

May / June 2007

IOWA OUTDOORS

THE DNR'S MAGAZINE OF CONSERVATION AND RECREATION

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HIDDEN OKOBOJI

DIVING SUNKEN TREASURES BELOW IOWA'S GREAT LAKES

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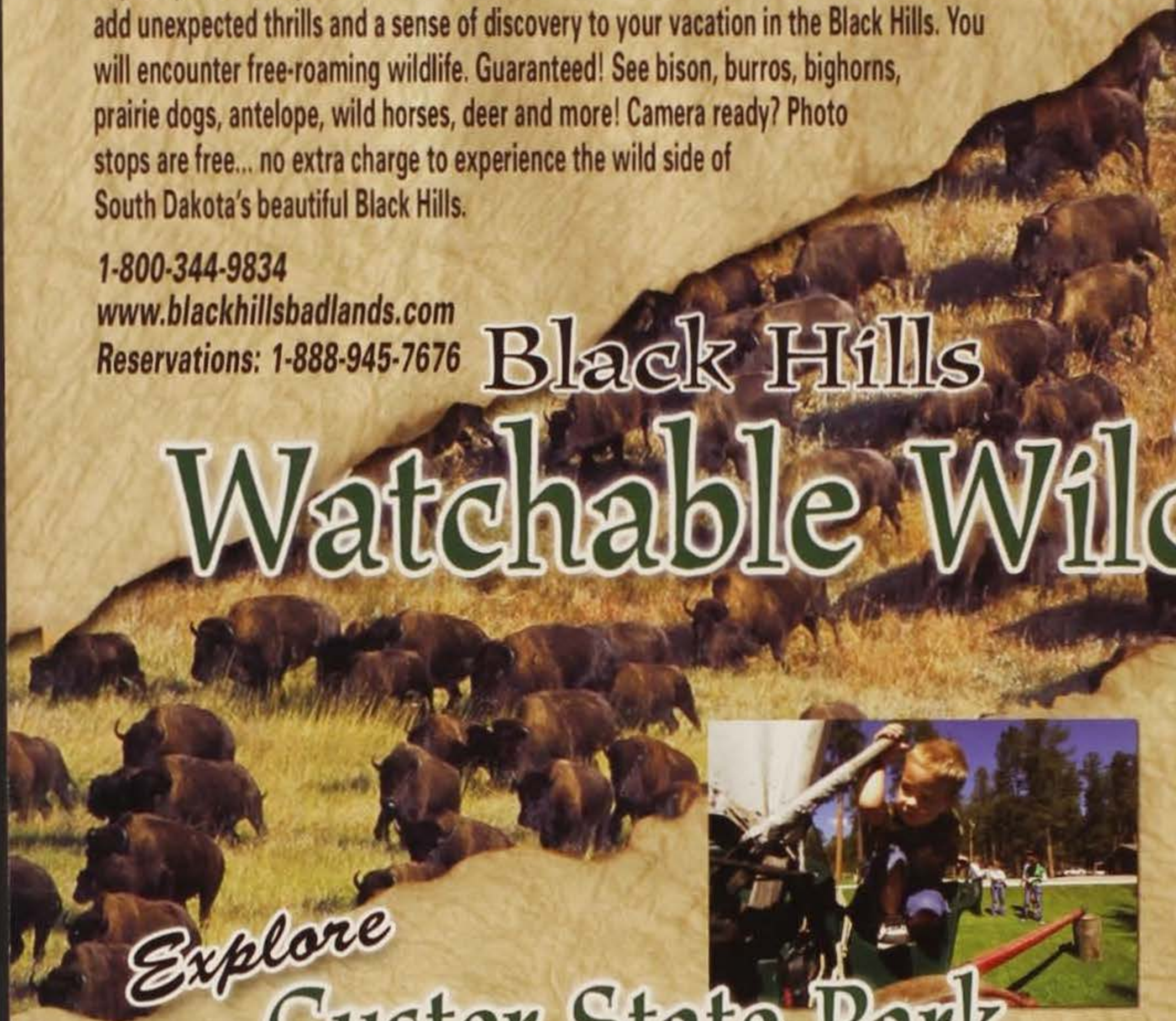
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DIRECTOR'S MESSAGE



By the time you read this, you have no doubt had a chance to look at the stunning photo on the cover and maybe the equally captivating "deep sea" images inside this issue of Iowa Outdoors. Many of us have marveled at the blue beauty of West Lake Okoboji's surface, but few of us have had the opportunity to see Iowa's deepest natural lake from this sub-surface vantage point.

These photos are yet another measurement capturing the unique qualities of West Lake Okoboji. At 136 feet maximum depth and fed by natural springs, West Okoboji offers water clarity that commonly exceeds 20 feet. Unfortunately, West Okoboji is one of the few lakes in Iowa where photos like this are even possible during the summer months in Iowa where many lakes struggle to have water clarity of even three feet.

The fact that West Lake Okoboji is so unique underscores the importance of the efforts being made to protect it and the watershed. A study of the economic value of lakes in Iowa by Iowa State University provides very solid documentation that the high water clarity of this lake is what makes it one of the top destination spots in the upper Midwest even though it is not located particularly close to large population centers. This study provides evidence that Iowa's lakes provide very important economic and social value to our citizens.

While other Iowa lakes do not have the unique natural characteristics of West Lake Okoboji, the good news is that we have had some great success stories in improving water quality, including clarity. Lake Darling in Washington County is one such example.

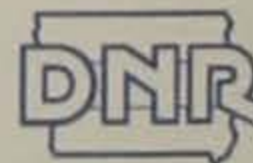
Working with landowners in the watershed, some remarkable results have been achieved at improving water quality as evidenced by the photo on this page. In addition to improving water quality, bacteria levels have also dropped significantly after working with private landowners in the watershed.

The Iowa General Assembly appropriated \$8.6 million last year for lake restoration projects and a similar amount is expected to be budgeted this year. We still have a great deal of work to do on Iowa's lakes, but past successes take us into this process with a great deal of optimism. We currently have identified 35 priority lakes for protection and restoration. A list of those lakes along with information on our efforts to improve Iowa's lakes can be found at <http://www.iowadnr.com/water/lakerestoration/index.html>

Let the unique qualities of West Lake Okoboji be our motivation and the success at Lake Darling be our inspiration for improving the water quality of Iowa's lakes.

A handwritten signature in black ink that reads "Richard Leopold".

RICHARD LEOPOLD, Director of the Iowa DNR





As you may have noticed, we've added a heavier weight cover to further boost our quality. The cover better protects your magazine during mailing. It also adds four pages for extra content and photos.

We took advantage of that to run bigger, bolder photos to show readers Okoboji like never before in our cover story. The writer, diver and photographer, Lloyd B. Cunningham, is a former Iowan who lives in South Dakota, yet returns to Dickinson County often to live his passion for Iowa's outdoors. As a diver myself, I was spell-bound by the incredible underwater images he has produced—many made during cold water dives for optimal water clarity. More than a year ago, we began searching for such images with no luck, until we found Lloyd's work. He's logged 350 dives on the lake and knows it well. I hope his amazing photos and story—gathered after extensive historical research—give readers a new perspective and appreciation for Iowa's Great Lakes. The stories of sunken wrecks from decades past also serve as a reminder of the importance of water safety. I can't help but marvel at some of the wreck stories in an age before today's safety and survival equipment.

In another great feature, DNR staff writer Joe Wilkinson illustrates the serious commitment wildlife rehabilitators play in nursing orphaned and injured wildlife to recovery. They make noble sacrifices in their dedication. His work shows how lead slugs are causing some concern for carrion-feeding bald eagles, who consume deer remains and can ingest lead fragments. We tracked down x-ray images to further illustrate the concern. On the subject of eagles, take a look at the largest nest in Iowa, shown on page 32. It's a monster!

Finally, in our "Lost in Iowa" department, we take readers to one of a few places of its kind in the United States—the Rockford Fossil Park. It makes a great day trip with something for all interests, from fossil collecting to roaming restored prairies. It was a destination for my high school science class many moons ago.

They've added a nature center and amenities since then. I look forward to returning—this time taking my young children. It is a great getaway and I hope your family can do the same. Drop us a letter to the editor at courier@dnr.state.ia.us. Get outside!

COMING UP NEXT MONTH!

Wild Foods Canoe Trip

SUMMER FISHING FORECAST

Wardens of the Waves

LONG, HOT (ITCHY) SUMMER

BRIAN BUTTON, *Editor-in-Chief*

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Get early summer picks for great fishing. Grab those hooks and ready the bait, fishing is going to be great across the state.

BY MICK KLEMESRUD PHOTOS BY CLAY SMITH
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ABOUT THE COVER

On the sandy bottom 20 feet beneath the surface of West Lake Okoboji rests the wooden hull of a hand-made launch. Built in the area by the Hafer Boat Company, she sank in the mid-1920s off Atwell Point and lay undiscovered for over 60 years. Underwater photographer Lloyd B. Cunningham made this photograph in early spring taking advantage of cold, clear water to capture the stern and the gaping hole in its side. It's one of a series of images of boats, structures and artifacts that remain hidden on the lake bottom.

ABOUT THIS PHOTO

Generations of artifacts have found their way to the bottom of West Lake Okoboji, a popular destination for fishing and recreation since the 1880s. Dived regularly since the early '70s, most easy finds have been recovered, yet lucky divers still recover antiques. Diver and underwater photographer Lloyd B. Cunningham collected these bottles from Smith's Bay. The second from the left is from the Egralharve bottling plant that once bottled spring water on the lake's northwest shore. On the right are blob-top bottles that probably slipped overboard from steamships that once worked the lake.

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CONTRIBUTORS



LLOYD B. CUNNINGHAM

Lloyd B. Cunningham has been a certified scuba diver and underwater photographer for more than 15 years. He has logged more than 350 dives in West Lake Okoboji exploring the bottom, making photographs and recovering antique bottles, anchors and ice harvesting tools. Lloyd grew up in Winterset and attended the University of Iowa. A photojournalist for more than 36 years, he lives in Sioux Falls, SD and has a summer home just yards from Arrowhead Beach on West Lake Okoboji. Lloyd has dived and photographed in the Florida Keys, the Caribbean and the Baja Peninsula, but his favorite place to dive is the clear, fresh waters of West Lake Okoboji. A selection of his underwater images are on display at the Side Street Fine Arts and Framing Gallery in Old Towne, Arnolds Park or at his website:

myokobojimages.com.



JENNIFER WILSON

Jennifer Wilson is a travel writer who has written for *Better Homes & Gardens*, *Midwest Living*, *Cooking Light* and *AAA Living*. She's left her tracks everywhere from the jungles of the Sierra Madres to the forests of the Skunk River Valley. Originally from Colfax, she's now a city slicker with a yard full of prairie plants at home in Des Moines. wilsonhoff@msn.com

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DNR MISSION

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

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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LEARN MORE

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ACTIVITIES, TIPS AND EVENTS FOR THE WHOLE FAMILY

KIDS FLOCK TO ARROWHAWK'S STORY

Based on a true story, the children's picture book *Arrowhawk*, makes a nice read for small children and families. A red-tailed hawk, wounded by a poacher's arrow, survives eight weeks in the Midwest's wilds with the arrow lodged through his thigh and tail. The wonderfully illustrated story follows his remarkable journey from danger to rescue by wildlife rehabilitators, and finally, freedom. (See our wildlife rehabilitators feature story, page 40.)

The book closes with a photo of the real hawk and details of the true story, including basic conservation lessons and the importance of raptors (one consumes 4,000 mice annually.)

In 1997, Lola Schaefer, a fourth-grade teacher, and her Indiana class followed media stories of the bird. Inspired by the bird's will to survive, she was determined to share the amazing story with children and wrote this captivating book that comes to life with inspiring illustrations.

Author: Lola M. Schaefer, ISBN 0-8050-6371-4

Available at bookstores and libraries in the children's section.



Catch of the Day

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TO MAKE: Simply glue small magnets on one side of the lure. With a small amount of glue, affix beads to cover any remaining barbs.



TOGETHER

DOING GOOD WAS NEVER THIS MUCH FUN. WITH A YOUNG SCIENTIST IN TOW, SPEND A MORNING OR AFTERNOON EXPLORING LOCAL WATERWAYS as part of IOWATER's snapshot monitoring events to help gauge water quality. You get the tools of the trade—test kits, tubes and containers—brief training, then gather samples and collect data.

"It is pretty simple to do and a good way to meet folks on a community level," says Brian Soenen, IOWATER coordinator from Sioux City. During a snapshot event, many sites throughout a region are sampled at nearly the same time. The goal? The tests screen for polluted "hot spots" or streams with elevated nitrates. Samples are also sent for lab analysis. "The ultimate goal is working toward increasing data to assess water bodies," says Soenen.

GET INVOLVED

Go to the website, www.iowater.net, click on the snapshot monitoring logo at the bottom of the page to see events in your area.



Collisions and fires caused most shipwrecks in our feature story on page 22. To avoid these mishaps and learn more on boating laws and safety, order **"The Handbook of Iowa Boating Laws and Responsibilities,"** at 515-281-5918. Free, it offers 49 pages of must-knows for those with powercraft. See an online version at www.iowadnr.com/law/files/boat2005. Take a mandatory online course for 12-17 year-olds to operate a motorboat over 10 h.p. or personal watercraft at www.iowadnr.com/law/boating/index.html.



Keeping the Family **WATER SAFE**

Time together on the water can make memories. To stay safe, follow these tips.

SIMPLY PUT, LIFE JACKETS SAVE LIVES. In nine of 10 drownings, a life jacket would have prevented death. Wear your life jacket at all times. "No one plans on being in the water," says Susan Hager, DNR water safety coordinator. "You can't control what other boaters will do either. In an emergency you have no chance of finding and putting on a life jacket."

New models are lightweight, highly specialized for the activity and comfortable to wear. Some, called inflatables, auto inflate when wet with manual inflate options (\$75-\$150).

Children have different styles, the best with crotch straps. Look for models that can turn an unconscious wearer face-up.

