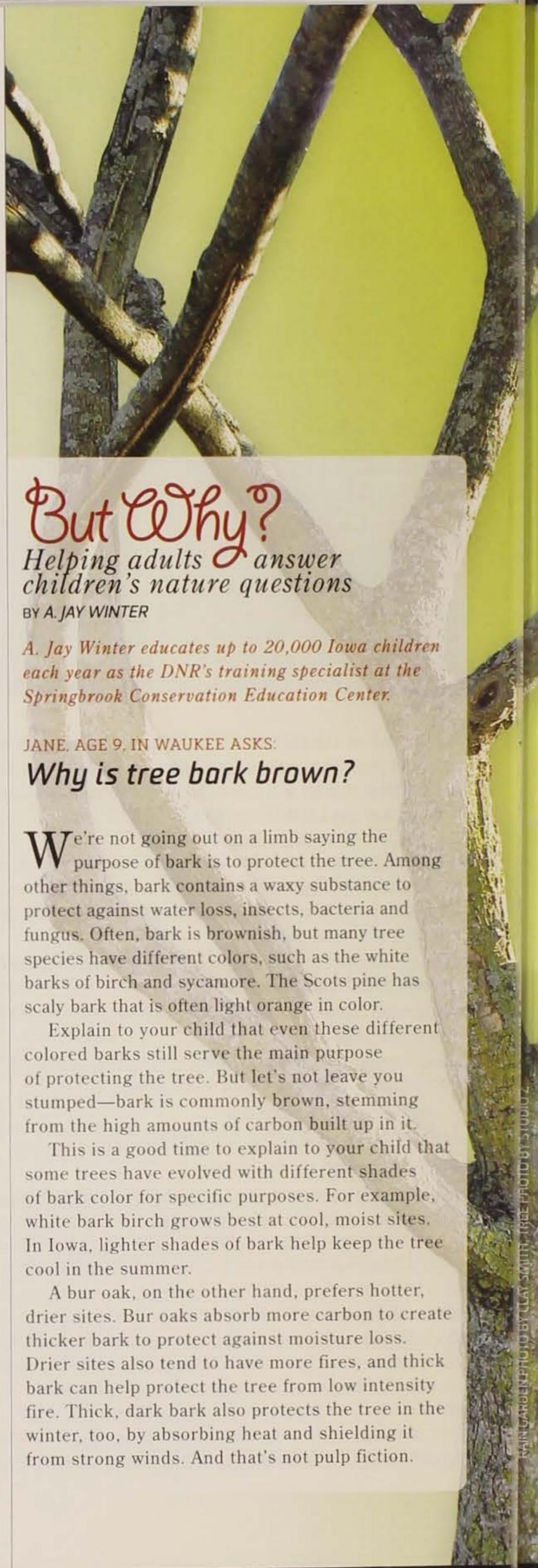
The good folks at St. Paul's have demonstrated those three traits in converting a dilapidated parking lot into an oasis parking area. Their next mission is to transform 100 yards of asphalt that runs like a scar beside their building into an open space to provide parishioners, thousands of neighboring office workers and at-risk youth an open, healthy space.

If you visit St. Paul's, and I encourage you to, you will quickly see the incredible job of transforming a parking lot into a labyrinth and rain garden. It is an amazing use of space and a great example of a built environment that encourages serenity, contemplation and health while protecting the environment and maintaining parking.

A labyrinth has one path leading to a central point where one can exit the way they entered. It eliminates the guesswork associated with a maze. There are no dead ends, no right or wrong turns. It allows the walker to focus in a stress-free and enriching environment. The path encourages reflection and consideration of life's greater journeys.

Pure joy captures my feelings as I worked on a teacher's memorial for my friend Steve France, a passionate and talented teacher taken from us by cancer. I contemplated how a patch of land, no bigger than the center circle of a basketball court, and one 1,800-pound engraved boulder could memorialize teachers and provide meaning and an emotional boost on the capital grounds after visiting St. Paul's in downtown Des Moines.

TIM LANE is a nationally recognized authority on public health and physical activity. In 2010, he and his buddies rode bicycles across Iowa, river to river, in 21 straight hours.



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.

JANE, AGE 9, IN WAUKEE ASKS:

Why is tree bark brown?

We're not going out on a limb saying the purpose of bark is to protect the tree. Among other things, bark contains a waxy substance to protect against water loss, insects, bacteria and fungus. Often, bark is brownish, but many tree species have different colors, such as the white barks of birch and sycamore. The Scots pine has scaly bark that is often light orange in color.

Explain to your child that even these different colored barks still serve the main purpose of protecting the tree. But let's not leave you stumped—bark is commonly brown, stemming from the high amounts of carbon built up in it.

This is a good time to explain to your child that some trees have evolved with different shades of bark color for specific purposes. For example, white bark birch grows best at cool, moist sites. In Iowa, lighter shades of bark help keep the tree cool in the summer.

A bur oak, on the other hand, prefers hotter, drier sites. Bur oaks absorb more carbon to create thicker bark to protect against moisture loss. Drier sites also tend to have more fires, and thick bark can help protect the tree from low intensity fire. Thick, dark bark also protects the tree in the winter, too, by absorbing heat and shielding it from strong winds. And that's not pulp fiction.

100-Year and 500-Year Floods Occur Only That Often



The 2008 Iowa floods were classed as 100-year floods or greater in much of the state and a 500-year flood in Cedar Rapids, Iowa City and other areas. The term “100-year flood” is misleading because people tend to believe this means a flood of that severity will happen only once every 100 years. The truth is that an uncommonly severe flood can happen any year. The term “100-year flood” is really a statistical designation that means there is a 1-in-100 chance that a flood of that magnitude will happen

during any year. Perhaps a better term is “1-in-100 chance flood” or a flood with a 1 percent chance of occurring based on historical flood levels.

A “500-year flood” indicates a 1-in-500 chance, or 0.2 percent chance, that a flood this size will happen during any year. The actual number of years between floods of any given size varies a lot. Big floods happen irregularly because weather naturally

varies over many years. Sometimes big floods occur in successive or nearly successive years with several very wet years in a row. Also consider that these terms are based on historical water flow levels. Some rivers have longer, more complete historical records. These terms also assume a stable climate. Climate change could bring increased precipitation levels, or more frequent, heavy precipitation events that would require recalculations of what is truly a 100-year and 500-year flood.

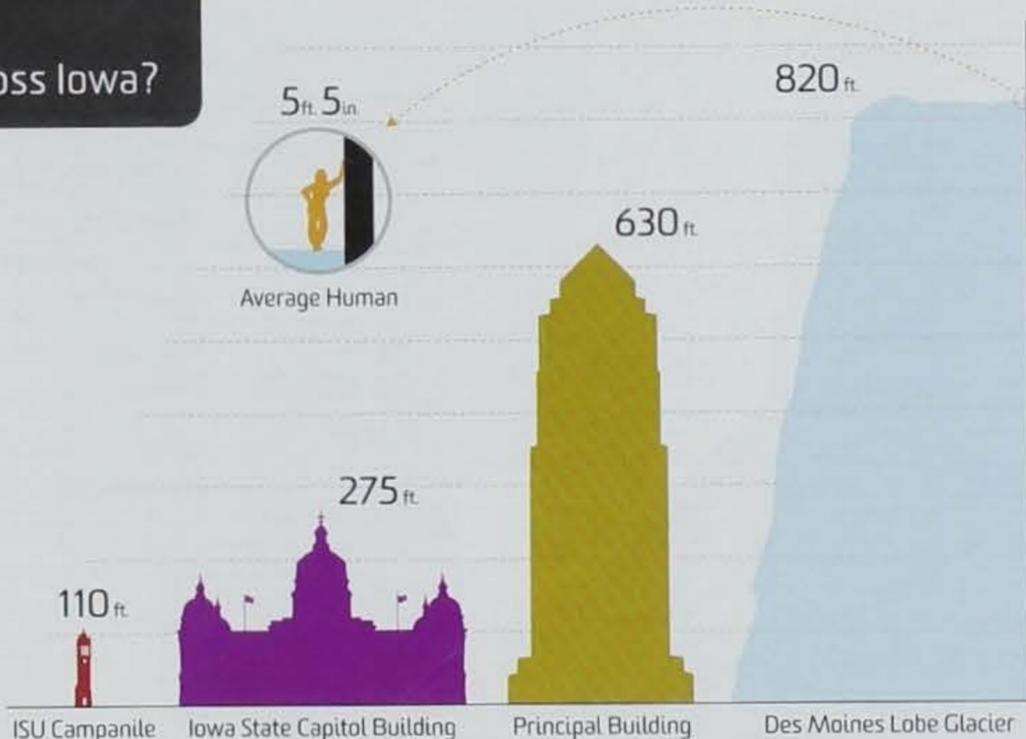
Ask The Expert

Joni in Dunkerton asks:

How thick was the glacier that rolled across Iowa?

Mentally imagine the glaciers that once covered Iowa. What did it look like in your mind? Continental glaciation is a hard thing to imagine. Yet, Iowa's landscape has been altered repeatedly in the past by such a phenomenon.

In 1992 a researcher calculated the thickness of this most recent glacier, which entered Iowa about 15,000 years ago and covered a good part of 26 counties. The glacier reached its terminus, or end point, near the state capitol building in Des Moines about 13,800 years ago. How thick was this ice? One estimate put it at 262 feet thick near Ames. About a decade later, two researchers revised the thickness to 820 feet thick. That dwarfs the Principal Building, Iowa's tallest skyscraper in downtown Des Moines.



Outdoor Skills

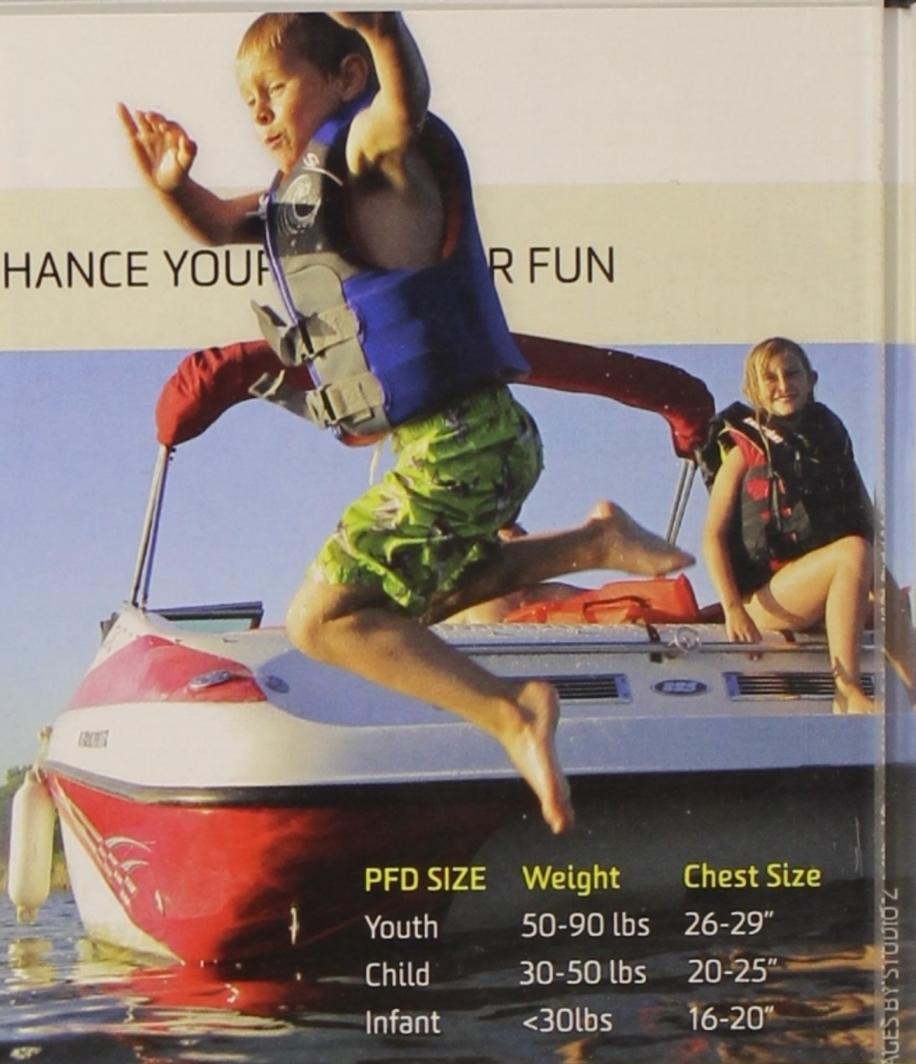
BY BRIAN BUTTON

TIPS, TRICKS AND MUST-KNOWS TO ENHANCE YOUR FUN

Keep Kids Afloat

Select children's PFDs based on their weight and chest size (measured under their arms.) A PFD should fit snug and tight. Do not buy an oversized PFD that your child can grow into. To test fit, try it on and lift child by shoulders of the PFD. If it slips over the child's chin or ears, it is too large. When wearing, always use the leg straps, if provided, to keep the PFD secured.

In the water, teach your children how to float in a PFD. First, teach them to be calm in the water. Next, show them how to float on their back, face up while wearing the PFD. Finally, teach them how to turn from face down to face up, on their back, until they do so reliably. When boating, children 12 and under must wear an approved PFD on or near the water. Set a good example and wear one too.



PFD SIZE	Weight	Chest Size
Youth	50-90 lbs	26-29"
Child	30-50 lbs	20-25"
Infant	<30lbs	16-20"



Male or Female Monarch

You can tell a male from a female monarch butterfly by looking for the distinguishing black dot on the bottom wings. *(It's a scent gland called a stigmata).*

Males have this and females don't.

Females also have thicker black lines.



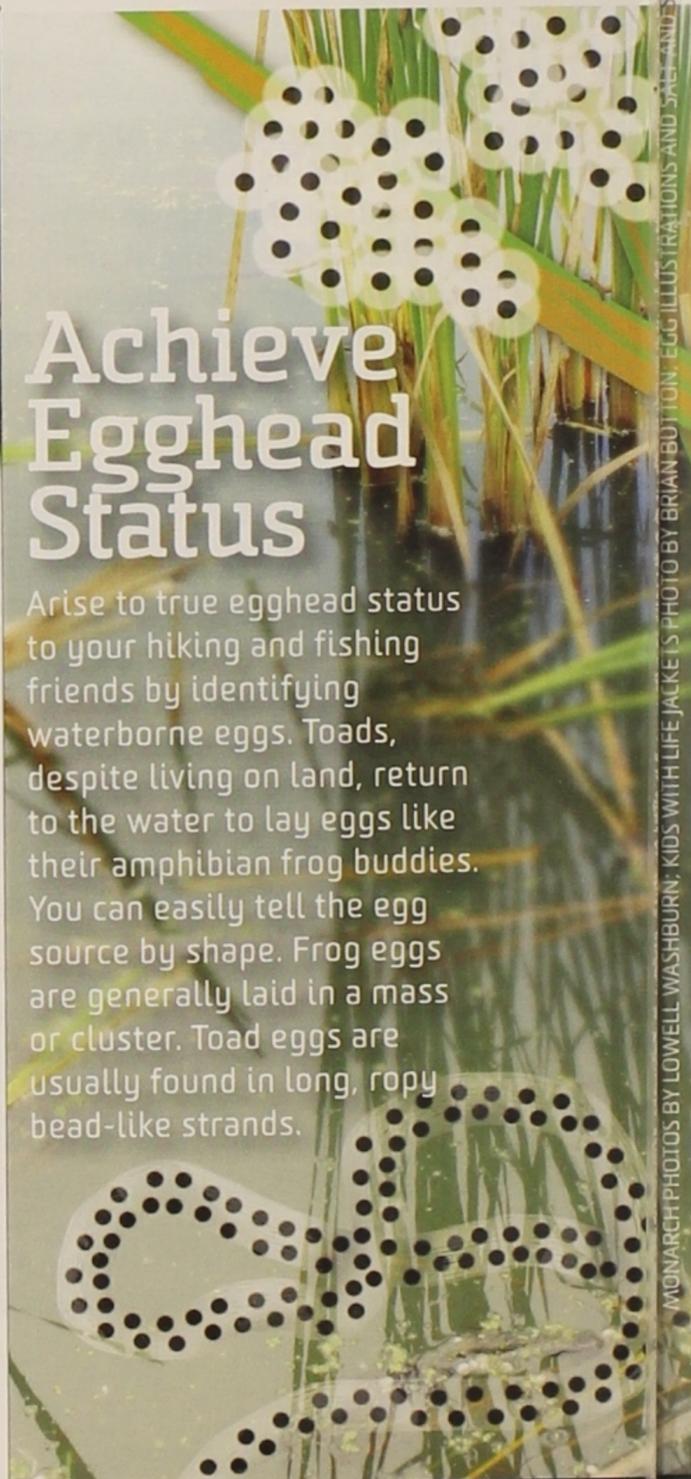
Keep 'em Clean

Remove gasoline and bug spray odors from your hands before touching lures to maximize fish strikes. If you touch your boat's gas tank, gas line or get gasoline on your hands, scrub with sugar. To remove insect repellent scent, wash hands with salt.



Achieve Egghead Status

Arise to true egghead status to your hiking and fishing friends by identifying waterborne eggs. Toads, despite living on land, return to the water to lay eggs like their amphibian frog buddies. You can easily tell the egg source by shape. Frog eggs are generally laid in a mass or cluster. Toad eggs are usually found in long, ropy bead-like strands.

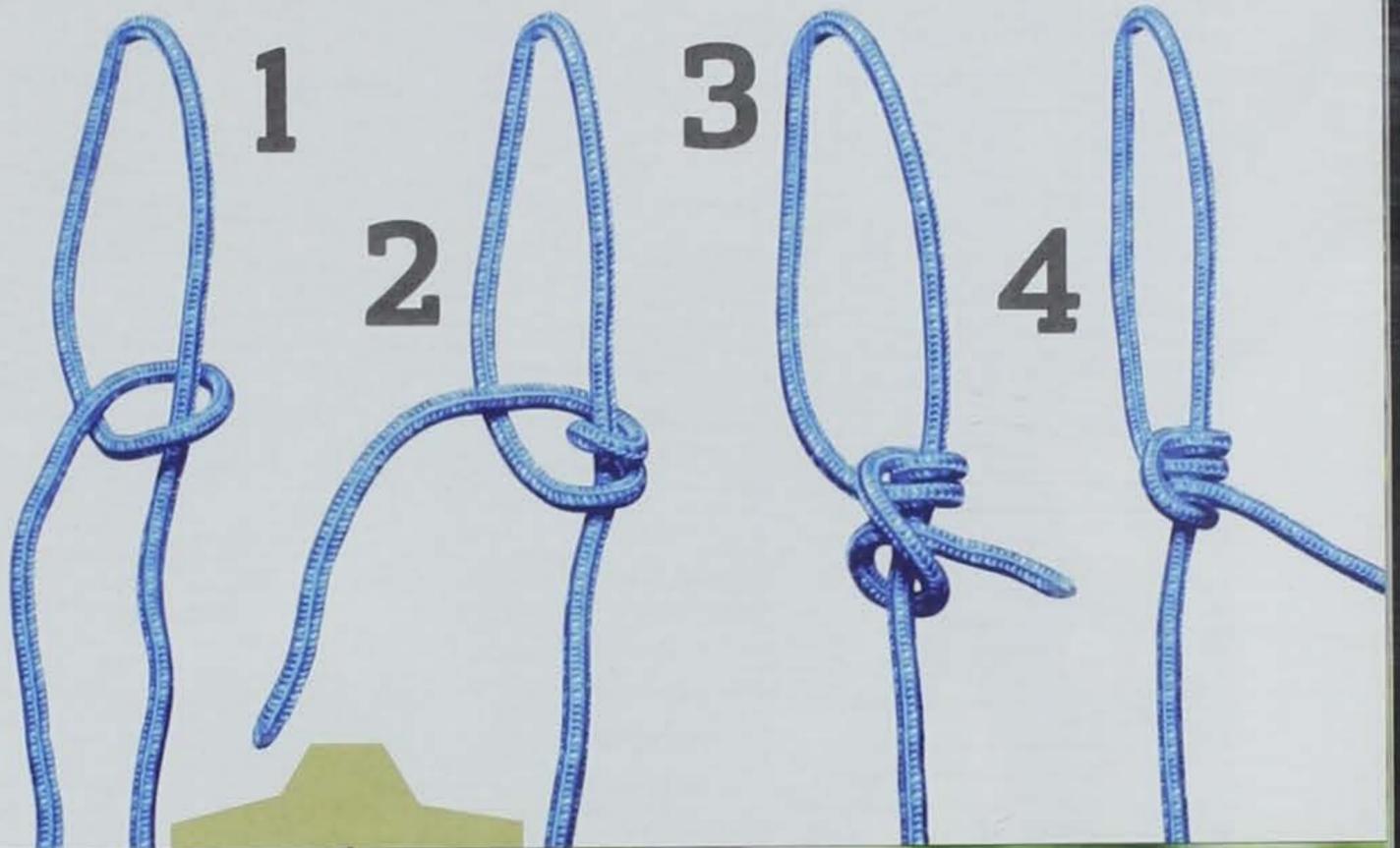


MONARCH PHOTOS BY LOWELL WASHBURN; KIDS WITH LIFE JACKETS PHOTO BY BRIAN BUTTON; EGG ILLUSTRATIONS AND SALT AND SUGAR IMAGES BY STUDIO7

Handy Adjustable Knot

Guy out a tent, cinch a load to the car or convert a tarp into a rain fly with this easy-to-learn adjustable knot used by astronauts to repair the Hubble Space Telescope. Without untying, the taut-line hitch can be used to lessen or increase line tension.

