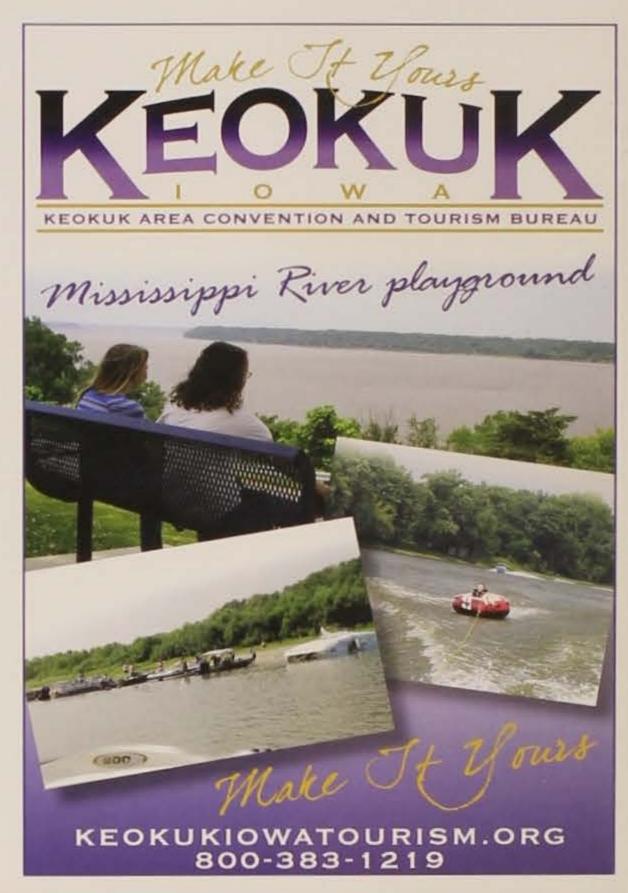
MAY / JUNE 2009

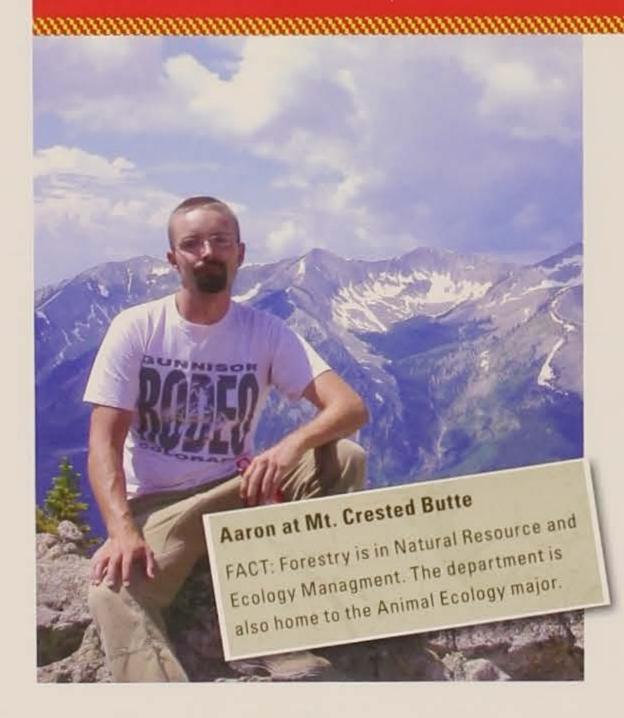
# THE DNR'S MAGAZINE OF CONSERVATION AND RECREATION

IN THIS ISSUE:
INTO THE VOID
THE NATURAL WONDER OF COLDWATER CAVE





Live green. Learn green. Earn green.



Forestry student Aaron Rector didn't want a desk job. So he worked for the Colorado State Forest Service where he spent 45 hours in the field for every hour he spent in the office. He had plenty of time to analyze the forest ecosystems in plain sight of lynx, badgers and bobcats. And he landed it thanks to the College of Agriculture and Life Sciences at lowa State University. Our resources helped Aaron gain real-life experience to enhance his learning and resume. And, for Aaron, that meant a career outside of the office.

IOWA STATE UNIVERSITY
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# The Secret to Finding Your Natural Gait in NE Iowa

# CABIN FEVER

If camping in the Yellow River State Forest is too chilly this time of year, then the nearby Natural Gait resort is your place for a cozy weekend that is all about you.

Owners Howard and Donna Bright bought a chunk of land along the Yellow River more than 20 years ago. "For the Woodland people, this was holy land," Bright says simply, spreading his hands to indicate the forested ridgeline where most of his cabins sit, and the clear trout stream below, where a fishing line looks big as baling wire.

Standing on nearly 400 acres, the resort is horse-friendly, like most of this area, and includes the Brights' wildflower seed company, Ion Exchange. The cabins aren't the light version found in most resorts, either. Their thick timbers, wood-burning stoves and reclaimed lumber and barn pieces are as comfortable as they are beautiful, jutting from a lovely landscape in a way that begs for steaming coffee on the porch, or a rowdy round of cards at night.

If you stay at the Ion Inn, the original lodging next to the Brights' house, you can wake up, cross the gravel road and start fishing first thing in the morning.

www.thenaturalgait.com Call 877-776-2208 "A lot of the time, when man comes in, he destroys the very thing he came to see," Howard Bright says. "That didn't happen around here."

A typical fall morning at the Natural Gait unfolds atop a high ridge, in a cabin overlooking farmland and streambeds. The sky will turn pink, and then purple, and so on, until a full electric blue illuminates the bright beauty of fall.

This is the kind of day that'll convince you how important it is to get grounded in the land before you have to entertain all those relatives at Thanksgiving, and then, seemingly minutes later, at Christmas.

So whether it is before the holidays or if you need a rest afterwards, get out there, if only to hunker down in a cabin, its chinks lined by thick rope so the drafts can't diminish the efforts of a thick, popping fire in the stove.

Have a good time with your friends or a quiet, relaxing, more intimate time with that special person in your life. Dip into the treasure chest of nature that Allamakee County offers.

Cook up a few trout with chanterelles on the side, relax and enjoy the peaceful surroundings and enjoy the holidays.

Where nature plays and your heart sings... you'll want to stay forever!









Mention this ad when reserving your cabin - receive 50% off your stay • Offer good on Sunday thru Thursday stays. Exp. 9/30/09

# **USING NATIVES IN YOUR BACKYARD TO ATTRACT NATURE**

Turn a swath of mowed yard - a desert for wildlife - into an inviting oasis for butterflies and songbirds with hardy and colorful native perennials, all reared from remnants of lowa prairie. Not only can you create lush habitat to beautify your property, but you will help restore small plots of native prairie plants too.

Bringing wildlife into your own yard is fun and unbelieveably easy. You will be surprised by the amount of birds and butterflies that will come. Ion Exchange, Inc. is a native seed and plant nursery near Harpers Ferry that will carefully ship 1-inch plugs or seeds that are all native to lowa, for you to create your backyard bird and butterfly haven. (article courtesy of Brian Button, Iowa Outdoors, Issue March/April 2009) Bird and Butterfly Attractor Stations, Rain Gardens, Living Walls, Wonders of the Prairie Garden or Urban Bird Garden packages are all available.



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Wade along as biologists learn to use living and

Wade along as biologists learn to use living and geological stream clues to assess water quality.

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STORY AND PHOTOS BY KAKEN GRIMES

50 Carping Gone Wild

Get hip-deep in carp as researchers net, track and remove

Get hip-deep in carp as researchers net, track and remove a sediment-stirring species whose antics impact water quality in a bad way.

STORY AND PHOTOS BY LOWELL WASHBURN

### **ABOUT THIS PHOTO**

Surface water falls from the top of a 60- to 70-foot high ceiling dome near the Cascade Passage in Coldwater Cave. Photographer and avid caver Scott Dankof created this image using a single flash to backlight caver Jared Schmidt of Des Moines. Getting here wasn't easy. After descending the original 94-foot entrance shaft it's an hour travel through wet passages. Wetsuits are mandatory to survive 40-degree water. Due to the wet environment, Dankof packs his Nikon D70 digital camera, tripod, flash units and flashbulbs in waterproof cases. "One of the great things about cave photography is your complete control of the lighting. With a cave being totally dark, simply moving your flash from in front of to behind your subject totally changes the mood and look of the shot," says Dankof.

# ABOUT THE COVER

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Big Bertha, at the far end of an area of Coldwater Cave named the Gallery Section, is a showy white flowstone. Cavers Mike Lace of Iowa City and Jared Schmidt of Des Moines hold flash units necessary to illuminate the cave for photographer Scott Dankof.

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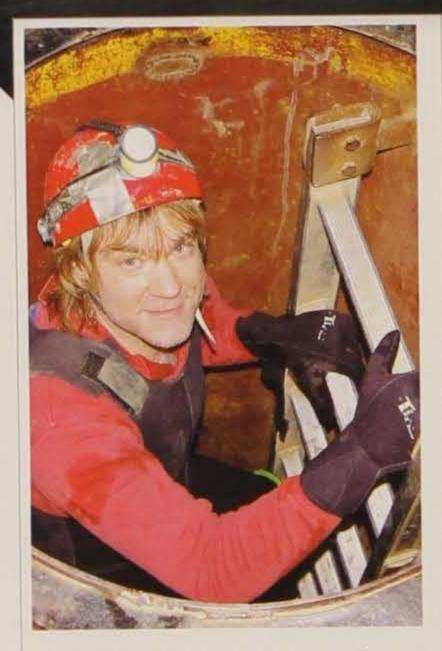
spending that saves energy, money and cuts CO,

Big, plentiful and ready to rip the line off your reel, enjoy this carp recipe. Visit Honey Creek Resort State Park for fish and chips and pan-seared pesto walleye.

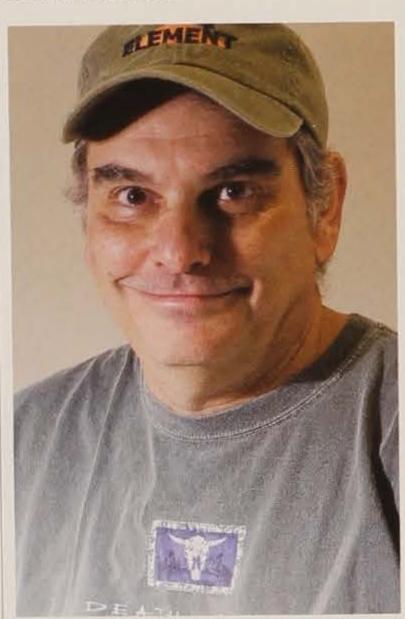
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Hike dry prairies to find this parasitic plant that steals food from the roots of its neighbors.

# Contributors



of the National Speleological Society and
The Iowa Grotto for more than 20 years.
He has photographed caves for 25 years and
photo-documented the passages of Coldwater
Cave since 1987. When not caving in Iowa,
he enjoys hiking in Colorado and Utah,
and paddling in northern Arkansas.
He lives in Grimes.



When he's not braving the backroads of lowa, MIKE BUTLER dodges falling silver maple tree limbs in the front yard and paddles whitewater streams in the basement of his Des Moines home. Keep up with his travels and travails at http://web.mac.com/michaelabutler

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Brian Button - EDITOR-IN-CHIEF

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

## EDITORIAL MISSION

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

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The Keepers of the Land program matches volunteers with natural resource service needs statewide.

Give back to lowa's lands, waters and skies.

Call 515-281-0878 to match your interests with needs or visit www.keepersoftheland.org.

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# **ACTIVITIES, TIPS** AND **EVENTS** FOR THE WHOLE FAMILY



While lesser known than the famed Effigy Mounds farther north, the mounds at Toolesboro Mounds State Preserve were built centuries earlier and contained human remains and a wealth of elaborate grave goods.

Start your visit at the small museum, where just inside, a timeline spans the past 13,000 years since the Ice Age. Iowa's entire human history is documented on this overlook, a short distance from where the Mississippi and Iowa rivers meet.

Two mounds, excavated in the late 1800s, contained pipes in the shape of a duck, prairie chicken and a cat-like animal thought to be a lynx or cougar, as well as pots, mica sheets, marine pearls and shells from the Gulf of Mexico, shark teeth from the Chesapeake Bay and a spectacular copper axe or adze, says Lynn Alex, director of education and outreach with the state archeology office at The University of Iowa. The original pieces are housed at the Putnam Museum in Davenport, but detailed reproductions are on display at the small museum adjacent the mounds.

The ancient Hopewell people built mounds from 200

B.C. to 400 A.D. and left evidence of a complex trading system-Rocky Mountain obsidian used for points, knives and scrapers, copper pins used to secure burial shrouds and other items from the Appalachian Mountains and the Atlantic Coast, the Gulf and Lake Superior.

Unlike the Effigy Mounds (700-1300 A.D.) upriver, these mounds all contained human remains. Bodies were placed in the mounds on a clay subfloor, either in a seated or prone position in log tombs. Over this, layers of earth, clay, sand and gravel were piled into mounds—the largest 100 feet in diameter and 8 feet high—possibly Iowa's largest. Two mounds are in a mowed area, the rest visible in a timber.

Watch a short video in the museum on archeological technique, spend a half-hour reviewing photos and displays, then chat with an interpreter about local ancient life. Enjoy a bluff-top picnic lunch and visit a small reconstructed prairie with shooting stars blooming in April and May. View the mounds from inside the museum during inclement weather, or stroll 30 feet outside and take a look and mull the mystery of an ancient lifestyle here, 2,000 years ago.



Many advances in public health are hygiene related. Cleaner food, water and homes helped reduce the burden of disease and increased life expectancy. So it is ironic to advocate the medicinal advantages of dirt, bacteria and intestinal worms.

Yet a body of research indicates that eating dirt is good for you—even if you don't find it on the food pyramid. This school of thought, the hygiene hypothesis, focuses on evidence that bacteria, viruses and especially parasitic worms can produce a healthy immune system. Not only does it strengthen the system by requiring it to work, some studies suggest intestinal worms correct an immune system gone awry.

So someone with an autoimmune disorder, allergies and even asthma may benefit from a diet rich in produce straight from the organic garden. When a child dines au natural, so to speak, it allows the immune system to respond and prepare for other more serious tasks down the road. Another theory states the reason a child will pass up a jar of baby food, a luscious apple or a filet mignon for a clump of dirt is that we have, over eons, been programmed to do so as part of our evolutionary instinct.

But there is a problem. We now live ultra-clean lives with unforeseen consequences. Some of the studies originate here in Iowa. Dr. David Elliott, a gastroenterologist and immunologist at The University of Iowa, asserts some intestinal worms, like the helminth, have gotten a bad rap. In our rush to get rid of parasites, developed (or perhaps overdeveloped) countries may have eliminated a creature more ally than enemy. There are other agents that trigger the immune system like bacteria and viral infections, but Elliott believes the best "partner" may be a parasite.

At the end of the "War of The Worlds," machines are strewn about London, their martian drivers serving as a buffet for crows. They were slain by bacteria "after all man's devices had failed." Writer H. G. Wells referred to these allies as "the humblest things that God, in his wisdom, has put upon this earth." Currently we may be evolving into creatures similar to those martians—ones lacking immunity through interaction.

My past articles only scratched the surface of the health benefits of parks and the outdoors. Not only are they good to play in, they are good to eat. I remember going barefoot and eating with dirty hands. Dr. Elliott would prescribe such condition. He notes that farm children frequently exposed to worms and organisms are much less likely to develop allergies and autoimmune diseases. Cat and dogs also have a positive role.

So there you have it, one more reason to enjoy lowa parks. Might I suggest Rice Lake, Honey Creek and Walnut Woods? They sound delicious, don't they! Just save Yellow River Forest till the kids are grown.

Tim Lane is the fitness consultant with Iowa's Dept. of Public Health. A marathoner, former National Ski Patrol director, climber and volleyball coach, he has cycled across America and is a regular on RAGBRAI. He helped design and promotes Live Healthy Iowa.

# 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.

# Why do fishing lures come in so many colors?

- SHAWNA IN SHELL ROCK

There is no doubt some truth to the saying "the wobble catches the fish, the color catches the angler." But any seasoned angler who has emptied a tackle box before finding the one lure that works will say color matters.

How the fish see it is a different tale. A fish must have at least two cone cell types in its eyes to see color. Bottom-dwellers like catfish have one cone and only see shades of gray. Bluegills and bass have two, and can see blacks, browns, greens and red. Shallow water fish like trout, having four cones, can see all colors, including those in the ultraviolet spectrum.

Why, when and how a fish reacts to lure color varies.

Water filters light, to the point a light beam directed into the water will eventually disappear as it travels downward. Colors become undetectable by depth, losing reds first, then oranges, followed by yellows and blues.

If you fish deep water, color won't matter because fish can't see them, or they have faded beyond recognition.

At what point colors change or disappear altogether varies, dependent upon water color and clarity, wind and light conditions, time of day, available light and lure depth.

Use this rule: bright colors on bright days, darker, more natural colors on overcast days. Most important is to match lure color with available forage and food choice. Chasing walleyes or pike in a perch-filled lake? Choose a fire tiger or orange/red/yellow combo. Lake loaded with minnows or shad? Go silver. You are better off trying to "match-the-hatch," so to speak, in lure choice.





A swelling myth that ticks drop from trees or jump from nearby bushes to attack their would-be hosts has been crawling around for decades, but it isn't a hard tale to crack.

Unlike the mosquito, ticks cannot fly, nor can they jump or hop. In order for a tick to get to the top of a tree to position themselves for an aerial attack, they would have to crawl up the tree, keep a watchful eye on their prey from atop their treetop fortress (which would be quite a feat considering ticks can't see) and then pounce at the exact moment a would-be host happened by. From a tick's vantage point, this would be comparative to a human scaling the Empire State Building, then diving off without a parachute to hit a target with the accuracy of a bombardier.

Ticks do not climb far above ground level. Instead, they

position themselves on low-hanging brush (nymphs: 4- to 6-inch vegetation; adults: waist-high vegetation) and wait for an animal to brush by them. Ticks can sense vibrations, odor and carbon dioxide emissions of the host. They then grasp fur, skin or clothing, and crawl up the body. Ticks will wander on the body for 30 to 60 minutes before they insert their mouth-parts and begin to feed.

According to an Iowa State University report, "Ticks don't find you, you find ticks. If you miss contacting a tick by a fraction of an inch, you miss it all together," says Ken Holscher, ISU extension entomologist.

This myth is engorged to say the least and is an allegory that really gets under our skin. A tick will only unsuspectingly pounce on you from atop their treetop fortress "when ticks fly," which has been scheduled for the second Tuesday of never.

# Isk The Expert What are speleothems? BY NATE HOOGEVEEN

Other than an absolute lack of light, *speleothems* are what make caves so otherworldly. Speleothems, Greek for *cave creations*, are formations in karst land regions such as northeast Iowa, known for its fractured limestone. As water moves through the porous limestone, it dissolves calcite and carbon dioxide. When the water emerges into an air-filled cavern, the carbon dioxide pops out of the liquid like bubbles from your favorite carbonated beverage, leaving the calcite to cling to cavern walls.

Over hundreds and thousands of years, depending upon where and how the water emerges—as a drip from the ceiling, as a trickle through a fissure in the ceiling, as flow across a wall, or a spring-like emergence in the floor—the formations build, grow and change. Formations come in a variety of colors, due to mineral impurities in the calcite.

IRON can turn formations BLOOD RED, MANGANESE can turn them BLACK and SILT can turn them BROWN. Pure calcite can be a brilliant white.

SODA STRAWS: Delicate formations that hang from the

ceiling, these brittle formations are shaped like their namesakes.

**STALACTITES:** Hang from the ceiling, but are larger and somewhat stronger than straws.

**STALAGMITES:** Grow from the floor up, below stalactites.

**COLUMNS:** These result from the joining of a stalactite and a stalagmite.

**HELICTITES:** Pressurized water in the limestone can cause these formations to grow horizontally and at helter-skelter angles.