Ensuring proper fitting for any jacket is a must. Check the weight and size listed on the jacket. Try them on in-store. Hold arms straight up over head and ask clerk to pull it upward. It should remain snug, below your neck and chin without rising up. Specialty jackets are made for hunting, angling, waterskiing and for swimmers and non-swimmers.



PHOTOS BY BRUCE MORRISON



IOWA GREAT LAKES MARITIME MUSEUM

Stroll past nearly 20 historic museum boats and see the number 30 boat, shown above right. The number 30 sank in 1946 after being struck by the *Isabell II* and was raised in 1995. The photos show damage amidship. "She is really in pretty darn good shape considering it was underwater for almost 50 years," says curator Mary Kennedy. "It's our most popular exhibit. People think of her as our Titanic." (See our feature on underwater Okoboji, page 22.) By luck, diver Jim Koenig of Charles City found the wreck while looking for some lost diving gear, she says. See a short video of the boat being raised with aid of lift bags, then view other sailing craft, including the *Schis-Go*, above, her mast nestled under the 32-foot museum ceiling built to accommodate her. Kennedy's late husband, Capt. Steve Kennedy, piloted the *Queen II*, an excursion boat still in operation on the lake and a replica of the original steamship that ferried passengers and supplies on West Okoboji from 1884 to 1973.



LEFT: A variety of rare and historic boat engines, including a 1909 Waterman—one of only 10 in existence—plus a 1917 Aerothrust with an airboat-like propeller are on display at the museum. The engine from the number 30 boat, shown above, is also on display. A volunteer who is a boat engine collector takes care of the display.

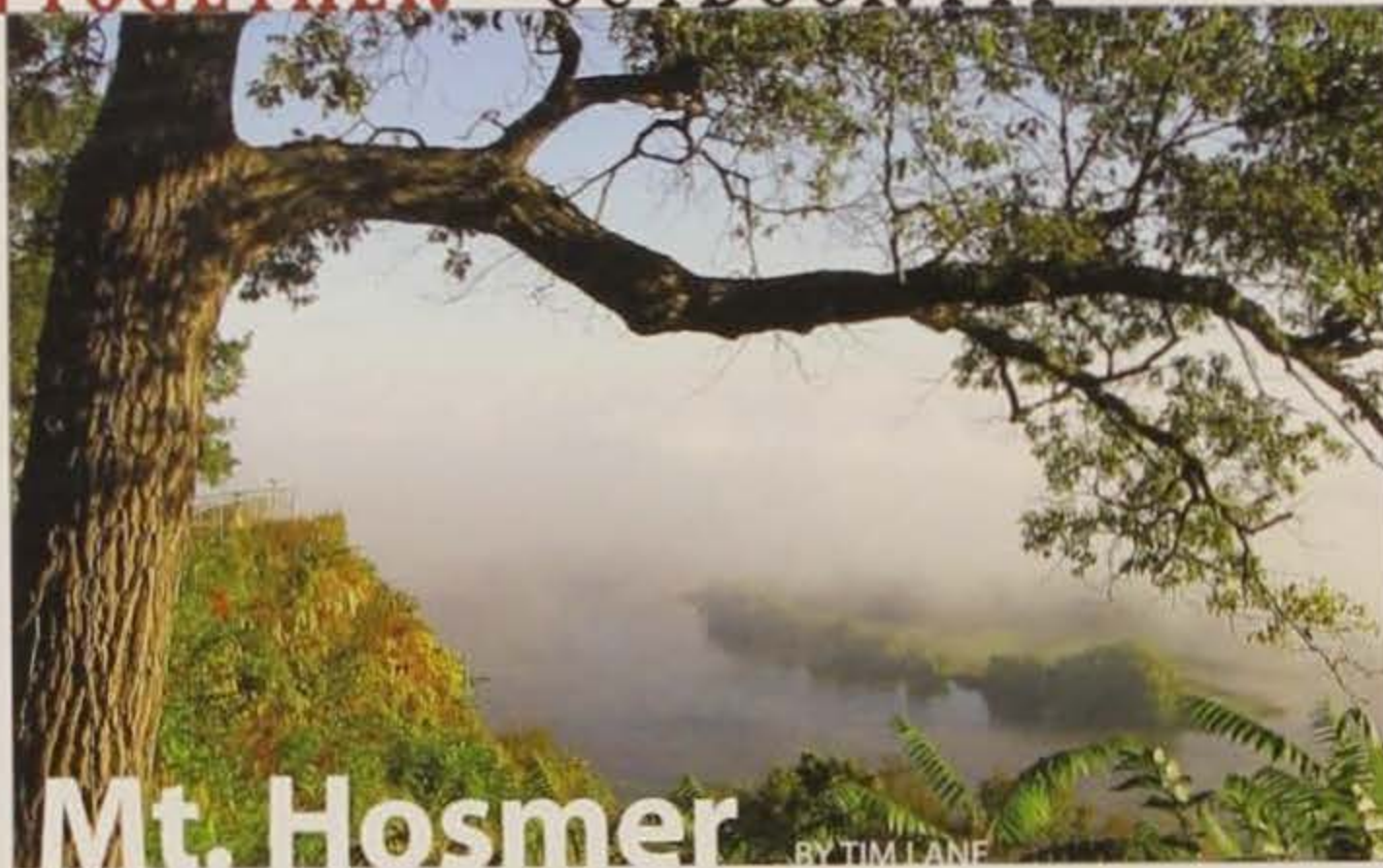
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Mt. Hosmer

BY TIM LANE

One of the most interesting and productive people to visit Iowa had to have been Harriet Goodhue Hosmer. Harriet was born on October 9, 1830 in Watertown, Mass. Her father had a strong belief that physical activity could prevent disease and encouraged Harriet to embrace exercise. The result was a very active childhood both physically and mentally. She attended a school that fostered both independence and creativity. Early on she decided she wished to be a sculptor, which at the time was a very unusual choice for a woman.

After graduating from college in 1851, Harriet went on an adventure that included a steamboat excursion up the Mississippi. From the accounts of the journey, Harriet with her outgoing personality and independent spirit was the belle of the boat. When her boat docked in Lansing and the young men on board proposed a footrace to the top, Harriet joined...and won. Her early devotion to fitness paid off. The steamboat captain asked the mayor if the peak had a name and found that it didn't. He then suggested, and the town agreed, that naming it after Hosmer would be a fitting prize for her energy and ability. Today visitors can enjoy a spectacular view of three states and the beautiful Mississippi River simply by driving or better, running, to the top of Mt. Hosmer City Park.

I love this corner of Iowa and Harriet's story. But I am a bit jealous she spent less than a day here and yet has a place in her name.

This spring I am looking forward to all sorts of activities across Iowa even if locals aren't going to name some geological formation after me and I assume that goes for many of you as well. But before you go I can't over emphasize the importance of knowing your numbers! I bet you know all sorts of numbers...but if you do not know your blood pressure and cholesterol levels, then you need to visit your physician soon. Being out of shape may lead to sore muscles. Having skimped on flexibility programs may lead to a turned ankle. But going into the woods with high blood pressure is just plain scary.

In 1996 doctors in the Netherlands noticed a spike in reports of heart disease related fatalities. The spike was on June 22nd—the day the Dutch soccer team lost a shot at the European soccer championship. Increased stress may have been a contributing factor in as many as 14 deaths on that single day. It is obvious individuals with elevated blood pressure are in a difficult spot. They are at risk just sitting on their sofas. In these situations the best course still leads to the woods...but it must first pass through an office.

Tim Lane is the fitness consultant with the Iowa Department of Public Health. He is also a marathoner, former director of the National Ski Patrol, climber, volleyball coach and cyclist. He has cycled across America once and Iowa 25 times. He's a regular participant in RAGBRAI and developed the Ride Right safety program. Tim also helped design and promotes Lighten Up Iowa.

But Why?

Helping adults answer children's nature questions

BY A. JAY WINTER

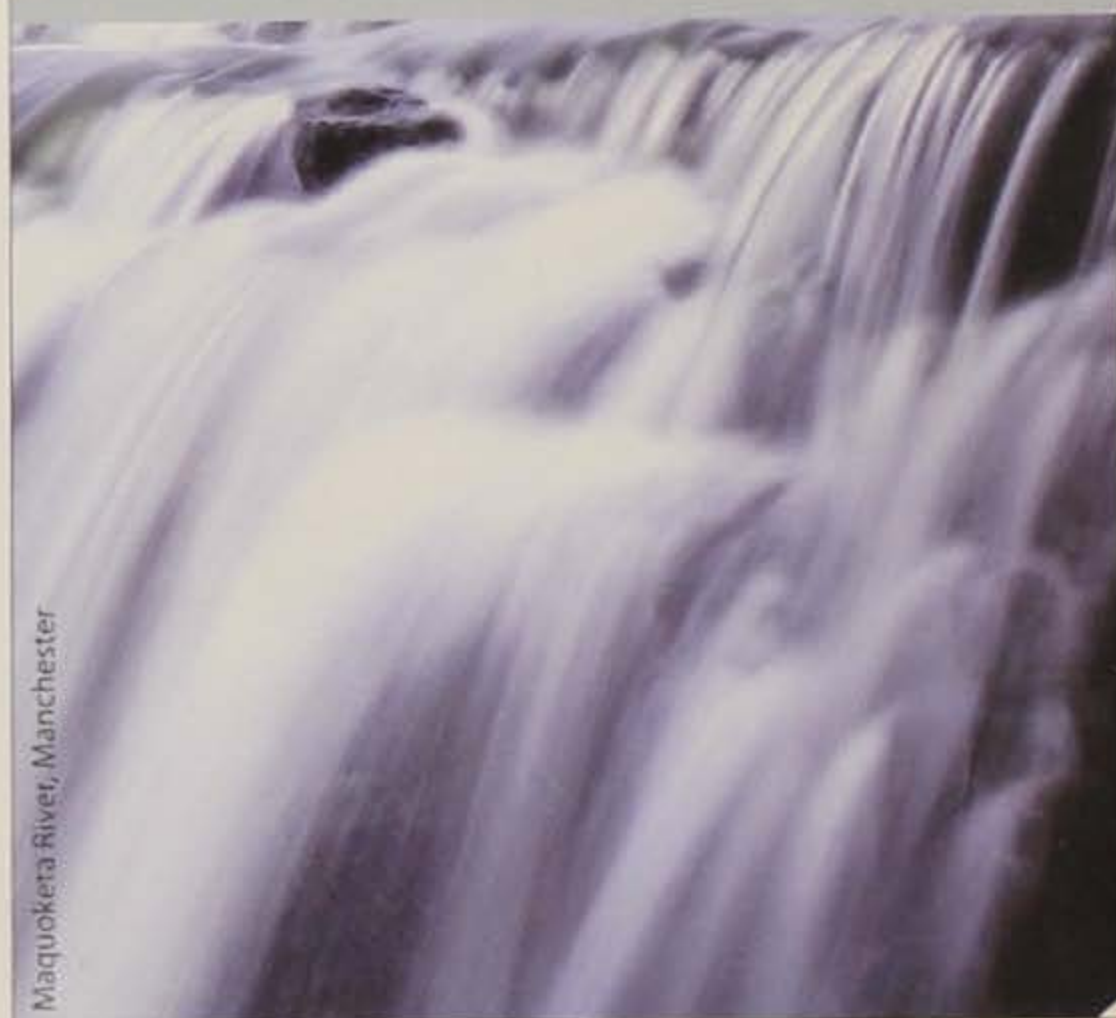
A. Jay Winter educates up to 20,000 Iowa children each year as the DNR's training specialist at the Springbrook Conservation Education Center.

Why do the rivers fill with water?

- WILL, AGE 5

Many times youth are very inquisitive and this type of question can be used as a great educational moment to talk about far reaching issues. Rivers fill with water as they are part of the water cycle. Water runs off the land, which is called a watershed. The watershed gathers all the rain and snow melt from a large area and funnels it into a smaller area. For example, water from your yard may drain into a small creek, which makes you a part of that watershed. On a larger scale, the creek drains into the Maquoketa River which also makes you part of that watershed, and eventually the Mississippi River watershed too. The watershed concept is very important because what you do on your land affects the creek, the Maquoketa and Mississippi rivers and ultimately the Gulf of Mexico.

The DNR along with many other agencies are managing through a watershed approach. This means managing the water in the creek by looking at what is happening on the land in the area.



Maquoketa River, Manchester

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



KEEP YOUR MINNOWS BREATHING EASY WITH A LITTLE H₂O₂

Keeping leftover minnows alive for another trip can be tricky, but following a few simple tips will ensure you have some lively swimmers for the next crappie bite. First, add a capful of **HYDROGEN PEROXIDE** to your bait bucket. Hydrogen peroxide is little more than oxygenated water and will add life to your bait bucket. Never store minnows in water straight from the tap — the chlorination can cause stress and even kill the fish. Let tap water sit for at least 24 hours before adding minnows. Keep minnows in a cool place. The unavoidable build-up of ammonia will drastically shorten fish life, so change water often, at least every other day.

DUTCH OVEN LINER

Line a Dutch oven with inexpensive, disposable aluminum foil cake pans to keep clean-up to a minimum. Dispose used liner in garbage can instead of burning foil in campfire. To learn more tips on choosing and caring for Dutch ovens as well as recipes, visit <http://papadutch.home.comcast.net>.



→ GOT A SKILL TO SHARE? ←

If we use it we will give you a gift from the Iowa Nature Store. Send to: OUTDOORSKILLS@DNR.STATE.IA.US

Lightning never strikes the same place twice.