Once set, adjust as needed. To tighten, grasp the loop and pull towards the anchored object. As slack develops, slide the hitch away from the anchor. To loosen, slide the hitch toward the anchor object, making the loop smaller and lengthening the standing part of the line.



iDryer

Got a wet camera, phone or other moist doodads? Save dessicant packets to use for wet electronics. Towel off exterior water, then seal device in a plastic bag with dessicant packs to draw out interior moisture.



Slip Slidin' Away

Stop sliding off sleeping pads by applying strategic drops of Seam Grip to the pad. When dry, it adds enough traction to keep even the slickest sleeping bag in place for both squirming kids or super-sized snorers.

Bucket of Briquettes

At camp, keep grilling items close by and orderly by storing charcoal, lighter fluid and matches in a lidded 5-gallon bucket. Take the amount of charcoal you need for outings in a paper grocery bag. The waterproof setup packs neatly in a car, prevents crushed briquettes and can sit out at camp. Add some apple or hickory chips for more BBQ flavor.

PHOTO BY BRIAN BUTTON; KNOT ILLUSTRATION, BUCKET AND DESSICANT PHOTOS BY STUDIO Z, SEAM, CA

Lost In Iowa

BY SANDY FLAHIVE PHOTOS BY CLAY SMITH



Lake Geode Park Manager Ulf Konig stands inside a massive sycamore tree at the southeast Iowa park. It ranks among the largest and oldest sycamores in Iowa.



The very rock for which the park was named draws scores of rock hounds from across the state in search of the dazzling quartz gems. While geode collecting is popular in the vicinity, removing them from the state park is not allowed.

THE BEWITCHING AND BEDAZZLING ROCK OF SOUTHEAST IOWA

IN A SPACIOUS, WOODSY, SUN-SOAKED CAMPSITE, ON A SUMMER DAY so perfect that surely it was delivered by the gods themselves, two fishermen from Colona, Ill., are setting up a tent. Greg LeGrand blurts out what amounts to a challenge to Victor Smith, his brother-in-law.

"I'm going to catch one this big!" boasts LeGrand, positioning his hands far apart to indicate a fish of major proportions. "And you, buddy, are going to catch one this big," he laughs, holding his index fingers a scant few inches apart.

"Nope! Won't happen that way," counters Smith, good-naturedly, adding, "One thing's for sure, though. We'll catch our fair share of bass. We've never been skunked here before."

And so begins another episode of "The Good Life" for the two, in a stellar recreation area they have been

coming to for many of the past 30 years—Iowa's outdoor gem: Geode State Park.

The Tootsie Pop of the geology world...

LeGrand and Smith are only two in a long line of fans of 1,640-acre Geode with its 187-acre lake, 168-site (87 with electricity) campground and well-maintained picnic areas. The enthusiastic manager of this popular park in southeast Iowa is Ulf Konig, who, having been privy to the give-and-take of the bantering brothers-in-law, picks up on Smith's comment. "I try to make sure no one gets 'skunked' here," he says. "But there is something I tell visitors right off the bat to prevent even the slightest disappointment—that because of rabid geode-hunting through the years the park has been picked bone dry."

Lost In Iowa



Geode State Park, bordered on the south by the Skunk River, is one of the most scenic and popular picnicking spots in southeast Iowa. The premier attraction of the 1,640-acre park is Lake Geode, an 187-acre lake built in 1950. The lake is known for excellent fishing, while the sunny beach entices swimmers and sunbathers.



Lost In Iowa



Hiking trails require varying levels of athleticism, or take a leisurely stroll along the main roads through the park, as Jerry and Marie Ziegler and their dachshund Buddy of Danville do every day. A trip completely around the lake is possible on the rugged trails. Above, Greg LeGrand and Victor Smith of Colona, Ill., discuss prospects for a successful week of fishing on 187 acres of angler-friendly lake.

However, the good news is that numerous geodes are on exhibit in the park office. Even a 300-pounder has been split open for display.

Still, this leads to the obvious question: "What is so special about geodes that every last one has been scavenged?"

Simple answer: they are bedazzling and mysterious.

In Latin, geode means "earthlike," thus the name for the spherical rock with its tough, yellowish-gray, knobby outer shell that resembles a human brain or a head of cauliflower, take your pick.

Endowed with the lofty status as Iowa's state rock in 1967, a geode, when opened, presents a surprise to the unsuspecting. The cavity reveals a sparkling lining of glowing, often colorful, mineral crystals, most often quartz and calcite, which geologists attribute to the percolation of groundwater in the geologic past.

"Even when people do find geodes in neighboring areas, they can be impossible to open. Most people try whacking them caveman style with a hammer, but that doesn't always work," says Konig.

With that, he grabs a long-handled tool plumbers use on castiron pipes and proceeds to demonstrate just what it takes to crack even a mere 3-inch geode: a whole lot of

grunts, a whole lot of arm power, beads of sweat, repeated efforts, and a lick and a prayer.

If water's your thing...

Built in 1950, Lake Geode is the kingpin of the park.

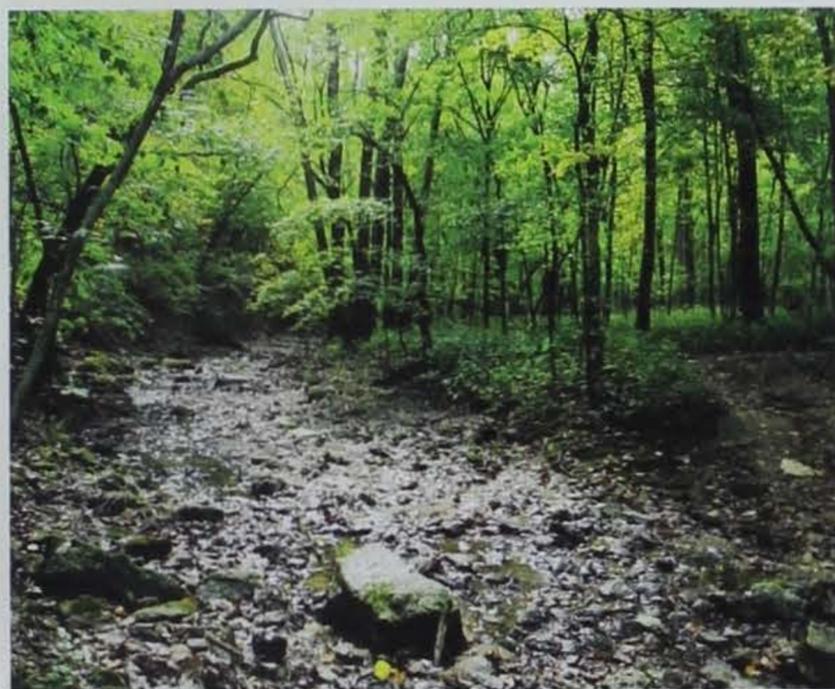
"Because it's a no-wake lake, it appeals to paddlers," explains Konig. "Mostly, though, it's known for excellent fishing."

The lake's main feeder is Cedar Creek, a picturesque waterway lined with 100-foot-high limestone bluffs from which massive boulders have plummeted through the years. "The rocky creekbed fools people into thinking they might buck the odds and find a geode," says Konig, "but that's not likely to happen."

For those who want to stick closer to shore, the sunny beach along the east side of the lake is a welcoming spot for unsupervised swimming and for sunbathing. Nearby, new playground equipment and a new beach house round out the perfect summertime setting.

Although the Skunk River forms a portion of the south boundary of Geode, there is no access from the park.

Sure, the fishing is great for bass, bluegill, red-eared sunfish and catfish. You bet the beach is a grand sandy bed on which to soak your sun-starved body. Absolutely



Several boat ramps are available on the east shore of Lake Geode. The terrain is extraordinarily diverse, with hills, slopes, ravines, streams and dry creekbeds making for an interesting landscape study. At right, Konig uses a plumbing tool to crack open a hard-shelled geode.

nothing beats Lake Geode for a refreshing swim. But you want to get your heart pumping on land? No problem.

"Our trails are challenging," admits Konig of the well-marked, easily accessible tracks that follow hill and dale completely around the lake. "Boy Scouts come here to test their hiking skills, and mountain bikers love flying up and down the steep paths." Note that he said "mountain bikers." This rough-and-tumble terrain is no place for a street bike.

Anyone lucky enough to shoot off to more-rugged areas of the park with Konig as a guide gets an even greater idea of the diversity of Geode's landscape. The best advice for a fellow wayfarer on one of these sojourns is **1.** hush up, **2.** prepare for a whole lot of hill-climbing, slope-sliding and stream-leaping, **3.** enjoy the park manager's tale.

"We have the usual fowl and wildlife. Canada geese, herons and ducks on the wetlands. Buckeye butterflies, birds, owls and eagles in the air. Deer, turkeys, bobcats, coyotes and rattlesnakes in the timber."

Whoa! Rattlesnakes?

"Just a few timber rattlers. They're not too bright, though. They tend to sunbathe on the road and get run over."

On trees and vegetation?

"Our upland areas are mostly oak and hickory with

some buckeye and hazelnut. We have patches of restored prairie and wildflowers. Over there is a clump of thistles that the goldfinch love, and...watch it...that's poison ivy. See what's clinging to this steep slope? Prickly-pear cactus, a bit of a rarity around here."

By this time Konig's sidekick is ready for a little rest, but in vain.

"Let's scoot down below the dam into the floodplain forest. We'll get wet crossing the stream, but it's worth it. Look at that massive tree with the huge cavity going halfway up the trunk. Some say it's the biggest and oldest sycamore in Iowa."

Suddenly he stops in his tracks and cocks his head to listen to what a novice considers jibber-jabber.

"Hear that birdcall that sounds like 'Here I am. Where are you?' That's a red-eyed vireo. It actually has dark red eyes."

And other birds in the park?

"We get neo-tropical species in the spring, like the bright red summer tanager. Otherwise, warblers, broad-winged hawks, whippoorwills, yellow-billed cuckoo and even barn owls."

Then, proving not everything in the park requires exertion, along come Jerry and Marie Ziegler, from Danville,

Lost In Iowa

Geode State Park

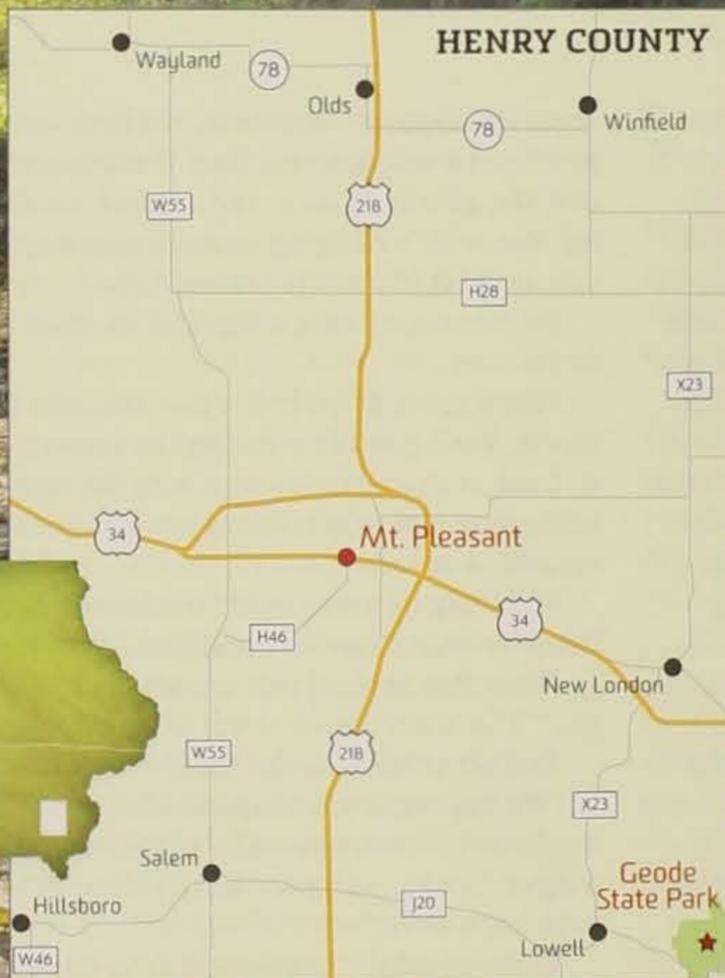
Reservations for shelters and half the campsites:
www.reserveiaparks.com or 877-427-2757
Balance of campsites on a first-come basis.

Oakland Mills Park and Nature Center

Reservations and information for guided canoe trips, cabins and campsites:
www.henrycountyconservation.com or 319-986-5067

Area Attractions

- Lewelling House and Quaker Museum in Salem was a former Underground Railroad stop. 319-385-2460
- Wagon bridge-turned-pedestrian bridge across the Skunk River near Oakland Mills
On National Register of Historic Places
- Southeast Iowa Bike Route connects Geode State Park to Lacey-Keosauqua State Park along 46 miles of paved, scenic county roads (J40, W55, J20 and X23) with wide shoulders and little traffic.



A photograph of a forest stream. The water is clear and flows over a rocky bed. The banks are covered in dense green foliage, including trees and bushes. The scene is captured in a natural, somewhat dimly lit setting, suggesting a shaded forest environment.

Geode State Park has several trails to challenge hikers, bikers and cross-country skiers. Geode also sits on the Southeast Iowa Bike Route, a 46-mile trail that connects Geode with Lacey Keosauqua State Park in Van Buren County.

Lost In Iowa



A must-visit while in the area is the 104-acre Oakland Mills Park, managed by Henry County Conservation. Campsites, rental cabins, trails, guided canoe trips and a spectacular nature center with creative exhibits make a stay in this park memorable.

strolling at a leisurely pace with Buddy, their long-haired dachshund. "We keep him moving, even if at a snail's pace, two miles a day, five days a week," chuckles Jerry. "Otherwise that long belly gets fat and starts dragging," adds Marie.

Henry County's Other Jewels

Some say you can't top Geode State Park, and who's to argue? It does have an equal, however, and the match makes Henry County a highly desirable destination for a close-up view of nature's treasures.

Passionate and dedicated describes Henry County Conservation Executive Director John Pullis. Oakland Mills, the 104-acre park he oversees five miles south of Mount Pleasant on the banks of the Skunk River, is nothing less than eye-popping.

"In addition to what we believe is one of the finest nature centers anywhere, we have excellent campsites, cabins, trails and guided canoe trips," states Pullis, with deserved pride.

Oakland Park Nature Center is, indeed, like no other, with funding and hands-on support from engaged volunteers, plus elbow grease and the uncanny ingenuity of Tony Millard, operations supervisor, and Pullis ("We can't let ourselves get bored so we jot down wild ideas on napkins

at lunch"). Complex exhibits including window beehives and illuminated sky posters, all fastidiously displayed and authentic to the region's weather, history, plant, animal and water worlds, entertain a visitor for hours. A live-animal area outdoors includes a male bobcat and two each of permanently disabled screech owls and red-tailed hawks.

As a community resource, the center's offerings are inexhaustible. "We conduct year-round environmental education programs for adults and children," says Cari Griffin, the gregarious staff naturalist. "Everything from wolf programs to creek stomping."

For a real thrill, jump on your bike and race across the 265-foot-long swinging bridge, another napkin inspiration of Pullis and Millard involving cables, sheet metal flooring, yokes and posts. If you aren't into such antics, gentle trails wind through much of the timbered park.

When it's time to rest, three cozy camping areas in the park with both electric and primitive sites, and two cabins, await. About the cabins? They are the best! Immaculate (thanks to the rub-and-scrub of staff member Marcie Givens), charming, accommodating. What's not to love about their two bedrooms (one has bunk beds), double futon in the living room, spacious loft, great kitchenette, heat, air-conditioning and a large



A 265-foot swinging bridge constructed of cables, sheet metal flooring, yokes and posts is a popular feature at Oakland Mills. In addition to the nature center, Oakland Mills has an impressive live animal display and bird viewing areas. A male bobcat is the permanent feline resident. Also calling Oakland Mills Park home are two wing-injured eastern screech owls and two red-tailed hawks.

covered porch from which to look down upon the Skunk River and enjoy your early morning joe.

No Getting Skunked on the Skunk Either...

On a day dawning with a classic sunrise—rays of fiery fingers tickling into oblivion the misty vapors floating like soft muslin above the placid waters of the Skunk—one has to question the moniker. Skunk? Whether named for the cabbage that sometimes grows on its banks or the ornery critter itself, the waterway is not smelly. It is positively scenic, a good paddling river and an angler's paradise, especially for catfish.

If you're up for a picturesque southeast Iowa paddle, Oakland Mills Park is a good place to put in, with an alternative put-in a bit downstream at the Faulkner access. Pullis and crew offer two-, four- and six-hour guided canoe trips with either four or six canoes.

Nate Hoogeveen, director of DNR river programs, considers the 15-mile run from Oakland Mills to Lowell a pleasant paddling experience. "The Skunk is a scenic, mid-sized, slow river along this stretch and suits many paddlers for a long day on the water," he says. "The banks are frequently lined by low limestone outcroppings with

dense stands of mixed hardwoods along the ridgelines. It tends to have reliable flows into autumn."

Along the zigzagging route, a small rapids and occasional riffles curving around rock bars keep paddlers on their toes, figuratively, of course. Glimpses of cabins in the woods and wary wildlife beyond the banks provoke the dreamer's imagination.

The takeout point of the excursion is the quiet village of Lowell, apparently not always so quaint and serene. Local chatter suggests that in days of yore it was an end-of-the-line, raucous little spot where blustery captains of riverboats traveling up the Skunk spent many a night of revelry before heading back toward the Mississippi.

Back at Lake Geode, the brothers-in-law are solemnly de-camping. It's time to head back to Colona. Just to make sure there is no misunderstanding, LeGrand insists, "Aw, we never really care who catches what or how big they are."

Oh, sure! But one can't help but be curious. So, what are the results at the end of three days?

"Altogether we caught 64 bass and five bluegill...and released them all, as we always do," he reports.

O.K., but who caught the biggest fish?