**FLOWSTONE:** Created by even sheets of water across walls or pitched angles, flowstone spreads across walls and mounds in caves.

**DRAPERIES:** Caused by cracks in the ceiling, these formations look like the curtains in your living room, only harder.

GOT A QUESTION? Send to: ASKTHEEXPERTS@DNR.IOWA.GOV

# Outdoor Skills

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

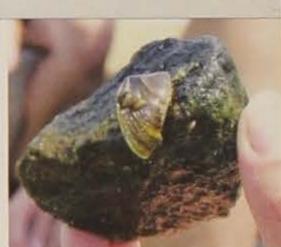
# Obey New Law & Stay Water Safe >

A new law in place since May 2008 requires children 12 and younger to wear U.S. Coast Guard-approved life jackets while in boats underway. Jackets don't do much good, though, if they are improperly fitted, or worse, not worn. Match the jacket's weight and size listing with the user, and try them on in the store. Hold arms above head and have someone pull jacket upward. It should remain snug, below the neck and chin without rising. For kids, look for personal flotation devices with crotch straps. For adults uncomfortable with traditional jackets, try those that self-inflate when wet.









# DON'T LET TEM MUSSEL IN

Zebra mussels and other aquatic pests have invaded a number of state and national water bodies. Once colonized, they can foul beaches, destroy fish spawning grounds and filter out virtually all algae, leaving no food for larval fish and invertebrates. By taking just a few simple precautions, boaters can help keep lowa waters safe.

Zebra mussels and their larvae can live for days in the water in your boat. Thus, after each trip: 1) Inspect your boat and remove any visible mud, plants, fish or animals. 2) Clean and dry anything that has touched the water. 3) Power wash your boat or wait five days before it goes into another waterbody. 4) Drain water from the boat, live well and lower unit.



Paddlers and river boaters can avoid getting hung up on rocks and sandy bottoms by learning to read river currents. Vee-shape currents that point downstream indicate a slightly deeper course through shallower passages. Boating or paddling through the vee-current can keep you from dragging bottom. A vee that points upstream is a tip to avoid submerged rocks or other obstruction.

BY JESSIE ROLPH BROWN PHOTOS BY CLAY SMITH

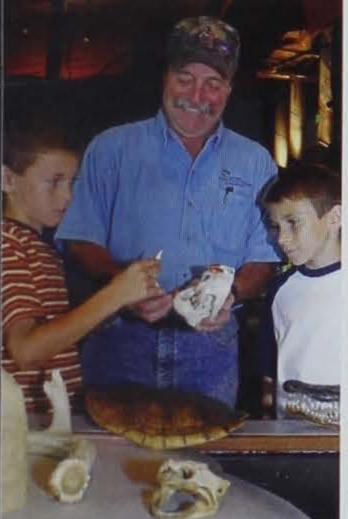
# **WORKING FOR WATERFOWL**

MARSHALL VANDER LINDEN, CLIVE

Avid hunter creates habitat for wood ducks one box at a time

Most door-to-door salesmen don't have the record Marshall Vander Linden does. "Virtually no one turns me down," he says of his cold-calling efforts over the last seven years. Driving lowa's rural roads, he pulls over when he spots the perfect pond for a wood duck nesting box. Working with those private landowners and on public lands, he's established almost 60 boxes to provide nesting habitat for waterfowl. The Des Moines River Greenbelt, just north of the city, offers passing ducks 24 boxes that Vander Linden installed and maintains. "Without his help, projects like this would be difficult for us to maintain and monitor," says Kim Olofson, park manager at Big Creek State Park. Vander Linden installs boxes built by himself or volunteers—a good way to fill those icy February weekends—and returns each year to place nesting material and check for broken egg shells, a sure sign of hatched ducklings. "I really enjoy opening up the box. Then you know what your success has been," he says. Like any good salesman, he makes follow-up calls, letting landowners. know about successful hatches. "It raises awareness in terms of what's going on around them, and I'm seeing more wood ducks flying around. I feel like I've had an impact," Vander Linden says. He's also expanding his territory, working with county conservation boards in southern lowa to identify spots that could use duck boxes. But the real-life accountant is just a life-long hunter trying to give something back to the outdoors. "Most people have good intentions, but the thing missing is the first step of action. Just do one thing," he says.





# **SHARING A RIVER LEGACY**

WENDELL SCHROEDER, DUBUQUE

Commercial fisherman brings river lessons to enthused children

As part of a family that has fished and lived along the Mississippi River since 1842, Wendell Schroeder is making sure future generations know the Great River. A volunteer at the National Mississippi River Museum and Aquarium in Dubuque since its 2003 opening, Schroeder spends his winter weekends telling kids about his life as a commercial fisherman. He helps out at the local fishing derby, helping kids hook their first fish. He travels to area schools, showing first through third graders hoop nets, turtle nets, turtle shells, claws, teeth and pelts. "It's fun talking to people about the river—it's been a part of my life for a long time," says Schroeder, who has helped his family fish the river since he was 7. "He's the real deal. He's doing this because he loves what he does and he wants to share those experiences with everyone," says John Sutter with the museum. Growing up along the river, Schroeder takes the river's health seriously and is encouraged by people genuinely interested in helping the river. "When I grew up, the river really was the Muddy Mississippi, but the river is getting cleaner and cleaner," he says. For his efforts, Schroeder was named Volunteer of the Year by the Dubuque County Historical Society and received a Governor's Volunteer Award in 2007. While Schroeder was "ecstatic" to receive those awards, the real reward comes from students' thank you notes and drawings for his fridge, knowing "they'll remember this stuff forever."

# **HOOKING KIDS ON FISHING**

**BRAD FREIDHOF, CORALVILLE** 

Johnson County naturalist gets kids and adults fishing, learning about nature

Just one big fish is all you need, says Brad Freidhof, to get someone hooked on fishing and interested in the world around them. "I'm amazed at how little people can know about their outdoors and the environment we live in," says the Johnson County naturalist. He saw a lot of kids not spending time outdoors and without mentors to take them fishing. To help, Freidhof hosts programs at F.W. Kent Park west of Tiffin, and works with schools and city parks and recreation departments to get urbanites—both kids and adults—fishing. By stocking fish in urban ponds, providing poles to check out and holding programs and events, word of fishing opportunities in Johnson County's larger communities is quickly spreading. Knowing that there are many things in the outdoors that interest people, Freidhof sees a window to relate conservation and the environment. "As an angler, I love to take a kid out that may have never been fishing. Getting to see that kid catch a huge bass—he may remember that for the rest of his life," Freidhof says. "With adults, it's having that 'light bulb moment' where they get a better understanding of things. You can see in their eyes that they now have an opportunity to make a difference and have an understanding of what they can do individually." In the summer, Freidhof can work with 60 to 150 kids per day. "He's affected so many lives, getting people involved in nature," says Johnson County Conservation Board Director Harry Graves. "He has an inspirational quality."



# Siouxland Souxland Sojourn

Make your own Journey of Discovery to Loess Hill country







A drive through the Loess Hills Scenic Byway is like no other, unless of course you travel to Central China, where the only other loess topography of this magnitude exists. It's even better when you do it on two wheels instead of four. Just stay on designated trails to protect the fragile soil and ecosystem. Take time to soak in the scenery, including ample wildlife and rare wildflowers, like turkeys and the 10-petal blazing star.

# "These bluffs are a great curiosity."

Railroad entrepreneur John Insley Blair's words, upon catching his first glimpse of Iowa's scenic Loess Hills in 1863, still ring true today. Although there's no mystery anymore about why these soaring bluffs formed above a roughly 200-mile band along the otherwise flat, broad plains of western Iowa near the Missouri River, they remain a curiosity and wonder to residents and visitors from all over the country. The hills around Sioux City are especially rugged and offer breathtaking trails to hike and mountain bike. But the trip is no less exciting for those who prefer to sightsee by car or motorcycle, or for history buffs. For here, the Lewis and Clark Trail comes alive.

### STONE STATE PARK

Driving Stone State Park's winding roads, a loop within the Loess Hills National Scenic Byway, provides an excellent introduction to Siouxland's natural beauty. The park's west entrance is easily accessed by driving north of Sioux City on I-29 for a couple of miles, then north on State Highway 12 for a few more miles. Once inside the park, you'll climb through dense woodlands and will likely catch glimpses of prancing wild turkey and white-tailed deer.

The way to the Dakota Point Overlook offers several roadside benches and stunning vistas of the Pammel Valley and vast slices of Nebraska and South Dakota. Locals come here to watch turkey vultures soar over the valley on warm summer evenings and, on Fourth of July weekends, experience a unique perspective on professional and backyard pyrotechnic displays.

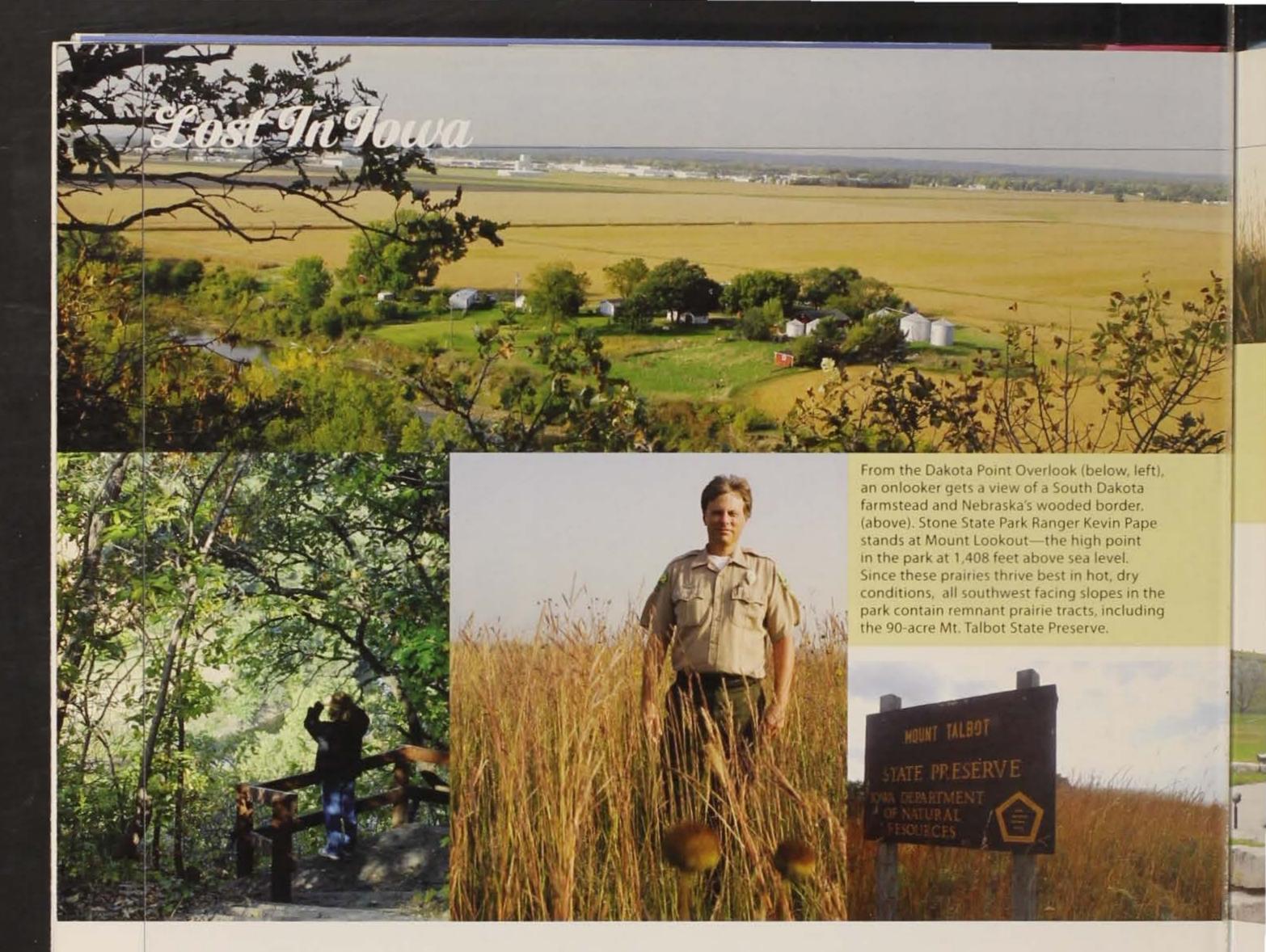
Jump out of the car or off the Harley at Dakota Point Overlook and take the short, precipitous trail to a platform where you'll look upon the Big Sioux River, a tidy multigenerational farmstead and hundreds of acres of rich cropland that drew Europeans here by boatloads in the late 19th and early 20th centuries.

This dramatic cut in the landscape gave geologists valuable clues about the way the Loess Hills formed. Ice Age glaciers ground this ribbon of North America into flour. Strong westerly winds picked up the loess and layered it on the other side of the Missouri River, over eons, to create stark ridges as high as 200 feet.

In late August or early September, if conditions are right from the Dakota Point Overlook, you might spot the rare 10-petal blazing star wildflower. It thrives on this sheer cliff simply because it's inaccessible. Ranger Kevin Pape says it's hard to imagine that just hundreds of years ago, prairie blanketed all of the park's hills. But Mother Nature eased up on cycles of fire and allowed bur oak, black walnut, Kentucky coffee and other trees to thrive. Today, Pape and crew carefully burn these savannahs so that sumac and other undesirable species don't take over.

A 90-acre swath of native prairie still thrives as Mt. Talbot Preserve in the extreme north region of the park, but the hike is very steep and strenuous. In wet weather the soft, unpaved portion of Talbot Road that leads to the preserve can swallow a passenger car. Check with Pape before you go and after you return.

Just inside the park's east entrance, across the road from the popular hiking/biking/equestrian trailhead, you can much more easily scale the bluff informally known as Mt. Lookout and swim through a restored sea of grass and prairie flowers.



An even more adventurous and vigorous hike awaits at Carolyn Benne Nature Trail, found near Stone's campgrounds and lodge. You'll feel the spongy soil compress under your shoes as you trek over wetlands (created by underground springs) and through forested gullies. A trudge up an optional loop is rewarded by more prairie and another panoramic view of the Big Sioux River.

### **BROKEN KETTLE GRASSLANDS**

When you're back in a scenic-drive frame of mind, be sure to visit this jewel of a preserve—the state's largest chunk of native prairie at around 4,000 acres. It's a window back in time. From Stone State Park, head north on Highway 12 into Plymouth County (Stone and Sioux City are in Woodbury County) and turn right (east) on Butcher Road. You'll see blazing star here, too, as well as the rare prairie moonwort, and yucca. Iowa's only known population of prairie rattlesnakes also calls Broken Kettle home. Raptors prowl the ridges, which look their most sculpted in the low light of early morning or late evening, while bison graze on big and little bluestem. Scott Moats of the Nature Conservancy

in Iowa imported 30 bison from South Dakota just last October and wants to grow the herd to about 250. "Their grazing will be good for the grasslands," he says, "and it's exciting to see the bison out there just from an aesthetic point of view."

# LEWIS AND CLARK SLEPT HERE

Captains Meriwether Lewis' and William Clark's incredible journey to the Pacific Ocean and back, lasting a grueling two years, four months and nine days, claimed only one life. Thanks to the meticulous journals that officers kept, we know Sgt. Charles Floyd fell suddenly ill Aug. 19, 1804, probably from a burst appendix, and died the next day. His bereft mates buried him with military honors on a bluff overlooking the Missouri River, a site now marked by an iconic 100-foot obelisk. Visit this national historic landmark by leaving I-29 at exit 143, driving east to South Lewis Boulevard, then north for another two miles.

The Lewis and Clark Interpretive Center, a sleek rendition itself of a frontier outpost, is located within Sioux City's delightful riverfront Chris Larsen Park



Not only is Broken Kettle Grasslands The Nature Conservancy's largest preserve in lowa, it's also the state's largest remaining prairie. A 14-foot bronze sculpture of renowned explorers Lewis and Clark (along with their not-so-famous companion, Seaman) greet visitors at the Lewis and Clark Interpretive Center. Loess soil is locally known as glacial flour or sugar clay because it is extremely hard when dry, yet loses all cohesion when wet.







(Hamilton Boulevard, Exit 149). The center immerses you in an authentic, day-in-the-life experience of the expedition. Kids will learn the importance of taking notes, in a fun way, by stamping their official visitors' journals at various interactive stations. They'll also come away knowing what it took to qualify for the expedition, the many new plants and animals and peoples the explorers discovered and how well they planned—or didn't, in some cases. The adjacent Betty Strong Encounter Center exhibits fascinating revolving displays of works by contemporary regional artists.

Outside, stroll through a pleasant garden bursting with wildflowers, a sight Lewis and Clark found common but we now take for granted. Snap a picture of the larger-than-life sculpture of Lewis and Clark and their faithful companion Seaman, surely history's most famous newfie.

# WHEN CIVILIZATION CALLS

Downtown Sioux City's historic Fourth Street district is lined with restored 19th-century commercial buildings that now house all kinds of interesting shops, pubs and restaurants. Work up an appetite while browsing for gifts (405 Pearl St.; 712-255-5132; midwestbowhunter.com) takes great care of hunters with top-notch equipment and service, plus three indoor shooting ranges. When you feel the need for delicious homemade pizza, duck into Buffalo Alice (1022 Fourth St.; 712-255-4822; buffaloalice.com). The retro-style saloon offers toppings that appeal to traditionalists and nonconformists alike.

Along the more suburban Hamilton Boulevard, you'll find the groceries you need for camping. Hunters and anglers fill up on hearty breakfasts and comfort dinners at Horizons Family Restaurant, 1220 Tri View Ave. (at the intersection of Hamilton Boulevard); 712-255-1658. The cafe never closes. Da Kao Restaurant—800 W. Seventh St. (one block east of Hamilton Boulevard); 712-252-3937—serves authentic, nicely spiced Vietnamese and Chinese favorites.

# SIDE TRIPS

The Dorothy Pecaut Nature Center, within Stone State Park but managed by the Woodbury County Conservation Board, is the ideal place to introduce young children Lost In Towa



A herd of 30 bison were introduced to Broken Kettle Grasslands in 2008. Once common in Iowa, bison were an integral part of the Great Plains and prairie system.
Through grazing, the new inhabitants are expected to help maintain the balance and diversity of grasses and flowers, vital to the survival of insects, birds and other mammals at Broken Kettle. WWW.IOWADNR.GOV



to the Loess Hills. Inside the center, kids can handle furs, antlers, fossils and artifacts, investigate natural history dioramas and a 400-gallon aquarium, and see the prairie from a worm's-eye view. Outside, an easy series of short trail loops, including a hard-surface, wheelchair-accessible route, provide the forest-prairie experience, while also linking up with Stone's 10 miles of trails.

At War Eagle Park (you'll see the turn for War Eagle Drive on the way to Stone on Highway 12), a weathered-steel sculpture that marks the grave of the great Native American chief stands high on a bluff overlooking the confluence of the Big Sioux and Missouri rivers. The monument appropriately captures War Eagle, who died in 1851, offering the pipe of peace. He helped and befriended the early European traders, including Theophile Bruguier, his future son-in-law, who settled this part of Iowa.