The saying may work as a metaphor—implying that rare events don't repeat (still waiting on that second Powerball win?). But the actual assertion is false, said KCCI meteorologist Bryan Karrick. A lightning bolt causes no permanent electrical changes to its target, nothing that could prevent a second strike. It's theoretically possible, in other words, for a storm to smite the same plot of earth repeatedly. This actually happens to tall buildings, which absorb multiple strikes every year, sometimes during a single storm. If the airplanes (and beauty, of course) hadn't gotten him, King Kong might have succumbed to a lightning strike. The Empire State Building absorbs an average of 100 bolts every year. Mother Nature can also target people, of course, and so flashes on the horizon should send you indoors. "If you see lightning," Karrick says, "you're close enough to be struck." Bolts can travel 10 miles, so even when blue skies prevail overhead, thunderheads in the distance could smite thee. (Source of the phrase, "bolt from the blue," Karrick says.) Proper shelter means a reinforced concrete building, one whose metal skeleton will absorb current. Something like a wooden picnic shelter, on the other hand, could simply collapse after a strike, making it potentially more dangerous than open space. Automobiles can also offer protection, since their metal frames absorb current. When indoors, avoid telephone lines and water pipes. People generally underestimate their chances of being struck by lightning, according to the National Weather Service. Annually, the bolts cause more deaths than tornadoes and hurricanes combined.



TOADS CAUSE WARTS!?

You could kiss a hundred of them, and never catch a wart. (As far as present scientific research indicates, however, they won't become princes, either.) Warts come from the human papillomavirus (HPV), which toads do not transmit, said Des Moines dermatologist Dr. Timothy G. Abrahamson. You can only catch HPV from contact with infected people or something they've touched (for example, a locker room floor), he said. The myth that toads cause warts probably resulted from two misinterpreted observations, said Karen Kinkead, assistant scientist with the Iowa Cooperative Fish and Wildlife Research Unit at Iowa State University. One, toads have warty-looking bumps and, two, some of those bumps produce toxins that can irritate the skin, causing rashes that may appear wart-like. Sometimes toads' bumps are even called "warts" (other names include ridges and papillae). Don't let terminology confuse you, however. Human warts and toad warts are very different things. Basically, toad warts are "supposed" to be there, while the human variety result from infection. Toads' bumps help the creatures retain moisture. They can also, by producing toxins, serve as a defense against predators. Many toxins simply taste horrible, causing potential predators to spit out or avoid toads. Others can be "cardiotoxic," (damaging to the heart) or even hallucinogenic. No Iowa toads produce such effects.



ASK THE EXPERT —Mark in Council Bluffs asks, "Can fish parasites make you sick?" BY CHRIS ENGLISH

You know how it is. Spend a whole day in your boat, line in the water, eager to bring home dinner, and you catch fish that when filleted, have tiny black and yellow spots. Concerned about the fish's edibility, you pitch the fish in the trash and toss a frozen pizza in the oven.

For quite some time, Iowa anglers have held some fishy beliefs about what constitutes healthy fish and safe eating. Yes, fish grubs do appear in some freshwater fish and in various Iowa waters.

Ready for a shock? All those fish you caught and threw away are just as edible, tasty and as healthy as any other fish. The truth is—grubby fish won't make you sick.

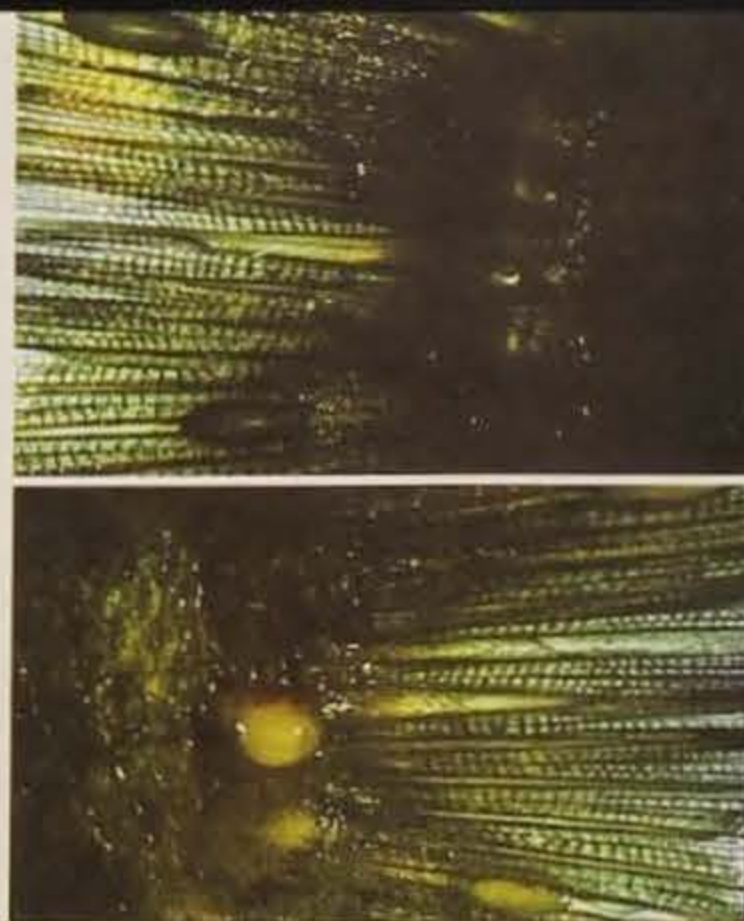
The decision to keep the fish is purely cosmetic, says Don Bonneau, DNR fisheries

research supervisor.

"They look like someone poured a pepper shaker all over them. If it's a heavy infestation then I'd just throw the fish back." Otherwise, they go home to his family.

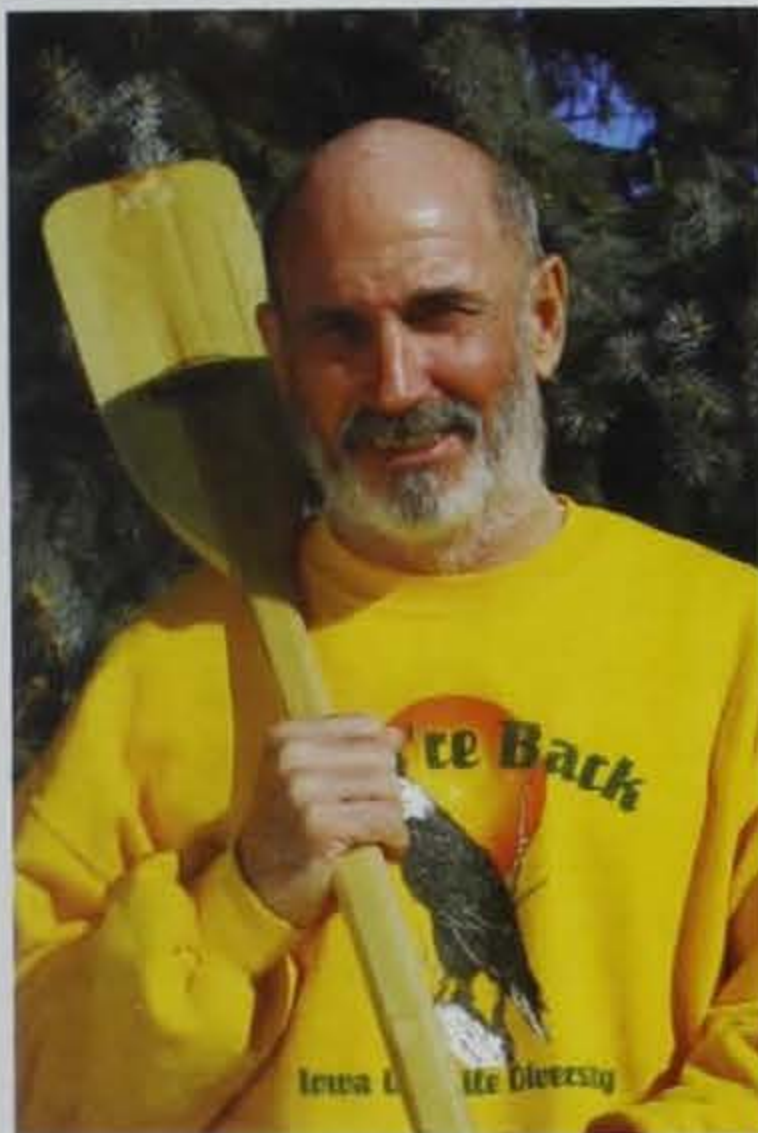
Bonneau assures that grubs are natural, and are more common in smaller water bodies and are mostly associated with bluegills and perch. Regardless, infested fish are safe to eat, but proper handling and cooking is essential for all fish.

"Parasites don't tolerate intense heat or cold," the fish researcher says. "Various studies show that freezing the fish or properly cooking it (heating to an internal temperature of 145 degrees Fahrenheit) kills the parasites."



HAVE AN OUTDOOR OR ENVIRONMENT RELATED QUESTION? Send questions to "ASK THE EXPERT," IOWA OUTDOORS MAGAZINE, 502 E. 9TH STREET, DES MOINES, IA 50319-0034, or email to: ASKTHEEXPERT@IOWAOUTDOORS.COM.

BY CHRISTOPHER ENGLISH PHOTOS BY CLAY SMITH



RIVER CLEAN-UP

DON PROPST, DES MOINES

Ambitious retiree goes solo, planning river cleanup events in Central Iowa.

Although retired for five years, Don Propst hasn't retired his lifestyle. No matter the season, he's busy cross country skiing, ice fishing, and most importantly, helping with the on-going cleanup of the Raccoon River.

"The main purpose of all (my work) is to show the rest of Iowa that there are people out here who do care about the rivers and are wanting something done about it," Propst says.

And he's doing something about it. Contributing to Iowa's Project AWARE river cleanup efforts, Propst decided to host his own events to clean the Raccoon River. By summer's end, Propst held three events, enlisting more than 50 volunteers to rid an average of 5 to 10 river miles of tires, appliances and other junk. The work isn't easy. A full boat can be miles away from drop-off spots or low water can force helpers to drag heavy, trash-laden boats.

Brandon Harland, DNR programs assistant, says Propst gives much more behind-the-scenes by obtaining grants and managing four sites for the IOWATER volunteer program. Propst's efforts were acknowledged recently via a sign on the Grays Lake bridge stating "Thanks Don Propst—the Raccoon River."

"Basically he's just in tune with what's going on around him and when Don puts his mind to something he gets it done," says Harland.

HANDS-ON HELPERS FOR LOCAL PARKS

UNIVERSITY OF DUBUQUE, DUBUQUE

Students and faculty take community ownership by helping Mines of Spain Park.

If volunteerism makes park staff happy, then the University of Dubuque must have workers at the Mines of Spain State Recreation Area staff in a state of nirvana. For the last five years, 250 to 350 student volunteers have been lightening the staff's workload.

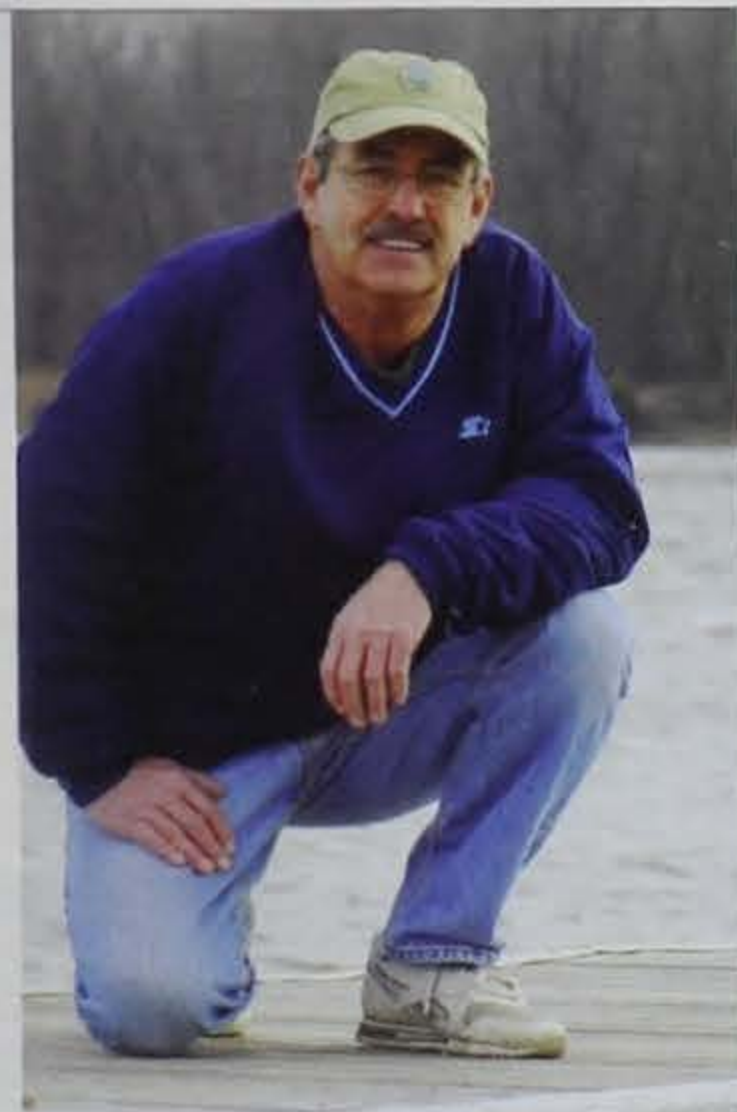
Designating an autumn day each year, faculty and students descend upon the Dubuque recreation area to fix trails, clear invasive species and collect seed. Wayne Buchholtz, park ranger, says he and resource technician Craig Oberbroeckling could spend a whole summer on such projects that large teams of UD volunteers knock out in three hours.

It's part of UD's new curriculum featuring a "Worldview seminar—The Good Life" class that requires freshmen to participate. Paula Carlson, Director of the Wendt Center for Character Education at UD, says the class helps students realize civic engagement and to socialize.

"We think part of learning is giving back to society, becoming leaders, and recognizing community needs and addressing them," Carlson says. And it makes a huge difference for DNR staff and parks.



PAULA CARLSON



WATERCRAFT INSPECTION

AL WAGNER, MUSCATINE

Answering the call of duty, he takes the initiative to protect Southeast Iowa waters.

He'd never say it himself, but Al Wagner is an important man. Over the past year, he diligently volunteered as a watercraft inspector to help prevent the spread of invasive aquatic species.