"He did," laughs Smith, "just as he predicted." 🐻



BIG CARP BIG PROBLEM

Asian Carp Threat Further Invades Iowa

BY JOE WILKINSON PHOTOS BY CLAY SMITH

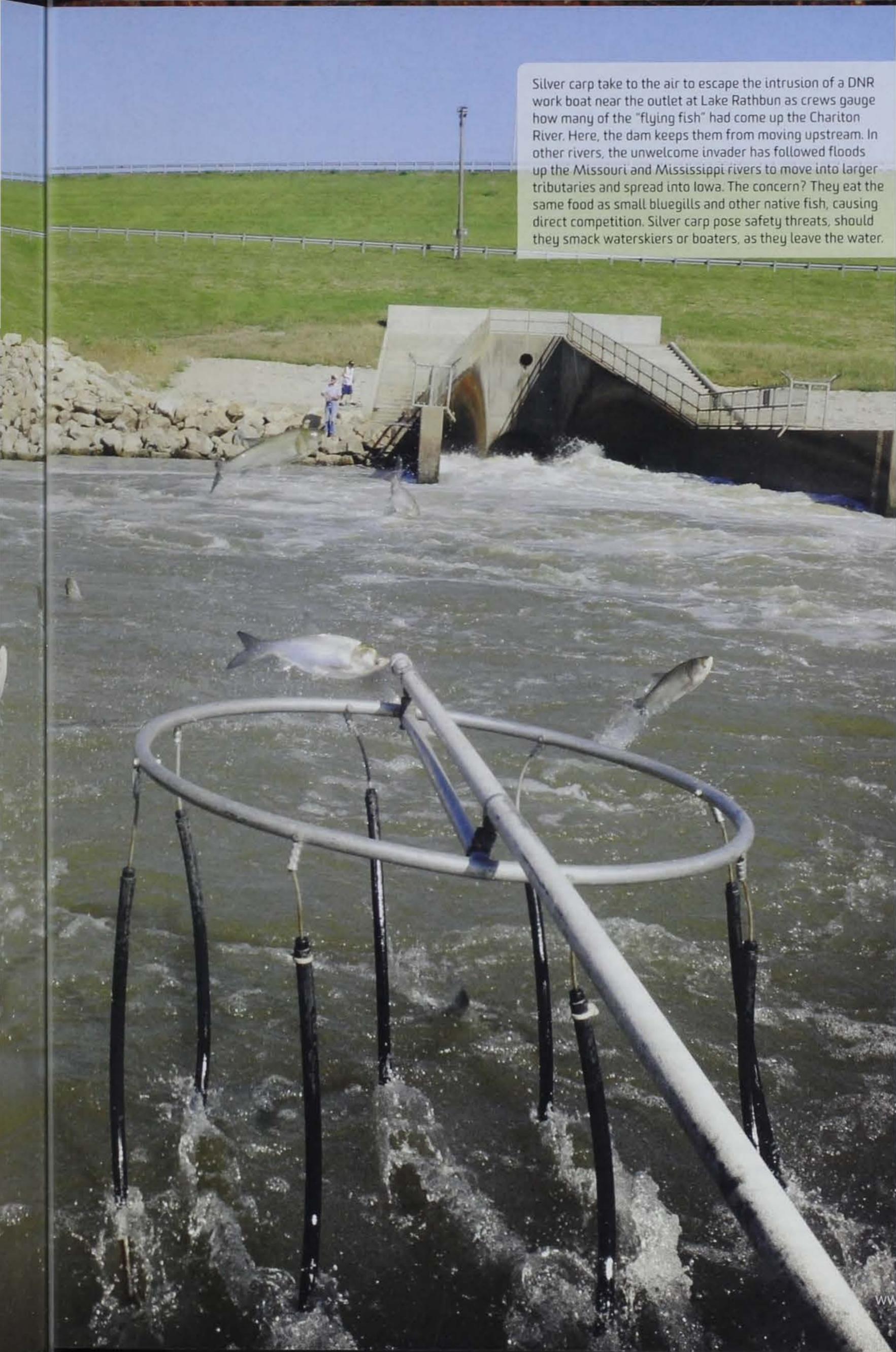
Fish fly out of the water. Boaters and skiers duck to miss being smacked by them. Commercial fishing nets groan with the weight of so many fish...of the wrong kind. Native game fish dwindle, their food sources sucked down by exotic interlopers. Asian carp have made few friends in their spread through Midwestern waters. Until last summer, the slow encroachment was limited to southern Iowa. However, discovery of a few carp in the lakes of northwest Iowa and further migration up the Mississippi River send up the caution flag statewide: Are they a dire threat to our sport-fishing industry or is their population boom about to go bust? Research offers a few hints, but there is still plenty of work ahead.

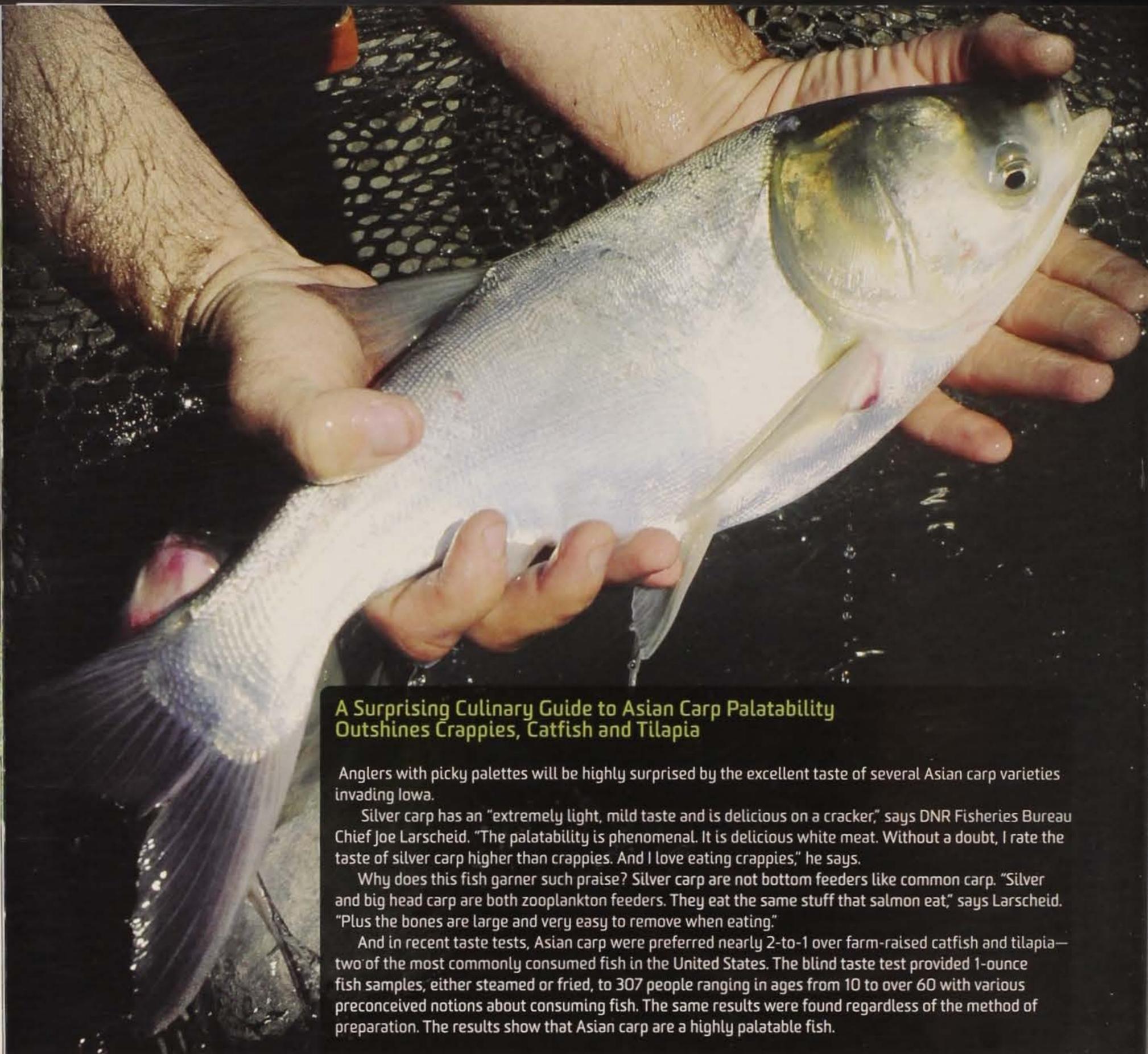
What Are They?

The Asian carp moniker refers to four species brought to U.S. waters over the last few decades—by accident in some cases, deliberately in others. All are native to eastern Asia, primarily China.

Grass carp, known as white amur, are familiar to Midwest pond owners. Originally river

Silver carp take to the air to escape the intrusion of a DNR work boat near the outlet at Lake Rathbun as crews gauge how many of the "flying fish" had come up the Chariton River. Here, the dam keeps them from moving upstream. In other rivers, the unwelcome invader has followed floods up the Missouri and Mississippi rivers to move into larger tributaries and spread into Iowa. The concern? They eat the same food as small bluegills and other native fish, causing direct competition. Silver carp pose safety threats, should they smack waterskiers or boaters, as they leave the water.





A Surprising Culinary Guide to Asian Carp Palatability Outshines Crappies, Catfish and Tilapia

Anglers with picky palettes will be highly surprised by the excellent taste of several Asian carp varieties invading Iowa.

Silver carp has an "extremely light, mild taste and is delicious on a cracker," says DNR Fisheries Bureau Chief Joe Larscheid. "The palatability is phenomenal. It is delicious white meat. Without a doubt, I rate the taste of silver carp higher than crappies. And I love eating crappies," he says.

Why does this fish garner such praise? Silver carp are not bottom feeders like common carp. "Silver and big head carp are both zooplankton feeders. They eat the same stuff that salmon eat," says Larscheid. "Plus the bones are large and very easy to remove when eating."

And in recent taste tests, Asian carp were preferred nearly 2-to-1 over farm-raised catfish and tilapia—two of the most commonly consumed fish in the United States. The blind taste test provided 1-ounce fish samples, either steamed or fried, to 307 people ranging in ages from 10 to over 60 with various preconceived notions about consuming fish. The same results were found regardless of the method of preparation. The results show that Asian carp are a highly palatable fish.

inhabitants, they thrive in confined settings: lakes, ponds and aquaculture facilities—fish farms. They were introduced in the 1960s to control aquatic vegetation. Weeds or algae choking your pond? Just add grass carp.

Bighead carp were imported from China in 1972. Aquaculture facilities in Arkansas wanted to improve water quality in their ponds to boost channel catfish production. Introducing bigheads did the job.

Silver carp came to the U.S. a year later. The idea was the same. These filter feeders from major rivers in Russia and China strain aquatic plankton. In commercial ponds, that means better growth for farmed fish.

Black carp are the "whoops" species, arriving by

accident in the early 1970s as stowaways in a grass carp shipment. Then a decade later, they were imported as a protein-rich fish food base and to reduce parasites found in catfish farms.

From Fish Farms to the Wild

In their place, they did their jobs. Had they stayed in those commercial ponds or university research settings, there would be little concern today. But like any fish, Asian carp follow the water. Occasional flooding at fish farms and other escape routes carried them up, over and around levees into river systems. For grass carp, stocked in hundreds of lakes and ponds, their spread came

usually through intentional release—legal and illegal. Legal releases were thought to be of sterile fish. That was not always the case.

Those watery escape routes led to new frontiers, up the Mississippi and Missouri rivers and tributaries. During high water, they swim upstream through river locks when gates are raised or over lowhead dams when floods rise to dam height. Grass carp have spread to 45 states. At least another 18 states report bighead carp infestations. Another dozen show silver carp.

Still, little is known about them in the upper Midwest. In the late 1980s, a couple strange carp were noticed in routine fish population surveys. Then, 6,000 pounds of bighead carp showed up in the stilling basin at the base of Lake Rathbun as inspectors pulled down reservoir levels to inspect the dam in 1995. The invaders had worked upstream from the Missouri River, into the Chariton River. Welcome to Iowa.

“We found them about the same time in the Des Moines River, a tributary of the Mississippi River,” recalls Mark Flammang, DNR fisheries biologist based at Lake Rathbun. “We saw bigheads increase for years. Then, in 2001, the first silver carp was noted around Keokuk. We found two that day.”

Silver carp are the notorious “flying fish” of photo, YouTube and fish story legends. Vibrations from perceived danger startle them. As the disturbance—say a propeller-driven boat—grows closer, fish big and small leap out of the water. At a recent spring drawdown of the Rathbun tailwater, hundreds popped out of the draining basin as crews circled them with nets for removal. “We’ve all been hit by them,” recalls Flammang. “One nearly landed on my head.”

“We began to see an explosion of silver carp in the Chariton River in 2004,” recounts Flammang. Biologists are concerned that frequent flooding will push the invasion further upstream.

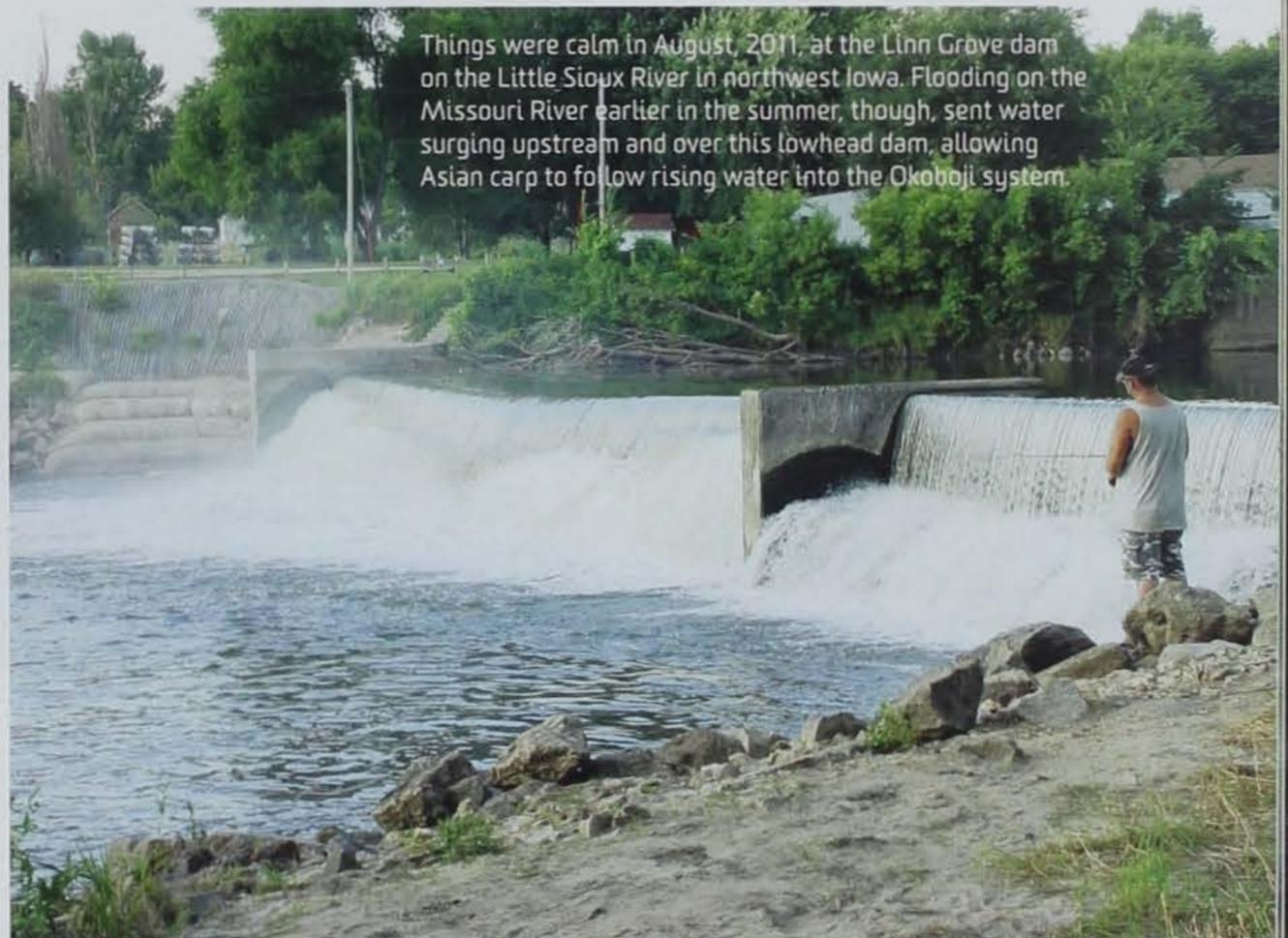
During the Flood of 2008, silver carp were able to pass upstream at Ottumwa, when flood gates were opened to move floodwater down the Des Moines River. Last year, commercial fishermen netted a few bigheads above Guttenberg, another first.

One disturbing trend noticed during 2011 sampling is that silver carp density has blown past bighead carp, which remain in moderate numbers. “The only thing stopping them from moving upstream is those big dams,” cautions Flammang.

The worst fear was narrowly averted in July 2010. Spectators gathered and watched for a week as jumping carp battled water gushing out of Rathbun’s outlet, instinctively trying to swim upstream. The real drama, though, was a mile away at the reservoir’s emergency

spillway where a quarter-mile-wide channel of low-lying land is designed to direct extra water out of the huge flood control reservoir to the Chariton River. Heavy rain to the south, though, raised the nightmare of the Chariton pushing upstream, delivering a king-sized load of Asian carp into Rathbun. The rains subsided, though, and the Chariton was tamed. Had Asian carp followed that conduit, they would quickly move through the river basin and tributaries into southwest and western Iowa.

Then, another blow came in 2011. “We discovered a partially decomposed bighead carp on the bank of Milford Creek, an outlet stream from the Okoboji lake chain,” recalls DNR fisheries biologist Mike Hawkins, based in the angler- and tourist-heavy Iowa Great Lakes. “A few weeks later, my team was doing a seine haul, our annual young of the year fish assessment at the narrows on East Okoboji.



Things were calm in August, 2011, at the Linn Grove dam on the Little Sioux River in northwest Iowa. Flooding on the Missouri River earlier in the summer, though, sent water surging upstream and over this lowhead dam, allowing Asian carp to follow rising water into the Okoboji system.

We caught two juvenile bigheads.”

Since then, isolated catches were reported at Elk Lake, Trumbull Lake and Lost Island Lake, as well as below the Linn Grove Dam on the Little Sioux River. “We believe a combination of Missouri River flooding and an extreme storm across a large portion of the Little Sioux watershed July 14 allowed Asian carp to move upstream,” theorizes Hawkins.

Supersize Invaders Compete for Food

It’s usually fun to see a big fish. Troy Seaton arrowed his 79-pound, 4 ounce state record bighead carp in the summer of 2009. His Cedar River trophy was 53 inches long, yet Seaton swears he saw another one a foot longer. In this case, though, bigger is not better.



Bow fisherman Troy Seaton of Shellsburg arrowed a 79 pound, 4 ounce bighead carp in 2009. His state record underscores a rapid expansion of Asian carp in Iowa.



Silver carp leap from the water as a DNR electroshocking boat cruises to determine number, size and age of fish in the river. It's common to have a dozen-plus silver carp on the boat floor at the end of a run. Many DNR staff have ducked the finned fliers, while some have been hit by a scaly escapee during electroshocking runs or other work.

For starters, the bighead, and its silver carp cousin, eat the same things as many native fish. "Typically, these larger fish show up and get a spawn off. You're going to have young all over," outlines Paul Sleeper, the DNR district fisheries biologist near Cedar Rapids who certified Seaton's 2009 record. "They feed on phytoplankton and zooplankton, competing directly with some of our smaller game fish. They are going to displace something. That river or lake can only support so many pounds of fish."

So one 70-pound bighead carp cruising through the water consumes the food needed to support 140 half-pound bluegills. In the meantime, the Asian species continue a slow spread through Iowa and the upper Midwest, evidenced by growing numbers in commercial fishing harvest on the Mississippi, Missouri and Illinois rivers. And last March, commercial anglers caught 55 silver carp and 82 bighead carp in East Okoboji Lake, where only two big head carp were netted by the DNR last year during a population survey.

For now, Asian carp are a wild card. Will we see a 21st century version of the zebra mussel invasion, threatening native populations? Will they simply blend into the rivers and streams of Iowa? Or is Iowa too cold to establish longtime viable populations?

"If they become established, we could see big changes in the fish populations," warns Flammang. "Asian carp are filter feeders. They are going to tie up the plankton resource of any system they inhabit. That changes the prey fish available, leading to a decrease in the game fish."

Unleash the Hungry Humans

Another option? Eat them. Shafer Industries—a Fulton, Ill. fish processor—buys catches of commercial fishermen. Shafer has moved 2 million pounds of Asian carp a year, mostly to metros with large Asian-American communities. Ironically, Shafer looked at exporting to China. "They are overfished in China, if you can believe that," explains Kim Bogenschutz, the DNR's invasive species biologist. "Other markets are being discussed, too. Maine lobstermen want

Mississippi River, pools 9-19, reported commercial Fish harvest of Asian carp species 1987-2011. (in pounds)

Year	Grass carp	Bighead carp	Silver carp
87	166		
88	422		
89	264		
90	145		
91	221		
92	502		
93	645		
94	623		
95	378		
96	796		
97	534		
98	1,925		
99	685		
00	5,050		
01	1,803	197	
02	1,311	146	
03	700	682	
04	650	4,541	
05	166	144	
06	1,169	310	
07	13,370		62
08	22,708	671	422
09	63,400	13,858	472
10	30,194	6,227	1,635
11	49,962	13,271	6,885
Total	197,789	40,047	94,076

There are 121 commercial fishing operations on the Mississippi River as it rolls past eastern Iowa. Those businesses supply catfish, common carp, drum, buffalo and other species to markets established in restaurants, institutions and large city markets. Since 1987, they have had to report their annual catch.

This table shows high water years (left column, boldfaced) on the Mississippi River. It suggests that three to four years after a flood, the commercial harvest of Asian carp—and by connection their population in the river—is rising significantly (boldfaced in columns 2, 3, 4). “We notice a correlation to flood events and the spawning success of Asian carp”, reports Gene Jones, DNR fisheries technician based in Bellevue. “High water provides more access up and downstream, over and around dams. It also provides the three- to four-mile an hour water flow these eggs need to hatch, and for the fry to grow.”