### MAKE IT A WEEKEND

Stone State Park makes an ideal encampment for a family or group of friends commissioning their own weekend corps of discovery. Because of the park's craggy terrain, Stone has one of the state's most intimate—OK,

small—campgrounds, 30 sites, 10 with electrical hookups. One walk-in site gives tent campers some privacy, but this is a place best-suited for gregarious types with small motor homes and fold-down campers. Alternatively, rent one or both of the park's relatively secluded timber-style cabins. They come complete with Adirondack chairs on the porch, and heating and air conditioning, but you'll have to take a short hike to the campground's new shower house/restroom facility. (Thank the Friends of Stone State Park for the private fundraising and volunteer efforts that provide many of these amenities.) The lodge, built masterfully by the Civilian Conservation Corps in the 1930s with local rose-colored granite and remodeled 10 years ago, features a kitchen and modern restrooms. It books solid, however, from May 1 to Oct. 15 for reunions, weddings and corporate picnics. Reserve well in advance for the lodge, cabins, the youth campground and half the regular campsites at www.reserveiaparks.com.

For the camping-is-not-an-option crowd, Sioux City is well-stocked with chain motels along I-29. The new Stoney Creek Inn (300 Third St; stoneycreekinn.com, just north of the Tyson Events Center) offers upscale amenities in a northwoods lodge atmosphere.

19



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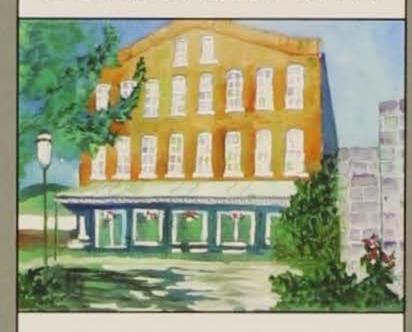
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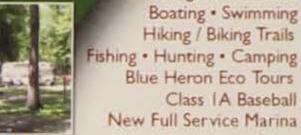
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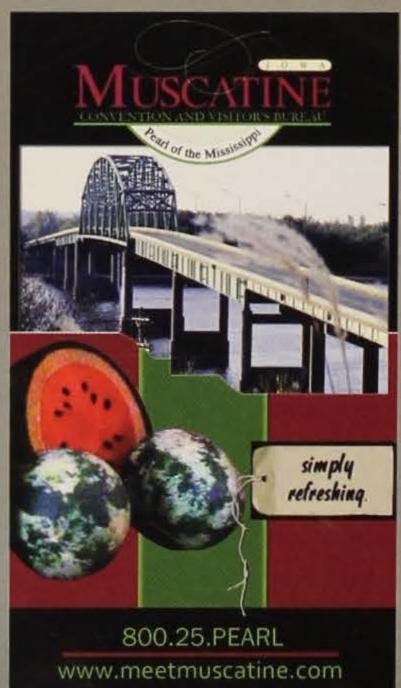
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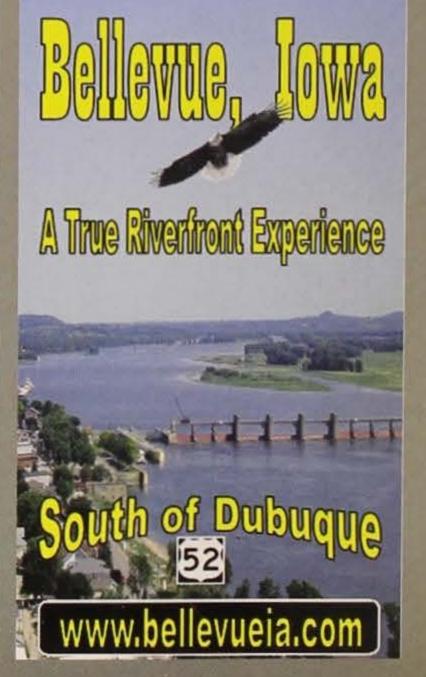


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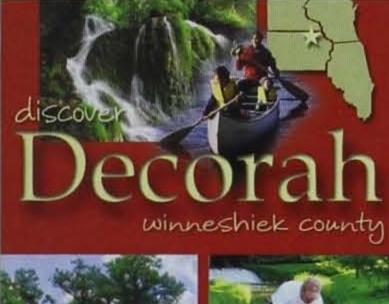
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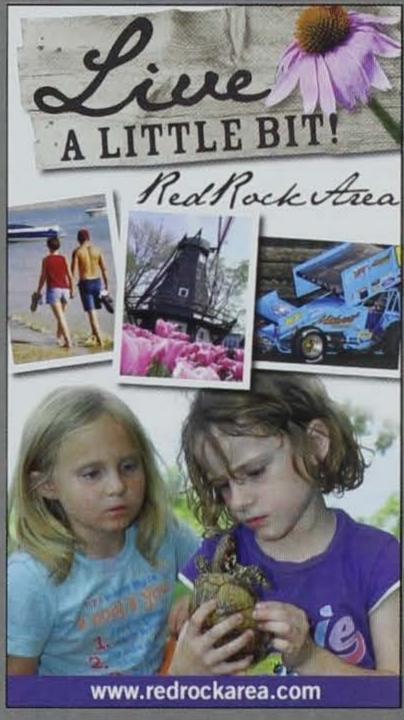
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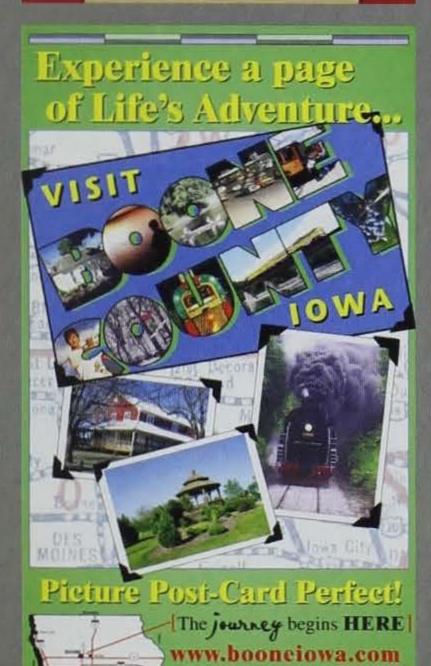
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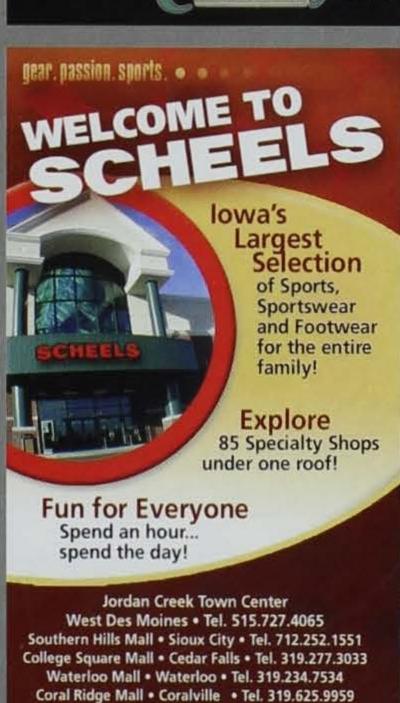
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A Minnesotan drilled his own entrance to one of Iowa's spectacular resources. What does the future hold for Coldwater Cave, a natural wonder? Who protects this cave?

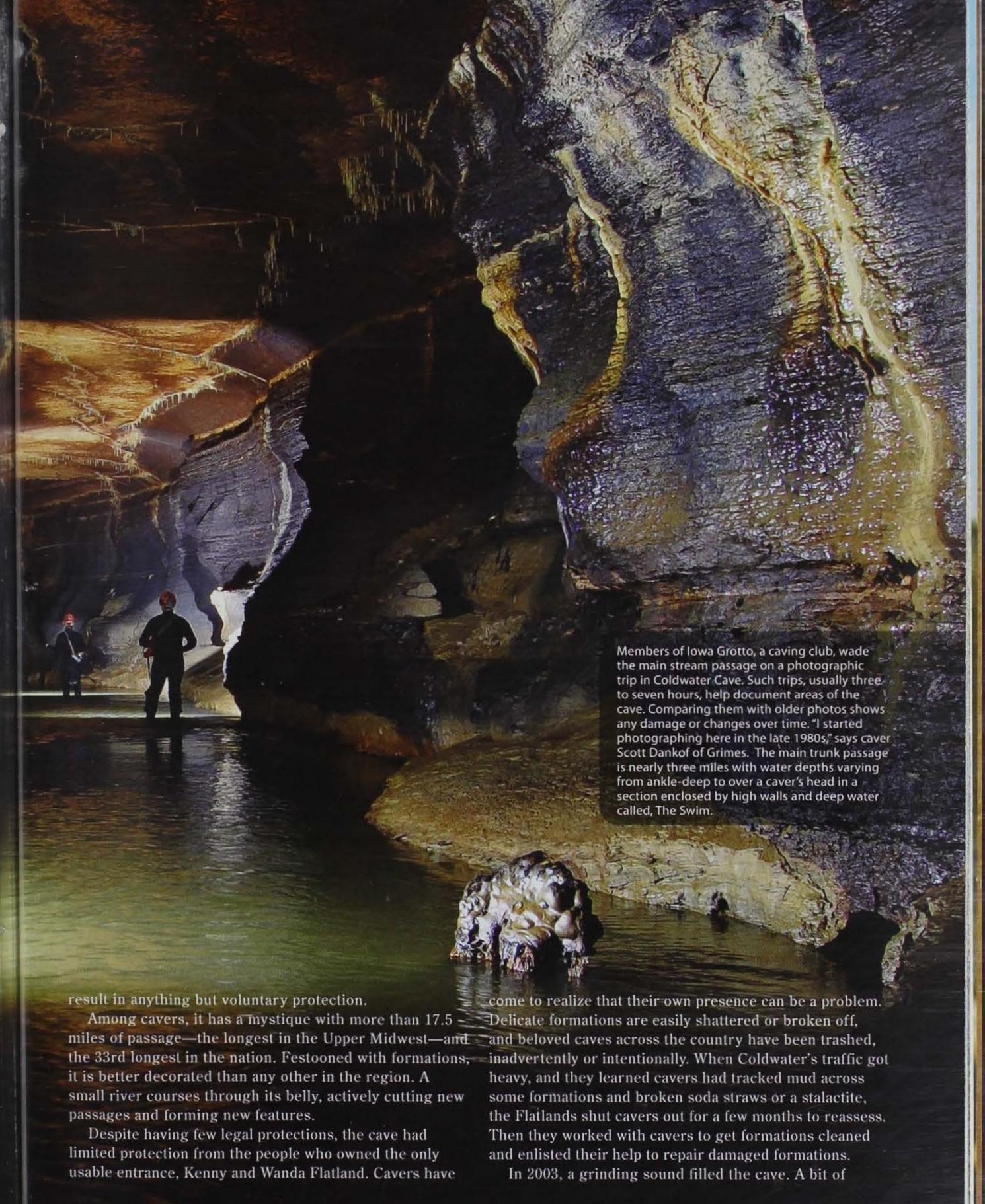
BY NATE-HOOGEVEEN PHOTOS BY SCOTT DANKOF

eneath northern Winneshiek County runs a stream. Eons ago, it began as a mere trickle, exploiting eracks and erevices in the bedrock. Over thousands of years, it scoured a larger pathway, leaving space for air, joined by numerous rivulets from all directions. Mineral-laden water filtered through, dripping and flowing, depositing brilliant white calcite and colorful substances into smooth formations. Stalactites grew down from ceilings; stalagmites up from floors. Sometimes they met to create columns that grew

microns wider with each passing season. Others grew across walls, making "flowstone," which undulated into myriad outlandish shapes and sizes.

In many ways, a cave is like an ancient, living entity, constantly morphing across a geologic timeframe into something new, leaving recordings of what it was with each layer of muddy sediment or crystalline stalactite.

Iowa has eight National Natural Landmarks, and Coldwater Cave is one recognized for its outstanding geological significance. This status, however, doesn't





A camera emerged from the bored hole, right next to a clump of stalactites. On the surface, one man, John Ackerman, was giddy. What would this mean for the future of Coldwater Cave?

## HIS OWN UNDERGROUND WORLD

On a 10-degree winter's day six years ago, I caved with an energetic and successful furniture restorer named John Ackerman near Spring Valley, Minn. We were at his own cave system, Spring Valley Caverns, part of what he calls the Minnesota Karst Preserve, or "The Cave Farm," more than 500 acres of what appears as typical farmland. Examined closer, you'll notice a grassy depression, at the center of which protrudes a 30-inch-diameter culvert tube, with a steel lid. There are 18 of these dug with Cave Finder, his own Caterpillar, fitted with an extended boom.

Each tube is equipped with a thick, steel ladder.

Ackerman and his caving friends installed them to access an underground labyrinth and to rescue someone quickly if needed. Each was originally a sinkhole, a spot where the earth had sunk due to a gap below. Like other cavers, his obsession has been to wiggle, dive and contort his way into new passages—to be first to lay fully dilated pupils on a crack in the earth unknown to humans.

"Ever since I was a little boy, I was always interested in caves," he says. "As you can see, it just got out of control."

# WONDROUS, DARING DISCOVERY

Iowans Steve Barnett and Dave Jagnow first celebrated the splendor of Iowa's Coldwater Cave in 1967. They discovered the cave by scuba diving into Coldwater Spring through 2,000 feet of underground river. They were astounded to pop up into a long, air-filled cave. For two years, they conducted secret journeys to their massive find. They relayed their find to the Iowa Conservation Commission, the predecessor to the DNR, in 1969.

Soon after, Des Moines Register outdoor writer Otto Knauth crafted a prominent article replete with photos. The cave captivated the public. Iowa's legislature found it fit to explore the possibility of using the cave for tours, and appropriated \$58,000, which culminated in a lease agreement with farmer Kenny Flatland in 1971. The Iowa Geological Survey had a 94-foot shaft drilled to make a safer entrance.

But the State deemed it infeasible for tourism. It was far from highways. Many areas require crawls through tight passages. Flooding would complicate electric lighting. Constructing concrete walkways high above the main stream would be expensive.

# DANGER IN THE DEPTHS

The cave itself is a dangerous place, where water levels fluctuate by several feet. Some cavers, scooting on their bellies through tight, tube-like passages, have torn up knees while crawling for their lives as rising waters lapped closer and closer to their mouths.

As the name implies, no one gets anywhere without encountering very cold water. Winter water temperatures in the 30s make wetsuits necessary for survival.

Whereas mountaineers experience thin air, in Coldwater Cave washed-in vegetation decomposes and can produce large amounts of carbon dioxide, or thick air. The result is the same: hypoxia, or less oxygen than humans are accustomed to. Sometimes levels drop hazardously low. Cavers have found themselves suddenly short of breath, with headaches or nausea, on the verge of blacking out.

Not interested in such liability, the State let its lease expire in 1975. Flatland had the option to have the entrance sealed. "I chose to leave it as it was so that other people could enjoy the cave," he said.

And enjoy it they did. Streams of cavers arrived. A group affiliated with the National Speleological Society called the Coldwater Cave Project (CCP) formed. Until a heated shed over the entrance was completed, Kenny and his wife, Wanda, invited cavers into their home to change into wetsuits. Visiting with the Flatlands in their living room became part of caving at Coldwater, and Kenny donned a wetsuit himself to go on epic journeys.

Grand adventures ensued. Far back in the cave where there are only a couple inches or less of air above flooded pools, brazen caver Mike Nelson perfected a method of pulling his floating body along the ceiling.

"There's enough air to get one nostril out of the water—it doesn't need to be but an inch or so to do that—but you do need nerve," says Patricia Kambesis, who has caved Coldwater since the 1970s, and now is assistant director of the Hoffman Environmental Research Institute in Kentucky. "You cannot freak out. You'll drown in there."

Humans became flies, scaling walls after a grappling hook was thrown to scale a waterfall. They became worms, wiggling through muddy passages. They became otters, swimming frigid snowmelt waters.

### A CHASM AMONG CAVERS

Cavers became good friends of the Flatlands, and the Flatlands were good friends of the cave. CCP cavers showed up monthly, and it became expected that outside cavers would work themselves into CCP projects, primarily surveying, exploring and photographing.

Over the years, in the absence of government ownership or control, the CCP became protective of the cave. Some cavers and scientists grew critical, saying the CCP was overly restrictive. But the CCP's relationship with the Flatlands was strong, and ultimately, as owners of the entrance, the Flatlands could decide how access to the cave would work.

John Ackerman had never been in Coldwater Cave, but his caving buddy, David Gerboth, got them invited on a CCP trip after several months of trying.

Gerboth hoped to show Ackerman a showy column in the Monument Passage called the Pillar of Light Arising Out of the Divine Reasoning. Gerboth says CCP cavers said no, because formations were being restored. They did, however, see the Windmill Passage, where the pipe of a windmillpowered pump built in the early 1900s bisects the cave downward through the floor to water in the limestone just below. It is a place that clearly shows the direct connection between surface and underground water quality.

Later that year, Ackerman asked Wanda Flatland if she and her husband would sell their entrance to the cave. They said no. When Ackerman read an editorial "Is Cold Water Cave Really Open?" in a 1997 caving newsletter, he made open access his goal, standing up for the little guy, wresting control from elitist cavers.

"Whether or not this was an accurate portrayal of how things were run there, it greatly influenced John," says Gerboth.

Men of means typically pick hobbies or sports other than caving. Instead, Ackerman obtained five acres of land surrounding the windmill above the cave's Windmill Passage. Now he actually owns the Pillar of Light Arising Out of the Divine Reasoning.

By March 2003, he'd first had the exploratory hole drilled, dropped a remote camera down the hole, saw stalactites, and rethought. A larger, human-sized, 30-inch-diameter hole was drilled farther away, where it wouldn't damage formations. He spent more than \$80,000 on land, drilling a 188-foot deep access shaft and purchasing a cave easement (if more cave is found to exist) on 200 acres underground.

He announced his new shaft in a post on the National Speleogical Society website. He titled his somewhat warlike manifesto "So whose cave is it, anyway?" and ended it with, "Now who owns this cave?"

The announcement launched some cavers into a tizzy. Some decried the event as the worst thing to happen to the cave. Others applauded. All were shocked.

"In a lot of ways, it was the last little bit of true wilderness in the Upper Midwest," said John Lovaas, science coordinator for the CCP, shortly after the new shaft was drilled in 2003.

Ackerman believes his entrance is less invasive than the original state-drilled entrance, partly because it is in a side passage. He takes pains to point out that he had the drillers use the least invasive techniques possible, at his own personal expense. Others counter that that's fine, but a second entrance was just not needed. In the six years since Ackerman drilled his entrance, the cave has seen some changes. Shortly after his new entrance was installed, Ackerman improved his access in the Windmill Passage by cutting through a flowstone formation, digging a trench, and blasting through small rocky dams to drain the water. To the untrained eye, at this point, the changes may not be apparent. Ackerman said he did it because he needed to lower the floor in order to protect stalactites that people would have knocked off while stoop walking through the passage.

Few argue that Coldwater has lost its luster due to the second entrance. Ackerman, like the CCP group, doesn't let just anyone into the cave, for a mix of safety, liability and conservation reasons. When a group requests to go, they must have the necessary gear and experience, and Ackerman or an associate must go too. The initial controversy has reduced to a low simmer.



"Everyone tries to stay out of each others' way," says Lovaas, the CCP science coordinator.

Controlling caves is about controlling access. Ackerman turned that regime on its head at Coldwater and other caves, including the Minnesota DNR-controlled "Goliath's Cave," which had been closed for scientific survey.

There, he drilled a new shaft he calls "David's Entrance." Predictably, he's at odds with the Minnesota DNR over the access issue. His main concern for access developed when the Minnesota DNR obtained access to Mystery Cave, a southeast Minnesota cave now part of a state park, where he and Gerboth had caved for years.

"Imagine how I felt, after their success, when we were banned from the cave the day they received the keys," he wrote in his open-letter to the Minnesota Speleological Society after drilling his entrance into Coldwater Cave in 2003.

Caves in Iowa, and elsewhere, are a legal no-man's land, with little legislation or case law. Ackerman owns "underground rights," or easements, to hundreds of acres for cave access, an untested legal concept.