A recent retiree, Wagner wasted no time responding to this volunteer opportunity through the DNR's Keepers of the Land program. He has been a significant part of efforts to protect Iowa's waters and a model for future volunteers, helping boaters understand the potential risks of invasive species. Upon a boater's permission, Al inspects boats for invasive stowaways that might have been accidentally acquired. If he finds some, like zebra mussels or Eurasian milfoil, he asks boaters to quickly remove the problem to prevent its spread to another destination. Bogenschutz, aquatic nuisance species program coordinator, says Wagner's work in public outreach of her program is essential in protecting Iowa's natural resources.

"Prevention is the key to stopping invasive species," Bogenschutz says. "So to have someone like Al working on this is invaluable."

This wasn't enough for Wagner, though, who began picking up trash when waiting for boaters to come ashore. And he recently pulled a skateboarder from the water and rallied to have fences installed nearby. For him, it's just his way of giving back to nature and caring for public waters to enjoy.

Devonian Day Trip

The Fossil & Prairie Center near Rockford is all about connections—from the 375 million-year-old critters in its quarry to the 60 acres of virgin prairie. BY JENNIFER WILSON PHOTOS BY CLAY SMITH





You stutter-step down a deep, dusty gully into the pit below, descending 375 million years into a shallow Iowa sea. Giant squid thrust past. Coral waves in the water. A fish-like placoderma prowls in the distance.

You reach out to touch a giant snail, and fleck away hunks of dust. The years roll forward and these ancient creatures are but fossils in the clay soil of an abandoned quarry now part of the Floyd County Fossil & Prairie Park.

Twenty-two miles east of Mason City, the small town was once home to the Rockford Brick & Tile company, which manufactured the drainage tile that siphoned the nation's wetlands. A handful of historic beehive kilns remain on site as a beacon of those times.

Workmen pushed aside soil to mine the blue shale that formed their wares. The soil was left behind. Little did they know they were unearthing a fossil bed dating to the Devonian period. Today, ancient invertebrates—horned corals, brachiopods, gastropods, crinoids, among others—fill one of the few public fossil collection sites in the nation.

The Fossil & Prairie Center unravels the history of these 400 acres in museum-quality exhibits, from the

Devonian Sea to early prairie to the back-breaking work of laying tile. Ironically, those acres include several restored wetlands, similar to those Rockford Tile helped drain.

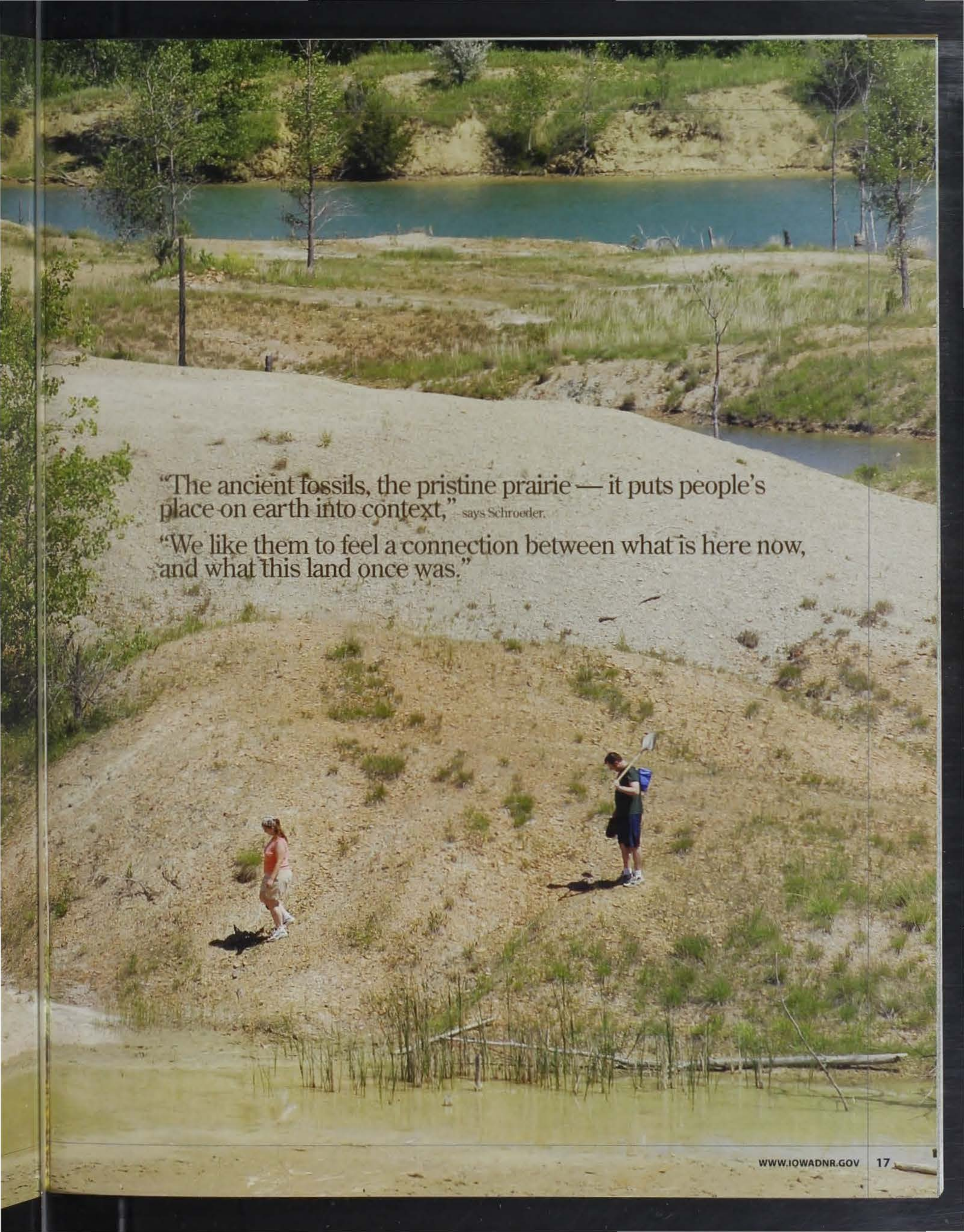
"Scientists believe that Iowa was part of a warm, shallow sea churned by plate tectonics," says naturalist Barb McKinstry, showing visitors paintings of the sea creatures these fossils once were. "It was teeming with life, similar to the subtropical islands below the Gulf of Mexico."

Young and old alike wander the center. Proud grandparents hold tiny hands dirty from digging in the fossil bed. Later, they might drive next door for coffee or lunch at the *Rockford Golf Course Clubhouse*, a popular local haunt.

LEFT: Writer Jen Wilson examines a fossilized brachiopod, a clam-like filter feeder. **1)** Near sapphire blue water, trees reclaim the old clay quarry. **2)** Brachiopods average quarter-size and smaller. **3&4)** Native prairie surrounds the exhibit-filled visitor center where cloth collecting bags are provided. Avoid bringing plastic bread bags, which tear. Egg cartons make great compartmentalized containers. **5)** Prairie grasses reclaim exposed rock beds. **6)** Brachiopod and coral fragments cover the ground. **7)** Students from Des Moines to Minnesota study topics from wetlands, insects and birds and of course, fossils.



LOST IN IOWA

A wide-angle photograph of a sand dune landscape. In the foreground, a large, light-colored sand dune slopes down towards the right. Sparse green grasses and small shrubs are scattered across the sand. Two people are walking on the dune: a woman in a red shirt and light-colored pants on the left, and a man in a dark shirt and shorts on the right, carrying a blue backpack and a shovel. In the background, a calm river flows through a valley, bordered by a line of trees and a sandy bank. The sky is bright and clear.

“The ancient fossils, the pristine prairie — it puts people’s place on earth into context,” says Schroeder.

“We like them to feel a connection between what is here now, and what this land once was.”

LOST IN IOWA



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1) On Juniper Hill, just behind the wetland, find creeping juniper, a low-growing threatened shrub. 2) The family-friendly park is suitable for all ages. 3) A view into the quarry, only a few hundred yards from the visitor center. 4) Lights and windows reflect off an interactive magnifier that allows close-up peeks at what awaits outside. 5) Purple coneflower is often the first prairie species to reclaim rocky quarry beds. 6) The area's largest colony coral measures 13 inches across. 7) Naturalist Barb McKinstry, formerly with the fossil park, is the new Winneshiek County Conservation Board director. 8) Gulleys make excellent areas to find specimens exposed by recent rains. 9) In the center, touch bison hair, explore discovery drawers, go eye-to-eye with a preserved bald eagle, soak up the park's vast ecodiversity and chat with friendly staff.



Kelli Ellingson of Altoona traveled here with her parents, Ralph and Lorraine Bigelow of Charles City. Kelli's 5-year-old, Brandon, is wide-eyed over the turtles and tadpoles in the water exhibit—and a fish that looks like Nemo in a saltwater coral tank. This is what the land he's standing on once resembled.

"Brandon loves anything outdoors," says Lorraine. "This is a real treat for him."

And he's learning his first history lesson. That's the point, says Director of Floyd County Conservation Doug Schroeder.

"The ancient fossils, the pristine prairie—it puts people's place on earth into context," says Schroeder. "We like them to feel a connection between what is here now, and what this land once was."

ALL PLAY

North of the center, the park is a compact terrarium of Iowa landscapes. There's virgin prairie, cornfield, burr oak knob, and scattered beds of fractured limestone that match the crumble and color of the quarry near the park entrance.

"You can walk five steps in any direction and find fossils," says McKinstry. "This place is accessible to anyone."

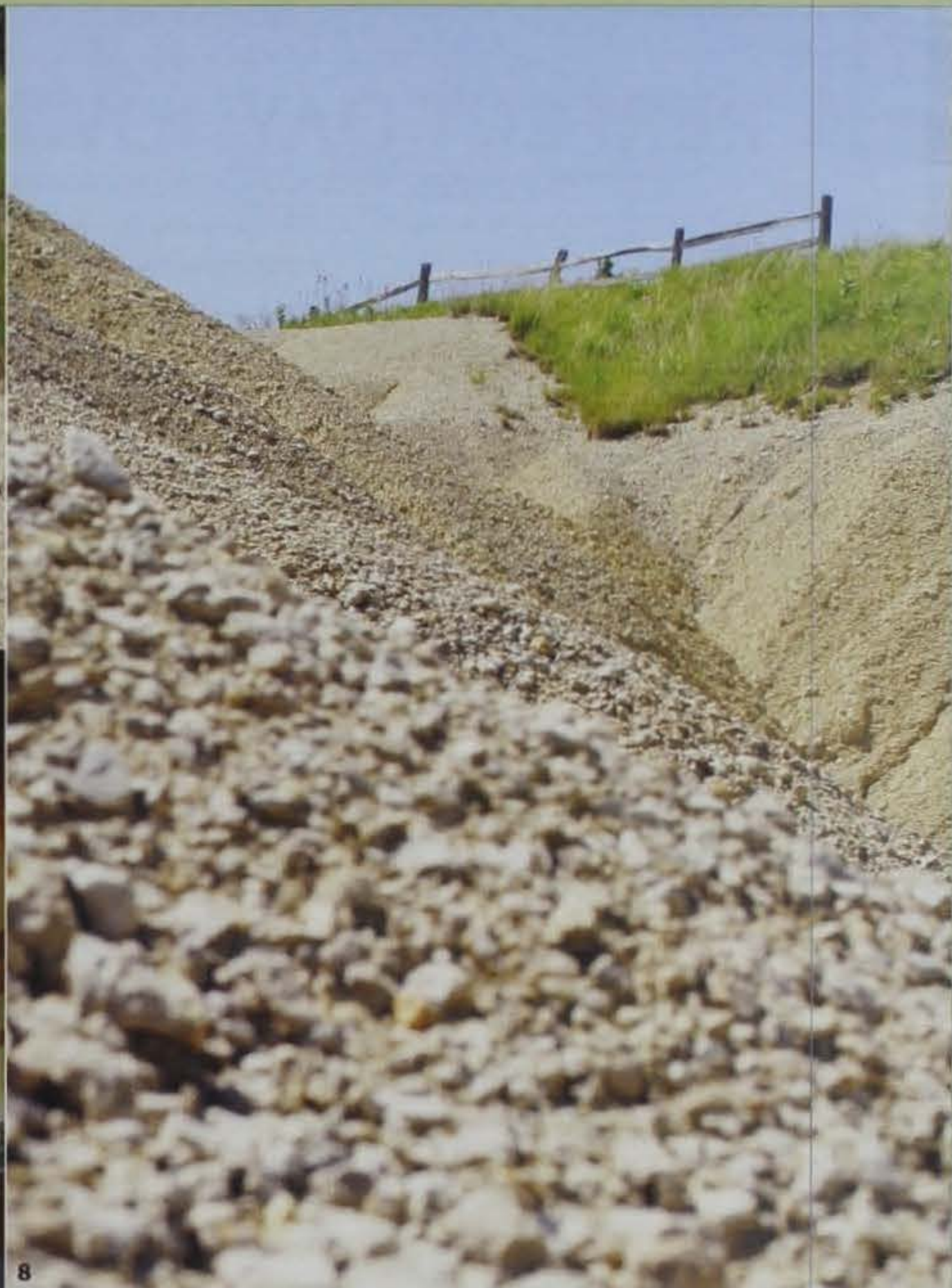
Tools aren't even necessary in the crumbly landscape. A fossil-washing shelter and ID board help with the hunt. There's little chance the fossils will run out, though collection to sell is illegal. Every time it rains, more are exposed. Rare finds include placoderma teeth and remains of a giant squid.

It's a local treasure that generates tourism dollars and community pride for those who rallied to save it from becoming a landfill, purchasing the land in 1990 with the first countywide competitive REAP grant.

CHAIN REACTION

In the circle of Iowa life, the park's remnant prairie came thousands of years later. Grassland birds such as bobolink and meadowlark flit about, basking in a diverse ecosystem nursed by the bordering Winnebago River. Rare orange butterfly milkweed and creeping juniper in the summer make more connections to history.

"We're working to get this prairie to where it's rolling



with nothing but grass to see. No trees, no fences, no buildings," says McKinstry. "It helps people imagine what it was like for the settlers who traveled Iowa when it was 85 percent prairie."