In the early years, the harvest might have included a few hundred pounds of grass carp. It neared 25 tons last year. In 2001, a few bighead carp were noticed. By 2003, it was still a drop in the bucket. The next year, it jumped sixfold. With extended high water in 2001, that 2004 bounce was no coincidence. By 2008, a few silver carp were showing up. Big spikes in their numbers came in 2010 and again last year.

In 2011, commercial operators harvested 2,023,978 pounds of fish. The dominant species are still channel catfish (696,965), buffalo (491,332), freshwater drum (350,025) and common (European) carp (261,648). Though the Asian carp totals are dwarfed by the traditional commercial species, grass carp and bigheads are now among the “top 10” species taken.

On stretches of the Illinois River, which flows into the Mississippi, Asian carp make up virtually 100 percent of the commercial catch. The spike is also apparent on the Missouri River. Though with far less commercial fishing (only 4,835 pounds in 2009), more than three-fourths of the biomass was bighead, silver and grass carp. Some fishermen reported nets so full, they could not be lifted from the water. (Note: With severe flooding on the Missouri, there was no 2011 commercial harvest.)

While still a small segment of the commercial catch—and therefore of the river ecosystem itself—Asian carp populations and biomass are growing. And with flood events each year from 2008 to 2011 on the Mississippi, it leaves a simple question. What will happen in 2012 and beyond?

to know if the big fish would make good bait.”

And even though lots of the fish, including young ones, are in Iowa waters, a key question remains. “Research shows that those small fish migrate, sometimes hundreds of miles. (However) we have not documented successful reproduction in Iowa,” says Bogenschutz.

From further downstream, research indicates the fish might hybridize their way out of a population explosion. While in Illinois, Chad Dolan did research with that state’s Natural History Survey.

Some early findings are notable. “When silver and bighead carp cross, their offspring exhibit typical hybrid vigor. That “F-1” generation usually grows bigger, faster and stronger,” says Dolan, now an Iowa fisheries biologist at Lake Darling. “However, when they ‘back cross’—a hybrid crossing with one of the parent species—the offspring may lose that vigor. They are not quite as big, not quite so fast. Organs become soft, not rigid. The body condition is not what you’d expect.”

Hybrids, which made up to 22 percent of Asian carp

populations a few years ago, now approach 50 percent. That could lead to a hybrid swarm of lower quality carp, with stronger parent strains becoming rarer.

Researchers are looking into whether egg production is adversely affected. If hybrids are not as successful at reproduction as the parent species, a population crash could lie in the watery future.

Dolan notes, also, the hybrids do not exhibit the jumping behavior common to their silver carp parents. That could be a plus for boaters, skiers and others who fear being smacked in the head by flying fish.

Meanwhile, the options range from slapstick YouTube features to dire biological consequences. “A water skier getting hit by a 30-pound fish? That’s scary, but it’s an isolated thing. In a multi-use lake? All users are going to feel the effect,” cautions Flammang. He feels there is no physical way to ever remove Asian carp from a lake the size of Rathbun, for instance, if they ever make the jump.

With research still in early stages, there are just no solid conclusions at this time. 🐟



Examine Flooded Trees

BY KAREN GRIMES PHOTO BY LINDSEY BARNEY

In most floods, water comes then recedes.

Often, bottomland trees can tolerate one to three months of flooding, according to DNR district forester Lindsey Barney, who is based in formerly heavily flooded Pottawattamie County. Seldom does water stay in place for weeks or months. However, recent floods have stressed the system. Many Iowans will lose leafy friends over the next few years from flood-weakened trees now vulnerable to insects and disease.

Suffocating Floods

Floodwaters limit the ability to absorb oxygen through the roots. Water-compacted soil and sediment—as shallow as 3 inches—inhibit oxygen supplies, too. Short, shrubby vegetation like dogwood and sumac are often the first woody plants to succumb. Swift currents can scour soil away, which also stresses root systems. Weak or dead roots can't anchor trees, making them susceptible to toppling.

How to cope and what to expect

Nearly 19,000 acres of Missouri River woodlands flooded last year, putting 1 million trees at risk of dying within five to seven years after the flood events of 2008, 2009, 2010 and 2011. Based on 50 trees per acre of saleable timber, some 31.8 million board feet of timber could be lost with a value of nearly \$3.2 million.

But many factors determine if trees survive. Soil type, tree species, age and health all affect flood tolerance. Flood depth and duration impact tree survival with shallow waters less damaging than deep floods that cover foliage.

How to Check for Damage

After a flood, homeowners have the greatest immediate risk from flooded trees. Check tree health quickly,

especially those near homes, looking for rot or structural damage. For obvious damage, Barney suggests contacting a DNR forester, an urban forester or a certified arborist to determine the extent of damage and potential for the tree to die. Removing damaged trees to protect nearby buildings is a priority.

"After that, for homeowners, it's mostly monitoring foliage conditions this spring," she says. Look at secondary indicators like insects and disease in the following seasons. "Loose bark is a good indicator that a tree is dead or dying."

Silver maple, green ash and sycamore could look good this year, but may have problems a few years later. Cottonwoods may be another story. "I saw cottonwoods near the river last fall that had lost half their crowns," she says.

Watch Flood Damaged Trees For Years

Damage Symptoms	Time Range
Premature leaf loss or color change	Immediate and next few years after flooding
Crown or limb die back	Immediate and next few years after flooding
Epicormic sprouting—new shoots coming out of the tree trunk	Next few years
Large seed crops	Next few years
Signs of insect, disease, fungus, rot	Up to seven years

Record damage with photos and notes for all parts of the trees. Contact insurance agents and agencies that offer cost-share following floods to determine what documentation they require. Be sure to include when and how long it flooded, when damage occurred or first appeared, symptoms and how many trees are affected.

Floods can wreak havoc on trees, making them susceptible to disease and death years after the water has receded. Some tree species are flood-tolerant and make good replanting choices in flood zones.

s For Years To Come

Even trees do not die without a groan.
-Henry David Thoreau

Planning Ahead

For homeowners, replacing an individual tree is inexpensive and well worth it for aesthetics and the energy savings shade provides. Plant flood-tolerant species for frequently flooding yards.

For woodlot owners with acres of damaged trees, remedies may differ. DNR foresters can help woodlot owners evaluate tree health, salvage marketability and determine the best ways to reforest.

Salvage is a possibility if the flood damage is severe and threatens the future of the woodland. "Loggers are interested in salvage sales, but they are swamped with projects," says Barney. "There are few bonded log buyers in this area that take cottonwood. One logger mentioned needing at least 25,000 board feet or about 25 to 30 trees to make a sale feasible for transportation and equipment costs." Don't wait too long, as tree values decline rapidly when rot or staining set in.

Small numbers of many species are harder to market but sellable as firewood. Follow state firewood regulations designed to protect ash trees against the spread of emerald ash borer. Learn more at iowadnr.gov and search under "EAB firewood."

Another option is keeping damaged and dying trees to reseed woodlands and restore wildlife habitat—the DNR plan for public lands. "Hopefully the flooding killed out most midstory white mulberry and dogwood, so if cottonwoods make it for two or three more years, they will have a great opportunity to reseed the bare understory to create a new generation of trees," Barney says.

As mid-story trees and bigger trees decline, they provide roosts for bald eagles and turkeys and good homes for cavity nesting birds like woodpeckers and night herons.

"One of the neatest programs I'm working with is the USDA Farm Service Agency's Emergency Forest

Restoration Program," she says. "It gives landowners up to 75 percent cost-share to re-establish trees."

Tree Species Tolerant to Long-Term Flooding

Flood Tolerant Species	Intermediate Flood Tolerant Species
Black and Green ash*	Box elder
Eastern larch	Silver maple
Black willow	River birch
Baldcypress	Hackberry
Pecan	White ash*
	Honey locust
	Sycamore
	Eastern cottonwood
	Bur oak
	Pin oak
	American elm

* Not recommended due to potential emerald ash borer threat

Additional Resources:

Forestry Professionals:

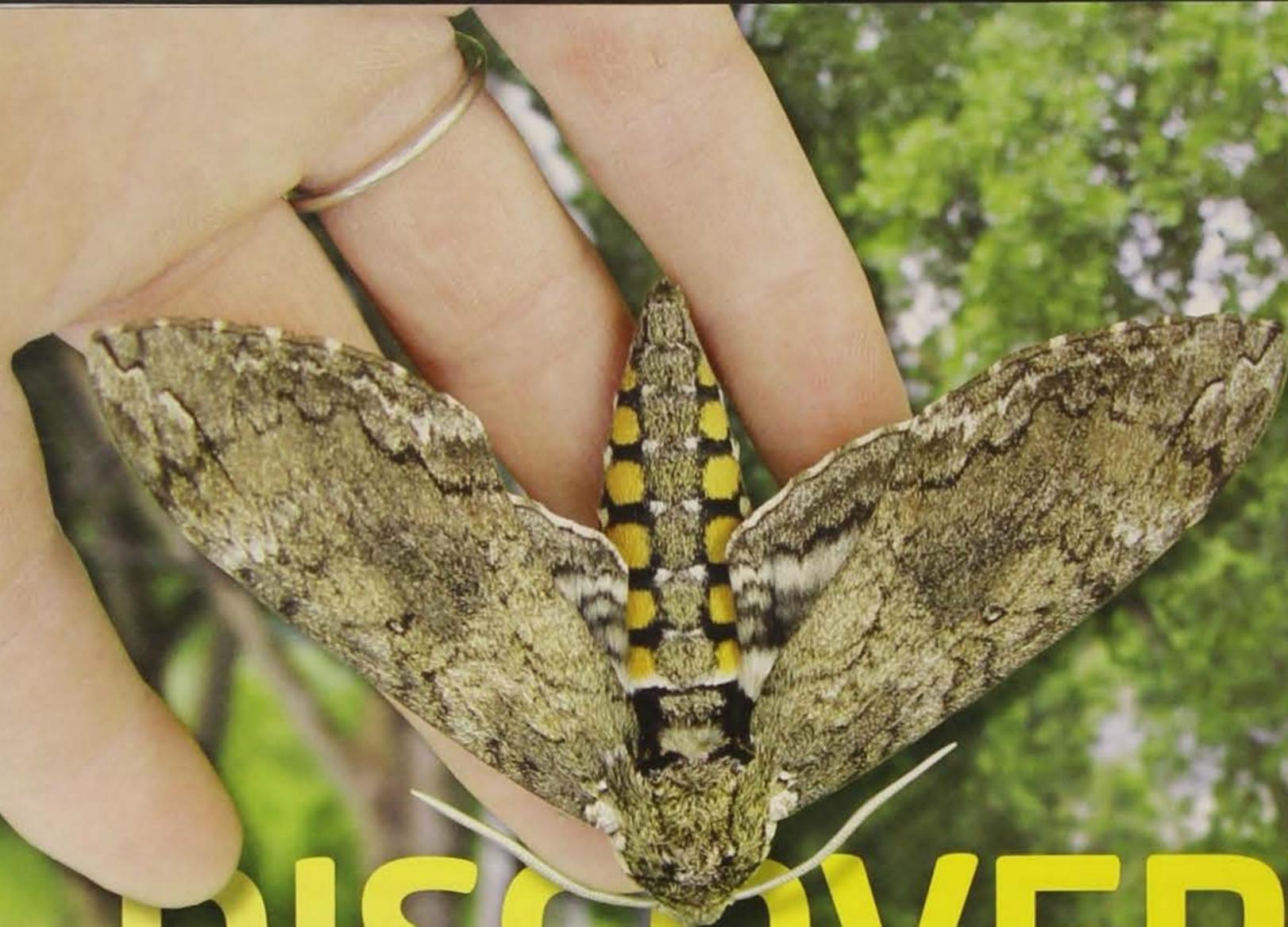
ARBORISTS
www.isa-arbor.com Click on "Find a Tree Care Service."

DNR FORESTERS
www.iowadnr.gov/Environment/Forestry Click on "Forestry Landowner Assistance."

EXTENSION AND OUTREACH FORESTERS
www.extension.iastate.edu

USDA Farm Service Agency
www.fsa.usda.gov/FSA and search for "Emergency Forest Restoration."

Flood Damage to Trees:
<http://na.fs.fed.us/> and search for "flood tolerance."
www.extension.iastate.edu/publications/SUL1.pdf 🐾



DISCOVERY THRILLS HER

This slight woman with strawberry blond hair, bridled by a visor, who once delivered packages for UPS, has a boundless passion for insect science.

STORY AND PHOTOS BY MINDY KRALICEK

Like a darting insect, Mj Hatfield is on the move through her forest of red, black, white and bur oaks, lindens and maples in rural Winneshiek County. It's a jerky, zigzag route as she stoops to identify tiny insects, pulls purple crown vetch and sticks a fluorescent pink flag into the ground. She makes a few glances to each side as she follows a path through shoulder-high woodland floor growth, and points a finger up to a humongous red elm

towering above the tree canopy.

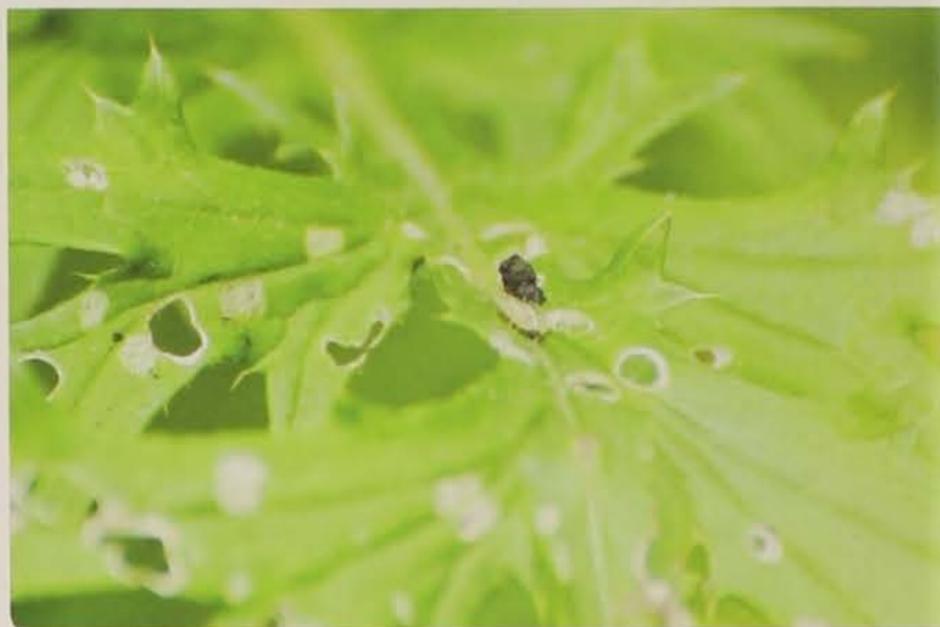
"It's survived Dutch elm disease so far," she says, her head uplifted as she inspects the soaring limbs.

Her land is her personal "learning lab," as Hatfield refers to it. Gradually, she is turning 117 acres of forest and crop land into open forest and reconstructed prairie, with the help of volunteers, private land cost-share programs and a lot of her own labor. Here, her heart is home.

"Come here. Look at these thistle tortoise beetle

A photograph of a person with a backpack in a forest, looking at a large, striking red and white flower. The person is seen from behind, wearing a dark backpack and a headband. The flower is a large, trumpet-shaped flower with a white base and a red, veined upper portion. The background is a dense forest of green trees and foliage.

MJ Hatfield brings everything she needs in her backpack for a day exploring 113 acres of prairie and woodlands she calls her "learning lab." She needs food and water, of course, but most importantly a notebook and canisters to record and collect her finds, and flags to mark invasive species to remove. OPPOSITE: Nightflying hawkmoth (*Manduca sexta*). BELOW: Meadow garlic bulbil (*Allium canadense*).



larva, or *Cassida rubiginosa*," she beckons, smiling as she reveals their secret. "See how they carry poo around on their backs? There are projections on the end of their abdomen called urogomphi that keep their own poo piled up. They can move their tail end, and if some critter comes toward it, the larva touches the critter with the poo. Ants especially do not like to get dirty, so when the larva touches an ant, the ant stops to clean itself and the larva moves on to safety, theoretically."

Moths flicker through the undergrowth, keeping ahead of her pace. Spiderwebs form gates across the path, to duck under or tear. Hatfield motions toward the many ferns growing beneath the trees: the interrupted, maidenhairs, lady and sensitive ferns. She checks to make sure her companion is keeping up. "Isn't this wooooonderful?"

In the open prairie, her brain switches to sunnier thoughts. "We have a list of plants that lived in Iowa historically, and we pretty much know what plants live in Iowa now. But, take bees, for instance. How many people know that 230 species of native bees have been identified in Iowa? And there could be many more. Enough people just aren't looking at insects."

"Look over here. These beetles are mating, back to back," she says excitedly. "A lot of insects mate with the male on top of the female, headed in the same direction, but a number of beetles and leaf hoppers mate this way."

Hatfield continues on, chattering in a stream of consciousness. "Who'd have thought when I was young that my life would revolve around science and insects? Not me."

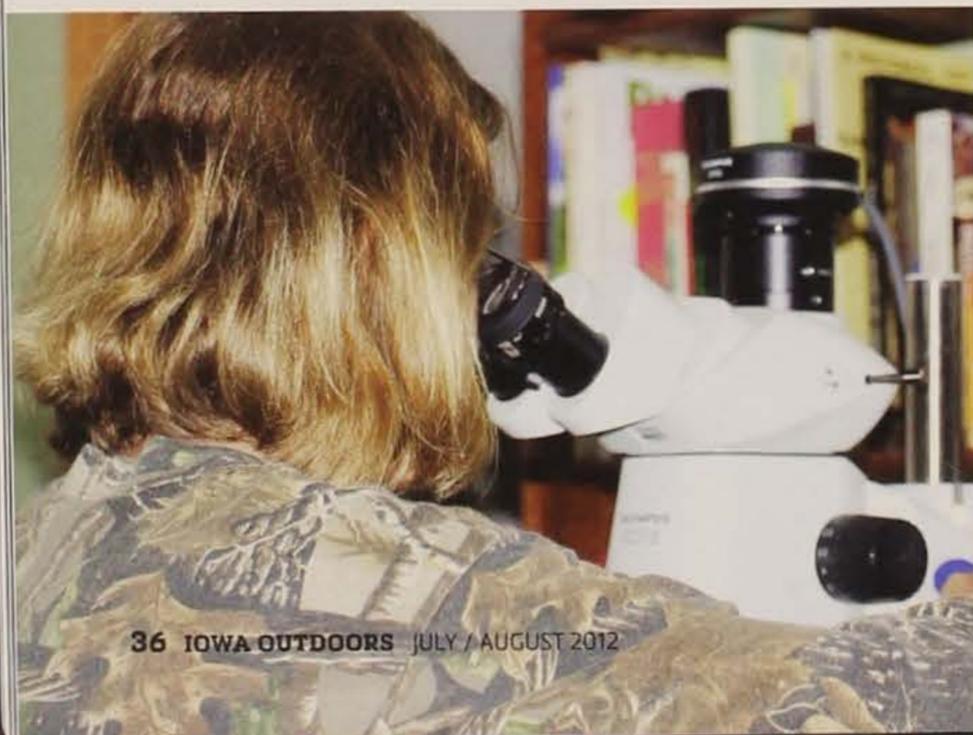
MJ, short for Mary Jane, shares the trek that led her to become one of Iowa's most passionate people for insect science.

"I graduated from college with a bachelor's degree in history and religious philosophy. I didn't know what I wanted to do to make a living. I ended up working for my mother in her Des Moines mimeograph business and quizzed the UPS driver about his job when he picked up deliveries. He got to work outside and be active. That's what I wanted."

"I ended up applying for a job at UPS and got it. It wasn't long until I was in very good physical condition from the heavy lifting and schedule, but in later years it meant aches and pains, too. It took a good month for all the aches to go away after I retired."

"I was into gardening big-time during this period. Then I got into tropical plants and oddities like meat-eating plants. Then native plants grabbed my attention. I started noticing the insects that lived in or on plants, their different life stages and the different uses insects have for plants. I was fascinated."

With husband Rick Mercer, they bought three wooded



a female handsome fungus beetle (*Phymaphora pulchella*)





Ctenucha virginica moth

acres north of Ames with a creek running through. “We built a passive solar home. I began to plant native seeds into the woodland, like skunk cabbage, which smells like rotting flesh and attracts flies to help it with pollination. Marsh marigold, trout lily and Dutchman’s breeches were already living there.”

Smoldering in the background was another life for Hatfield, waiting to combust.