"This is kind of the Wild West of our time," says Iowa DNR ecologist John Pearson, who has received requests to make the cave some sort of preserve. "Can someone put up a fence in a cave? It's going to be up to Marshall Dillon and Judge Roy Bean to sort this out."

# WHO PROTECTS CAVES?

An area of agreement between Ackerman and the CCP relates to protective laws for caves, which Iowa lacks.

"Every state that has caves should have a cave protection act," says Lovaas, the CCP science coordinator. "They are unique ecosystems. They are a very alien landscape that's very fragile."

Because of their unique natures, caves can be tremendous repositories of knowledge. The rates at which they form and move water tells much about surface water quality. The stone through which they are cut is essentially made of compressed fossils and record a geological legacy. Upper Midwestern caves usually don't have the specialized animal life that can evolve in caves a bit closer to the equator (blind cave fish, etc.), but some were inhabited by ancient humans, and portions of others contain bones of Paleolithic species.

Ackerman agrees cave protection for the purposes of water quality and formation protection is sensible, and acknowledges caves are no place for free-for-all access.

"My idea is that, yes, you need to have severe penalties for wrecking speleothems or otherwise vandalizing caves. In Minnesota, I need to go through a serious permitting process to (excavate in sinkholes), and that makes sense to me."

While attending college in the mid-1990s, I became a trained volunteer at Rock Bridge Memorial State Park near Columbia, Mo. There was a significant cave called Devil's Icebox that threaded below the park, and its allure beckoned. Over time, I became an assistant wild cave tour leader.

Under tutelage of Missouri DNR staff, I was taught to convey the idea of caving ethics. Gone are the days of smudging your initials into the walls with carbide lamps, chipping out pristine formations to place them on fireplace mantels, or even touching formations due to oils on your hands, which could affect its growth. We did not bring shovels, rock chipping tools, or, God forbid, dynamite.

That didn't really tell the whole story. The same Missouri DNR owned caves strung up with lights as show caves and other caves with lesser protection. And, deep in my own psyche, while I was interested in conservation ethics, what kept me coming back? The urge to explore. For those moments where everyone turns off their lights and all you hear is the trickling of a cave stream or a distant dripping. Or pushing through a narrow tube that opens up into a huge, glorious room.

Our planet has two places left to explore—the deepest trenches of the seas, and the voids of the earth. Cavers are today's Amundsens, Earharts and Magellans.

Ackerman fits this mode. He has entrances into six caves, and gets giddy when discussing the results. Bat River Cave, discovered by cave diver John Preston in 2007, unveiled a massive roosting cavern of bats. Prehistoric bones of saber-tooth cats, an extinct species of moose, and other now-extinct mammals discovered in Holy Grail Cave have evoked much scientific interest.

"Nobody's going to spend \$100,000 to drill into a cave just so they can trash it," Ackerman says. "There should be access for responsible cavers. If nobody can explore, no one would know about these caves, and no one would be protecting them. You can't protect what you don't know."

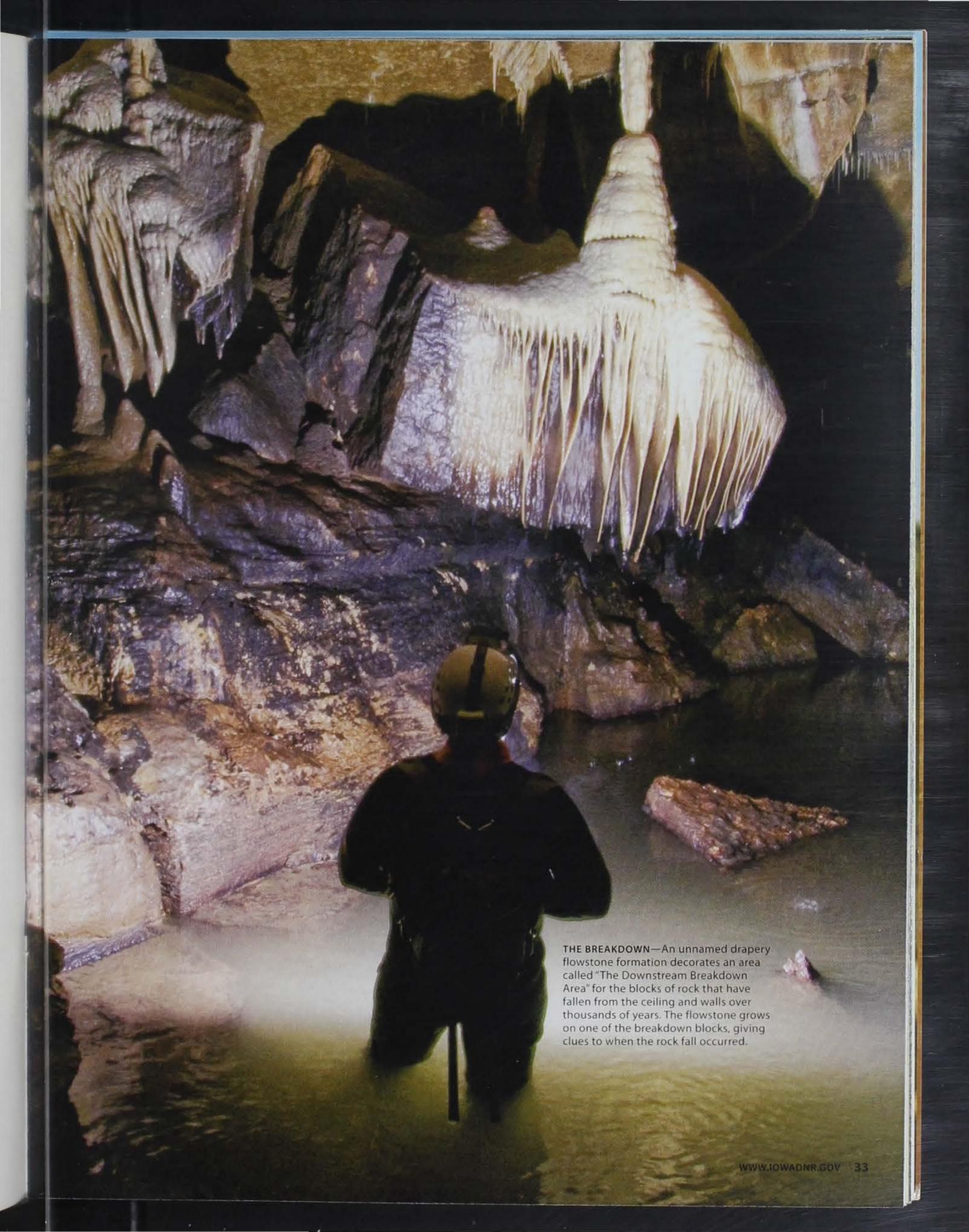
Ackerman is an objectivist, pressing ahead to open access to skilled cavers. He clearly doesn't mind flummoxing natural resource managers. A good number of Coldwater Cave Project cavers have simply accepted Ackerman's cave presence, modifications and all. Although she doesn't believe his access was necessary, Kambesis, who's caved on high-profile exploratory trips in the country's longest caves, points out that Ackerman is certainly within his legal rights.

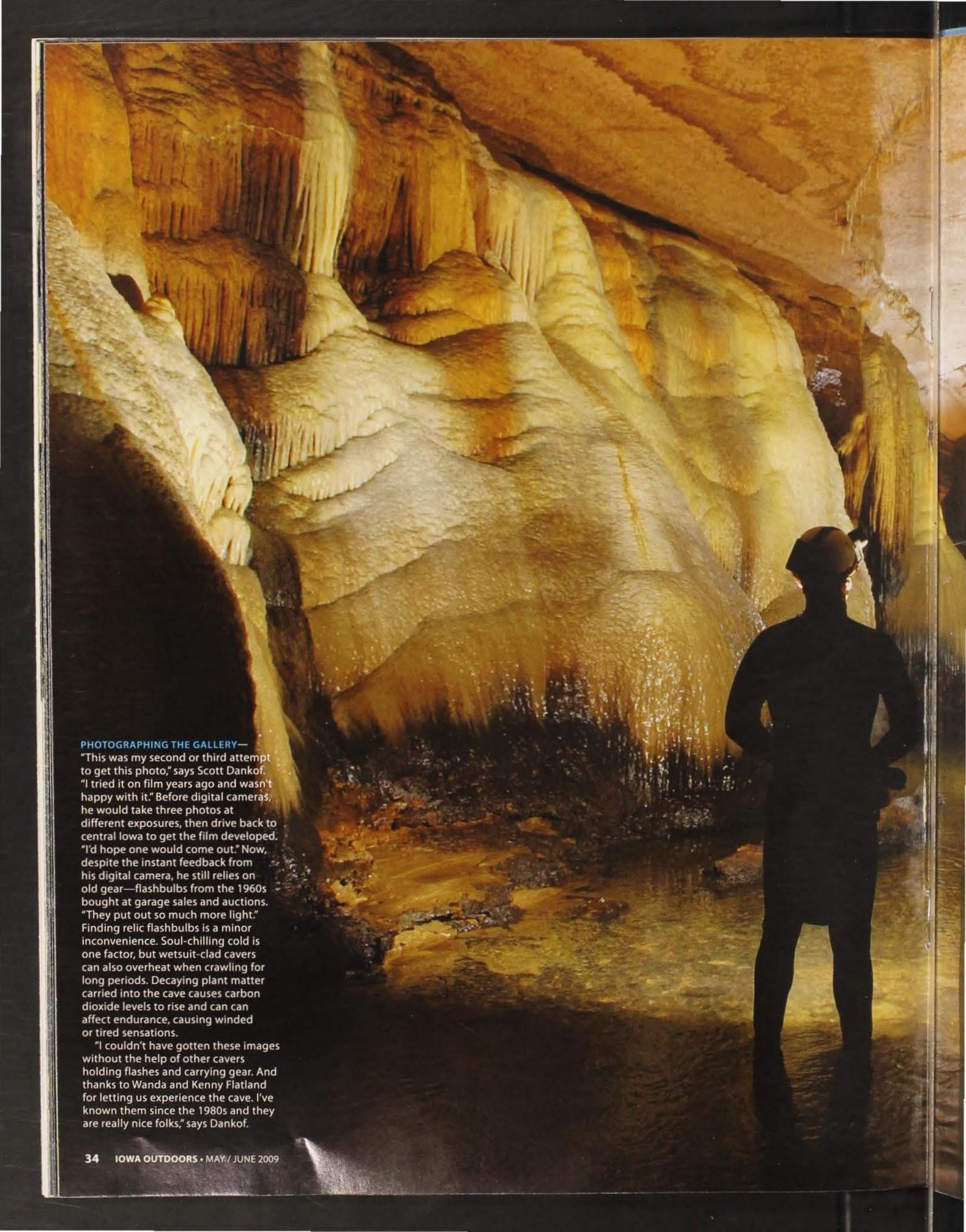
"Cavers modify caves all the time," she says. "Most major discoveries have resulted in some kind of modification to get into them."

# UNDERWORLD WINDOW OF WATER QUALITY

The Coldwater Cave Project group has supported numerous scientific projects, including studies on temperature, water stage levels, cave chemistry and atmosphere. Kambesis' master's thesis was on pollutant transport through Coldwater Cave, and the effort translated into water quality work for the Upper Iowa River Alliance.

Kambesis' work showed that pollutants dumped into sinkholes and other crevices flow directly into the cave, and are rapidly transmitted through subterranean streams to the outflows, ending up eventually in Coldwater Creek and the Upper Iowa River. In particular, high concentrations of bacteria stemming from animal feeding operation run-off





# on the surface is considered a problem by cavers.

"I respectfully suggest that if the DNR is concerned about cave protection, they take a closer look at the real threats to caves," says Ackerman. "Look at the 100-plus domes in the cave that have water spilling down them. Stand (on the surface) and see multiple sinkholes that are responsible for what cavers call 'agrifoam' that bubbles up and can block cave passages. Watch the cattle bathing in the streams and follow that water into the cave."

Lovaas, the CCP science coordinator and a longtime IOWATER volunteer water monitor, agrees with Ackerman on the water quality issue, saying the water quality "sucks," and is "chock full of (fecal) coliform, in particular." He is particularly concerned about animal feeding operations as a future threat to the cave.

# DREAMS TO PROTECT RAW BEAUTY

Ackerman brought me to his Spring Valley Caverns because he wants me to understand that, while he's taken cave modification to a new level, he's also constructed his very own conservation ethic. After he blasts, rubble is piled in low spots, covered in mud. From a purely aesthetic point of view, Ackerman is correct. His cave, once you're inside it, appears natural. For future generations, he believes, cavers will still cave here, giving nary a thought to the modifications. The caves he has developed accesses to will be his legacy. Perhaps they will be held in a trust, run by a conservation organization, or perhaps even by government entities.

After we emerged from a pipe at Spring Valley Caverns, Ackerman and I drove across the border into Iowa. Ackerman unlocked the lid on a tube. We began climbing 188 feet down. Rung after rung, the circular patch of gray sky gradually became a dim star above. As the shaft angled slightly, it disappeared altogether.

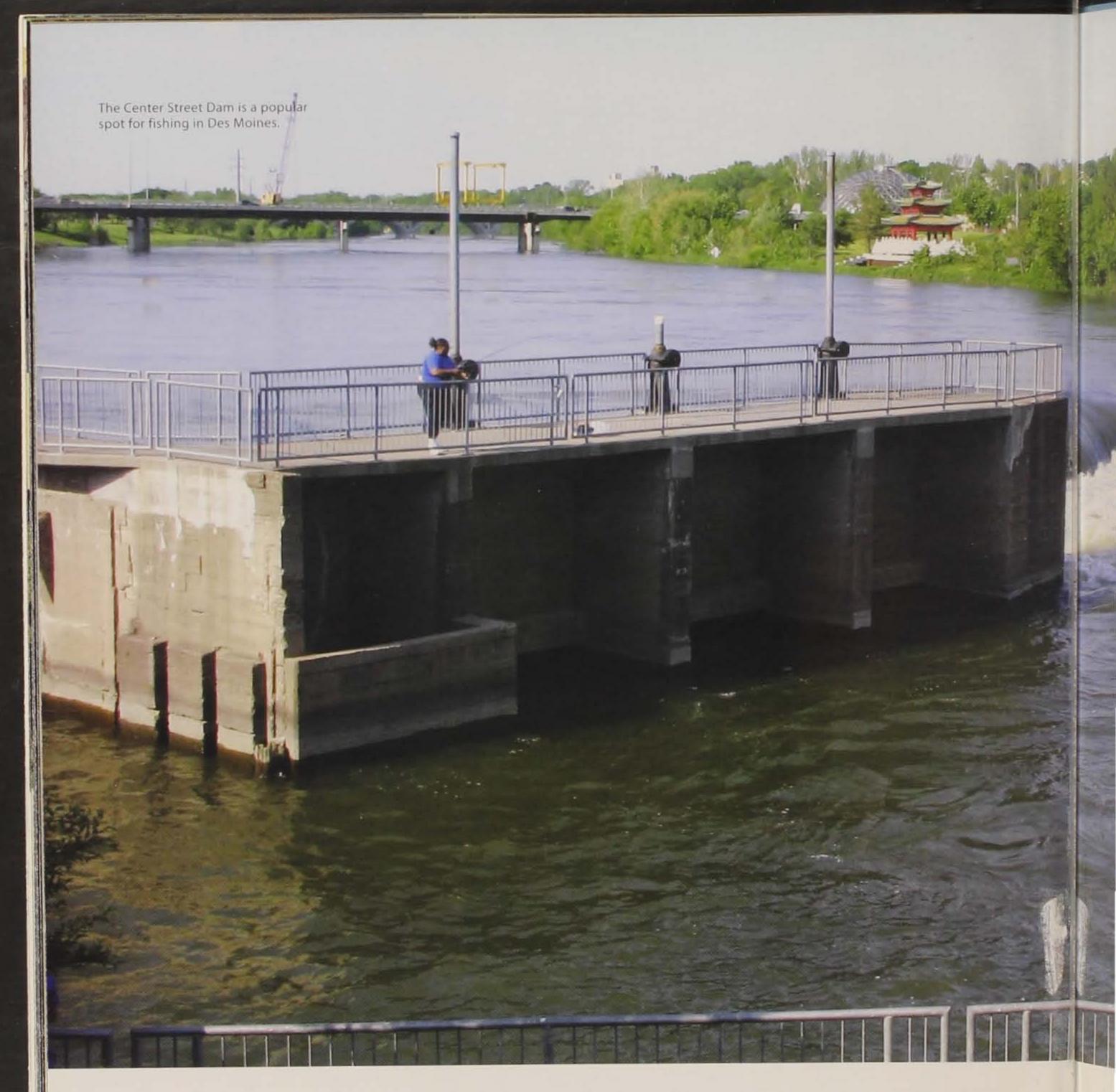
We only spent a half hour in Coldwater Cave, but it lived up to the hype. The Pillar of Light Arising Out of Divine Reasoning was as glorious as its name implies. An impressive waterfall dumped into the main stream a short hike from Ackerman's entrance. Formations are everywhere.

Ackerman appeared infatuated. "This cave makes (Spring Valley Caverns) look like a gopher hole," he said. He wanted me to see this, to feel the excitement, and I did.

In the end, enthusiasm for Coldwater Cave may be the only thing that can protect it. If above-ground neighbors can understand the cave's importance not just to Iowa, but the entire Midwest, perhaps attitudes can adjust to value and protect it. If the entire state can wrap its collective mind around the raw beauty that exists underground, perhaps cave protection laws can emerge here as they have in almost all other cave-rich states.

Because Coldwater Cave is part of his Minnesota Karst Preserve, he plans for his portion to one day have the same protective status he hopes Spring Valley Caverns will.

"Let's educate folks about what incredible resources they own," says Ackerman. "Soon, they will be proud of their resource. A proud landowner will no doubt defend their resource."



Trapped below a dam, victims find themselves fighting currents from both upstream and downstream.