Schroeder, a former schoolteacher, stresses the prairie's importance to the park.

"I do traditional hunting. We make our own bows, and some of the guys knap their own arrowheads. Now, I can get any one of them to make you a perfect arrowhead. But there's a big difference between that and an actual arrowhead you find on the prairie. The latter is a tangible connection right back to the very hands of a Native American hunter," he says. "To me, walking through untouched prairie is that same kind of tangible connection with 8,000 to 12,000 years of history."

He's quiet for a minute. "Plus, those flowers are just so darn beautiful."

Outside, the cry of a killdeer signals people walking through the quarry where it has likely nested. As a child explores this wild place, another connection links to the past, bringing understanding to the future. 🐾

Digging Ancient Life

Eight major types and dozens of different species of fossils lay exposed at the park; **BRACHIOPODS** lived inside the protective cover of two hinged shells attached to the floor of warm, shallow seas that once covered Iowa. **CRINOIDS**, often called sea lillies, lived anchored to the sea floor by flexible, rooted stems. **GASTROPODS**, sluggish, snail-like mollusks, grazed the seas. **COLONY CORAL** flourished in reef-like communities in a mass of individual skeletons of lime resembling a honeycomb. The solitary **HORN CORAL** housed soft tissues, including tentacles to filter food particles from sea water. **PELECYPODA** (clams), and filter-feeding **BRYOZOANS** with their twig-like shape punctured with thousands of pin-holes are also found. **CEPHALOPODS**, an ancient giant squid, are rarer. Often found as tiny fragments, larger finds may be half-dollar sized pieces that look like stacks of half-moons. They lived in chambered shells, propelled by ejecting water from a tube near their head. The shell's partitions were filled with gas, enabling the animal to regulate its buoyancy.

See photos and download a DNR fossil brochure at: www.igsb.uiowa.edu/gsbpubs/pdf/EM-26.pdf

PERFECT DAY: IOWA'S GREAT LAKES

THE GLACIERS THAT PLANED MIDDLE AMERICA AND TURNED IT INTO FERTILE CORN-AND-SOYBEAN COUNTRY ALSO LEFT DEEP LAKES AND DRAMATIC RIDGES—POCKETS OF ADVENTURE FOR PEOPLE LIKE OUTDOOR EDUCATOR AND COUNTY NATURALIST BARBARA TAGAMI, WHO DEMONSTRATES HOW MUCH FUN LIES BEYOND THOSE AMBER WAVES OF GRAIN.

REPRINTED WITH PERMISSION FROM BACKPACKER MAGAZINE



Doug Harr



Danny Pritts



BARBARA TAGAMI

7:28 Snatch up peach-almond muffins from Prairie Chick at the Spirit Lake farmer's market.

7:46 Rent a kayak at the Okoboji Expedition Company (expeditionco.com) before heading 10 miles north to the 2,032-acre Kettleon-Hogsback Wildlife Management Area (iowadnr.gov), which includes four glacially formed lakes.

9:04 Unload kayak and put in at dock on West Hottes Lake.

9:18 Glide north through cattails to an unnamed island with a rookery of great blue herons. Check out the masses of nests, watching for the pterodactyl-like birds as you round the island.

12:04 Take out at car.

EP
ST



Bruce Morrison



BACKGROUND LAKE PHOTO BY DIANA PRITTS; BLUE HERON PHOTO BY CLAY SMITH



Barbara Tagami



Clay Smith

1:11 Eat lunch at overlook with sheer 40-foot drop to the water.

5:10 Munch tacos and margaritas at Marcos (712-336-2505).

12:40 Hike the Hogsback Spine Trail, a 2-mile wooded loop on a ridge starting near the park's entrance and flanked by Marble, Sunken, and East and West Hottes Lakes.

2:14 Drive back to the town of Spirit Lake, stopping for a dip at Orleans Beach on Big Spirit Lake's sandy southeast shore.

7:33 Watch the sun set over West Okoboji Lake from the Maritime Museum pier (okobojimuseum.org).

Exploring the Hidden Okoboji



STORY AND PHOTOS BY LLOYD B. CUNNINGHAM




Dive Log	Dive No:	166	Dive Site:	Lincoln Park
	Date:	6/24		Desert dock
	Weight:	25 lbs.	AIR used:	2000 psi
				FRESH-Salt
				Day-Nite
Activity:	Exploring area NW of access			
Comments:	Left @ 3:00 fill w/ gas cold & dark, about 50 ft, then turned north along life line. Found sand bottom 50' deep. Saw peacock cut. Surfaced and took two compass readings 150' to N of near entrance, 30' to Point. Took second look after surface, then cut to shore & out. Brought back 4 bottles			
Temperature	ft	Bottom time	= Total bottom time	
82 Air		2:45	113:58	
63 Bottom				

22 IOWA OUTDOORS, MAY / JUNE 2002

to date 11/15

II swapped pin... Made several pins... sketched page II... surface swim to dock... direction



Eight feet beneath the surface and passing weightlessly above the fine sand, the bottom of West Lake Okoboji looks like a vast sunken beach. Its open flat sands stretch out in every direction, broken only by an occasional stone or a bottle slipped from the hands of a clumsy or careless boater.

The sun shimmers on the rolling surface above—its golden disk squeezed and stretched by the water as it illuminates the bottom in bright yellow-green. Two smallmouth bass hang in the water above and left, just out of reach. The curious fish gather around visitors.

To the east, tumbled stones line the lake bottom 30 yards out and lap onto the shore of Sunset Beach. Ahead, sand slopes gently into deeper, darker water.

A receding curtain limits visibility to about 30 feet. Swimming along, objects first appear as dark smudges in this otherwise seamless fog. Approached, they begin to take shape. Slowly they become distinct outlines and finally clearly visible in the darkening waters. Passed, they recede in the fog behind.

At 20 feet deep, a single rock appears, an old tire passes. Nesting smallmouth bass appear around a large boulder on the right. Ahead an ice spud lost from the hands of a harvester chopping blocks apart, stands upright,

Exploring the Hidden Okoboji

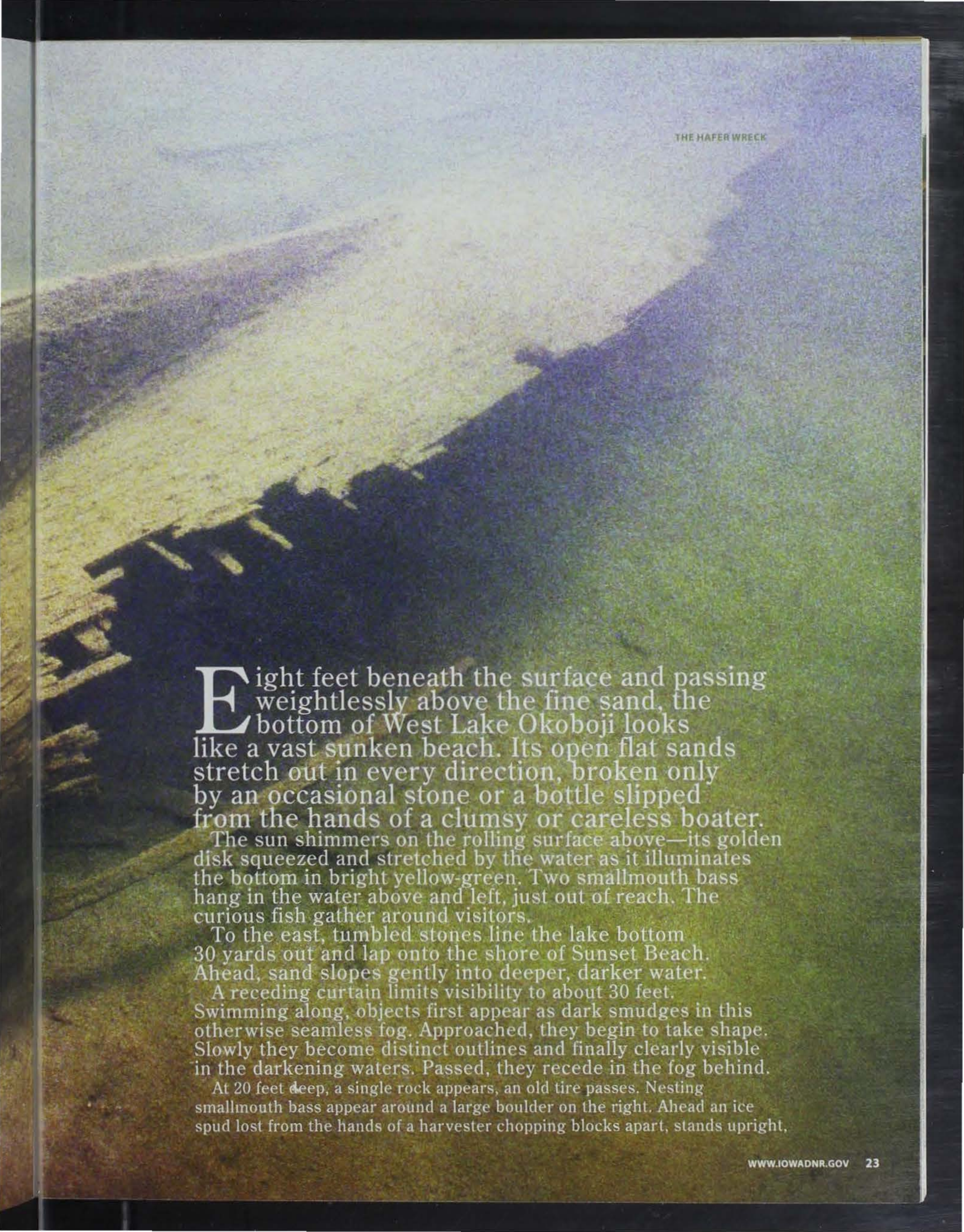


STORY AND PHOTOS BY LLOYD B. CUNNINGHAM



LOG	Dive No:	166	Dive Site:	Lincoln Park Resort dock
	Date:	4/24		
	Weight:	25 lbs.	AIR used:	1300 psi
				FRESH-Salt Diy-Nite
Activity:	Exploring area NW of access			
Comments:	Left @ 300' fill in get cold & dark about 50', then turn north along kite line. Found sand bar, 52" deep, sand pointing east. Surfaced and took two compass readings 150' to N of near entrance, 30' to Point. Took second look after surface, then east to shore & out. Brought back 4 bottles			
Temperature				
80 Air				
63 Bottom				
Bottom time	7:45	=	Total bottom	113:58
to date	us dive			

Handwritten notes at the bottom of the page, including "Swapping..." and "Made bucket primer..."



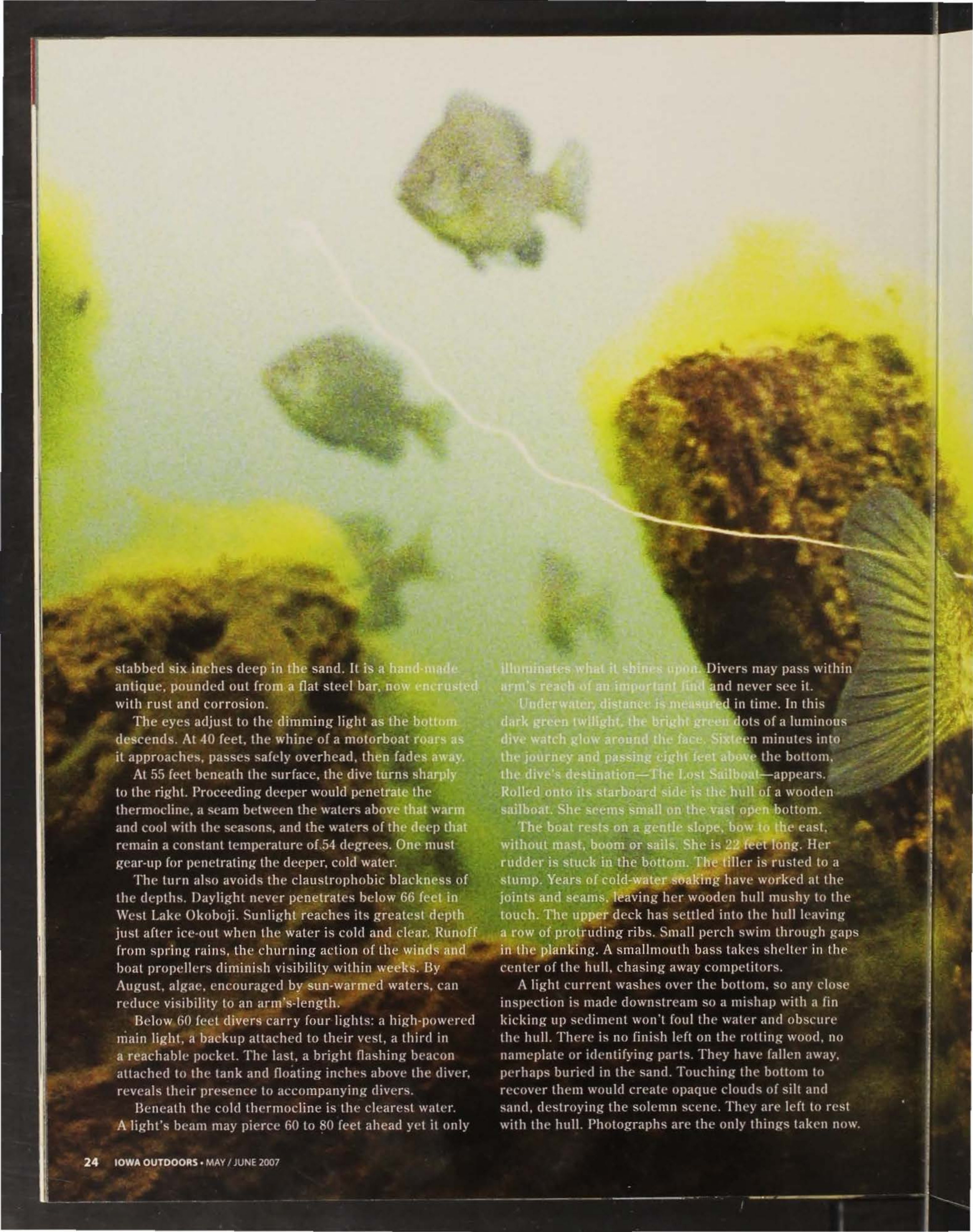
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At 20 feet deep, a single rock appears, an old tire passes. Nesting smallmouth bass appear around a large boulder on the right. Ahead an ice spud lost from the hands of a harvester chopping blocks apart, stands upright,



stabbed six inches deep in the sand. It is a hand-made antique, pounded out from a flat steel bar, now encrusted with rust and corrosion.