In 1973, Hatfield and Mercer purchased 90 acres of rural land known as the Oneota Ant Farm north of Kendallville in Winneshiek County. “It’s called that because the Upper Iowa River used to be called the Oneota River. Ant is in the name because of the Allegheny mound ants that make their home here. They make very large mounds. To Hatfield, it was home.

“The land felt like part of me,” says Hatfield. “It was home even though there was no livable building on it, but Rich and I were undecided about what to do with it for quite awhile.”

When an adjacent 23-acre woodlot came up for sale, they bought it. Then there were 4 acres with a spring available. They bought it, connecting most of the land on their side of the river. In the mid-1990s, a spark ignited into flame. Hatfield envisioned what the land should become: a historical ecological restoration.

“Those weren’t the words I thought of at the time.

I called it ‘habitat,’ but that’s what I hope it will become.” She grins, “I didn’t learn the word for it until at least 10 years later.”

Two weeks after she retired in 2004, Hatfield began a two-year stint for the Iowa DNR as an AmeriCorps volunteer, working in prairies and prairie plots.

“We were harvesting prairie seed and had inmate crews helping us. I’m sure they thought I was a little cracked, but it wasn’t long before a couple of them were bringing caterpillars to me to identify. It tickled me to see some rough-talking, great big guy coming toward me holding a small caterpillar cupped in his hands, excited to show me something new he had found. I didn’t always know the names for the insects, but I looked them up. We established a connection and it was quite enjoyable.”

A memory floats to the surface. “There’s a cool moth larva that has gills and lives in rapids, but only particular kinds of rapids. I was able to get a photo of the moth because they come to black lights.

“When the AmeriCorps job was done, I received an education award and took a couple of classes at Iowa State University. Entomology got me interested in aquatic insects and I started a collection.

“I found it interesting that money for research comes not for general knowledge about life around us, but for research that has direct impact on our lives: pests and



OPPOSITE PAGE, CLOCKWISE: MJ Hatfield outside one of her three reconstructed prairies; tortoise beetle larva (*Cassida rubiginosa*) carrying fecal matter on its back to ward off predators; Hatfield in her home lab, looks through her microscope that is specially fitted with a camera for insect photography. **THIS PAGE:** A few of Hatfield’s insect rearing jars and a portion of her collection. At left are Formica Montana ants. At right, two forked fungus beetles (*Bolitotherus cornutus*) sit atop a favorite hangout, a shelf fungi.



Photo by MJ Hatfield

medical vectors of disease. It's because of pest work that they've found out so much about how insects work.

"Stephen Marshall wrote that of the 1.7 million named species in the world, 1 million are insects. He believes unnamed, undiscovered insects probably number in the millions. Insects are an area of science in which the common everyday person can discover new things," says Hatfield.

The path she walks is clearer these days, opened by years of girdling trees, removing invasive plants and making a pathway for her truck to haul fallen timber to cut for heating. Four fields totaling 35 acres are now reconstructed prairie.

"Or a 'faux' prairie as DNR botanist Mark Leoschke teased me," says Hatfield. "I wondered if the birds knew they were living in a fake prairie? Do the frogs know this is a fake prairie? Mark's comment started me thinking about how a fake prairie compares to a 'real' prairie that has never been plowed.

"Insects,' I decided. I started learning whatever I could about them."

She stops for a moment and springs to a new topic. "Caddisflies. That's an example of how pompous we are about our own abilities to build homes. Many larvae of caddisflies build underwater houses by spinning silk and sticking together bits of sand and leaves and sticks. They live inside these cylinder-style homes where they are protected and camouflaged. Remind me to show you some examples when we get back to my lab."

Nearby, a mound of ants has churned up ground that would trip most people, but Hatfield nimbly steps around it. "Formica Montana ants," identifies Hatfield. "These ants liked the tallgrass prairie in the Great Plains and they are still here. They make a good-sized mound. But, it is the Formica exsectoides, known as Allegheny mound ants, that make the really large mounds. They're in here too."

The Human Queen Bee

"The next stage of my passion became rearing insects. I've had over 300 rearing jars at one time, each containing an egg or larva or pupa. We know quite a bit about a lot of adult insects, but not as much about their life stages. I'm trying to cut back on the rearing now. I counted last night and I was down to 152 jars. It's hard to find someone who will tend my insects if I go out of town for a week or even a couple of days," she chuckles and shakes her head side to side, amused by her own obsession.

She credits the Iowa State University website *BugGuide.net* with helping open the door to the insect world. The website is a great resource for people wanting to learn about insects. "We were asked not to use BugGuide for identifying insects during my ISU classes. But I'm a big user now. Folks wanting to learn about insects can interact with professionals and expert amateurs and get insects identified. There is also information about insect behaviors and what host plants they need."

Home is the couple's most recent acquisition: 3 acres with some outbuildings and a simple two-story cabin with

a fireplace. It is located on a bluff near her forest and prairies. She had her eye on the place for several years, but only asked the owner a couple of years ago if he planned to sell someday. Turned out he was ready to sell.

She still hasn't completely moved in. Her tropical and meat-eating plants sit outside on a wooden picnic table under a large oak tree. She laughs at the arborvitae trees that the deer have eaten half way up. "They look like giant pointed mushrooms," she laughs, unbothered by her lack of landscaping priorities. The back porch is devoted to insect rearing, some of her insect collection, and insect gathering supplies and clothing.

Over dinner, the talk about insects does not stop. Small insects that had passed through the window screen circle the light fixture above her dining table. "These are not only gnats, which are little flies, you know. Take a look at these under a magnifying glass. There are different kinds of flies, moths and even caddisflies, all very small."

Upstairs is her lab: a high powered dissecting scope with a camera on it to photograph insects. The camera takes photos of each insect section in short depth of field. Software combines the images so that the whole insect is in clear focus. She submits photos to BugGuide to get help from professionals with identifying the insects she's found, or she may submit photos in their various life stages. She's submitted more than 2,000 images.

Nearby is a collection of small glass tubes filled with insects, each named and categorized. She pulls out a couple with caddisflies entombed in their sandy cylinders, proving the tiniest of living creatures are as fascinating as the giant mammals that walk the earth.

"She's the epitome of the citizen scientist," says Drake University assistant professor Danielle Wirth, a restoration ecologist and friend of Hatfield's.

"There is probably not an invertebrate scientist in Iowa that hasn't heard of MJ," says John Pearson, DNR botanist who studies relationships between flora and fauna in ecosystems and is an editor on BugGuide.

"I like being a generalist; a citizen scientist," says Hatfield. "Generalists make connections specialists might not see.

"I'm an Aries," she shrugs. "What can I say? We are known for being strong, energetic, impulsive and self-reliant. We think everyone should be interested in what we are," she says.

Fortunately, for the many who attend the workshops, short courses and presentations she does about insects, her enthusiasm is infectious.

"Science is great fun. Did you know spider eyes reflect green and moth eyes reflect orange? Try it sometime. Hold a flashlight at the side of your head at eye level and go out walking at night. When the light hits their eyes, their eyes reflect back to you."

Morning brings another warm June day. "I love being out here on my own land, seeing something new every day, and without much effort." 🐞



Blue flag iris (*Iris shrevei*). For more MJ Hatfield plant and insect photos, go to www.tinyurl.com/corn2prairie. For more photos of her woodland, visit www.tinyurl.com/OneotaAntFarm-woodland.

Get Involved

"Insects are an area of science in which the common everyday person can discover new things," says Hatfield.

A great reference to have is "*Insects: Their Natural History and Diversity*" by Stephen A. Marshall. It's a photographic guide to insects of eastern North America.

The Iowa Insects Mailing List provides a forum for those interested in insects, their identification and ecology. It encourages novices who are trying to expand their knowledge about the incredible world of insects. (www.cgrer.uiowa.edu/herbarium/InsectMaList.htm)

This list is owned by Diana Horton and MJ Hatfield, managed by MJ Hatfield, and sponsored by the University of Iowa Department of Biology.

SNAGGING THE PARENTS

Reflections on Fishing and Family

BY GERALD MCGRANE PHOTOS COURTESY OF TAKE ME FISHING

We all know how important it is to get children into the outdoors. Countless articles remind us that introducing the next generation to our favorite outdoor pursuits ensures the future of the pastime. We also know that time in nature teaches patience, respect for others and environmental responsibility. But who is really taking whom? Are we taking the kids or are they taking us?

Looking at my own situation, I would say it is really my kids getting me into the outdoors. As I look back at my childhood, it was really the case then as well, especially when it came to fishing.

I didn't exactly come from an outdoorsy family, yet somehow I caught the fishing bug. Many a Sunday outing resulted from my need to fish. At age five, I remember gazing hopefully at our underused fishing rods huddled in the corner of the basement storage area. I was especially interested in a long, cork-handled beauty with an old bait casting reel no one knew how to use. I scooted off and honed in on the first adult I could find. "Dad, can we go fishing?"

Dad gave the standard reply. "We'll see."

After what seemed like half a day, the old green Dodge was loaded with our modest collection of poles, Mom's old metal tackle box, a few worms from the garden and a tube of Avon Skin-So-Soft for mosquito repellent.

Most of our early fishing outings were to an old rock-quarry-turned-fishing-hole at a nearby county park. Catching anything was an achievement; anything other than a bullhead was a trophy.

My sister and brother eventually failed to see much

use in waiting along a bank, watching a bobber that never seemed to move, to catch fish they didn't care to touch, much less eat. Dad never was much of an angler, leaving Mom as my only other fishing companion, who was often just as happy doing something else. Fishing apathy on the part of my family frequently led to the most tortuous of outings: picnics near water, but no time for fishing.

I was not to be denied.

Although not much for fishing, Dad enjoyed bird-watching, and I learned to make the most of it. Sunday afternoons we would head to a county park along the Wapsipinicon. Once in the camp, Dad would slow the car to a crawl down the gravel drive, searching the trees. Suddenly he'd stop the car. "You see that?"

"See what?"

"It's an indigo bunting."

"Where?"

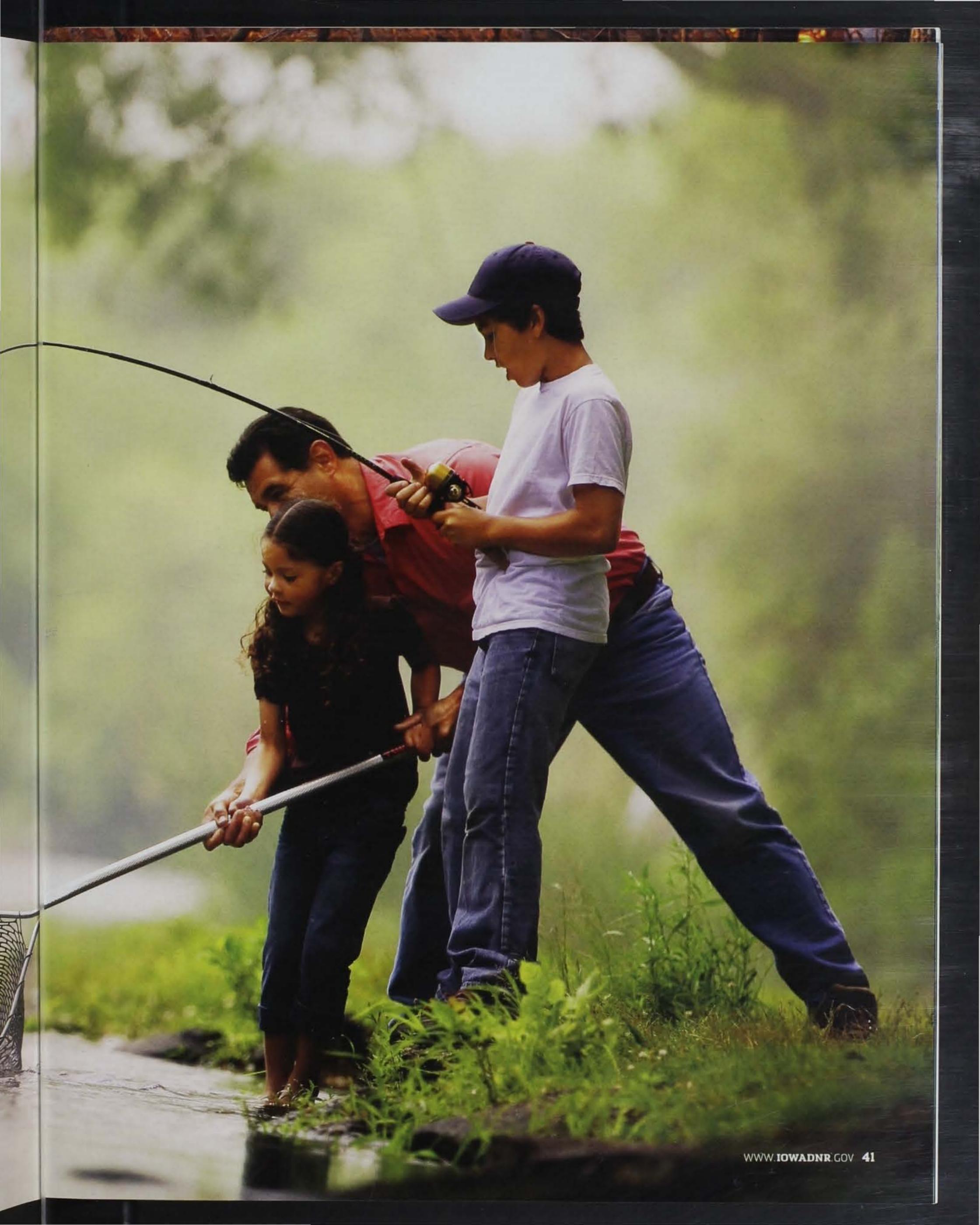
"The tree on the right. Toward the left side, about half way up. He's a really bright blue. Do you see him?"

"Yep."

I didn't quite share Dad's enthusiasm for birds, but if he said it was a find, then it was a find.

My brother and sister would sometimes come along to explore the Wapsi's wooded banks. Occasionally, I would take a break from fishing and join them in their wilderness survival adventure or pirate treasure hunt. Most of the time, though, I was focused on fishing.







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Trying new lures and techniques completely uncalled for by the circumstances requires focus. I never caught much, but it didn't keep me from going back.

As I grew, so did Mom's interest in fishing with me. Much of the one-on-one time I had with Mom was spent fishing. Together we learned life lessons, such as chicken gizzards make better turtle bait, and when you catch a turtle, it's better to cut the line than to try to remove the hook.

Our greatest fishing adventure was the two-hour trek to the Ventura Marsh spillway into Clear Lake. The fish would bite as soon as the worm hit the water. It was our most prolific outing ever, and I haven't eaten a bullhead since.

One-on-one time spent with my parents decreased significantly when I turned 16. My driver's license was like an all-access fishing pass. I was free to explore any fishable body of water within an hour's drive. Mom and Dad were free to tend to other matters. In hindsight, I'm not sure we were really better off.

Only now as a parent do I understand that Dad wasn't really going bird-watching for the birds. Mom didn't just fish because she loved to fish. The reality is they were

a long, straight stretch of deep water, another angler walked by with three trout on his stringer.

"At least someone's catching fish. May I ask what you caught them on?"

"Just a spinner. There's a big hole about a quarter mile downstream. There's still a lot of fish in there."

As promising as it sounded, I didn't want endless walking to be what John remembered about his first trout experience. John's persistence and optimism, however, won the day. "Dad, let's go find that hole so we can catch some trout."

We had been warned that getting there would mean crossing the stream. Not wanting to get John's shoes wet, I carried him across the stream while he carried our poles. Finally, we reached a crossing too soft to carry John through. Our dead end did have a small hole with some potential, so I tied a spinner on John's line and he went to work. As I was tying a spinner on my own, John calmly called out, "I got a fish."

"No, you don't," I replied, assuming he just didn't know the difference between a strike and his lure

much more interested in me. My concern for them and their values as a teenager had been nurtured on the riverbanks when I was younger.

Fishing, especially for trout, followed me into adulthood. However, as my family grew and gas prices climbed, the time and money to go fishing decreased. Four years would pass before I saw a trout stream again. As my children get a little older, that seems to be changing. Fishing alone, at this stage in my life, is an unnecessary expenditure of time and money. Taking a child fishing, on the other hand, is a worthwhile investment.

Trout fishing allows me to be a dad in a way I couldn't be otherwise. State regulations only allow one child to accompany me at a time without buying additional trout stamps for my children. This apparent restriction is really a blessing as I get the same kind of one-on-one time with my children that I had with my parents.

John was the first to go with me. I had the ideal beginner's hole in mind, but after four years and numerous floods, it wasn't there. Hoping to spend less time walking and more time fishing, we tried a few smaller pools with no luck. Shortly after settling in on

bouncing off a rock.

"Yes, I do," as he reeled a modestly sized brown on to the rocks. Barely big enough to keep, it wasn't much, but every first trout is a trophy. With John's first trout on the stringer and daylight fading, we were ready to go—mission accomplished.

What has started with trout will eventually give way to other pursuits. Bows and arrows and BB guns will become stepping stones to the woods. Whether we are searching for birds or bullheads, trout or whitetails, the one thing we are certain to find is each other.

Anyone who spends enough time outdoors knows there's something about being there that allows us to just be. Parents are putting more hours in at work, or we are constantly working on projects around the house. We take the kids to soccer and gymnastics, but we're not really together. When we're standing by the trout stream, sitting in a tree stand, or hiking a trail, we're together. By the stream there is no work. The only competition is who will catch the bigger fish. Home improvement takes a back seat to family improvement.

Our children are calling us to the outdoors. We should listen to them. 🐟



Iowa's MIRANDA LEEK

Shooting For Chance at Summer Olympics

She's wowed archery crowds for years with her unique ability to perform exactly the same way mentally and physically, time and time again—sending arrows to target-center no matter the distance, conditions or distractions. The rising archery star from Des Moines, just 18 years old, is on target to reach her goal to represent the U.S. in the 2012 Olympics.

STORY AND PHOTOS BY MINDY KRALICEK

Scott Leek wanted to share an activity with his 5-year-old daughter. He decided to take her bow shooting. He showed her the basics, taught her safety and handed her a simple wooden bow. Miranda loved it.

It wasn't long until the proud father bought his daughter a small PSE Spyder compound bow and began coaching her. She used that bow to win several state titles, two national titles and a world title, breaking records along the way. A well-known U.S. archery coach, Terry Wunderle, watched her perform at the National Field Archery Association Nationals and suggested she switch over to the Olympic-style recurve.

Less than two years later with her recurve bow, at

age 14, Leek qualified for the U.S. Junior Dream Team, a group of archers under 18 training for the Olympics. At the inaugural Youth Olympic Games in Singapore in 2010, she finished ninth.

Leek's breakout year on the world archery scene came in 2011, as she competed both as a junior and senior archer and completed her senior year at Dowling Catholic High School in West Des Moines. The week before her graduation, Leek competed in New Jersey at trials for the three-member U.S. World Archery Championships Recurve Team. She made the team, which won a silver medal at the Archery World Cup in Antalya, Turkey.

With two of three U.S. Olympic Team Trials completed, Leek currently occupies first place for the women's team





rankings. The top eight archers will compete in the final trials June 1 through 3 in Colorado Springs, Colo.

Team USA has one spot for the recurve women, based on scores shot by two-time Olympian Jennifer Nichols and Leek at the World Archery Championships. The final Olympic qualifier is June 17 through 23 in Ogden, Utah, where three women nominated to the U.S. Olympic Team will attempt to qualify a full team with a top-three finish.

Life as a World Competitor Archer

Miranda Leek was home in Des Moines during the Christmas and New Year's Day holidays. *Iowa Outdoors*

met with her and her father, Scott, during a workout at Archery Field & Sports in Altoona.

IO: Archery is referred to as a mental game. How do you prepare for competitions?

ML: Consistency is everything. That's why it's considered a mental game. I just concentrate and feel the shots one by one until I've finished shooting for the day. The thing about archery is you don't need a particular type of

FLASHBACK 1972:

Iowa's First Female Gold Medalist

One moment Doreen Wilber would be washing dishes, the next, she would be gone.

The disappearing act was never a surprise to her husband Paul "Skeeter" Wilber. He would find her, bow in hand, carefully aiming another arrow at a target on their 2.5-acre lot in Jefferson.

"Doreen had this amazing ability to remember every shot she took. Sometimes she could be doing something like washing dishes and it would come to her why she missed a shot earlier," says Skeeter. She'd "go out and practice to make sure she didn't make the same mistake again."

At 5'6", slim figure and sporting horn-rimmed glasses, Doreen looked like she would be more at home behind the desk at the local library rather than the world's largest sport stage. But in 1972, she took her place at the Olympic Games in Munich, Germany, on the U.S. archery team.

Despite humble beginnings in Iowa, she was anything but an unknown. By the time the games were underway, she had won two National Championships (1969, 1971) and the National Field Archery Championship in 1967. She also tallied four wins and three seconds in eight international events. From 1963-73, she never lost a state tournament.