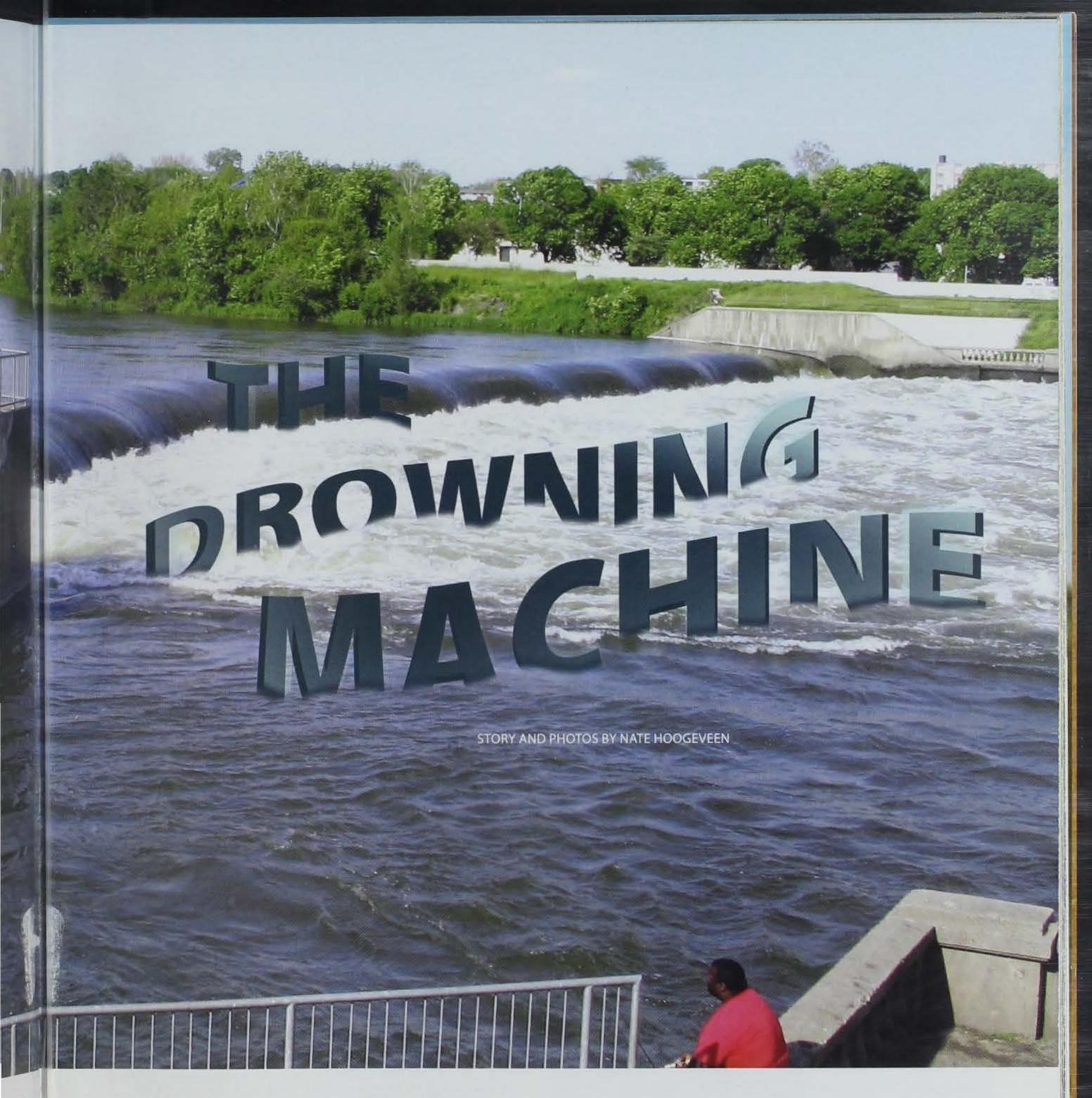
Typically, they are sucked under water, pop back up and

are carried back toward the face of the dam. This can happen repeatedly until the victim succumbs.

For many family members and friends of these victims, the circumstances seem completely random. In fact, though, drownings at low-head dams are completely predictable. That is why a low-head dam is commonly known as "The Drowning Machine." In the past 10 years, low-head dams killed 1.4 Iowans per year. They accounted for approximately a quarter of the documented drownings on Iowa's rivers during that period.

Low-head dams are where the vast majority of damrelated deaths occur, not at large reservoir dams with intimidating outflows. Survivors say the drop looked tiny, and the forces at play came as a complete surprise.

Rescue professionals have known about this hazard for decades. Translating that knowledge into wider public



policy has taken longer. In a 1981 article for the Iowa Conservationist, written after a wave of rescue personnel nationwide drowned while trying to rescue people from dams, Water Safety Coordinator Betsy Maleug estimated that five Iowans became trapped in dams every year. There were approximately 30 more low-head dams on Iowa streams at the time.

Public education continued through the 1980s and 1990s, but no standard signage system was developed to warn the public about dams. Dam owners were not

encouraged to post warnings. No inventory of drowninghazard dams had been conducted since 1979. No clear policy toward dams existed, other than to periodically warn the public.

In 2007, the number of dam-related deaths statewide spiked to six, catching Iowans' attention. In 2008, the Iowa General Assembly established the Low-Head Dam Public Hazard Program, which put into law a program the Iowa DNR had begun two years prior. The program provides funds for warning signs, portages around dams





ABOVE: Paddler Dick Howard launches his kayak a safe distance downstream of the dam at Adel on the Raccoon River. Eddies can pull small craft upstream into the face of the dam if launched too close downstream. LEFT: Thousands of native fish attempted to migrate upstream during the Floods of 2008. These fish became trapped in the emergency spillway at the Saylorville Dam north of Des Moines. Except for several large catfish that were relocated by DNR staff, all these fish eventually ran out of oxygen and died. RIGHT: Warning signage installed at the Boone Waterworks dam after the drowning of Megan Pavelick, pictured opposite lower right. Learn more about low-head dams and safety at www.iowawhitewater.org

and cost-sharing to make the structures safer or remove them where possible.

The legislature also instructed the DNR to launch a statewide planning process to prioritize water trails and low-head dam safety with input from the public and various experts, including rescue personnel, engineers, river scientists and fisheries biologists. Dams are being inventoried for whether they still serve their original functions, and for any additional functions they may perform.

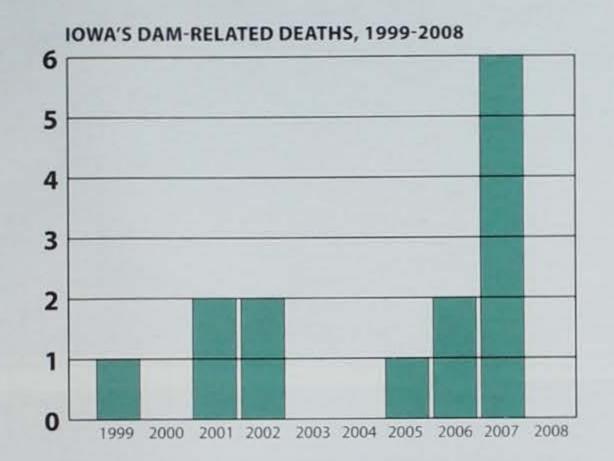
Beyond safety, a number of issues surround dams. Many of them limit biological productivity by separating streams into smaller, less diverse ecosystems. Then again, some dams act as important barriers to invasive species. For example, silver carp, a leaping fish with a voracious appetite, recently invaded the Missouri River. Dams on the Little Sioux River are likely the primary reason these fish haven't entered the Iowa Great Lakes system, where they could be

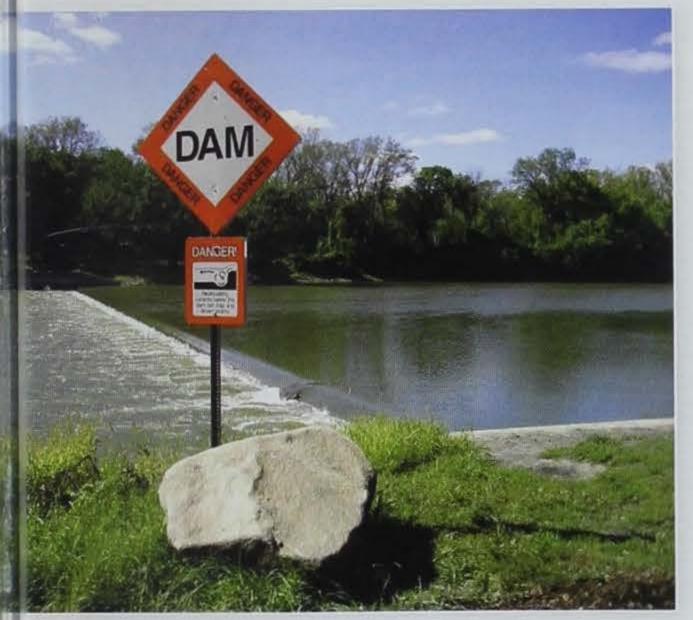
a serious nuisance. Other dams, with the pools they create, may assist the downstream spread of invasive zebra mussels.

Other dams back up large reservoirs, such as Red Rock Lake or Coralville Lake, which serve flood control and major recreation functions. Many of them form popular local fishing holes.

It's sometimes assumed that simply removing dams is the preferred solution. Maybe, maybe not. Sediments locked behind the dam may be a problem if released. Infrastructure like bridges or water supplies may be upstream. Careful analysis is needed before settling on a solution.

In some cases, the best scenario may be re-designing dams with a rapids downstream, to eliminate the "Drowning Machine" effect and restore biological connections that fish and mussels need to access habitat, feeding areas and nurseries. This does little for silty pools





upstream, but may be the most acceptable solution for a given community.

Midway through the planning process, it has become apparent that individual dams will require unique solutions. In some cases, proposed safety solutions will be warning signs and other measures such as cabling or railings. In others, physical modifications to the dams with accompanying river restoration will be preferred. But it's increasingly clear that many communities are interested in mitigating the hazards and restoring rivers where possible.

Nate Hoogeveen is the River Programs Coordinator for the Iowa DNR.

We'd love to hear what you think. Send us your input for our statewide plan at http://creekcommunities.design. iastate.edu/Water\_Trails.html.

#### OUT OF SORROW, SURVIVORS WARN OF THE UNKNOWN TRAP BY ANN CANNON

It was supposed to be a fun Sunday afternoon on the river. Three sorority sisters put their tubes on the Des Moines River. What they didn't know was that a trap lay ahead.

The drop-off was slight—a little more than a foot—and didn't look dangerous. But the roiling water below the dam pulled the young women under and held them in its current. Two escaped with their lives; Megan Pavelick did not. She never regained consciousness. She was this dam's latest victim.

Megan became a statistic. But I knew her as so much more. She was my roommate and my sorority sister. All of the young women tubing that day are my sorority sisters. Megan graduated from Valley High School in West Des Moines in 2002. In May 2006 she graduated with a marketing degree from Iowa State. She loved cheering on the Cyclones at basketball and football games, and traveling with her many friends. She had a tight-knit family. Megan and I had movie marathons. We spent hours talking about boys, classes and parties. Megan was full of life and love and laughter. July 9, 2009, marks the third anniversary of her death.

People often conclude that dam victims are drunken. But Megan hadn't been drinking. Her primary mistake was simply being unaware of the dangerous underwater currents dams create.

I learned that her death was not just a fluke. This tragic event happens across the state with heart-breaking regularity. I knew I needed to get informed and get involved. I've taken the responsibility to become a board member of the lowa Whitewater Coalition, which advocates new solutions at low-head dams.

It also made me more aware of other cases. There was the Waterloo businessman on RAGBRAI who drowned at a small dam at Independence in 2007. In 2002, there was Steven Nourse who kayaked over the Scott Street Dam in Des Moines and drowned. The hydraulics of the dam were so powerful that his body was too dangerous to retrieve from the dam and was held fast until almost a week later, when the body was recovered several miles away. His family and friends were finally able to end their weeklong vigil at the site and held a funeral. He was the brother of Julie Mankel, a fellow board member of the IWC.

Imagine our horrified surprise at seeing two college students on television in an inflatable raft rescued after 30 harrowing minutes struggling against the hydraulics at the same Des Moines dam. Or at an additional drowning there later in the summer of 2007.

Now with Megan's death, there is more potential to make a case for dam renovation and possible changes in the regulation of these dangerous dams. We've come a long way in understanding this problem, education and addressing safety problems at some dams. My hope is that more people will get involved, and that in the future, this hazard will be a distant memory.



Ann Cannon formerly served with Iowa DNR's AmeriCorps program, and worked as an interpreter at Maguoketa Caves State Park and as an assistant with the wildlife diversity program.

Ann Cannon, left, with Megan Pavelick.



walls led the way to Dick's Bait Shop in Cedar. Falls, The two-room shop was "loaded to the gills" with bait, tackle, camping equipment, pop... and advice on what was biting until the Flood of '08. The nearby Cedar River inundated Dick's with mud and floodwater, rising past the street address number above the doorway.

## The Back Road

BY JOE WILKINSON PHOTOS BY BRIAN BUTTON AND JOE WILKINSON

# BATP



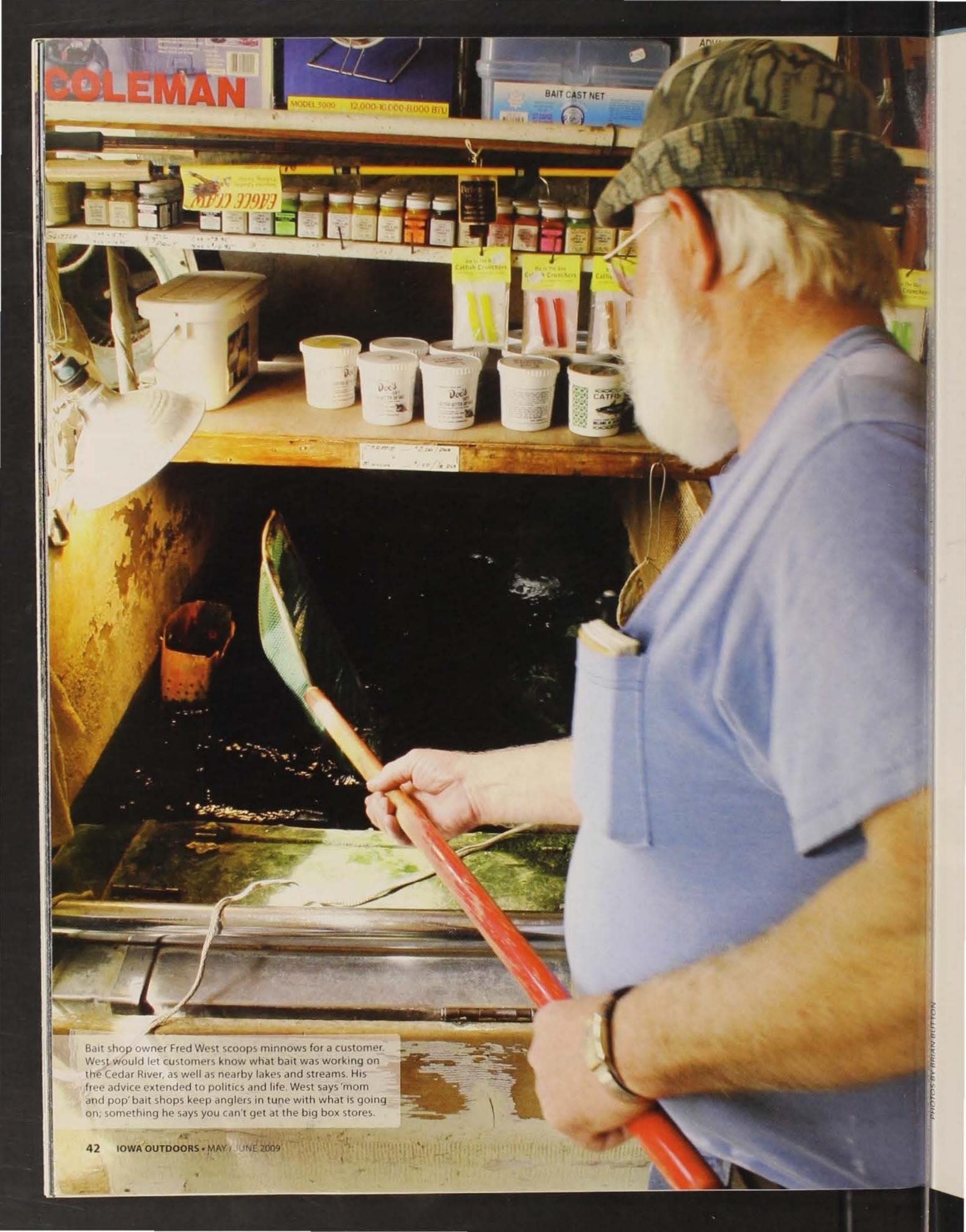
It might be the big box store, with 15 of everything, as well as clothing, jewelry, auto supplies and groceries. It might be the marina where you launch your boat. Or it might be an obscure bait shack, the one that's always been there.

You don't leave home without your wallet nor do you go fishing without checking the pulse of local anglers.

Those back road bait shops not only offer conversation from opinions about the economy or last night's ballgame,

but most of all, they offer tips on where fish are biting and what it takes to catch them.

Anywhere you fish across Iowa, there are places like that, the lakeside bungalow bait shop near the boat ramp, the third generation store on the county blacktop or a brightly lit full service shop on Main Street. This is by no means a "best-of" ranking. As I talked with anglers and fisheries experts, though, they steered me toward some great places. I could start again tomorrow and come



up with a brand new list. For now, though, let's stop in and see if the coffee's on.

#### DICK'S BAIT & TACKLE, CEDAR FALLS

Everybody knew where Dick's was. Fishing the Cedar River? George Wyth Lake? Anywhere around Cedar Falls? Fred West (he worked for Dick, eventually bought it and kept the name) could tell you what's biting. But mostly, he'd tell you what he thought...about anything. If you didn't like it, you could leave. Some did. Most would stick around.

His two-room garage was stocked to the ceiling with tackle. Walleye spinners and barrel swivels hung on the pegboard above the propane canisters. The old Pepsi menu board listed bait; nightcrawlers and minnows that you might pick up about anywhere. Here, your choices included "leaches" (spelling is not a priority), turkey liver, clams or frogs, too.

"You need to understand the bait. Most other (big) places handle damn little live bait, like minnows and crawdads. They don't know what to do with them!" preaches West, his voice rising incredulously as he explains the exact water temperature for keeping minnows. "Most of the anglers know more than you anyway. You got to listen to them, you got to listen with your mouth open...and your ears shut."

With free advice like that, plus his opinion on any political issue from city council to the federal deficit, you didn't just buy bait or tackle at Dick's. You bought an experience. The anglers kept coming back; another scoop of minnows, some 6-pound line...and a tip on where they're biting this week. Tough economic times couldn't get rid of him. Neither could competing businesses. But the river may.

West knew the Cedar River like the back of his hand, right up to the day last summer, when it rose up and backhanded him. "It flooded up to the top of the light fixture; 7 1/2 feet. Sure, go ahead and look inside," nodded West on a hot summer day. He lit another cigarette as he sorted debriscaked tackle at a makeshift table outside the shop.

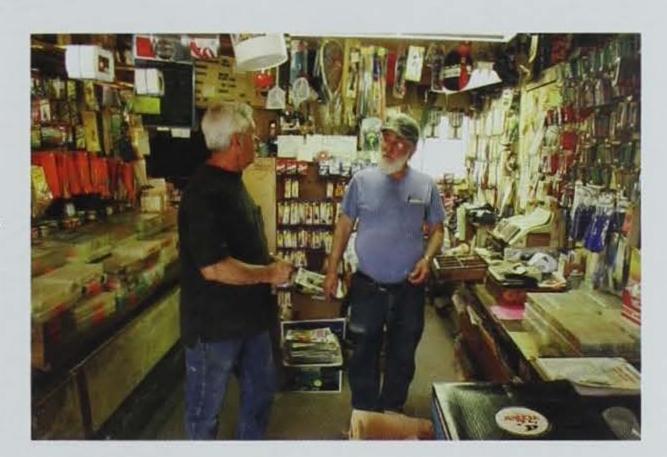
Matted streaks of shelled corn lay underfoot; washed over from the elevator across the street. Up and down the road, debris in the yards and tell-tale dirty streaks showed how high the Cedar River had risen. By midsummer, it was a mud-caked mess; people salvaging what was left. In the tackle shop, that wasn't much.

It was hard to see the high water mark. That's because nearly the whole building was underwater. Inside, rows of metal pegs were empty. Hundreds of packets of jigs, swivels, hooks, lures and other tackle had just washed off as the water rolled through. A few remained, filled with the fine silt that settled on everything. The ancient, brasskeyed cash register still sat on one of the muddy benches. Plastic catfish-bait cartons sat above empty bait tanks.

"Clean up and sort it out. Salvage what I can. You wanna buy 1,000 treble hooks? They're all rusty," deadpans West. Will he renovate or rebuild? "I've thought about it every day," he admits. "Then I look at the high water mark and say, 'you dummy.' We may not have seen

her worst! The river might come up 6 feet higher (next time)." He spent months after the flood sorting inventory; selling some ice fishing gear. As spring approached it did not look promising.

Part of the problem, West explains, was that his bait shop—like a lot of others—sits by the river, in an older, flood-prone neighborhood. "You need that low overhead to make it. In good times, it keeps you close to the resource. "You need to read the river," he explains. "Thirty to 40 percent of customers are river anglers. If the river goes beserk, you can go to the lakes. You're not tied to a specific body of water (where) if it goes sour, there goes your business."