The eyes adjust to the dimming light as the bottom descends. At 40 feet, the whine of a motorboat roars as it approaches, passes safely overhead, then fades away.

At 55 feet beneath the surface, the dive turns sharply to the right. Proceeding deeper would penetrate the thermocline, a seam between the waters above that warm and cool with the seasons, and the waters of the deep that remain a constant temperature of 54 degrees. One must gear-up for penetrating the deeper, cold water.

The turn also avoids the claustrophobic blackness of the depths. Daylight never penetrates below 66 feet in West Lake Okoboji. Sunlight reaches its greatest depth just after ice-out when the water is cold and clear. Runoff from spring rains, the churning action of the winds and boat propellers diminish visibility within weeks. By August, algae, encouraged by sun-warmed waters, can reduce visibility to an arm's-length.

Below 60 feet divers carry four lights: a high-powered main light, a backup attached to their vest, a third in a reachable pocket. The last, a bright flashing beacon attached to the tank and floating inches above the diver, reveals their presence to accompanying divers.

Beneath the cold thermocline is the clearest water. A light's beam may pierce 60 to 80 feet ahead yet it only

illuminates what it shines upon. Divers may pass within arm's reach of an important find and never see it.

Underwater, distance is measured in time. In this dark green twilight, the bright green dots of a luminous dive watch glow around the face. Sixteen minutes into the journey and passing eight feet above the bottom, the dive's destination—The Lost Sailboat—appears. Rolled onto its starboard side is the hull of a wooden sailboat. She seems small on the vast open bottom.

The boat rests on a gentle slope, bow to the east, without mast, boom or sails. She is 22 feet long. Her rudder is stuck in the bottom. The tiller is rusted to a stump. Years of cold-water soaking have worked at the joints and seams, leaving her wooden hull mushy to the touch. The upper deck has settled into the hull leaving a row of protruding ribs. Small perch swim through gaps in the planking. A smallmouth bass takes shelter in the center of the hull, chasing away competitors.

A light current washes over the bottom, so any close inspection is made downstream so a mishap with a fin kicking up sediment won't foul the water and obscure the hull. There is no finish left on the rotting wood, no nameplate or identifying parts. They have fallen away, perhaps buried in the sand. Touching the bottom to recover them would create opaque clouds of silt and sand, destroying the solemn scene. They are left to rest with the hull. Photographs are the only things taken now.



PREVIOUS PAGE: The Hafer Wreck, one of a handful of known wrecks on the bottom of West Lake Okoboji, rests in 22 feet of water on the hard sand bottom off Atwell Point. She caught fire and sank in the mid-1920s and lay undiscovered until 1990, still upright. Souvenir hunters quickly stripped her and left the hull overturned. She can be seen from boats in the early spring. **THIS PAGE:** The gold hook is still in the mouth of this bluegill swimming near the top of The Tower in the southeast corner of Brown's Bay. After making this picture, diver Cunningham grabbed the end of the line, drew in the fish and released the hook. The fish continued to circle The Tower after it was released.



The return to shore retraces the route out, the north-south leg made in shallower water to explore new bottom.

When the sailboat sank and what happened to the crew remains a mystery. There are no records of one lost in the area. Discovered in 1996, she rests, slowly falling apart, beyond the reach of sunlight most of the year. She is not alone.

Window Into the Lakebed

West Lake Okoboji was gouged from Iowa soil by the Des Moines Lobe of the Wisconsin glacier which reached deep into northwest Iowa 12,000 years ago. As it receded it left long fingers of tumbled stones connecting, if visible only underwater—Eagle Point to Pocahontas Point and Fort Dodge Point to Pillsbury Point. It lined many of the shores with more rock and left a massive reef spreading north from Gull Point.

The lake bottom varies by location and depth. Her major bays—Emerson, Miller, Smith and Cass—have hard sand-covered bottoms that vary in depth from 20 to 35 feet. Tall grasses grow offshore, providing nurseries for panfish and hunting grounds for northern pike and patrolling musky. Sadly one sees aluminum cans and glass and plastic bottles off popular beaches and beneath

boating areas and fishing hotspots.

The heart of the lake stretches from Terrace Park Beach in the south to North Bay more than five miles away. West Lake Okoboji is as much as two miles wide. In the deep water of Brown's Bay and from Omaha Point to Pike's Point there are reefs to 60 feet deep.

The holes of the lake—the deepest point is 138 feet—are layered in thick muck that can be more than four feet deep. Divers, seeing its surface and assuming it's hard bottom, have settled through the thick mass and struggled to release themselves. The muck is deep enough to hide the hull of small boats.

American Indians reported Iowa's great lakes to European explorers in the late 1600s. Okoboji appears by name on maps as early as 1839. Abundant game and fish brought trappers, traders and eventually settlers. The beautiful blue waters have beckoned travelers and vacationers for generations. Today, the area's population of 16,000 swells to 120,000 on summer weekends.

The Wreck of the Exploding Hazel Dell

A little after 9 p.m. on Friday night on July 1, 1927 a large boom echoed through the center of tree-lined Smith's Bay. Hazel Dell, a private launch owned by summer



1) Diver Debbie Skarin of Spirit Lake, rubs the chin of a smallmouth bass. Bass, after spawning are curious fish and will gather around divers, even swimming up to their masks. Sometimes divers have to shoo them out of the way as they cross the lake bottom. 2 & 3) A smallmouth bass patrols the remains of the City of Milford's water supply pipe that served residents with drinking water from 1915 to 1940. Up until 1960, daphnia and tiny freshwater shrimp could be seen in a glass of tap water, says David Coleman, the city water superintendent. "All those years you were drinking something moving in your glass," he says. "They were about the size of a pinhead." That ended with chlorination and filtration. Today's water comes from a larger pipe added in 1959 not far from the original. The pipe was installed in the winter, lowered into the water with ropes through a hole cut in the ice. Bluegill swim around the top, bass hide and walleye patrol the base. 4) In 1884, as many as seven steamships with names like Hiawatha, Illinois, Iowa, Des Moines and Okoboji, carried passengers to and from resorts around West Lake Okoboji. Some wintered on the beaches, others were pulled from the lake on carriages over these railroad tracks east of Green's Beach. The tracks begin in seven feet of water and extend offshore 75 feet. Last used in 1953, they provide gathering places for small fish after the spawning season.



resident Leon Voorhees, had exploded and caught fire.

Earlier in the day Voorhees repaired a gas-line leak aboard the launch, then after supper took his wife, daughter and three friends for an evening's ride. Gasoline, floating above the bilge water under the floor, exploded near the bow. It enveloped the boat in flames.

The flames led Milo Hartman, pilot with the Eagle Boat Lines, to the scene from the docks at Arnolds Park. Other boats raced from shoreline cabins. The rescuers found the passengers in the water clinging to the burning boat. All six aboard were saved. Two suffered burns to their arms and hands and required medical attention.

The 35-foot launch burned to the waterline and sank three quarters of a mile south of Des Moines Beach. Efforts to recover the boat the following week were unsuccessful. She remains among others on the bottom of the lake.

Roaring Twenties Mystery Wreck

Already sunk off Atwell Point was a cedar-strip runabout. She's known as The Hafer Wreck. News accounts of the sinking have been lost to history, but sometime in the mid-20s she, too, caught fire and sank in West Lake Okoboji. She set upright and intact on the bottom in 22 feet of water until Tim Fuhrmann and Tom Weishaar, divers from Fort

Dodge looking for another boat in the same area, found her in 1990. She was quickly stripped by looting divers.

The Hafer Craft Boat Company of Spirit Lake built the 22-foot runabout. The company went out of business in 1955 when wooden boats fell out of fashion. All that remains is her overturned hull, home to bass and walleye.

There was another Hafer on the bottom in Brown's Bay. She was a 22-foot double-ender, powered by a four-cylinder in-line engine. Jim Farrell discovered her while diving with friends Dick Apland and Marv Mamminga, in the spring of 1966. She was a few hundred yards off Green's Beach in 40 to 50 feet of water, two-thirds buried on the bottom. Another diver reportedly raised the boat, left the hull on the beach, and turned the engine into a glass-enclosed coffee table.


Built Ford Tough

Among the wrecks on the bottom of West Lake Okoboji are two significant dive sites—one placed on the bottom, the other arrived by accident.


Divers knew the story of the accident. In 1948, a 1935 Ford truck used in ice harvesting, slipped into the water and sank into Smith's Bay. Searchers couldn't find

CONTINUED ON PAGE 30.



A photograph showing a large, cylindrical object, likely a 1935 Ford truck, completely covered in a thick layer of green algae. The object is partially submerged in water, with the water surface visible in the background. The scene is dimly lit, suggesting an underwater or shaded environment. The algae appears to be growing in layers, with some darker green areas and some lighter green areas. The overall tone of the image is green and somewhat murky.

LOST AND FOUND A 1935 Ford, covered in growth with windows up and good tire tread, sits at the bottom of Smith's Bay. Used for ice harvesting, the truck slipped into the water and sank in 1948. It eluded divers until 2000, before then, most assumed it had rusted away. Ice harvesting tools found on the truck bed are now in the Great Lakes Maritime Museum.



the truck and assumed it had rusted away until Debbie Skarin of Spirit Lake stumbled across it in 2000. She too was unable to relocate the truck. Summer resident, Jim Koenig of Charles City diligently searched the area for two seasons before finding and fixing its position on May 30, 2001. It rests in the middle of the bay on a hard sand bottom facing west-northwest in 20 feet of water.

The Water Tower

About 150 yards off a small beach in the southeast corner of Brown's Bay is a 15-foot wooden tower that was built

THE LOST SAILBOAT, one of a handful of known wrecks on the bottom of West Lake Okoboji, rests in 52 feet of water on the hard sand bottom off Sunset Beach. Bow to the east and ribs rising above the hull, she is slowly falling apart. There are no records of a sailboat lost in the area. When she sank and what happened to her crew remain a mystery. She lies too deep in the lake for sunlight to reach most of the year.

on the ice, filled with stones, and lowered into 33 feet of water. It holds upright an eight-inch intake that provided Milford with drinking water from 1915 to 1940. Now, the tower provides shade and shelter for panfish.

Destructive divers and boat anchors have pulled pieces away from the historic structure which now leans to the east and unfortunately seems destined to fall apart.

Watery Collision, Rescue and Recovery

The two most famous craft to rest on the bottom of West Lake Okoboji have both been recovered. Minutes before midnight Friday July 19, 1946, No. 30, a commercial speedboat owned by Frank Spotts of Arnolds Park, was stuck by Isabel II, a pleasure craft owned by Charles Spies of Emmetsburg. The No. 30, a 19-foot Chris-Craft,

sank within minutes into 60 feet of water just beyond the reef northeast of Gull Point. Rescuers from several parts of the lake arrived in time to save all six aboard.

Jim Koenig found the boat in 1994 and oversaw its recovery June 15, 1995. She is on display at the Iowa Great Lakes Maritime Museum in Arnolds Park.

The Missing and Deadly Miss Thriller

Miss Thriller, a 28-foot Sea Sled was returning to the docks at Arnolds Park Sunday night July 28, 1929, with 17 aboard when she was struck and sank by another passenger boat, Zipper. Nine passengers aboard Miss Thriller died in the accident. She sank in 90 feet of water more than one-half mile south of Dixon Beach.

Miss Thriller was pulled to the surface, towed to Terrace Park Beach and hauled onto shore July 3, 1930 to salvage her twin airplane engines. What happened to her hull is not clear. Some say she was put on exhibit at fairs and carnivals. Other say a grieving parent doused her with gasoline and burned her up. There doesn't seem to be a written account to confirm either story.

There are, or were, other craft on the bottom of West Lake Okoboji—a sailboat that sank in North Bay in the early 1970s, and a fiberglass runabout discovered in 2005. There may be more hidden in vast depths of the 3,850-acre lake. All are part of the lesser-known but rich heritage of one of Iowa's most popular recreational lakes. 🐾





Avian Architecture

STORY AND PHOTOS BY LOWELL WASHBURN

RIGHT: Biologist Bruce Ehresman jumped from a utility service truck bucket to pose in an eagle nest after banding the raptors shown above in 1996 along the Maquoketa River. "It may be the largest nest in Iowa," he says. "It's at least 10 feet deep and seven feet wide." Based on the banding, one eaglet is known to have reached adulthood and successfully nested.



Over 180 species of birds call Iowa home. As varied and complex as the species that weave them—bird nests are nothing short of works of art.



After inspecting and then rejecting two or three landing points, the adult bald eagle finally found the branch he was looking for. The majestic bird landed and then cocked his head as if further sizing up the limb—and the task. Finding everything to his liking, the huge raptor tightly clenched his talons and with a single thrust of his seven-foot wings cleanly snapped the branch from the tree.

Securing the club with both feet, the eagle banked into the wind and immediately headed back to where his mate stood waiting atop their half completed, three-foot-tall nest. Amid a boisterous chorus of kacking and churring, the male presented his offering. The female accepted and carefully threaded the branch into the outer edge of the growing nest.

“Did you guys see what that bird just did? Wow, talk about power! This is just incredible. I didn’t even know such behaviour existed. I wish everyone I know could be here. I’ll never forget this.”

It was a brisk spring morning and the excited dialogue was gushing past the lips of Randy Morris, a twenty-something birder enjoying the first-time experience of watching a pair of mature bald eagles construct their nest.