Years later, Doreen recalled slow starts in competitions—also the case in the '72 Olympics. At the end of the first day of the two-day event, she was in seventh place in

a 39-woman field.

Today's Olympians train for archery at the ultra-modern Chula Vista center near San Diego. For Doreen, there were undeveloped acres next to her house in Jefferson.

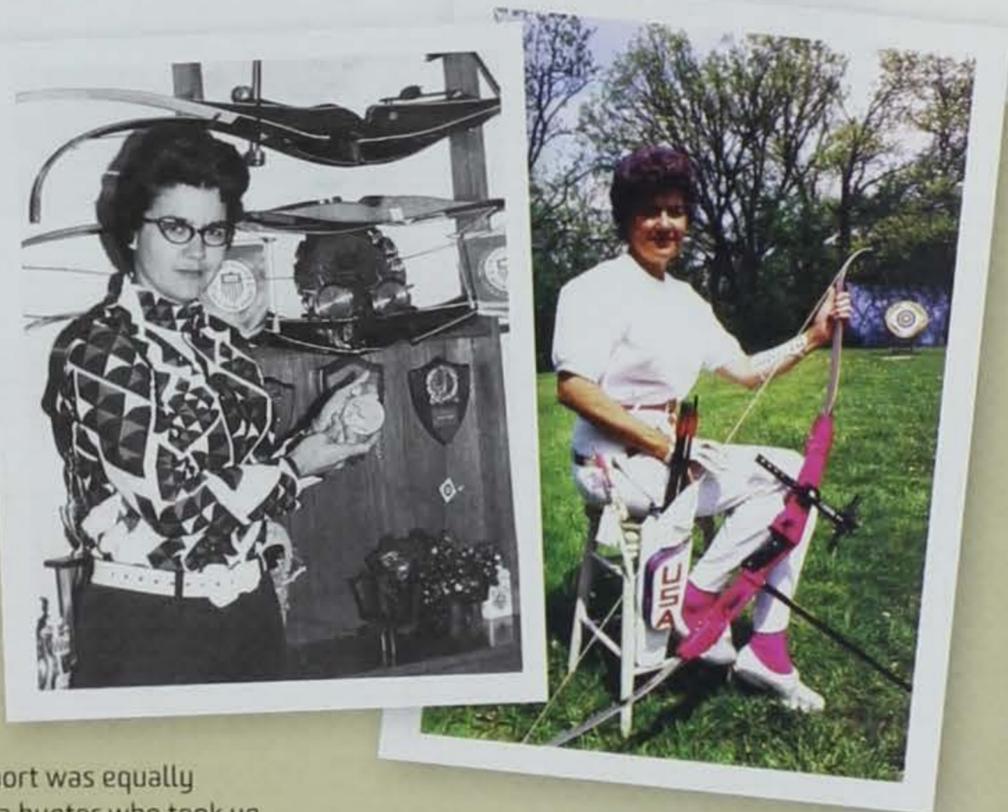
Doreen's introduction to the sport was equally humble. Skeeter was a hunter who took up archery to hone his skills in 1957 after he received a bow and arrows as payment for an automotive repair he had done. Doreen, who never had an interest in hunting, joined him target shooting.

And she was a natural, very quickly able to out-shoot her very capable husband.

Skeeter says his wife had "the most intense power of concentration I ever saw."

And a heart of gold, too. "One of her biggest rivals was from Russia" and they had a difficult time getting archery equipment behind the Iron Curtain, Skeeter says. "Doreen would provide her with supplies whenever they competed. She was very competitive, but cared deeply for her fellow competitors."

On the second day, Doreen found her groove, scoring 2,440 points out of 2,880 to win gold over rival Irena Sydovska of Poland.



More than 4,800 miles away, Skeeter would hear of his wife's accomplishment when legendary ABC sportscaster Chris Schenkel broke in to regularly scheduled programming to announce the feat of a rural Iowa housewife. At age 42, she became the first woman from Iowa to win an Olympic gold medal.

For a dozen years, Skeeter and Doreen worked with kids through the Junior Olympics Archery Group until her health diminished due to Alzheimer's disease. She passed away in Jefferson in 2008 at age 78.

Those around her never forgot Doreen's stellar career. Today, her bronze statue stands at the corner of Lincolnway and Vine streets in Jefferson and the trophy given to the top female archer in the Iowa Games is named after her.

body or shape. You need concentration and muscle memory. That's why archery is a great sport for just about anybody.

IO: What is your practice regime?

ML: I usually shoot 100 to 150 arrows during a practice. At the Olympic training center, I shoot closer to 200 or 300 arrows over an eight-hour day.

IO: Do you take time off from competitions and practice?

ML: I take one week off after the outdoor season ends in October and then it's time to take apart my shooting style—every detail—and rebuild it again. That's tough to do, but it is worth it in the end because I get rid of bad habits that creep in. The indoor season begins in January and runs until the outdoor season begins in late March.

IO: Do your parents attend your tournaments?

ML: My father usually does. They've had to because I'm a young competitor, too young to rent a motel room by myself or rent a car. Once my grandmother went and drove me around. She wasn't familiar with the city and it was crazy.

IO: You have been referred to as an emblem of the junior development programs by U.S. Coach Kisik Lee. What advantages has this program provided you?

ML: This program has really helped teach me the meaning of dedication and hard work. It also opened the door to big competition, I think. It bridged me from being at home and competing mostly locally to traveling all over the world and competing in national and international competitions.

IO: How often do you compete?

ML: Since high school graduation, it's been about 50-50 time-wise. Half of the time I've been competing at tournaments or traveling.

IO: How does the women's outdoor recurve competition work?

ML: For outdoor competitions we shoot 36 arrows at targets placed at four distances for a total of 144 arrows. There are 10 concentric circles on the target. The outside is worth 1 point, the next 2, and so on until the center is worth 10. The shooting distances are 70, 60, 50 and 30 meters. After all competitors have shot their arrows, they are matched up based on their score for elimination rounds. Elimination rounds are head-to-head competition at 70 meters. There is a possible six points to a round, and points for each round are two for a win, one for a tie and zero for a loss. Each competitor shoots 18 arrows, until the quarterfinals. Twelve arrows are then shot until the winner is determined.

IO: What do you know about Doreen Wilber, another Iowa archer?

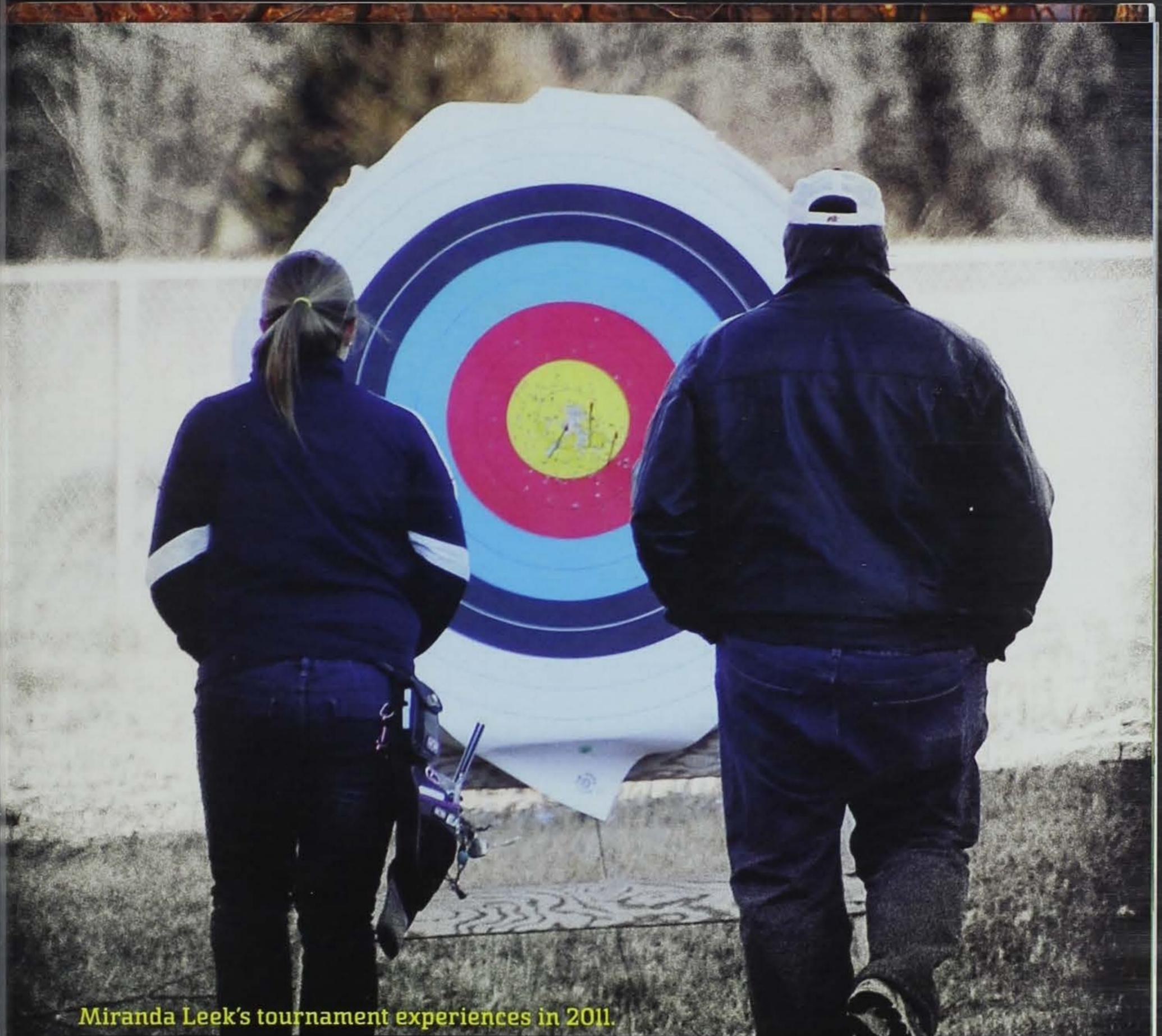
ML: She was Iowa's first golden girl at the Olympics back in the '70s. I received a trophy named in her honor. It was at the Iowa Games. A "traveling" ceramic trophy named in her name is passed each year at the Iowa Games to the highest scoring recurve archer.

SL: There are a lot of programs that introduce youngsters to archery, but it would be great to see Iowa do more to provide opportunities for bow, to keep youth involved and improve their skills. Archery is a great family activity and archers are a good bunch of people. They're very helpful and supportive of each other. It's a good dynamic for families.

For up-to-date information on Olympic qualification for recurve women, go to www.archery.org.

GO FOR THE GOLD: Iowa's National Archery in the Schools program is a two-week physical education curriculum designed to teach international-style target archery in grades 4 through 12. Currently more than 150 Iowa schools participate. Equipment is minimal, and the cost is often picked up through state matching grants and donations by local conservation groups. Instructor training courses are free and offered through the DNR. For more information, call **515-281-5918** for an Iowa National Archery in the Schools Program brochure, or visit www.iowadnr.gov and search "Archery in the Schools."





Miranda Leek's tournament experiences in 2011.

Porec, Croatia, May, 2011: Archery World Cup Stage 1- Watches teammate Khatuna Lorig earn a silver medal with U.S. men's team member Brady Ellison in the recurve mixed team competition.

Antalya, Turkey, June: Leek and teammates Lorig and Jennifer Nichols win a silver medal in the recurve team event at the Archery World Cup Stage 2- the first World Cup medal for the U.S. women's team. Excitement builds in U.S. archery circles. The Women's Recurve Team is ranked ninth in the world.

Torino, Italy, July: The team of Lorig, Nichols and Leek places ninth in the World Archery Championships. Leek takes ninth in the individual event.

Yankton, S.D., July: Leek becomes the new U.S. National Target Champion.

Ogden, Utah, August: Third World Cup- Leek takes home gold in the mixed recurve team competition with Ellison, ranked men's world number one recurve archer.

College Station, Texas, September: Leek places second among the top 16 women recurve shooters at the U.S. Olympic Team Trials for Archery.

London, United Kingdom, October: In a close match at the London Archery Classic, Leek knocks out Korea's Gyeonghee Han (a highly ranked archer) before being eliminated in the quarterfinals.

Guadalajara, Mexico, October: Leek collects an individual silver medal at the Pan American Games. On the first day of competition, Leek hit a new Pan Am Games record for 70 meters and broke the existing Star FITA* record.

King of Prussia, Pa., Jan. 8, 2012: In the team trials for the 2012 World Archery Indoor Championships, Leek occupies top position for part of the day and takes second with 1145. Nichols, Leek and Brandi Deloach represented the U.S. at the World Archery Indoor Championships Feb. 5-9 in Las Vegas.

*FITA is the acronym for Federation Internationale De Tir A L'arc, the international governing body for the sport of archery.

PRAIRIE

A NATURAL FORCE AGAINST GLOBAL WARMING AND WATER POLLUTION

BY SAM SAMUELS PHOTOS BY CLAY SMITH



NEAL SMITH NATIONAL WILDLIFE REFUGE
PRAIRIE LEARNING CENTER

To review: our planet is warming. The good news? Prairies might help.

About 300 million years ago, during a time geologists call the Carboniferous Period, the Earth was in the midst of a luxuriant explosion of plant life. Recalling our high school biology, plants suck carbon dioxide out of the atmosphere, hang on to the carbon and give off the oxygen as a waste product. So over this period, massive quantities of plants were busily removing carbon from the earth's atmosphere and storing it in their own bodies. Then, probably due to a period of glaciation, vast rainforests collapsed and were buried, leaving thick layers of fossilized carbon below the surface in the form of coal.

Similarly, petroleum, that other fossil fuel, was formed over millions of years as organic matter like zooplankton and algae settled to the bottom of seas or lakes and was buried.

In short, until a century and a half ago, quite a lot of the world's carbon lay far below the surface. Waiting.

Then came the Industrial Revolution. The process was reversed. Vast quantities of that buried carbon were unearthed by coal mining, burned to run factories and mills and released into the air. Later, with the internal combustion engine, every vehicle with a tailpipe became a mobile mechanism to move carbon out of the ground and into the sky. The process still goes on. Suddenly, the carbon that took millions of years to trap underground



Tall prairie plants typical of the summer season surround the Neal Smith National Wildlife Refuge Visitor and Prairie Learning Center. Grasses like big bluestem and Indian grass sank carbon into soil for thousands of years before tillage released it. Now refuge staff are working hard to restore hundreds of species to the landscape that are once again accruing carbon to this former farmland.

is getting released into the air in mere decades. And in what has now become common knowledge, it's forming a thick, woolly blanket in the atmosphere, causing the planet to overheat.

If only there was some way to get that carbon out of the atmosphere and back underground.

A scientific study underway in Iowa suggests that one answer may be prairie. As ecosystems go, it turns out that prairie is extremely effective at what scientists call "carbon sequestration." A century and a half ago, Iowa was mostly covered in prairie. Today, only about one-tenth of 1 percent of Iowa's prairie remains, the rest fallen victim to the plow. Research at the Neal Smith

National Wildlife Refuge in Prairie City shows early indications that replanting native prairies may be an effective tool for carbon sequestration.

"It's magical to me," says Cynthia Cambardella, soil scientist with the USDA-ARS National Laboratory for Agriculture and the Environment and the lead researcher on the carbon sequestration study now going on at Neal Smith. "It's like a total transformation. Like all plants, these native grasses can create biomass from light and air. Up to 90 percent of the carbon that is fixed in a prairie system is allocated below the ground."

When we think of large amounts of plant matter, we tend to think of forests. A tree is far more massive than

Working next to a truck-mounted soil probe, research technicians Jody Ohmacht (left) and Gavin Simmons pull a 4-foot soil core in one of the older refuge prairie plantings. Periodic soil sampling provides the basis for understanding how carbon is stored by prairie plant roots. Due to dense, deep roots, prairies typically have 10 times more biomass below ground than above.



a spindly stalk of big bluestem, a slender coneflower or other prairie plants. So intuitively a tree should be far better at storing carbon than a blade of grass, right? Indeed, a typical tree will grab about 25 pounds of carbon out of the air during each year of its life.

The problem is that about half of a tree's body is above the ground. When it dies, the part of the tree that was above ground loses its carbon back into the atmosphere. It might release that carbon quickly by being cut up into firewood and burned. Or it might release it slowly by decaying on the ground. But one way or another, a tree is only a temporary holding place for carbon, not a permanent one.

Prairie plants are very different from trees. They evolved to survive fires and browsing of bison and elk that would historically mow them down to the ground every few years. To thrive under these conditions, prairie plants evolved root systems as deep as 20 feet underground. The vast bulk of a living prairie is buried in the roots. So when prairie plants die, almost all their

carbon remains captured in the earth rather than being released into the air.

"The capacity of these prairies to store more carbon in their roots below ground than temperate forests to store carbon in the wood above ground is tremendous," Cambardella says.

Which got her thinking. Could living prairie serve as a "carbon sink," perhaps helping to reverse global warming?

There's probably no better laboratory to test this notion than the Neal Smith National Wildlife Refuge. A project of the U.S. Fish and Wildlife Service, at more than 8,000 acres the Refuge is among the largest efforts ever attempted to reconstruct prairie from farmland. Since 1993, conservation biologists at Neal Smith have been systematically transforming acre after acre of row crops back into prairie, meticulously replanting the native grasses, forbs and sedges that would have grown there before farming.

It's complicated work, as a healthy prairie may contain a mix of more than 350 different plants. Today the



Refuge is a thriving, biologically diverse area boasting rich prairies, upland oak savannas and even herds of transplanted bison and elk. Visitors can stop by the Prairie Learning Center and stroll or drive through a restored mixture of tallgrass prairie and oak savanna, recapturing the feeling of the landscape in the 1840s before modern agriculture.

The refuge has also become a key place for scientific research. What makes it ideal for Cambardella's carbon sequestration study is that the prairies have been replanted not all at once, but gradually over a period of almost 20 years. For Cambardella to find out whether an area of prairie is really good at holding on to carbon, ideally she would start measuring carbon in the soil before the prairie was planted, then measure it periodically to see whether carbon was building up under the surface. But this kind of testing can be impractical, as it can take many years to see a change.

Instead, Cambardella and her research team devised an experiment using the chronosequence of prairies

to estimate soil carbon changes that would occur over a period of 20 years. She chose areas that had been restored to prairie at different times, as well as areas still being farmed, and measured the carbon levels in these different sites. Her hope was that the older prairies would prove to have more carbon below the surface, the farmed areas less carbon and the younger prairies somewhere in the middle.

Her first tests, conducted in 2000, revealed disappointingly little correlation between older prairies and more carbon.