#### J&L'S ONE STOP, HARPERS FERRY

This town of 330 swells to twice that on a good weekend. This is the upper end of Pool 10 on the Mississippi River. There's good bass fishing in the backwaters, walleyes, too. Most anglers are from out of town. They might have a summer cabin, but they have plenty of opportunities to stock up on boats, gear and other big ticket items before they back down at either the private marina or the county-run ramp in town.

Turn right off county highway X-52 to get to those ramps. Turn left for J&L's One Stop. And it is just that. Bait, tackle, licenses, gas? They're all here. Groceries, too? Laundry? Lodging? Car wash? Sure, after all, the sign does read "One Stop." How about its two-bay garage with a hoist? Not your typical bait shop.

But Joyce and John Grissom don't go head-to-head with the full-line outdoor stores. They carry what customers need now. A lot of times, it's information. "Right now, the northerns are going crazy," offers Joyce to a customer. Nearby, crankbaits are offered at 30 percent off. "But the grass on the river now makes it hard to troll. That's when maybe these jointed lures work better."

While some anglers might throw flashier spinnerbaits at them, northerns were attracted to the deeper running crankbaits throughout the summer last year, especially in nearby Harper's Slough. "It was a tremendous year. We have good northern populations up through here,"

J&L ONE STOP SHOP—Owner Joyce Grissom and bait shop dog Muttley, outside their Harpers Ferry store. From live bait tanks outside to the grocery store/tackle shop inside, anglers are well provisioned here, just a few hundred yards from the Mississippi River. Beyond the full-service garage—with hoist —are room rentals and boat winterization with on-site storage. emphasizes Guttenberg-based DNR fisheries biologist Scott Gritters. "It rivals, well, Minnesota lakes right now." Sometimes, the jigs and lures you pack along just don't attract the attention of all those Mississippi River fish. A trip to J&L's features terminal tackle that has been backwater tested. A wall is filled with one-eyed shiners produced across the river in Prairie du Chien by Mert Woll. "Nobody paints them like he does," underscores Grissom. "We carry a lot of his stuff because it works. We don't do much with trends-what IOWA OUTDOORS - MA



While she talks, Grissom gets up five or six times to wait on customers to sell a 12-pack and a license or a soda pop and cigarettes.

Earlier in the day she marked several likely fishing spots for vacationers from Winterset to try. Ryan King comes in for a couple of seven-day licenses, for himself and his wife. They and their toddler daughter just got Last fall, the parking lot was ringed with boats that had been winterized...another one-stop service. Inside, Steve, one of the locals, speaks of a great panfish spot. "It's out of the current. In the summer you can catch 40 panfish a day on these quarter-ounce jigs. Go as small as you can," he suggests. Information is currency. And the customers aren't afraid to share the wealth, either.

#### FIN & FEATHER, IOWA CITY

When his Fin & Feather Outdoor Store moved two blocks to the other side of Highway 6 on the south side of Iowa City in 1998, Roger Mildenstein's focus remained on the Iowa River, a couple blocks away. "Fishermen come in to get bait and then they head right to the river. We sell bait because we are a fishing shop as well as a general outdoor store. We have since day one, when I came here 30 years ago. My predecessor did too."

The river below Iowa City has a loyal following. "The walleyes were really stacked up in there; guys were two deep in spots, waiting for their turn," relays Mildenstein on a pre-snowstorm day last December. Still, it's not unusual for calls to come from Des Moines, Cedar Rapids and elsewhere, to ask what's biting on the Mississippi River, Lake Macbride, or the Coralville Reservoir. Iowa City might be a metro area—by Iowa standards—but it has great fishing prospects on all sides.

"Right now, they're catching lots of crappies through the ice on Macbride. A guy told us he kept 18 nice ones and threw about 60 back," offers Lloyd Bender on that winter day. He staffs the fishing department part time and is often a source of information. Bender fishes as much as he can, with Macbride and Coralville his first choices.

Those updates actually come from a bait shack—of sorts. When the store moved, part of the renovation included an indoor shack, tin roof, pseudo-chimney and all. That's where

the live bait is stored. "Our customers come in looking for information. We are a source for it," says Mildenstein. "And it goes both ways. If the same guy comes in buying minnows three days in a row, you know he's catching fish. (That gets) relayed along to other anglers."

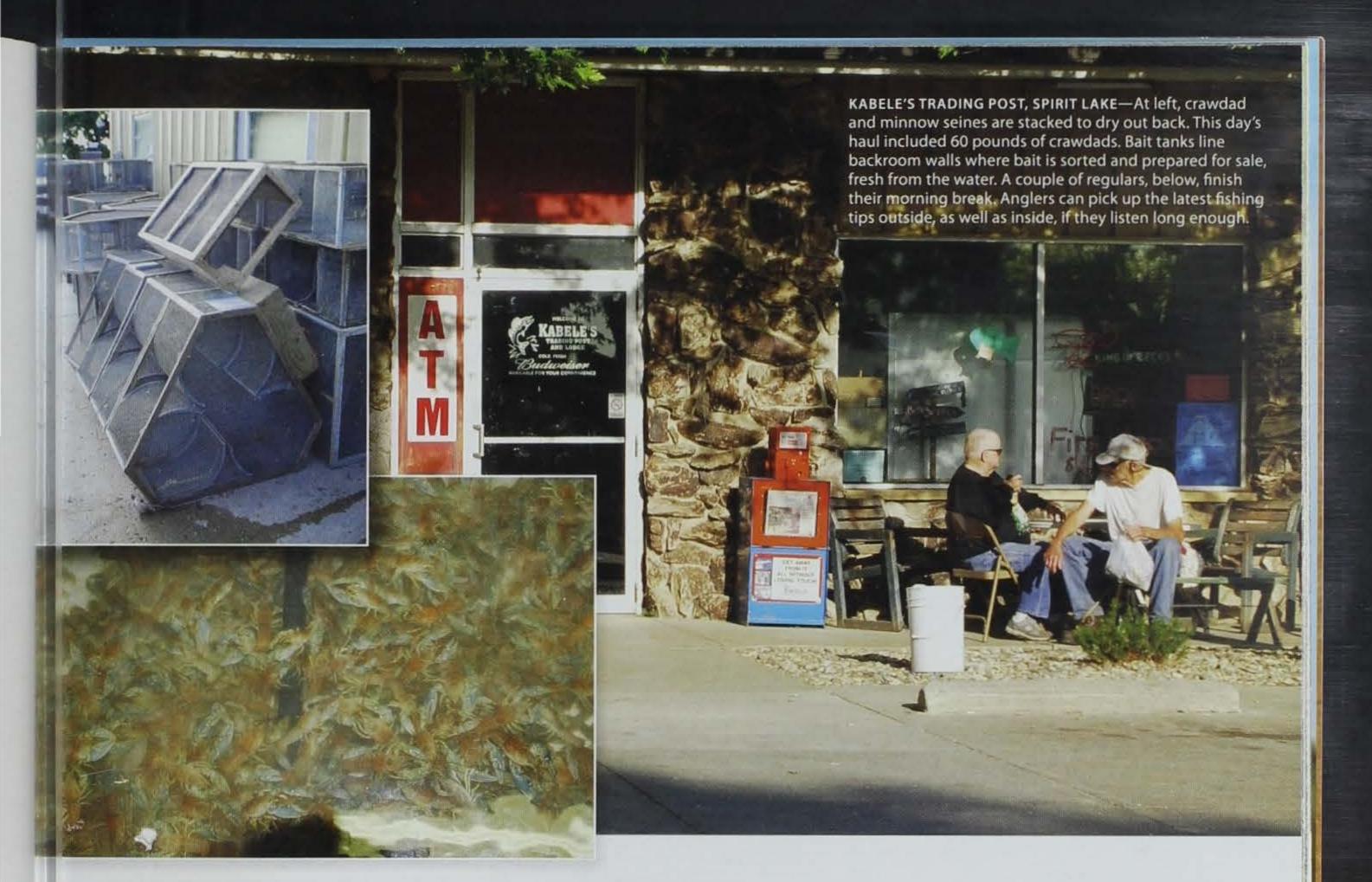
#### KABELE'S Trading Post, spirit lake

In Iowa's Great Lakes region, there's no shortage of bait and tackle shops. Catering to a crowd that is huge on outdoor recreation, these shops are big to small and include factory outlets, guide services and tackle shops. You can buy a card of jigs and rent a room at some and buy a trolling motor or an open face reel at others. Some offer bait that just an hour ago resided in the lake.

On a summer morning, two regulars wrap up a morning coffee and bull session outside Kabele's, on Hill Street on the north side of the town of Spirit Lake. The store sits on the north end of East Okoboji Lake, almost between that lake and Spirit Lake itself, Inside, you can follow your nose to the popcorn, looking over the variety of tackle, bait and equipment.

Poke around the back rooms, though, and it's not hard to spot what co-owner Fred Johnson sees as their advantage. "We seine our own bait here. We don't buy it off a truck, two, three or four days after it was shipped," says Johnson. In a holding tank, 60 pounds of crawdads wait to be sorted and sold. They came out of the





seines-baited with cut carp-that morning. Against the back of the one-story building lie a couple dozen wood frame and wire mesh traps. "It takes time, effort and a lot of work," underscores Johnson. "We've been here 40 years. Everybody knows what we have. They don't have minnows or chubs at (the big box store)."

And if you want fish stories with location tips this is your place. Johnson points to the lake area where the walleye bite had been very good over the last two weeks. "The perch are biting, too. It's been a good month on the weed lines. A lot of fishermen are using shad raps now; the 5s, the 7s." Do they (the big stores) know where the fish are biting? No."

In language often saltier than the popcorn in the store, Johnson downplays any inventory advantage; any pricing breaks that the "big guys" boast of. "If you're looking for a deal at the warehouse size stores, we'll compete with any of them."

And in winter, when the water turns hard, there's still plenty of fishing action on the big lakes. The product line just shifts. All those ice shacks hold cold weather anglers who need everything from fish finders, to augers to waxworms and a suggestion for where to find 'em this week.

#### WHAT Brings 'em Back? ATTENTION TO DETAIL...

That fresh bait...for a price, and information...free for the asking, are part of the appeal of classic bait shops. Much like neighborhood gas stations of yesteryear that pumped gas, checked tires and looked under the hood, you develop a comfort level and a relationship.

The best of those "back road bait shops" provide what you won't find down the road; whether at a big box store, or just the next Mom-n-Pop corner store. It might be crawdads that think they're still in Spirit Lake. It might be the only groceries for 15 miles and the lure. Perhaps it's a lead on where the crappies are biting on Lake Macbride.

"This is where the 'fish stories' get told. There's a lot of that," supposes Mildenstein.

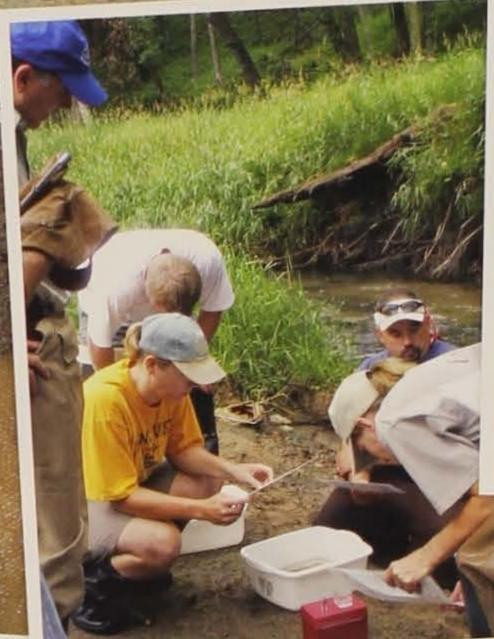
It's the intangibles. And often, they're free. 🗪



## ABUGS HEE

Using Aquatic Life as Messengers of Water Quality

STORY AND PHOTOS BY KAREN GRIMES





Examining a stream's aquatic life may be the best way to take its pulse. Sampling only the chemical or physical traits of a stream gives just a fleeting look at the indicators of stream health.

treams talk. They babble, they gurgle. They ripple and splash. This small stretch of stream makes a sharp U-turn, digging away at the base of the bluff, lapping against a sandy beach on the inside of the turn.

Its gentle melody plays in the background as children giggle and splash. But wait—these aren't children wading in bare feet and scruffy cutoffs. These are adults in hip boots and chest waders, using nets and fingers to overturn rocks and dig into bottom sediments, seeking small critters that reflect the stream's condition.

They are foresters, biologists, conservation professionals, a private engineer and a city elected official. They have a common love of the land and desire to improve stream health. Improvement comes from understanding, so these professionals are learning more at the three-day Stream and Watershed Integrated Management (SWIM) workshop.

By their inherent nature, streams are moving targets. To learn about water quality in a stream, a student must move with the water or return repeatedly to the same spot, taking measurements and samples in all seasons. Even then, "You cannot step twice into the same river,"

as Greek philosopher Heraclitus wrote around 500 B.C.

Capturing aquatic insects and other invertebrates is one way to evaluate the ever-changing nature of streams. Identifying, sorting and recording the frequency of stream invertebrates tells these students that Springbrook Creek is ailing. The lack of caddisflies and mayflies, coupled with abundant aquatic sowbugs, suggest a water quality problem. Sowbugs, bloodworms, leeches and other pollutant-tolerant invertebrates thrive in streams that are rich in nutrients, choked with algae or have periodically low oxygen levels.

The students move to a fisheries station, electrofishing to see what fish species flit around this central Iowa stream which flows from a tile outlet to the Middle Raccoon River. Then it's on to a physical and chemical assessment of the waters, beds and banks. Measuring dissolved oxygen, pH, nutrients, bottom sediments, stream width and depth—streams are complex systems—the list is long. Deciphering the types of plant life and food available for animal life and identifying the mini-ecological niches such as riffles, deep pools and undercut banks are aides to



SWIM workshops are held in July at Springbrook Conservation Education Center in Guthrie County. Learn more at www.iowadnr.gov/education/swim.html.



Aquatic critters are like a melody playing against a symphonic harmony of geology, physical setting and water chemistry. The resident community of aquatic invertebrates and fish sums up the interactions of the stream's potential with its landscape and human activities on that landscape over time. A healthy stream has animals that waltz only in pollutant-free waters. An unhealthy stream, inundated with excessive nutrients, organic matter or siltation, is frequented by pollutant-tolerant species like sow bugs, filamentous algae and creek chubs.



understanding. At each station, students gain knowledge.

The work begins in the classroom where instructors from Iowa State University, DNR, Iowa Department of Agriculture and Land Stewardship, and Natural Resources Conservation Service introduce relationships between a stream's geology, energy, landscape and ecology.

Geology is the backbone of a stream. Just as a human skeleton determines a person's height, geology provides the framework that determines many of the physical and chemical characteristics of a stream. For example, streams in the karst topography of northeast Iowa are fed by cool groundwater, allowing them to support trout through Iowa's hot summers. Poor drainage and many natural lakes and wetlands shape the warm, slow-flowing prairie streams in the recently glaciated Des Moines Lobe. Whereas streams in the steep loess hills of western Iowa are subject to downcutting and gullying.

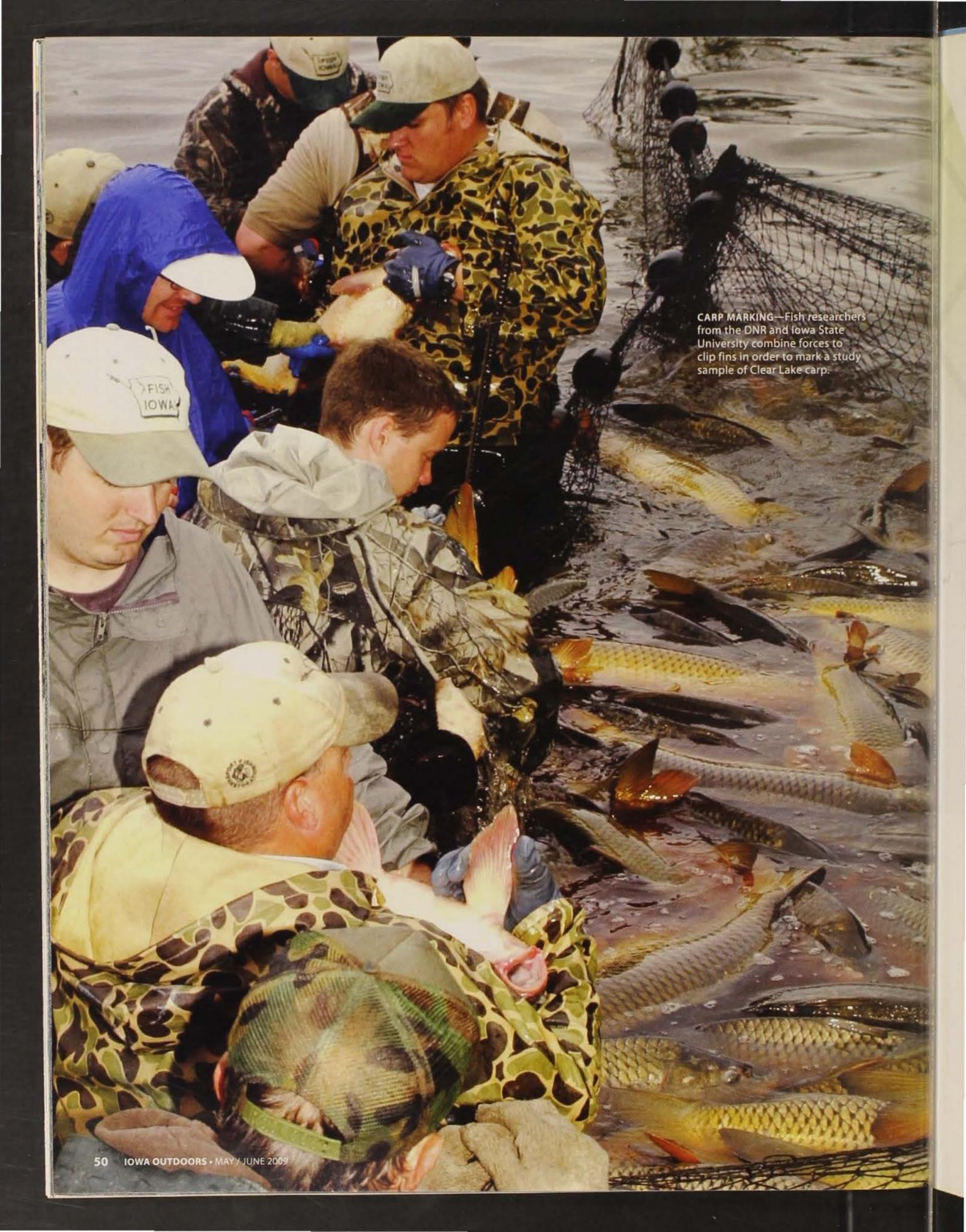
Classroom learning is no substitute for experiential learning, as the class discovers on a hot afternoon tromp through cropfields, pasture and woodland to compare two stream segments—one shaded by a narrow strip of trees

and one in the midst of a cattle pasture.

For licensed civil engineer and surveyor Gary Casady with TeKippe Engineering of West Union, this in-the-field, hands-on experience augmented his expertise with urban storm water detention and pollution prevention plans on construction sites. He's been to expensive engineering seminars costing upwards of \$1,000. But in this threeday, \$75 workshop, he learned, "It's not necessarily the color of the water, it's what can survive out there that determines the quality of the water.

"As a design engineer," he says, "it's become absolutely necessary to understand and evaluate the downstream quality of a stream both pre- and post-construction." It was a revelation to him that he could learn more about a stream by slipping on a pair of hip boots and turning over some rocks than by sending water samples to a lab.