Located along the Winnebago river in northern Iowa’s Hancock county, the nest was located in a dead cottonwood less than 300 meters from a gravel road. There were no visual obstructions and the site was as viewable as an eagle nest gets. Regarded as the heaviest construction of avian architecture, eagle nests may reach or exceed a weight of two tons. Once discovered, eagle nests never fail to draw crowds of observers and this site was rapidly proving to be no exception.

ONE OF THE MOST INTRIGUING aspects of the avian life cycle is the annual construction of nests. As complex and varied as the species that build them, nests are where birds lay, incubate, and hatch their eggs. For most birds, nests also serve as a place to confine and rear yearly crops of youngsters.

For many species nest building requires a significant outlay of time and energy. But in

spite of their often elaborate detail, most bird nests are designed for one-time use. Site selection and construction of new nests occurs each year. There are exceptions, of course. Some species, like the bald eagle, use the same nest for years. Other birds build no nests, but steal or renovate structures built by others.

Bird nests can be large or small. Some are poorly constructed, while others are virtually indestructible. Nests can be built of sticks, twigs, grasses, or mud. Included among the more bizarre materials are saliva, horse hair, lichens, plastic, and spider silk. Bird nests may be found at or below ground level, over water, in hollow trees, or atop the highest cliffs. Most nests are found somewhere between those extremes—secretly entwined amongst the dense understory of forest shrubbery or beneath the thick canopy of permanent grasslands.

The most familiar bird nest to Iowans is the sturdy structure of American robins. Whether constructed in the branches of a backyard apple tree, under the eave of a farmstead cow shed, or on the window ledge of a downtown office building, robin nests are always popular and always guarded. Robin pairs begin construction as soon as melting snow or April showers provides the mud needed to cement grasses, yarn, paper, and discarded

plastic into the sturdy bowl that will hold its precious cache of bright blue eggs.

While there is no question that nesting within an urban setting may provide a large measure of protection from marauding predators, bird species that are less people-oriented are more innovative. Although Iowa wetlands are full of such examples, perhaps none is more unique than the nest of the yellow-headed blackbird.

While most birds are fiercely territorial, yellow-heads are colony nesters. On the northern wetlands, the annual cycle begins in late April as males arrive from the south. When it comes to choosing which particular wetland to call home, breeding yellow-heads choose quality over quantity. Regardless of acreage, a marsh containing dense stands of healthy, emergent vegetation is critical. The population of a breeding colony may vary from as few as a dozen pairs to more than a hundred.

The nest of the yellow-head is always located over water, and it is the female who selects the site. Although males seem to take an interest in nest building, they rarely contribute to the effort. Construction begins as the female wades the shoreline, collecting coarse, water logged sedges which she carefully weaves into several stalks of cattail. A flat platform soon emerges which ultimately



LEFT and BELOW: A killdeer, a common open land nester, stands above its clutch. Taking advantage of human presence, it often nests on gravel road sides. The nesting technique uses camouflaged speckled eggs to blend in with the surroundings. **RIGHT:** The yellow-headed blackbird is a familiar species in Iowa's northern prairie pothole region. "Its call is nonmelodious and unmusical," says DNR biologist Bruce Ehresman. "Its sound is described as the grating of a rusty hinge. I don't know why you'd call it a song," he quips. **FAR RIGHT:** Young yellow-headed blackbirds peep for food from their nest, a deeply woven basket made from sedges and cattails. Often nesting near red-winged blackbirds, the larger adult yellow-heads push the smaller red-wings from the best nesting areas.



provides the cornerstone for the construction of a sturdy, nine-inch basket. As the warming effect of sunlight evaporates moisture, this inner foundation shrinks down and is soon drawn tight to its cattail anchor. The completed nest, with its deep grass-lined bowl, is a work of art. The female loses no time in depositing her first egg—often within hours of finishing the structure. Although the violent winds of sudden spring storms may dislodge some eggs from their hanging nests, most clutches survive 12 days of incubation.

Other marsh birds, such as grebes and coots, find safety by constructing floating nests. In addition to affording protection from land based mammalian predators, floating structures also provide no-risk flood insurance as they rise and fall with fluctuating water levels. Other water birds, such as trumpeter swans and giant Canada geese, often nest atop preconstructed islands of muskrat lodges. This unique nest on top of a nest not only offers nesting birds an elevated view of their surroundings, but is easily defended from predators which results in an extremely high level of egg survival.

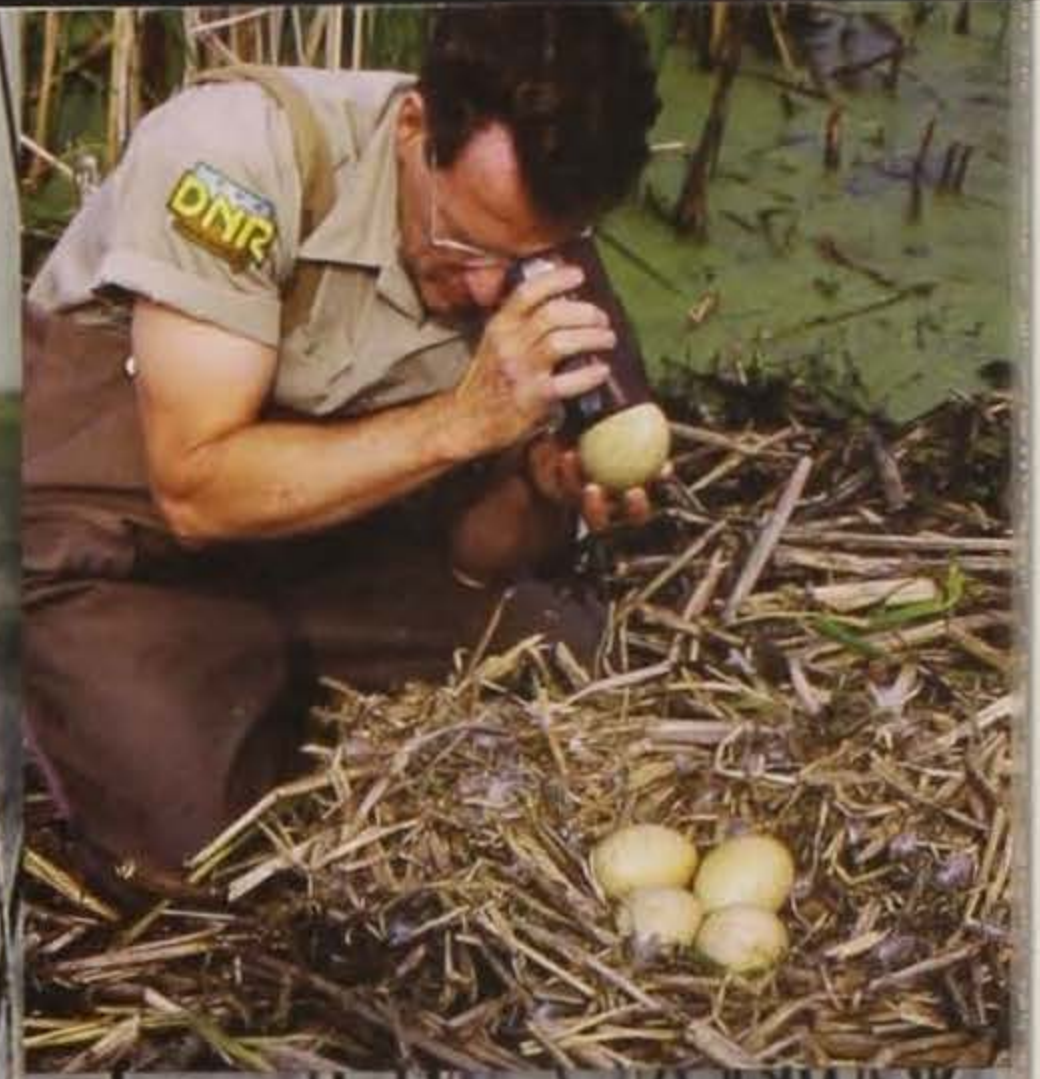
Of course, not all water birds nest on or near water. Some wood ducks will leave marsh or river backwaters to fly a mile or more inland to scour mature forest and wood

lots for suitable nest cavities. Although any species of tree will do, stands of mature maple and basswood seem to produce the greatest abundance of natural cavities. Competition from screech owls, squirrels, raccoons, and a host of other cavity nesters is keen. Accompanied to woodlands by her colorful mate, a hen will typically explore dozens of cavities before selecting the one that best suits her needs. Although an incubating wood duck will line the floor of the nest chamber with down pulled from her breast, no other material is added to the cavity. Nest entrances may be located 50 feet or more above the ground. The day following hatch, the hen cautiously peers from the cavity where she has spent the better part of the past month. If the scene appears safe, the hen flies to the ground and softly calls to her brood. The cavity erupts with sound as, one by one, the day-old ducklings appear in the doorway. Without hesitation, the downy chicks leap into the air and free fall to where their mother calls. Once the family is assembled, the hen loses no time in leading the brood overland to water.

As is the case with most cavity-nesting birds, wood ducks readily utilize artificial nest boxes. Building bird houses and then erecting them in safe sites can enhance nesting success for most cavity-nesting species.



RIGHT: Biologist Ron Andrews candles trumpeter swan eggs at Mallard Marsh in northern Cerro Gordo County. By learning if the eggs are fertile and the approximate hatch times, non-viable eggs can be replaced with eggs from private propagators—a process called augmenting. The effort increases swan survival odds, part of a restoration effort funded with REAP and wildlife checkoff funds. **BELOW:** Nest of American coot eggs. **OPPOSITE:** New eagle nest construction northwest of Clear Lake in Hancock County and great-horned owl nest.



Bird Nest Trivia

EARLIEST NESTER: Throughout its range, the great horned owl is the first bird to begin nesting. In Iowa, courtship begins in December and eggs are laid by early February. In the northern part of the state, incubating females are often covered by three or four inches of new snow.

LATEST NESTER: The goldfinch is Iowa's latest nester. Utilizing mature thistle down as a primary nest component, the finch's nesting season peaks during late August and early September—when other songbird begin their journey to southern wintering grounds.

LARGEST IOWA BIRD NEST: The American bald eagle reigns as the undisputed king of nest builders. Measuring 5 to 6 feet in height and 4 to 5 feet in width, their nests are avian lumber yards, attaining weights exceeding 2 tons. Most frequently located in giant cottonwoods, the same nest is used year after year. Eagles may continue to add material until the structure's weight

eventually takes the snag to the ground. More than 200 bald eagle nests are currently scattered across 80 Iowa counties.

SMALLEST IOWA BIRD NEST: Of the 180 species of birds that call Iowa home, the ruby-throated hummingbird is the smallest. Its nest is also the smallest and consists of a tiny cup of plant fiber, leaf clippings, and bud scales glued to the top of a tree branch by means of fresh spider silk. As a final touch, the nest exterior is decorated with lichens carefully selected to match the color of adjacent tree bark. The finished product is virtually invisible. My one and only opportunity to watch a hummingbird construct its nest occurred purely by accident while hunting spring gobblers in northeast Iowa's Clayton County. Spotting a movement to my right, I watched the female add the finishing touches to its nearly completed nest. When I returned during a summer trout fishing trip, I found the nest empty, but the somewhat worn edges led me to speculate nesting was successful.



BEST CONSTRUCTED NEST: The bald eagle easily wins this category. Virtually indestructible, eagle nests may last for decades. Constructed with an impressive collection of sun-dried sticks and branches, the nest's platform is lined with finer twigs and grasses. The extreme durability of an eagle's nest became profoundly evident as I accompanied wildlife biologist Bruce Ehresman on an eagle banding foray along the North Fork of the Maquoketa River near Cascade. Situated in the arms of a giant cottonwood, the 5-foot-deep and 4-foot-wide nest towered nearly 60 feet above the ground. Ehresman and I accessed the nest using a utility truck bucket donated for the purpose by the local REC. Upon extracting three massive eaglets from the nest for blood work and banding, Ehresman suddenly turned and asked, "Would you mind doing me a favor?"

Without asking what the favor might be, I simply replied in the affirmative.

"Great," Ehresman responded. "I've always wanted to have my picture taken in an eagle's nest but usually don't have anyone with me that can do it."

Having stated his case, Ehresman climbed to the rim

of the bucket and, without hesitation, leaped. His touchdown in the nest was a perfect three-point landing utilizing both feet and a right arm for balance. Amazingly, the impact on the nest was about the same as if you had jumped unto your living room floor. The structure didn't budge.

"Well what about those photos?," queried Ehresman.

I think I was in mild shock. If the nest hadn't held, Ehresman would have likely perished.

"Are you nuts?"

"Nope. I just love eagle nests," grinned Ehresman. "Aren't they something?"

MOST POORLY CONSTRUCTED NEST: The mourning dove wins this honor. Typically located in the lower branches of hedgerows and conifers the nest is merely a sloppily constructed platform of coarse twigs. Although mourning doves lay a mere two eggs per clutch, and many nests and young are lost to wind, weather, and predators, the dove remains one of North America's and Iowa's most abundant birds. This seemingly impossible feat is accomplished as dove pairs produce up to four broods per year. 🐦



OPPOSITE: A baby hooded merganser uses sharp claws to climb inside the nest cavity to then jump to the forest floor. A female mallard takes a stretch from incubating eggs from atop a nesting structure. **BELOW:** A pied billed grebe builds a soggy nest atop floating mats of cattails and rushes. Nicknamed the "helldiver" for its skilled water ability, its nesting strategy suits—the open water nest allows it to dive to escape predators. Drab color feathers helps camouflage the bird against the nest. Both males and females gather nesting material.






ABOVE: X-ray of a dead bald eagle shows slivers of lead in the stomach, evident as bright white spots. Lead can be ingested after feeding on deer carcasses or other game animals shot during the winter season. As a deer is hit with a lead slug, tiny fragments break off as the slug impacts bone. Some are ingested as eagles pick over the carcass or gutpile left in the field. **LEFT:** With impaired nervous system and problems seeing and breathing, this eagle has trouble holding its head erect or walking—all symptoms of lead poisoning which can be fatal. Project SOAR (Save Our Avian Resources) staff say poisoning peaks in December, coinciding with the shotgun deer season. While emphasizing they are not blaming hunters, SOAR staff suggest hunters use non-toxic copper slugs when deer hunting.