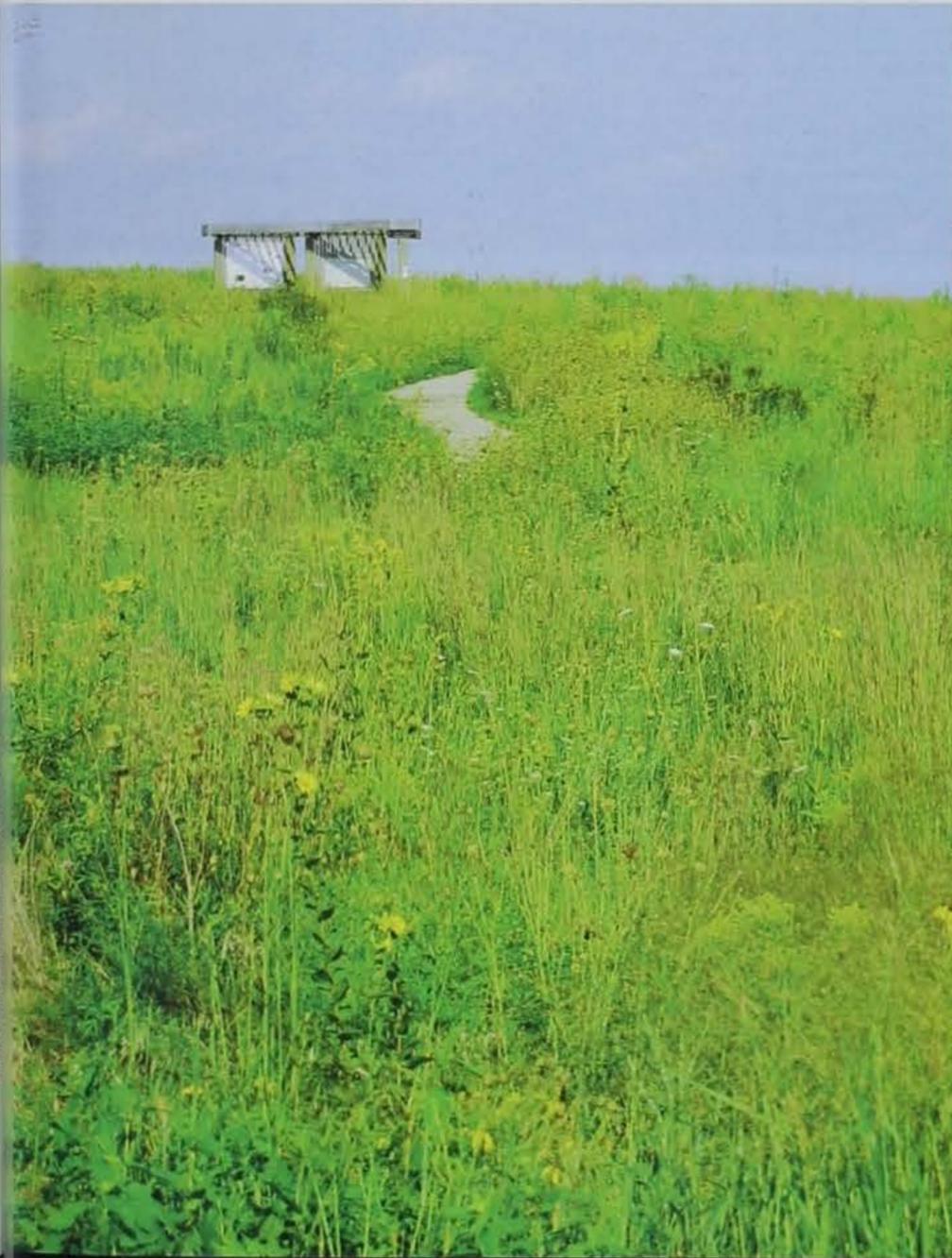
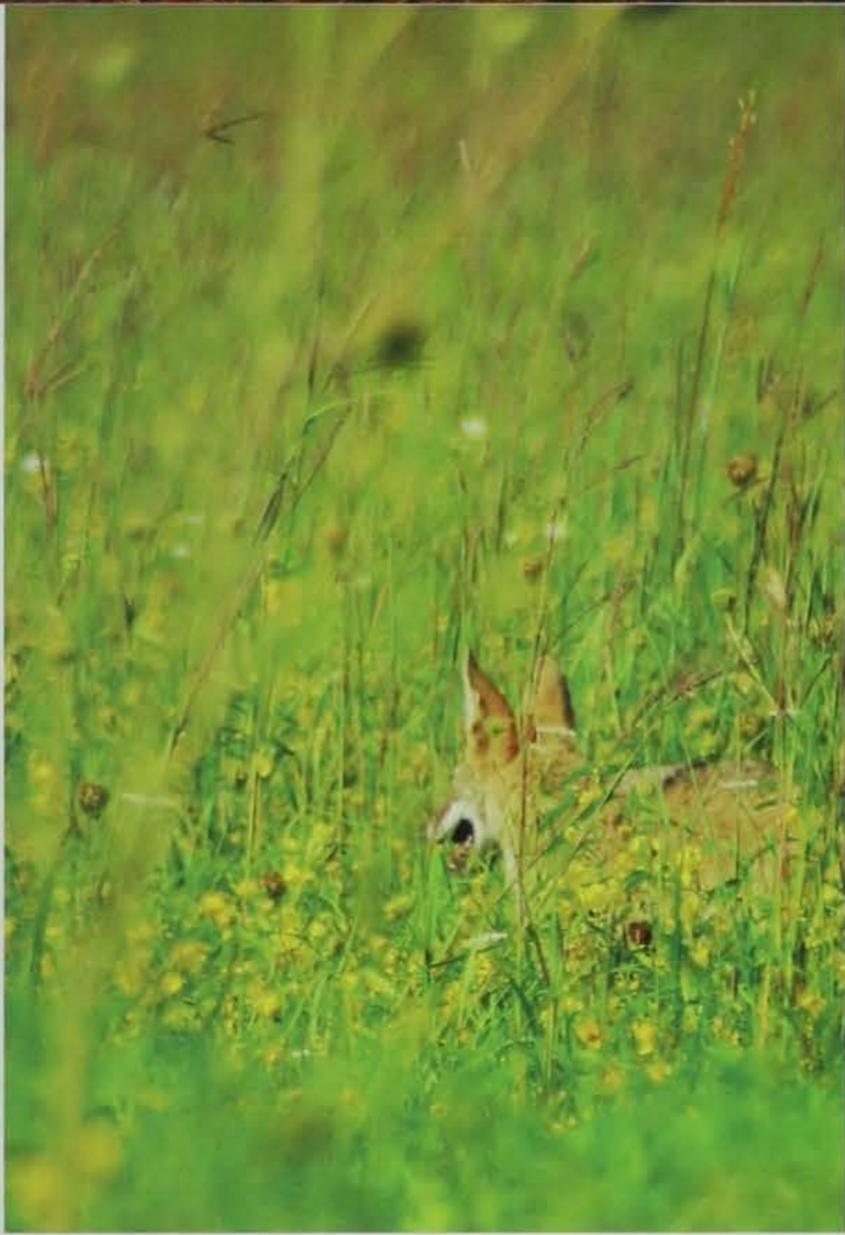
"The take-home message was that we couldn't find any relationship between carbon and prairie age, and no consistent pattern with farms or prairie remnants either," Cambardella says. "In fact, some of the highest carbon content was in some of the farm sites. At that point, I'm scratching my head."

On later reflection, Cambardella identified factors that may have thrown off the results of that first study. The sheer size of the area resulted in great variations in the carbon levels from one test site to another, variations that



AT LEFT: Research technicians Jill Thomann and Jared Flater collect surface soil cores using a hand-held coring device. Studying how much carbon is stored over time under prairie is not as easy as studying carbon storage in trees. **ABOVE,** Jody Ohmacht studies a refuge map to pinpoint sites scheduled for sampling. Sampling must be done in the same plot to compare changes in carbon between each five-year sampling period. Ohmacht demonstrates how the 4-foot core is pulled and removed. Had it been destined for the lab, it would have been cored in a plastic sleeve to preserve the column. Back at the lab soil scientists will try to “unlock the secrets of the soil,” with information from the soil’s biological, chemical and physical characteristics. Scientists can get some ideas simply by looking at color and feeling soil texture, but precise measurements, including calculating carbon content, are painstakingly made using complicated lab techniques and equipment.

OPPOSITE: Pauline Drobney, restoration ecologist for the U.S. Fish and Wildlife Service’s Midwest Region, studies the relationships of prairie plant community development to changes in soil, hydrology, invertebrates, birds and mammals. The Refuge has served as testing grounds for scientific studies that help staff and others do a better job reconstructing native natural communities by understanding the effects of management. For visitors, it is a place to see Iowa as it once was. “Sit, be patient and watch. Slow down, get out of the car and you’ll start seeing and understanding things,” says Drobney.



PHOTOS THIS PAGE BY BRIAN BUTTON



could render the chronosequence experiment ineffective.

Also, there is carbon, and then there is carbon. According to Cambardella, the most significant type of carbon to measure is what's called "biologically active carbon." This is carbon that is not just lying below the surface. It's the carbon that living organisms are using, eating, respiring and storing in their bodies and excretory products, the carbon that is part of the living soil system.

"What's important about biologically active carbon is that it is the first indicator of change in total carbon," Cambardella says. "So if you can measure a change in some form of biologically active carbon, you can measure a change in total soil carbon over a longer period of time. Biologically active carbon is the indicator of choice." In other words, if she could detect an increase in biologically active carbon in the short term, it would be a strong indication that overall carbon is on the rise long-term.

So in 2010, Cambardella embarked on another, more

refined study that focused on this one form of carbon. Using costly and time-consuming methods, she took still-moist soil samples to her lab and, over a full year, incubated them to measure the quantity of carbon respired in the soil by the microorganisms. The amount of respired carbon is directly related to the amount of biologically-active carbon present in the soil.

"It was a difficult study, but this is the data that has produced the most excitement for me," Cambardella says.

It's still early in the study to draw large conclusions. The vast amount of data she has assembled is still being analyzed. But the early signs strongly suggest that the prairie is indeed storing up carbon.

"I have no citation to give you yet," Cambardella says. "But I can tell you there is a consistent, positive relationship between prairie age and carbon in the top soil. Older prairies have more biologically active carbon than younger prairies."

As if combating global warming weren't enough, other research going on at Neal Smith shows that replanted prairie has

A Science-based Trials of Rowcrops Integrated with Prairies (STRIPs) research project at the Refuge joined scientists and farmers to determine if strips of diverse prairie plantings could help conserve soil and reduce water pollution. The project showed not only do they retain soil and nitrates and slow water run-off, they also provide habitats for grassland birds, some species of which are fledging in these bands of habitat. The strips provide habitat for pollinators, and could harbor invertebrates that are predators of crop pests like soybean aphid or corn rootworm. Prairie plants helped build Iowa's famous topsoil by storing carbon. In a fitting return, when interspersed with cropland, they again store carbon while reducing water pollution and preventing erosion.



major beneficial effects on water runoff and pollution.

These studies, led by Keith Schilling, research geologist with the DNR's Geological and Water Survey, focus on the problem of hydrology. As farmers first converted prairies to farmlands, they drained fields too wet to farm. By digging drainage ditches and laying drainage tiles, farmers effectively converted damp areas to suitable farm fields.

One of the unintended consequences is the land no longer holds on to water as well as it used to. It's a double effect. The drainage structures themselves draw off the water. But also, the plants themselves have changed. The deep, complex root systems that help prairie plants survive fires also make the soil structure an effective sponge. A field of row crops, by contrast, doesn't retain water nearly as effectively. The simpler, shallower root system of a field of corn or soybeans lets a lot of water run off the surface.

Pauline Drobney, the USFWS restoration ecologist who guided the early effort to replant Refuge, put it in no

uncertain terms as she walked past an area of the prairie bisected by an artificial ravine dug years ago by farmers to drain the land.

"It's an incision," Drobney says. "This stream runs straight, cuts deep and the land is bleeding water."

All this runoff has two harmful effects. One is that it contributes to erosion, diminishing this rich soil over time. The second is that water is a highly effective carrier of pollution. The nitrates that are used as fertilizers don't just sit in the fields where they are applied. Instead, they are carried away through runoff, into small streams, then into the big rivers, and eventually down the Mississippi and into the ocean. Nitrates are not only harmful to people—they're also harmful to marine life. The Gulf of Mexico is experiencing a rapid loss of marine life around the mouth of the Mississippi River. Hydrologists like Schilling see a strong connection between this alarming dying off of ocean life and its sources upstream in the farm fields of the Midwest.

"One of the reasons we're doing stuff here in Iowa is



THIS PAGE: An incredible diversity of plants and animals contribute to the natural ecology, including sucking away carbon in the soil. Bison wallows, grazing patterns and seed movement in shed bison hair influenced the vegetation patterns and types of animals that inhabited historic prairie. **OPPOSITE:** Marsh milkweed (*Asclepias incarnata*) graces a developing sedge meadow in a wet area near Walnut Creek. In wet spots, carbon sequestration is amplified. Author Sam Samuels and Drobney explore a recovering savanna and adjacent sedge meadow. This grass landscape is punctuated by tree groves with unique understory and characteristic species like bluebirds, turkey and flying squirrel. With grassy, open spaces between the oaks, these savannas add carbon to the soil similar to tallgrass prairie.

because of the dead zone in the Gulf," Schilling says.

A hopeful solution to this problem is, again, prairie. Researchers from Iowa State University devised a program called STRIPs. It stands for Science-based Trials of Rowcrops Integrated with Prairies, and the work at Neal Smith is showing dramatic reductions in sediment and nutrient loss where prairies are integrated with cropland.

We know that a field of prairie loses far less water to runoff than a field of rowcrops. But Schilling reports that a field of rowcrops can be altered to retain more water if even a small fraction of it is strategically interspersed with areas of prairie plants. By planting prairie in strips that cross the path of draining water, runoff can effectively be dammed, trapped by the dense prairie vegetation. Erosion is reduced, and pollutants are captured and prevented from flowing out into the rivers and oceans where they do the most damage.

It's a controversial notion, asking a farmer to set aside perhaps 10 percent of a field for non-cash plants.

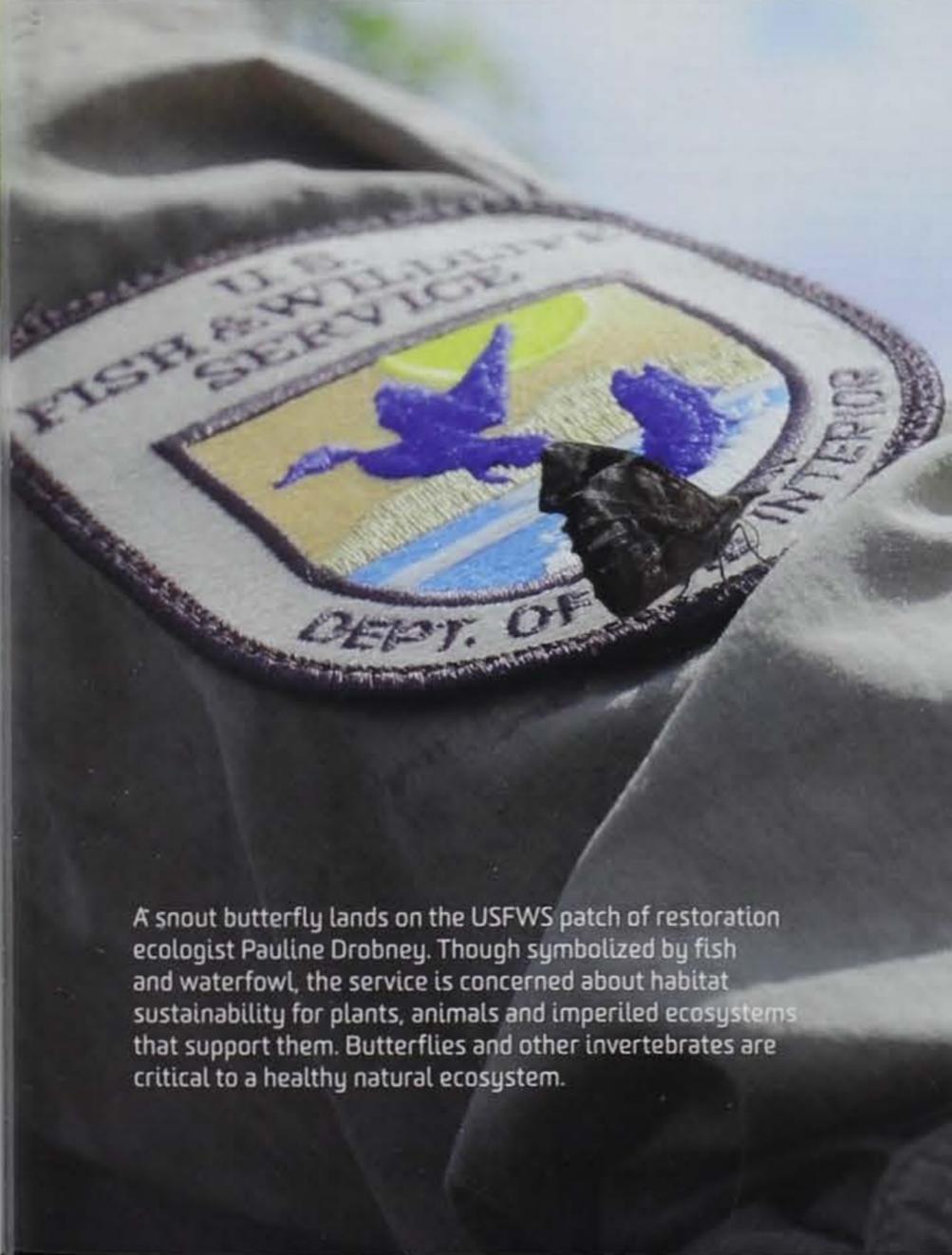
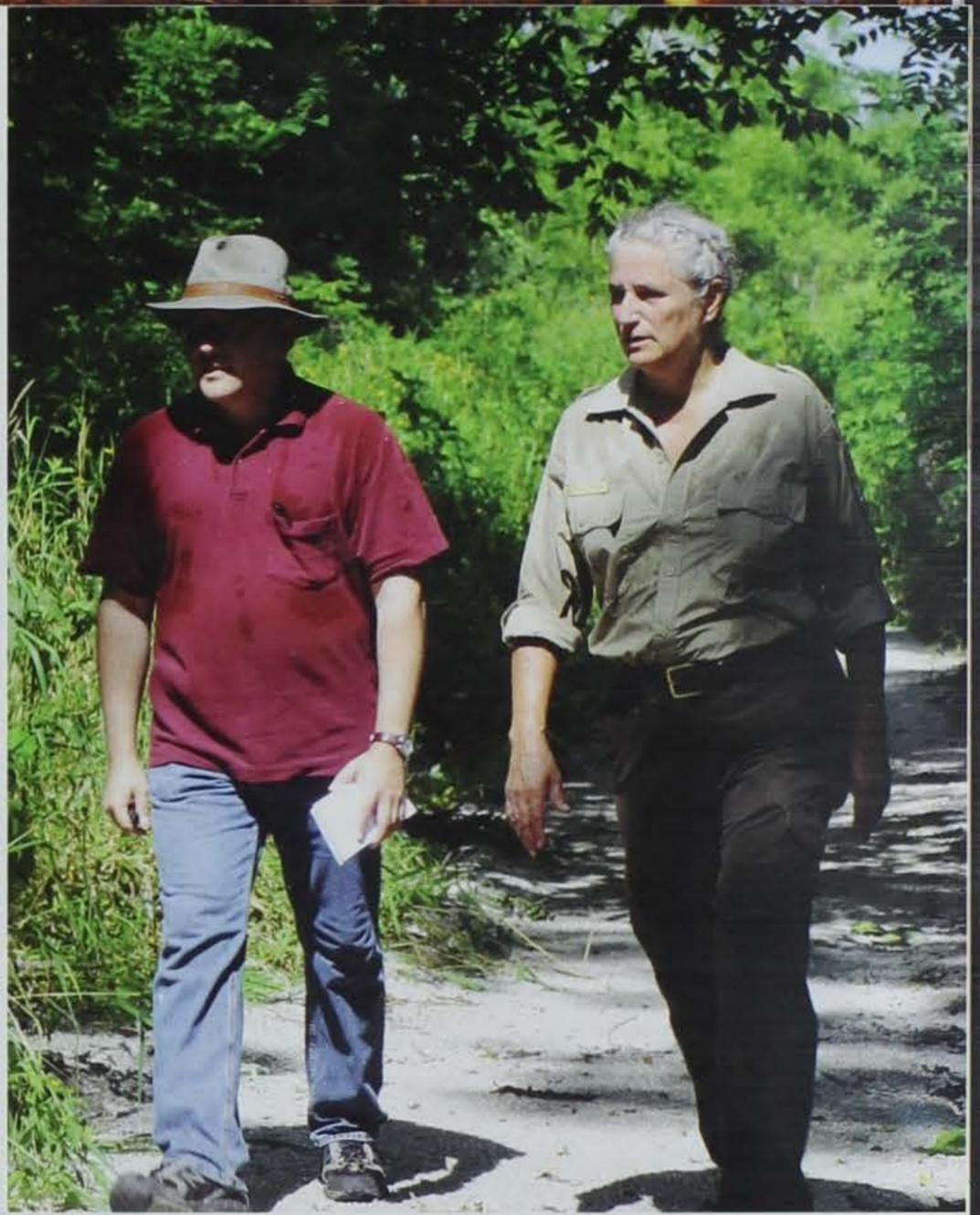
However, those unproductive acres could be the salvation of the other 90 percent, preserving the quality of the soil for the rest of the land. They may also be the savior of life in the Gulf of Mexico.

Hearing Schilling talk, there is a deep passion for water quality, as well as a stark understanding of the economic forces that stand in the way of its improvement.

"There are serious obstacles to change," Schilling says. "We know what works to improve water quality. So why don't we make the hard choices? What's standing in the way? It's supply and demand. There is a tremendous demand for ethanol and animal feedstock and land uses reflect this."

For now, the scientific research taking place at the Refuge may pose more questions than answers. Will farmers someday plant 10 rows of tallgrass prairie for every 90 rows of corn? Will vast areas of prairie be restored like Neal Smith in order to reduce global warming?

Stay tuned. 🐃



A snout butterfly lands on the USFWS patch of restoration ecologist Pauline Drobney. Though symbolized by fish and waterfowl, the service is concerned about habitat sustainability for plants, animals and imperiled ecosystems that support them. Butterflies and other invertebrates are critical to a healthy natural ecosystem.