Streams are complex ecosystems with constantly varying inputs. Like listening to the many notes, rhythms and instruments that make up a symphony, understanding a stream requires examining many intricate and interrelated plant, animal and human actions that influence its health.





## Carp Roundup

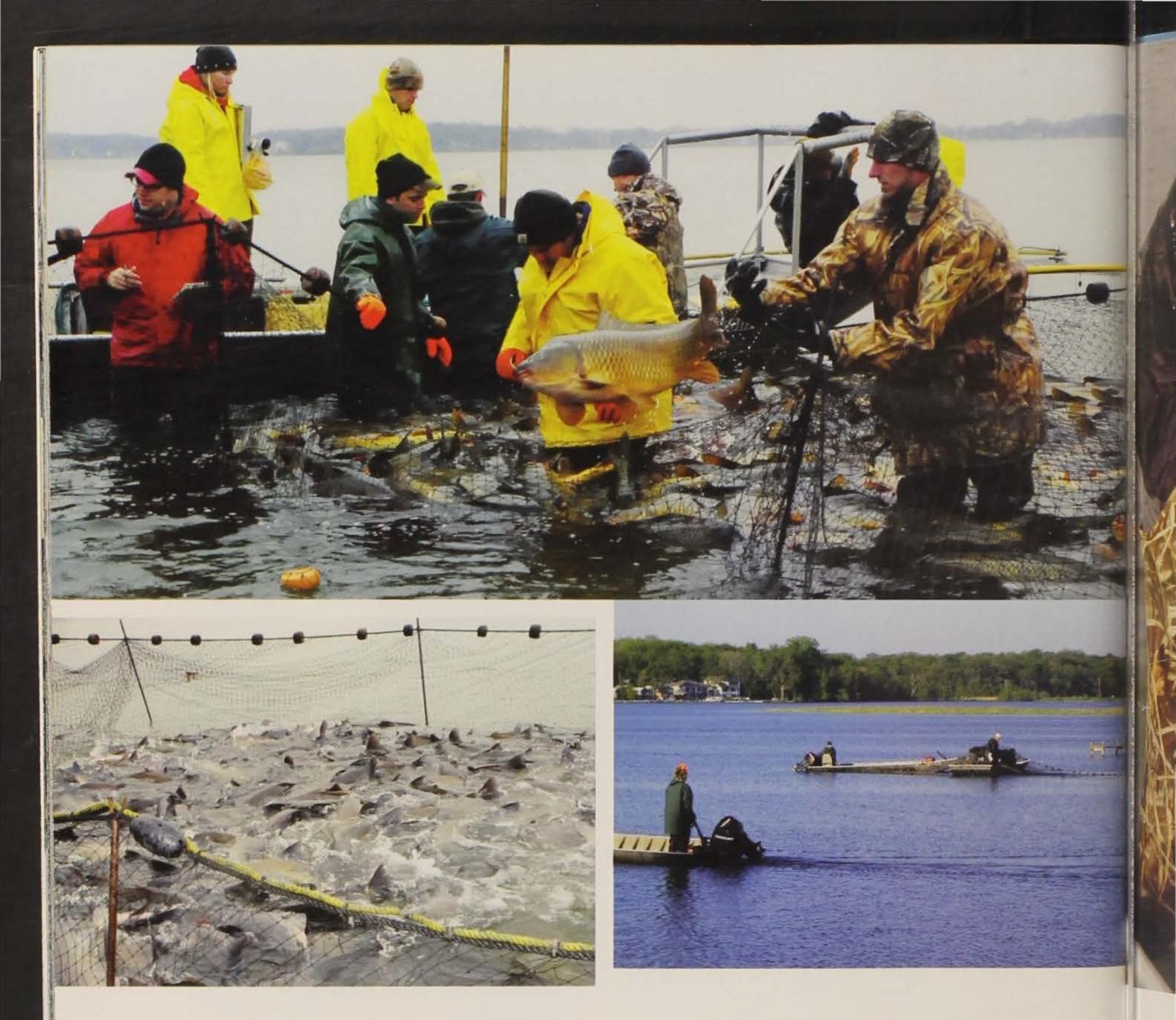
New Tools Give Biologists an Edge Over 20 Tons of Carp

STORY AND PHOTOS BY LOWELL WASHBURN

f you're a card-carrying member of Carp Haters Inc., don't worry about it. You've got plenty of company and, in this particular case, your emotions are completely justified.

Although common carp were introduced in the 1800s with the very best intentions, few blunders have had greater negative consequences to aquatic ecosystems and native sport fisheries. Carp uproot and destroy valuable aquatic plant communities, reduce water clarity, out-compete and displace native game and forage fish, and drastically contribute to increased phosphorus levels. But let's skip all the sugar and tell it like it is. When it comes to American waters, the common carp is just plain evil-period.

As is the case with most natural resource agencies, the DNR has been battling carp for decades. Fisheries workers have installed mechanical barriers to restrict carp movement, poisoned lakes and fish nurseries,



implemented large scale in-house netting campaigns, and recruited commercial fishermen to harvest adult populations. To date, each and every effort has failed. Most have failed spectacularly.

But this dismal picture may be changing. At Clear Lake in Cerro Gordo County, the combined results of recent efforts involving DNR fisheries biologists and Iowa State University researchers offers the first rays of hope in the ongoing Carp Wars.

"Clear Lake is north-central Iowa's largest natural lake and most important fishery," says DNR Fisheries Biologist Scott Grummer. "But the lake does have issues such as water clarity, nutrient loading, zebra mussels, and, of course, common carp."

Work has begun on a \$9 million lake restoration project that includes high profile activities such as watershed enhancement and the dredging of the west end's "Little Clear Lake."

"We're also looking at single biological issues such as the control and impacts of things like zebra mussels and carp," says Grummer. First they needed to figure out the lake's carp population. "Our first step was to team up with researchers from Iowa State University and implement a mark and recapture study." Then Ralph Mahn, a commercial fisherman from Harper's Ferry, was contracted to aid in the project. His crew captured a significant sample of around 6,500 adult carp during the springs of 2007 and 2008.

Following capture, each carp was permanently marked by removing a single swim fin, says Grummer. Commercial netters were paid market value for the fish. What happened next was nothing short of amazing.



FAR LEFT: DNR and ISU researchers search for marked carp during a 20-ton seine haul conducted at Clear Lake last November, FAR LEFT BOTTOM: Ralph Mahn of Harper's Ferry and his commercial net crew lays out seine nets. LEFT: ISU fish researcher, Eric Katzenmeyer weighs an 18-pound carp. BELOW: Researchers clip fins to mark a sample population used to help determine the overall carp population in Clear Lake, which is 180 pounds of carp per surface acre of lake.



Instead of loading the despised fish onto trucks for immediate shipment to New York City fish patty factories, net crews collected their money, then released each and every adult carp back into Clear Lake. To say this novel approach raised eyebrows and provided spirited conversation at Main Street coffee shops would be an understatement.

Although initially regarded as controversial by some, the fin-clipped carp ultimately provided the information biologists needed to estimate the population. In late November, Mahn returned to Clear Lake and successfully netted more than 20 tons of adult carp. Once corralled, fish researchers examined each fish for missing fins. As biologists recorded the number of fin-clipped fish recaptured, they were able to compare "control" fish with total numbers netted to determine lake populations.

But on this go-round, "control" carp weren't as fortunate as before. This time, instead of being released back into Clear Lake, the unwelcome bottom feeders were trucked to New York City markets and converted to those famous frozen fish patties.

"What we discovered through the effort was that Clear Lake is currently supporting a carp population of around 180 pounds per surface acre, and that those fish average around 11 pounds in weight," says Grummer.

During the 1990s, carp population estimates ran as high as 400 pounds per acre at Clear Lake. And as numbers have shown a steady reduction over the past decade, biologists are cautiously optimistic they may be on to something.

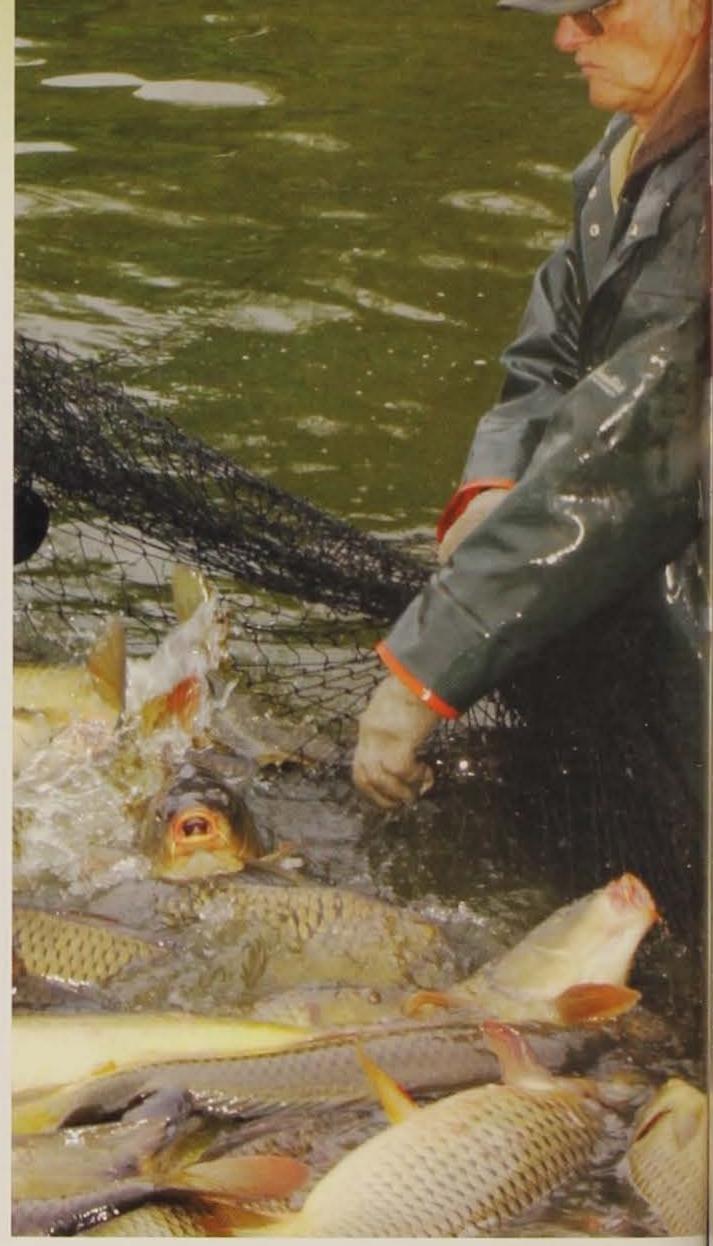
"What we're learning is that you have to come in hard and fast to have an impact," says Grummer. "In most





walleye and yellow bass caught while wading at the Clear Lake Island. In addition to taking his limit, Britt caught and released several walleye. Despite residing in The Land of 10,000 Lakes, Britt makes frequent excursions to Clear Lake. "I usually have my best success here during spring and summer," says Britt. "I also do a lot of fishing in Minnesota and my friends give me grief over coming down here to fish. I just tell them, 'That's OK. You guys just stay up here and I'll keep going down to Clear Lake and catching fish." Twenty-five of 27 anglers on the island that day caught fish, and most took limits of walleye. RIGHT: Commercial fisherman, Ralph Mahn of Harper's Ferry, hauls in carp. His commercial net crew has assisted in the ongoing carp study, capturing over 20-tons.





cases, even large-scale efforts like commercial fishing is just harvesting the surplus and not reducing the population."

"Research shows that to affect a carp population you need to come quickly and physically remove at least 50 percent of the fish," Grummer says. "If you have a population of 400 pounds of rough fish per acre it won't work to take half of them over five or 10 years. That's just farming the lake for fish. But take out half of them in a short period of time and carp begin to suffer."

But large-scale netting is only a single component. Stifling reproduction is key to long term success.

"There aren't many predators out there that can take a 10- or 11-pound carp. You need nets to physically remove that segment of the population," says Grummer. "But once you begin to have a significant impact on adults, you need to aggressively work at the other end to thwart reproduction among survivors. Young carp need to be suppressed by predators. Simply removing big fish with nets is not a cure. To be successful, you need to impact reproduction. Having enough predator fish to suppress carp recruitment is critical to success."

Regardless of where they occur, all thriving carp populations need a "point of origin." At Clear Lake, this is Ventura Marsh. Located at the lake's west end, this 450-acre wetland provides an ideal spawning ground for rough fish. Carp have had such a devastating impact on aquatic ecology that Ventura Marsh no longer functions as a true wetland. Instead of clarifying and cleansing the water of pollutants before entering Clear Lake, the marsh actually contributes to the lake's nutrient loading. During some years, Ventura Marsh actually dumps more phosphorus



#### IN ORDER TO CATCH FISH, YOU FIRST MUST FIND THEM.

In order to maximize commercial netting efforts during Clear Lake's ongoing carp study, Iowa State University fish researchers used radio tracking to keep tabs on how the lake's burgeoning carp schools traveled during open water and winter seasons. Over two years, 50 adult and 50 juvenile carp were implanted with transmitters, shown below, weighing 25 grams. LEFT: ISU fish researcher, Chris Penne, implants a radio transmitter into a carp. Radioed fish were released to rejoin roving schools and the chase was on.

Researchers followed the fish with boats during summer and then snowmobiles during winter. Fish movement, school densities, water depth and habitat use were recorded during each season.

Carp are creatures of habit. When commercial netters returned to Clear Lake, the information gained by researchers helped anglers quickly locate large numbers of fish. Late last November, commercial netters located and captured more than 20 tons of carp during a single effort.





into Clear Lake than all other sources combined.

Although metal grate barriers have helped exclude adults, at least some carp manage to successfully spawn in Ventura Marsh each year. During high water, thousands of fingerling carp migrate back into Clear Lake, become adults, and repeat the cycle.

"At Clear Lake, the words 'carp recruitment' are synonymous with Ventura Marsh," says Grummer. "In order to effectively control carp in Clear Lake, we also need to effectively manage the marsh."

A dramatic example occurred during the summer of 2000 when Ventura Marsh received an aerial application of rotenone, a chemical that kills fish by impairing their ability to pull oxygen from the water, but is harmless to birds, mammals and reptiles. Within days of treatment, the murky waters of Ventura Marsh became crystal

clear. With turbidity eliminated, submergent aquatic plants sprouted. Unfortunately, the success was short lived. Carp returned, phosphorus increased, clarity decreased, and marsh water resumed its former pea soup consistency. With that valuable and dramatic lesson in mind, aggressive management of the Ventura Marsh has become a priority component of Clear Lake's restoration project.

"Carp are just a single factor in a variety of complex water quality issues facing Clear Lake," says Grummer. "But I think that one of the things that make this study so important is that carp are a major water quality and fisheries consideration in so many other places. If we can find ways to have success in suppressing carp numbers in a lake as large as Clear Lake, then perhaps the model can be refined and used other places. That would be huge." Boating – Swimming – Fishing – Hunting – Camping – Trails – Festivals – Arts Sprint Car Races – Dutch Heritage – Agriculture – Culture – History & More!

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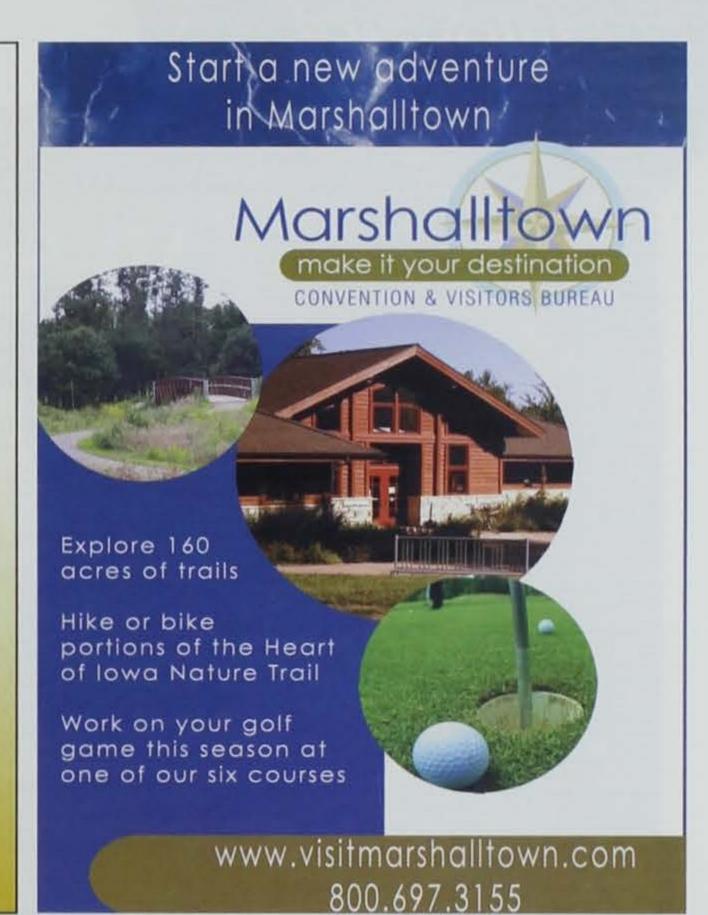
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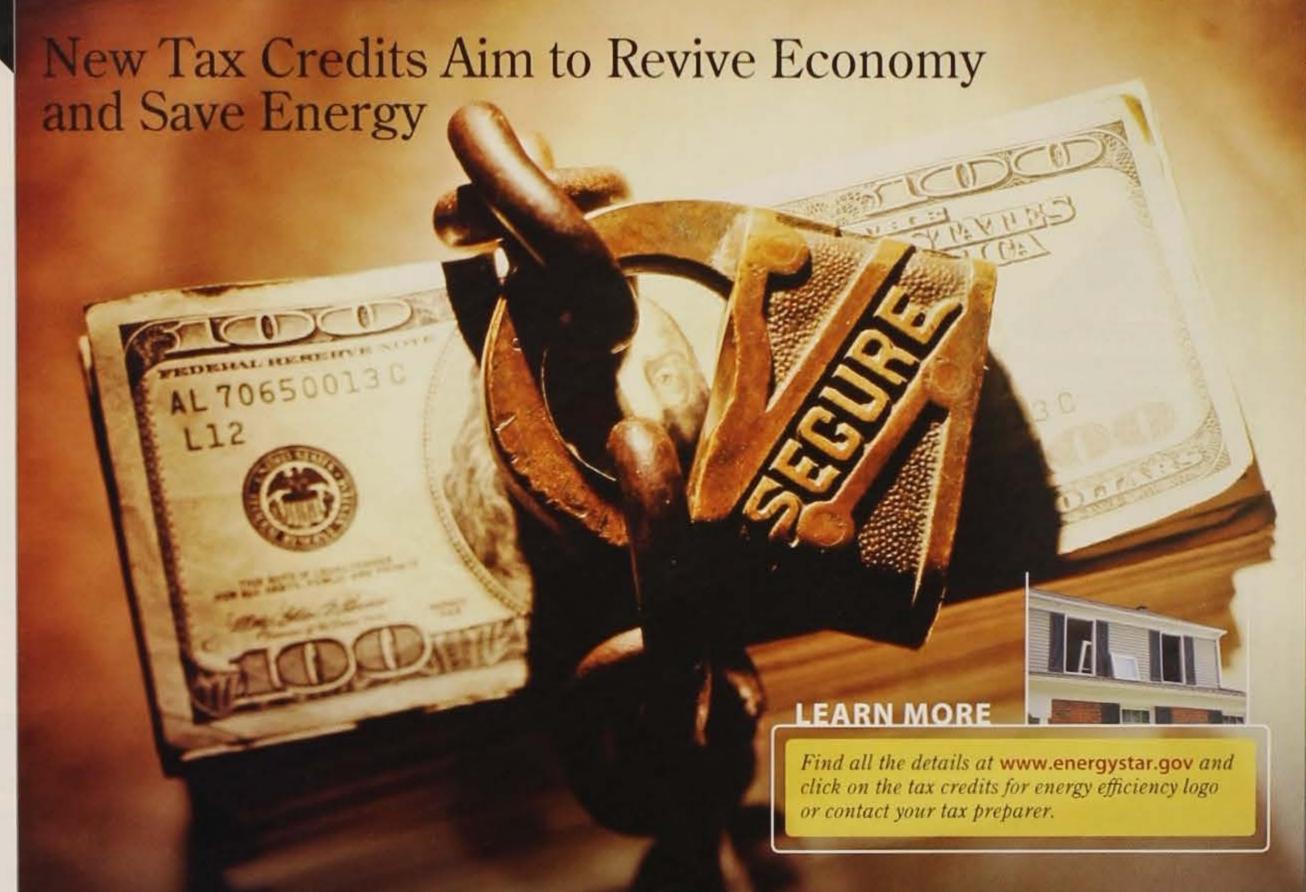




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### My Backyard

BY BRIAN BUTTON



n tough economic times, saving versus spending gets thorny.

People tend to hoard money in downturns, which complicates economic recoveries as less spending leads to more layoffs when products and services are not in demand. It leads to a vicious cycle.

Add the thought that overspending, cheap credit and living beyond our means is blamed for the current economic difficulties, and the mantra that Americans don't save enough, it begs the questions, "Should we save our money or spend?" And what connection is there to the environment?

"There are a few ways to help both your own finances and the country's," asserts David Leonhardt, a columnist who pens Economic Scene in the New York Times. "The first involves figuring out how to spend money now to save money later—which can lift the economy today and help individual households cope with their battered finances in the long run."

He and others cite the purchase of programmable thermostats, insulation, efficient light bulbs and other efficiency goods. These ideas make even more sense with new tax credits in the federal stimulus bill signed last February. It extends or increases numerous incentives for both existing and new homes and businesses too.

#### NEW TAX CREDITS FOR ENERGY EFFICIENT HOME IMPROVEMENTS

On February 17, 2009, President Obama signed a stimulus bill, The American Recovery and Reinvestment Act of 2009, that made significant changes to the energy efficiency tax credits. Highlights are:

- Tax credits previously effective for 2009, extended to 2010.
- Tax credits raised from 10 percent to 30 percent.
- Tax credits that were for a specific dollar amount have been converted to 30 percent of the cost.
- The maximum credit is raised from \$500 to \$1,500 for the two years (2009–2010). However, some improvements such as geothermal heat pumps, solar water heaters and solar panels are not subject to the \$1,500 maximum.
- The \$200 cap on windows has been removed.

#### HOME IMPROVEMENTS

Tax credits are now available for home improvements:

- Must be "placed in service" from Jan. 1, 2009 through Dec. 31, 2010
- · Must be for taxpayer's principal residence
- Maximum amount is \$1,500 in 2009 and 2010 for most home improvements (geothermal heat pumps, solar water heaters, solar panels, fuel cells, and windmills not capped)
- For record keeping, save your receipts and the Manufacturer Certification Statement, or for windows, save the ENERGY STAR label from your new windows
- Improvements made in 2009 will be claimed on your 2009 taxes (filed by April 15, 2010) using IRS Tax Form 5695 (2009 version) available late 2009 or early 2010
- New home construction qualifies for the tax credit for photovoltaics, solar water heaters, small wind systems and fuel cells, but not the tax credits for windows, doors, insulation, roofs, HVAC, or non-solar water heaters.

#### Serbian-Style Baked Carp

Large and plentiful, carp are a fish prized across much of the world for mild flavor and ability to rip the line off a reel. Making a comeback as a worthy game fish, especially among fly-rod anglers who call it the freshwater equivalent of the bonefish, this recipe is simple and filling.

2 pounds potatoes—cooked and sliced.

(We leave the skins on, because we are Earthy types.)

2 pounds carp fillets with red meat discarded

3 ounces bacon

5 tablespoons flour

2 teaspoons paprika

6 tablespoons butter

2 medium green bell peppers, chopped

2 large tomatoes, chopped

2 large onions, chopped

1/2 cup sour cream

Wash and dry potatoes and pierce skins to allow moisture to escape. Cook potatoes whole in a microwave (usually two large potatoes for 11 minutes) or coat with oil and bake in 350° oven for one hour.

Wrap fillets with bacon. Mix flour and paprika together and use to coat fish. In heavy medium skillet, melt butter and sauté bacon-wrapped, floured fish pieces for one minute per side on medium-high heat.

Heat oven to 350°. Slice potatoes and layer into a oil-coated baking dish, top with fish, peppers, tomatoes and onions. Add sour cream over the top. Bake for 35 minutes at 350°.

> Mississippi River near Pikes Peak State Park

#### Wild Tuisine Kitchenside

BY BRIAN BUTTON PHOTOS BY CLAY SMITH





Returning to his roots, Chef Patrick Koffman fled Colorado, returning home to Albia where he now heads a massive kitchen at Honey Creek Resort State Park capable of handling weddings, conventions and hundreds of guests in the restaurant, bar and outside patio. His local touch includes an herb garden to supply bold flavors and desire to expand lowa products on the menu, including farmfresh local vegetables, cheeses and wines.



#### Discover the Relaxed Elegance of Classic Resort Dining

INDOORS OR OUT, THE DINING AT HONEY CREEK RESORT STATE PARK IS FRIENDLY THANKS TO SUNSHINE, LAKE AIR AND THE SOOTHING CLASSIC OLD-STYLE LODGE DECOR.

There aren't many places in Iowa where one can watch jaunty captains dock their sailboats then saunter up the path to eat dinner. Here is one such place, where patrons bask on a massive deck-chair-lined wrap-around patio overlooking the lake or eat fish and chips with a pint in the lounge.

#### PAN-SEARED PESTO-CRUSTED WALLEYE

#### Pesto

14 cup fresh basil leaves, packed
1 garlic clove
1/2 cup panko bread crumbs
1/4 cup grated parmesan
2 tablespoons pine nuts, toasted
3 tablespoons olive oil

Place all ingredients into food processor and mix until minced.

#### Walleye

2 walleye fillets (6-8 ounces, skin off) ½ teaspoon Old Bay Seasoning 2 tablespoons olive oil

Seasoning. Heat olive oil in a large sauté pan over medium-high heat. Sear the walleye about three minutes on one side. Spoon the pesto on the fish and lightly pat down. Flip the fish, pesto side down. Sauté for another three minutes or until pesto is browned. Serve fish pesto side up.

#### WALLEYE FINGERS & CHIPS WITH REMOULADE DIPPING SAUCE

The kitchen staff hand-cut their potatoes razor thin using a mandolin cutter.

#### Walleye

1 6-8-ounce walleye fillet, skin off and deboned

1/2 cup cornmeal

1 teaspoon Cajun seasoning

1/2 cup flour

1/2 cup cream

2 russet potatoes

Heat deep fat fryer to 350°. Cut walleye in approximately 1-ounce strips along the length of the fillet. Combine the cornmeal and Cajun seasoning. Dredge walleye strips in flour first; cream second and cornmeal third. Carefully place the walleye into the oil and fry for approximately three minutes until the walleye starts to float. Drain on paper towel.





"You can't get a bad view of the lake here," says Chef Patrick Koffman of the restaurant and bar interior. "We are surrounded on three sides by water," seen through banks of windows that also provide a warm, naturally lit ambiance. Just outside is an expansive wraparound patio that seats 175. The lounge often hosts live music and Wednesday night wine tastings from 5-7 p.m. Check the website for events and specials.



#### Chips

Heat deep fat fryer to 350°. Slice potatoes, with skin on, paper thin using a mandolin slicer. Rinse the slices in water to remove excess starch. Pat the slices dry with a paper towel. Place chips in oil and fry three minutes or until golden brown. Use a pair of metal, long-handle tongs to keep the chips from sticking together. Season as desired.

#### Remoulade Sauce

1/2 cup mayonnaise

¼ cup chili sauce

1 teaspoon hot sauce

1 tablespoon lemon juice

1 scallion, cut diagonally

Place all ingredients in mixing bowl and whisk together.







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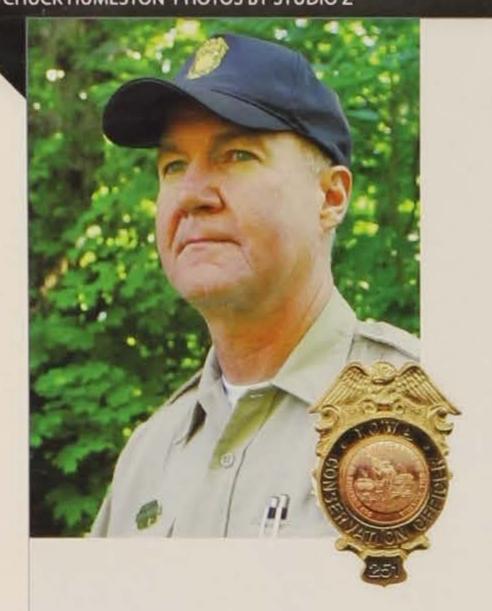
Monday-Saturday 7 a.m.-11 a.m. Sunday Breakfast Buffet 7-11 a.m. LUNCH

Monday-Saturday 11 a.m.-2 p.m.
Sunday Brunch Buffet 11 a.m.-2 p.m.
DINNER

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LOUNGE

Sunday-Thursday 12 p.m.-10 p.m. Friday-Saturday 12 p.m.-12 a.m.



## "Hooked"

I have a son who lives in Fort Collins, Colo., whom I've written about before. He's nuts about fishing. It's not uncommon for him to call me from the mountains, where he has set up a weekend camp somewhere in Poudre River Canyon, and tell me the trout should be "very afraid."

A spincasting rig, vest and backpack are standard equipment in his car.

When he's not fishing, he's into all things fishing. The last time I visited, he said, "Come on, the new Bass Pro Shop's opened," and away we went.

Spinners and spoons wielded by an ultralight were his weapons of choice. Then I handed down my dad's fly rod, and one Christmas I sent him back with a new fly rod. The next thing I knew, he was reading fly fishing books, watching fly fishing DVDs and talking waders and the various configurations of the Wooly

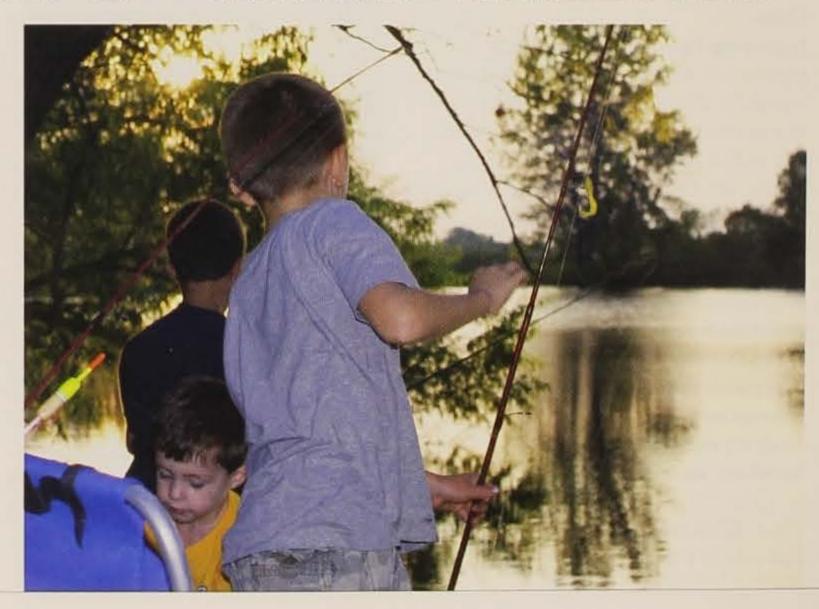
Bugger. He even called last spring to tell me he had attacked the river a little too soon at high flow and quickly went back to spincasting until snowmelt was over.

After calling me about one of his expeditions, I got to thinking, "What got him so hooked?" He told me once that one of his fondest memories was when I took him to where I grew up, to fish some farm ponds in Decatur County. It was usually in the evening as the sun was starting to set over water as smooth as glass. The rumble of the bullfrog, the breeze waving the surrounding cornfield and the sudden explosion of a bass hitting the Jitterbug he was dragging across the pond, along with the hike back to the pickup to show off the catch to Grandpa and Grandma,

made a lasting impression on him. Was that it? And, why was it important?

Bear with me here while I tell you why I think it's important. Last February, while overlooking the Iowa River, just then starting to wake from its winter ice cover, fishing seemed far away. But, it was a fall and winter that made me want to tear my hair out, and at my age it's in short enough supply that I can't really afford that.

We currently are short in our full complement of officers. In addition to the two counties I'm assigned. I've also been answering calls in two adjacent counties due to an officer transfer and another position not being filled. Add to that the retirement of my supervisor and being assigned "acting" supervisor. Three jobs for the price of one. I'm not complaining, but the fact is you quickly figure out you can't be in two or three places at the same time.





Virtually no one is immune to the effects of the economy. We have unfilled positions that spread us thin. Add to that downward trends in the number of people hunting, fishing and trapping, the effects of last year's floods on fishing and the plunge in pheasant numbers from two consecutive tough winters. We older, ahh, "more experienced" officers observe fewer people out there. Let's face it, hunting, fishing and trapping drive conservation programs, and there aren't many budget alternatives left when fewer people buy licenses.

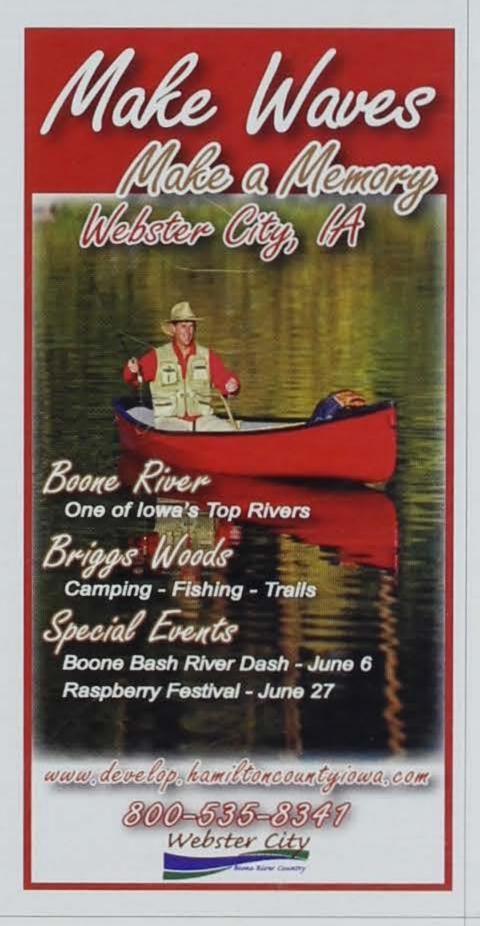
It is imperative that we discuss and determine what hooks a generation on the outdoors. I believe part of the answer is hands-on experience. We have come a long way in the shooting sports to where interscholastic team trapshooting and archery are established and growing. More and more organizations are holding mentored hunts, pairing young waterfowl, pheasant and deer hunters with an adult in the field.

We need to pass on the philosophy, too. The outdoors is a lifestyle. It's a way of life where your very being depends on being at the river, the marsh, the timber or the field. It's an appreciation of the cycles of life. We lose something when we view wildlife as a pest to be eradicated. Like when I have someone ask me, "Why are there no pheasants?"

"Well, tear down your house, dump two feet of snow and a few inches of ice on you, add some wind and cold, and see how long you last." It makes me wonder if we still have some roads to explore in educating people in conservation.

I once had a band teacher who said, "Without some appreciation of music in a person there is an empty shell." I'd add, "Without some appreciation of the outdoors, there is nothing."

We all need to consider the "hook" that reels in that lifetime of appreciation. It's probably different for each person, but it's there. And the time we take to find and develop that interest and appreciation in a young person can make a lasting impression. When that happens on a big scale, then all our lives are richer.



#### CASTILLEJA SESSILIFLORA

(Indian Paintbrush, Downy Painted Cap, Downy Paintbrush, Prairie Fire)

#### IT'S ALL ABOUT THE NAME

Indian paintbrush ranges from central Canada south to Texas, covering 16 states and three Canadian provinces. The genus Castilleja was named in honor of distinguished 18th century Spanish botanist Domingo Castillejo. The common names come from its appearance. Some say, with a bit of imagination, the bracts-brightly colored leaves used to attract pollinators (think poinsettia)-look as if they had been dipped in paint. Some Native American tribes even used the plant as its name suggests—as a paintbrush.

#### HOW OLD AM I

Although members of the Castilleja genus are both annual and perennial, some of the species are said to be biennial. The first year they grow as small rosettes hidden among the taller grasses; the second year they shoot skyward. After flowering and subsequent seed-set—usually May through July—the original plant dies.

#### **GOOD FOR YOU...KINDA**

Flowers of the Indian paintbrush are edible and sweet and were consumed in moderation with other greens by various Native American tribes. Although the plant is said to have the same health benefits of eating garlic, the plant absorbs selenium, a semimetal found in soils that is toxic if consumed in large quantities. Various American Indian tribes used the plant for everything from a wash to produce glossy, full-bodied hair and treatments for venereal disease and reumatism, to making teas to treat insect bites, boost immune systems and prevent pregnancies.

#### WHAT"S FOR DINNER

Indian paintbrush is one of roughly 200 species of the genus Castilleja, all hemiparisites—i.e they are partially parasitic on other plants. Their roots penetrate the roots of other plants—frequently grasses—siphoning nourishment from the host. There is some evidence the plant will actually suppress other plants and grasses.

#### THE BIOLOGIST TALKING

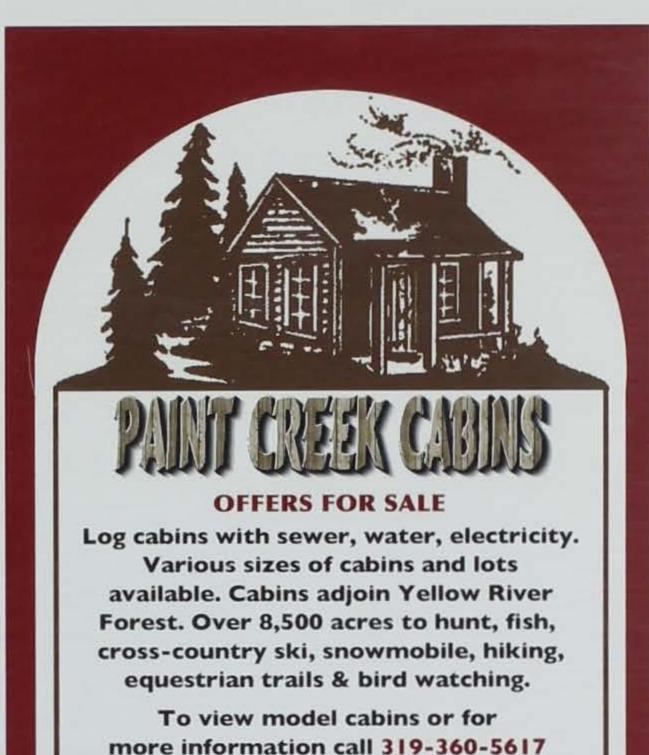
In botanical lingo, sessiliflora means "stalkless flower," a fitting term for this member of the snapdragon family most associated with dry prairies. The 6- to 18-inch stems are unbranched and covered in fine hairs. Leaves tend to be narrow, almost grass-like, broadening as they range up the stalk. The plant is unique in that the conspicuous creamy yellow color comes not from the flower, but the bracts beneath them. A second speciman, Castilleja coccinea, is found mostly in wet prairies.

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