Blue vervain (*Verbena hastata*) grows in sedge meadows in moist lowlands. It establishes easily on bare moist ground, dumping copious amounts of seed that quickly germinate to help fight off invasive species.



My Backyard

BY MINDY KRALICEK PHOTOS BY ISTOCKPHOTO.COM



Recycling Facts

Ever wonder how quickly a recycled good reenters the product stream or how beneficial recycling is? Here are some facts from Metro Waste Authority, which services the greater Des Moines region.

- A recycled aluminum can returns to the store shelf as a new product in as little as 90 days.
- Recycled paper creates 73 percent less air emissions than making raw paper.
- A plastic bag can take up to 500 years to decompose.
- One recycled glass container can save enough energy to power a computer for 25 minutes.
- Iowa's recycling industry employs nearly 3,000 workers.
- Recycled plastic becomes new carpet, clothing and building products.
- According to the EPA, each ton of paper recycled saves enough energy to power an average home for six months.

A number of products advertise having "low VOC" content. VOC stands for **volatile organic compound**. These are a large class of gaseous, liquid or solid products that evaporate, or pass off as vapor easily and penetrate the air. Examples include benzene, toluene, formaldehyde and others. Paints, aerosols, plasticizers, moth crystals, synthetic lumbars, thinners, adhesives, varnish and lacquers are common products that can contain VOCs.

VOCs include a variety of chemicals, some of which may have short- or long-term adverse health effects. Products with low VOCs may still contain potentially harmful compounds, but fewer than similar products. The extent and nature of the health effects depend on the level and length of exposure and level of toxicity.

VOCs in chemical products can cause eye and respiratory irritation, headaches, dizziness and memory impairment. Some are known carcinogens or cause nervous system damage. Exposure may come during immediate use or as a slow release in homes.

To limit exposure when using these products, choose VOC-free or low-VOC options. Always follow the manufacturer's label directions for safety. Keep areas well ventilated. Safely dispose of unused or little-used containers. Buy small quantities that you will use soon. Keep products out of reach of children and pets.

For information on specific VOCs, search "ToxFAQs" on the internet.



THE ABC'S OF VOC'S

Tastes Like Chicken of the Sea

Home Canned White Amur Makes Easy, Savory Meals

When Iowa Outdoors reader Lester Nordaker of Soldier, Iowa sent the magazine staff a jar of his home-canned white amur, aka grass carp, we weren't sure what to expect. But upon first taste, it quickly became a coveted office snack. We shared it with several DNR colleagues, including fisheries bureau chief Joe Larscheid. "I thought it was extremely good. It is very light, mild tasting and delicious on crackers," he says. We agree and wish we had more.

Far superior to canned tuna, we quickly consumed both jars and schemed up ponds and lakes to catch our own fish as well. We also dreamed of how good it would taste as an amur-melt sandwich, or as Lester suggests, making an amur-noodle casserole. For an easy camping and fishing snack, open a jar and put the delicate meat onto crackers.

CANNED CARP

- 1) To prepare fish, skin white amur on both sides.
- 2) With sharp knife, trim off 1/8-inch red meat off of lateral line while still on the fish.
- 3) Cut off filets, while leaving bones, backbone, ribcage and entrails on fish. Leave belly meat to keep viscera inside.
- 4) Wash filets thoroughly and cut into chunky sections that fit into pint jars. Wide mouth jars work best.
- 5) Semi-tightly pack jars with fish meat.
- 6) Add one chicken bouillon cube per jar and 1/2 teaspoon salt.
- 7) Fill jars with water, leaving 1/2-inch of head space.
- 8) In pressure cooker, cook 1.5 hours at 10 pounds pressure. Let canner rest until warm to the touch. Let out remaining pressure and remove lid.
- 9) To serve, first pour off water in jar. Use just like canned tuna for casseroles, sandwiches or on crackers.

LEARN MORE

Get the surprising skinny on Asian carp palatability on page 28.

Wild Cuisine KITCHENSIDE

BY BRIAN BUTTON PHOTOS BY CLAY SMITH



Djja with Venison Meatballs

Above, the trinity of Algerian food—onion, black pepper and cinnamon—shine in moist, succulent venison meatballs. Below are decorative tagines, the traditional conical Algerian cooking vessel that functions like a convection oven. Schera's Restaurant uses locally grown seasonal produce that "forces you to be creative," says proprietor Frederique Boudouani. With more lowans relishing new flavors, it is "heartwarming when a farmer who lived his entire life here says our couscous royale is his favorite dish." There is something for all tastes at Schera's.



Frederique Boudouani and Brian Bruening



Algerian Quail Tagine



Explore the Wonders of Worldly Foods and Midwest Favorites at Schera's Restaurant

No passport needed to taste Algerian flavors in Elkader

At one of Iowa's most unique restaurants, distinctive Algerian flavors are a treasure for the palette. How did Algerian food find northeast Iowa? The town is named after Algerian hero Emir Abd El Kader and is sister city to Mascara, Algeria. Proprietor Frederique Boudouani of Algerian-French descent, and Brian Bruening opened the eatery after tiring of city life in Boston. For six years, Schera's Restaurant has delighted locals.

From traditional Midwest fare such as tenderloins, reubens and burgers, to couscous royale, there is something for all. A cozy backroom with lowered ceilings, hand-hewn beams and classic northeast Iowa limestone walls opens to a sprawling deck overlooking the rocky Turkey River, double-arched stone bridge, dam and Italianate style courthouse.

A large wood bar and antique mirror hold rare, reserve beers from around the world and is one of only a few places in North America to taste Algerian wine.

Use these recipes to add a flavorful flair to venison and quail or pheasant in your own kitchen.

OJJA WITH MEATBALLS MEATBALLS

1 lb ground venison or lamb or beef combination
1/2 cup finely minced onion
1/2 teaspoon paprika
1/2 teaspoon cumin
Dash of cinnamon
Salt and pepper

FOR OJJA

Olive oil
1 large yellow onion, thinly sliced
1 tablespoon garlic, minced

1 green bell pepper, thinly sliced
1 cup diced tomatoes
1 tablespoon tomato paste
4 eggs
Salt, pepper
harissa sauce (see below)

Combine and mix meatball ingredients, season to taste. Roll into small, 3/4-inch meatballs. Set aside.

Cover bottom of a large skillet with olive oil over medium high heat. Working in batches, fry meatballs until brown on all sides. Set finished meatballs aside. Add more oil if needed and sauté onions, stirring frequently until soft, about five minutes. Add sliced peppers, garlic, diced tomatoes, tomato paste, harissa and a half cup of water. (Harissa is an Algerian hot sauce. Substitute with another hot sauce, adding 1/4 teaspoon cumin, 1/4 teaspoon coriander and 1/4 teaspoon caraway.) Stir and bring to a simmer. Return meatballs to skillet with any juices, cover and simmer 10 to 15 minutes until peppers are tender and meatballs are cooked through. Check seasonings and adjust if necessary.

With a spoon, make four wells in the sauce mixture and break an egg into each one. Cover and simmer until egg whites are cooked. Serve with crusty French bread.

SERVES EIGHT.

ALGERIAN QUAIL TAGINE

8 quail, rinsed, or Cornish game hens or quartered pheasant
1 tablespoon unsalted butter
2 tablespoons olive oil
1 large yellow onion, finely chopped
1 teaspoon ground ginger
1 cinnamon stick
1/4 teaspoon black pepper
1 teaspoon ground coriander

1/4 teaspoon cayenne (or to taste)
Pinch of saffron
1 tablespoon chopped flat-leaf parsley
1 tablespoon chopped cilantro
1-2 cups low sodium chicken stock
1 cup diced, dried fruits such as raisins, apricots or prunes

Heat oil and butter in large heavy pot on medium high until shimmering. Pat meat dry and season with salt. Sear a few minutes per side until skin starts to brown, working in batches. Remove quail from pan and set aside. Add more butter and sauté onions until softened and begin to brown. Add ginger, cinnamon, pepper, coriander, cayenne and saffron. Stir for one minute until fragrant. Stir in parsley and cilantro. Return meat with juices to pan with 1 cup of stock. Bring to boil, cover and simmer 10 minutes. Add fruit and stock or water to keep 3/4-inch of liquid in pan. Cook 10 more minutes until quail is done. Remove quail and cover it to keep it warm and simmer sauce several minutes to reduce. Return quail and collected juices to pan to reheat. Serve over steamed couscous.



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Warden's Diary

BY ERIKA BILLERBECK PHOTO BY STUDIO Z



What Did He Say?

Try as I might, I seem to fall short. I simply cannot make everyone happy.

Summer is a time of state and county fairs. I try to take advantage of these good public relation platforms. I kindly answer questions, smile, listen to stories, compliment offspring and gratefully thank those who say nice things about me or the work of my department. I leave the fair feeling content and satisfied with the work I do.

But then, I go back to the real world of law enforcement. There, I'm forced to make decisions. And while I still may think that the person I'm dealing with is a good person—that their offspring are exceptional, that their stories should be made into TV movies—it no longer matters. I make a decision that makes someone unhappy, and things often go downhill quickly from there.

Every once in a while the disgruntled person takes their disappointment out on me. Sometimes it takes the form of name-calling, cursing, condescension or threats. Over the years, I've tried to develop a thick skin, though I admit that even my skin isn't impenetrable. I've been called many things. And while some of the names are creative, the most common for the female wardens starts with the same letter



as the word "beautiful." Only it isn't beautiful.

I don't know how many times someone has threatened that "I'll have your job!" Others try to remind me that, "I pay your salary," in which case I'm always tempted to ask for a raise. When people ask for a game warden's name and badge number, you can be fairly certain it isn't so they can send a birthday card.

Most personal attacks are made in the heat of the moment. Things like "I know where you live," or "You better watch your back." Though we take any threat to a game warden's personal safety serious, it really crosses the line when the threats are aimed at the officer's family.

Nonresidents have threatened that they "will never come back to this state to hunt again!" In most circumstances I haven't viewed this as much of a threat. In fact, sometimes I've hoped they would keep their promise. We tend to prefer hunters who follow the rules and respect Iowa's public wildlife areas.

I recently had occasion to receive a threat that trumped all others.

It was a steamy day. The Coralville Reservoir was

packed with boats. On busy weekends the lake can be an overwhelmingly large area to cover with one patrol boat. We are constantly on the move, making boating stops and keeping an eye out for safety violations.

On this particular day, I was in the patrol boat with a seasonal patrol officer when we were flagged down by a Bayliner runabout. It was floating a couple hundred yards south of one of the boat ramps. When we pulled up, the driver told us that his boat was low on transmission fluid. As a result, they were unable to go anywhere faster than idle speed. They wanted a tow.

I explained to the boaters that, unless it was an emergency, we wouldn't tow them. If it were 10 p.m., if they had children with them, if the lake was devoid of any other boats who could tow, or if we were on a body of water with current, we would be willing to help. But, in my mind, a boat that would move no faster than 5 miles per hour, 200 yards from a boat ramp, did not constitute an emergency. I explained that if other boaters saw that we were towing them, they would expect the same thing if their boats were to become disabled. We get flagged down so often that it wouldn't be long before we would be spending a big portion of our time, and the state's boat fuel, towing disabled boats instead of patrolling the water for the sake of everyone's safety.

"So, you are out here to punish but not to protect?" the Bayliner driver said.

I reminded the boater that if his car became disabled on the side of the interstate, it was pretty unlikely that the state trooper would tow him to town with his/her squad car. The motorist would have to pay a tow truck. I offered the telephone number of a marina who would be willing to come and tow his boat, but would charge for the service.

"I'm not paying someone to come and tow me 200 yards. Thanks for nothing," he said.

Just as we were finishing our conversation, a big Baja went whizzing through a No Wake zone.

As we were pulling away to go after the Baja, the driver of the Bayliner held up his smartphone and yelled, "I'll be tweeting about you!"

I turned to the seasonal officer and said, "What did he say?"

"He said he is going to tweet about you...you know, like on Twitter."

I looked back at the boat again. They were making their way toward the ramp, at about the same speed they would be moving if we had been towing them.

Social media is a powerful thing. There is no doubt that if someone is unhappy and tweets about you, it probably isn't going to be very nice. But I have a hard time feeling very threatened by something called a tweet. Maybe if it was called a "growl" or possibly

a "roar," it might be a different story. At least upon receiving the threat, I would think of something scary like a lion or a bear—instead of a little yellow warbler.

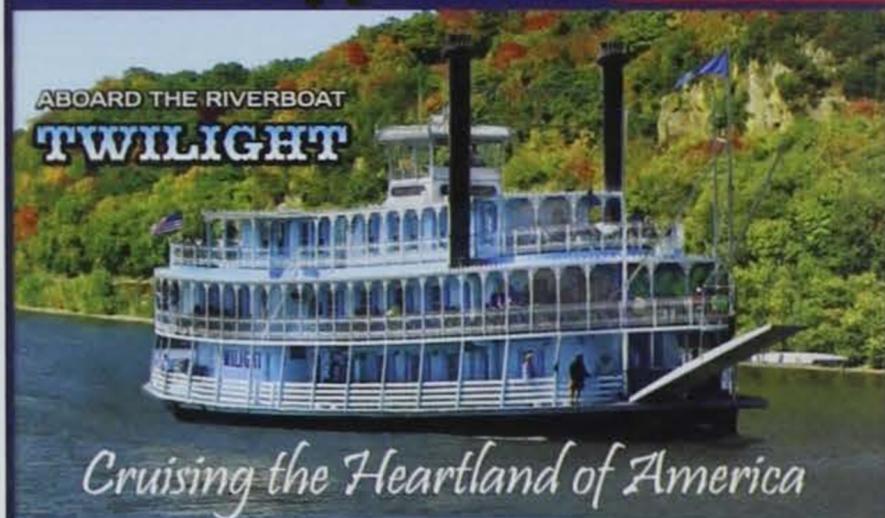
A week after the Twitter threat, one of the seasonal officers opened his Facebook to find a nasty letter written by someone he had ticketed earlier in the day. The writer happened to go to school in the same community as the officer, so he was on the officer's "friends" list. At least the seasonal officer had an avenue for recourse. All he had to do was hit "delete" then officially "unfriend" the unfriendly guy by removing him from his list of "friends."

I, on the other hand, can't think of any retaliation option for a tweet attack. I can't unfriend him, since he wasn't a friend to begin with. I can't attack him personally with my own mean "tweet" without losing my job, and I can't stop everyone else from reading his post.

So I guess I will just keep on doing what I've been doing all along—trying to make fair decisions, keeping as many people safe as possible with the resources at hand, and performing my job to the best of my ability.

Or...maybe I'll start blogging. 🐷

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THE ACORN WEEVIL

Most weevils feed off vegetative matter from a single type of plant—from banana root weevils to cowpea weevils. In all, they are one of the largest families in the animal kingdom with more than 40,000 known species.

DOES IT FLOAT?

If making acorn flour or germinating acorns for new trees, first cull weevil-damaged nuts by placing them in a bucket of water. Acorns with grubs or grub damage float. Those that sink are good. Save any grubs for panfish bait.

PICKY EATERS

Grey squirrels, white-footed mice and blue jays help disperse acorns and aid in reforestation, but they select grub-free acorns, carrying off good acorns during their fall gathering frenzy. This reduces dispersal of bad acorns and helps explain why so many with holes are found under the tree.

ROUGH WAKE-UP CALL

When acorns fall in autumn, the hard ground impact signals larvae to emerge. It may take hours to days for the fat grub to exit the small hole in the shell. The grub buries itself in the ground to emerge six months up to three years later as a mature weevil.

IMPACT ON OAKS

Acorn weevils do not directly damage oak trees, just the acorn. They are the top insect consumers of eastern forest acorns. Weevil-damaged acorns are 26 to 86 percent less likely to germinate. Those that sprout have slim survival odds due to fewer leaves and shorter shoots, making it difficult to compete for light in the understory.

MMM, GOOD GRUB

Shrews, moles and birds seek out protein-rich weevil grubs, as do insects and fungal parasites. While underground, grubs face lethal, suffocating threats from wet soil.

* Save any grubs for panfish bait.



PORTABLE DRILL

Small jaws at the end of a long, hollow rostrum or snout are used to drill and suck up food. Adult females drill holes in soft, new acorns which are still green. A dainty eater, it leaves most of the acorn meat inside the shell and lays an egg. She then plugs the hole with fecal matter, to move to another acorn to repeat the process. Its larvae will feast on the fatty acorn for two to six weeks.



ACTUAL SIZE

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Admiration & Legacy

BY JESSIE ROLPH BROWN



INTO THE GREAT WIDE OPEN

DeCOOK FAMILY, ATTICA
Family restores, manages rangeland to benefit wildlife, environment

About every duck in the field guide has visited the DeCook family ranch, says Mike DeCook. With acres of restored wetlands, oak savannas and carefully tended native prairie remnants, the land is practically a wildlife resort. "I've seen quite a few interesting critters," he says, noting otters, white pelicans, green herons and egrets. DeCook's also brought in some noteworthy animals on his own. The DNR released two trumpeter

swans—birds once practically extinct in Iowa—at a DeCook wetland last year. "We just thought it was neat to restore a native species, and we had pretty good habitat to make that happen," says DeCook, who runs the ranch with his parents, Mike and Kay, and brother, Dan. Bison join cattle in the pastures, helping maintain prairie plantings. The ranch has few buildings and no artificial outdoor lights. "We're the first dark-sky ranch in Iowa," DeCook says. "We're really big on protecting open spaces. We try to work with nature and within the natural systems." The land will stay that way, as the family placed it in a permanent conservation easement so it will never be developed. "The DeCooks' vision and reflection of Iowa's past is to be commended," says Marion County naturalist Marla Mertz, who worked with the family on the swan release. "Mike and his family have partnered with the landscape, improving the soil, flood control and water quality, and many grassland birds and threatened wildlife species are reappearing."

PARK PROTECTORS

COMMUNITY OF DIAGONAL BOLSTERS LOCAL PARK, LAKE

Not every park is fortunate enough to have 300 caretakers, but the small town of Diagonal takes a lot of pride in the Fogle Recreation Area and Fogle Lake. The park's campground, cabins, 3-D archery range, sand volleyball court, shelter houses and trail are there because of volunteers. Park improvements and maintenance, from mowing to trail grooming, come about through volunteer labor, local donations and grants. While the state owns the land, the city of Diagonal and its park board handle park maintenance and operation, and coordinates volunteer efforts. Often that means approving residents' requests to proceed with improvement projects on their own. "It's a unique situation. The whole community is involved," says city council member Jim Norris. "That's just the way everyone is. They take a lot of pride in maintaining what we have." That was evident in 2010, when residents and community groups raised \$15,000 to buy 150 acres of grassland next to the lake and then donated it to the DNR. Locals wanted to see the land stay in native grasses, which soak up runoff and filter out excess nutrients before they reach the lake. "The last thing anybody wanted to see was a decrease in water quality in the lake if it was farmed again," says Norris. A popular fishing lake, Fogle hosts an annual ice fishing tournament and serves as an outdoor classroom for the local school's paddleboating program. "It says a lot for their community to make that commitment to the park," says DNR fisheries biologist Gary Sobotka. "This town of 300 gets things done."



HELPING BIRDERS TAKE WING

IOWA CITY BIRD CLUB, IOWA CITY
Group puts emphasis on getting outdoors

For the Iowa City Bird Club, there's always a teaching moment. "Birders are very willing to share what they know," says member Rick Hollis. "There's always someone on a field trip that you can learn from and someone you can teach." That explains the club's focus on getting people outdoors. The 100-member club, around since the 1970s, hosts field trips for members and non-members alike once or twice a month—when the warblers start showing up, the club has trips daily for three weeks. Plus, the group holds classes for both kids and adults looking to get started birding. In the class for beginners, Hollis covers how to watch birds, equipment and how to identify birds by sight and sound. Other members, like Karen Disbrow, Jim Scheib and Bruce Gardner, teach newcomers about backyard birds, specific species and parks and recording bird songs. Field trips are an important part of the class, and students go home with a thick packet of tips, maps and other reference material. Kids ages 6 to 12, along with a parent, learn to use binoculars and field guides while walking through a park. "The main thing is to get out in nature and look and listen," says Hollis. "A lot of kids these days aren't very connected to nature.

It's important to get a feeling of where we fit into the world." Members also lend a hand for bird counts and surveys, which help researchers learn about bird populations and migrations. "We don't have staff to do it all ourselves," says Johnson County naturalist Brad Freidhof. "On every front, they're willing to put in the time and effort for the resource. We're pretty lucky to have them."



DECOOK PHOTO BY RON HUELSE; ICBC PHOTO BY RICK HOLLIS; FOGLE LAKE PHOTO BY TERRI NEWTON

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