PHOTO OF EAGLE AND X-RAY COURTESY SOAR

WILDLIFE REHABBERS

STORY AND PHOTOS BY JOE WILKINSON



A summer storm. A crack of lightning. A thick tree limb crashes to the ground. From a cavity, once 20 feet above ground, high pitched "chirring" and scratching can be heard. A couple whiskered noses poke out, just ahead of the oh-so-familiar black masks. A litter of raccoons is displaced. Now what?

The scenario changes constantly. Maybe it's a nest of fox squirrels whose mother was hit by a car. A whitetail fawn is rescued by a well-meaning, but uninformed "Good Samaritan." Maybe it's a barred owl with a broken wing or bald eagle suffering from lead poisoning. Orphaned, injured or both; the animal is out of its natural environment. Return it to the wild? That is usually the best course of action. Quite often, that baby bird or helpless fawn is not an orphan. Humans equate 'alone' with 'abandoned,' when in reality the parent is nearby, waiting for the intruders to leave to coax its young to safety.

If that critter is seriously injured though, or if the parents are indeed out of the picture, the choices are sparse. Let it die or help it live. In the real world, the young, sick and injured become dinner for a variety of creatures. That is how *they* survive. Thousands of times each year across Iowa, though, the latter course is followed. Enter the world of a licensed wildlife rehabilitator. Sprinkled through the roster of 101 licensed rehabilitators in Iowa are county naturalists, wildlife workers and veterinarians. Think you have what it takes? It's not that easy.

IT TAKES TIME. "The hawks and owls start coming in around February. The baby raccoons start showing up around May, as people pull their boats out of storage or clean out the shed," notes rehabilitator Sharon Atwood of Baxter. "The fawns show up at the end of May, maybe the first of June. After every spring storm, there's a chance I'll get a call about birds or squirrels." With a menagerie of raccoons, opossums, birds and more, her last 2006 visitors of six fawns were shown the gate in February...just in time for the next crop of hawks and owls to start falling from their late winter nests.

Anyone who has fed a hungry human household knows youngsters can eat. So do their wildlife counterparts...and not just the morning or evening bowl of food you set out for a household pet. "Every 20 minutes, when I walk by those naked, baby birds I have to stuff something in their mouths," laughs Atwood. "It's bottle feeding raccoons four to six times a day. Fawns need a bottle twice a day."

IT TAKES MONEY. Though donations are welcomed, a typical wildlife rehabilitator digs deep into his or her own pocket. Each recovering or growing animal needs food. Many require medicine. "We just ordered \$475 worth of Succimer, medication to fight lead poisoning in bald eagles," relays Kay Neumann, who operates SOAR (Save Our Avian Resources) in Carroll County. She deals strictly with birds. "We can mix this with their food and get them to take it orally. We used to have to inject it. Imagine dealing with an eagle; holding it down to administer a painful injection."

Atwood estimates she and her husband spend hundreds of dollars a year out of pocket. She used to feed goat's milk to all the nursing babies, buying it for \$3 a gallon, but her supplier doesn't raise goats anymore. That means buying milk replacer for \$30 a bag. "I'll go through three bags in a year," says Atwood. The six deer she rehabilitated in 2006 would not eat less costly grass hay. "I (went) through 100 little square bales of alfalfa hay, at \$2.75 a bale," says Atwood.

IT TAKES SKILL. Atwood has an advantage. Until retiring recently, she worked at a veterinary clinic. Through the years, they pinned several broken wings of hawks or owls, brought to her for treatment. On occasion, to save an injured deer, a leg was amputated. Conferences and classes help rehabbers learn how to deal with injuries along with how and what to feed certain species. "I've learned not to pet or handle the young fawns," says Atwood. "Early on, I might have held an animal back from the wild for too long." She—and others—learned that each species has a timetable for getting acclimated to the wild, especially as winter approaches.

IT TAKES DEDICATION. From pelicans to foxes, to the annual influx of raccoons, deer and songbirds, Rachelle Hansen of Shueyville spends spring, summer and fall tending needs of injured or abandoned critters while juggling her home life and a career in realty. "If you know what to do, if you can do something about it, you just have to," says Hansen. "I've been doing it most of my life. I feel obligated to do it."

Hansen works with her feathered and furry pupils at her place near the Coralville Reservoir. As they heal or get older, they move from pens to the yard and eventually to walks in the woods or fields. "We take longer and longer adventures. I want to expose them to as much as I can—

EAGLES, LEAD POISONING

Not all animals that come into a rehabilitator's care have obvious injuries. Sometimes, the damage is internal. In 2005, of 13 eagles admitted to rehabilitators in Iowa, nine had lead poisoning. Another showed signs of lead exposure. In 2006, 12 were brought to rehabilitators. Of six tested, four showed lead poisoning and another showed some exposure. After research, a common thread appeared to emerge. Bald eagles are prolific anglers, swooping down to snatch a fish from the water. They are also scavengers, and a good share of their menu through an Iowa winter comes from deer carcasses.

X-rays on deer carcasses sometimes show tiny fragments of lead, from slugs used by hunters. Those fragments, often microscopic, are ingested as the birds feed on the carcass. "Even though most of the slug remains intact, if it hit the spine or ribs, for instance, tiny shards stay in the body," explains Neumann. "That's all it takes to poison an eagle; its digestive system is so efficient." Neumann says those specks of lead dissolve in the eagle's stomach, causing vision and breathing problems and impaired nervous systems.

With thousands of eagles wintering in Iowa, it is apparent the overwhelming majority are not harmed. That high ratio of sick eagles tested, though, raises concerns. Neumann suggests use of non-lead ammunition, copper slugs for instance, as a simple solution.

how to react to other animals and to humans; where that food comes from that they've been eating," says Hansen.


With the all-too-frequent cleanup of messes, force feeding medication, being on call 24-hours and the pragmatic expectation that some of their charges will die, the life of a rehabilitator is not what you anticipate when your child approaches with a furry wildlife baby, asking, "Can I take him home?"

Living near Coralville Reservoir, Hansen has worked with five pelicans over the years. Only three returned to the wild. Still, she spent a couple months mending one big, ungainly bird through the winter...long after the flocks had left for the Gulf Coast. Its minor wing injury healed well. With winter underway and a steady diet of fish from the frozen foods department, though, he was in no hurry to leave.

Hansen tried to hitch a ride for him, pricing shipment by air. It was cheaper to take him herself. "It was Super Bowl weekend—the one weekend where nobody would miss me," she jokes. With the pelican and its six-foot wingspan in the backseat, she pointed her car south. A couple days later, they pulled up to a barren stretch of coastline. "Even before he could see the water, he got excited," recalls Hansen. "We both hopped out of the car and stretched. As I strolled the beach, he followed me." The pelican took flight, winging his way to the water.

Long after the flock has flown south for the winter, an injured American white pelican recovers in the rural Shueyville home of wildlife rehabilitator Rachelle Hansen. In the background, Hansen drops another frozen fish into a pelican's basket-like pouch. By the time the 4-foot-tall, 110-inch wingspan pelican recovered, it was too late to migrate. Hansen loaded it into her car over Super Bowl weekend and drove it the Gulf of Mexico for release.





ABOVE: Shown as white flecks, slivers of lead from a hunting slug appear in a deer carcass. While most of the slug remains intact, not likely to be consumed, tiny shards splinter off as slugs impact bones on its path through the deer.

BELOW: With rehabilitator Sharon Atwood looking on, this young whitetail deer roams the exercise yard on Atwood's rural Jasper County farm. Found near Ames as a young fawn, it had undergone surgery to repair a broken jaw. Shown at seven months old, it still has trouble chewing and is about half the expected size. Atwood held the deer until spring, when food is more plentiful, before releasing it into the wild.



EVOLUTION OF IOWA REHABILITATORS

Decades ago, a wildlife rehabilitator was anyone who knew a little bit about animal care and paid \$5 for a permit. The rehabilitator did what he or she thought was best. That changed in the mid-1980s. Bruce Ehresman, working at the DNR's Wildlife Research Station in Boone, often received many wildlife orphans. They worked at times with Iowa State University's fledgling Wildlife Care Clinic. Upon returning from national meetings of wildlife rehabilitators, he and wife, Marlene, were armed with ideas. Calls went out to other rehabbers and county naturalists and the Iowa Wildlife Rehabilitators Association (IWRA) formed.

"It was way too easy to get a permit," explains Marlene. "Wildlife rehabilitation is a specialized need." Arming rehabilitators, vets, humane societies and others with proper information on correct wildlife care and letting the public know how to get assistance became a priority.

Annual IWRA meetings drew 70 to 80 people. Soon, the IWRA worked with the state to get regulation changes, such as an apprenticeship program. Rehabbers now spend a year learning from a master rehabilitator, or two years under a general rehabilitator before qualifying for a permit. ISU also offers a wildlife care option through its animal ecology curriculum. Still, Iowa needs more.

"It's a complex issue," admits Marlene, who is on the IWRA board. Funding is a challenge. "Some might raise a little money through donations or fundraisers. They don't have the expertise, though, to write grants. There is no financial help from the state. We lose some rehabilitators because of the money issue. Burnout is another factor. There are only a few rehabilitators, but there are lots of animals and lots of people to find animals."

She'd like to see more cooperation between rehabilitators, the state and counties, better funding mechanisms and more training. "Because it's not going to go away," she cautions. "Humans have impacted natural areas and systems in such a huge way. Animals are getting blindsided. They need all the help they can get."

200 yards away. "We had our own Super Bowl touchdown when he hit the water," laughs Hansen.

Often, the call when someone finds a wildlife baby is to a DNR conservation officer or county naturalist who often determines whether it should go to a rehabilitator, and makes the pickup and drop off. "Without rehabilitators, the outlook would be pretty grim," concedes DNR officer George Hemmen. "The public expects us to do something. You might say, 'it's only a raccoon,' but to the kid who finds that litter, he wants to know what happens to it—that it (stands a chance) to be released back into the wild." Through 30 years, Hemmen has handled eagles, a peregrine falcon, raccoons, a skunk—even a mink. "Just about every kind of animal you can find in Iowa," he tallies. "Rehabilitators are great for the officers. They have a facility. Before, it was sort of a lost cause. Today, they stand a chance."

REHABILITATORS ARE LIMITED. The best teacher for de facto-orphans is its parent. Humans can't do it as well. In many cases, simply leave the wildlife baby where it is. DNR wildlife biologist Tim Thompson had a typical call one spring day. "We had a caller say they had rescued a fawn, that their dog had run off the mother," he recounts. "That doe actually drew the dog away from the fawn. The newborn doesn't have any scent yet. The doe leaves the fawn and goes to feed. If it senses danger, it sure isn't going to jeopardize its young." The deer's instinct worked. It would have returned later. But by then, humans had stepped in for the rescue. That meant six or seven months of time, effort and funding by a rehabilitator to teach the fawn how to be a deer again.

After feeding a few fawns, checking a sick opossum, changing the bedding for the litter of squirrels, the rehabber might round up earthworms for the robin with a broken wing or fix a cage. In their spare time, there's family, a job, a social life and maybe even a chance to sleep through the night. Eventually, the animal is set free—if it survives. Once on its own, those lessons and instincts dictate whether it survives the night—or matures in the wild.

Long hours. Long days. Disappointment at times. But the success stories carry rehabilitators during overnight feedings, messy cleanups and digging deep for more food and supplies. Hansen sometimes notices that deer she raised return. Eventually, they "go wild" and she knows her job is done. "It's a mixed bag. You've spent so much time. You feel close to them," she admits. 🐾

WHAT TO DO WITH THAT ABANDONED CRITTER

- In most cases, leave it alone—its parent is near, hiding.
- Young birds can be set on a reachable branch, or back in their nest. Birds will not abandon their young because of human scent. Most birds don't smell things that well.
- If an animal is known to be abandoned or orphaned from a blown down tree or accident that leaves the parent dead, call a conservation officer. Their numbers are listed in hunting and fishing regulations and at www.iowadnr.gov. Your county sheriff can contact them also.
- Wildlife rehabilitators work for free. They usually need supplies, food (especially natural) and funding for medication. Conservation officers have more information.
- Remember, it is illegal for an unlicensed person to possess a wild animal.
- IWRA is developing a statewide rehab directory. Check their website, below, for further updates.

WEBSITES

www.soarraptors.org
www.NWRWildlife.org
www.iowawildliferehabilitators.org
www.macbrideraptorproject.org



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Where BIG Fish Lurk

Get your rods and reels ready,
fill the bait bucket and
load the car. *It's GO time!*

BY MICK KLEMESRUD PHOTOS BY CLAY SMITH
ILLUSTRATIONS BY MAYNARD REECE

It's late April, and Iowa waters are nearing the boiling point. Iowa's predator fish are cleaning up the last morsels of the annual winter shad fish kill. Walleyes are on the verge of spawning, and the rest of Iowa's aquatic underworld are not far behind. Crappies, then bluegills, bass and catfish—some of the hottest fishing activity of the year is just getting underway. It's a great time to be on Iowa waters.

Shortly after walleyes start biting at *Lake Macbride*, crappies follow suit—first in the shallow upper end of the lake, then at the dam. Just to the north, *Pleasant Creek* will join the crappie bite later in May. Fish the new brush piles on both sides of the beach.

Three Mile Lake outshines all other lakes in the southwest for quality and numbers of **CRAPPIES**. Fish rocky, wind-blown areas with small jigs or slow sinking jigs. Minnows are optional, but may help if fishing is slow. Expect *Little River*, *Binder Reservoir*, *Lake Icaria* and *Lake of Three Fires* to have a good crappie year. *Green Valley* will be decent. *Wilson* and *Windmill lakes* in Taylor County will have nice crappies. *Fogle Lake* and *Criss Cove* too.

white
crappie





MAY

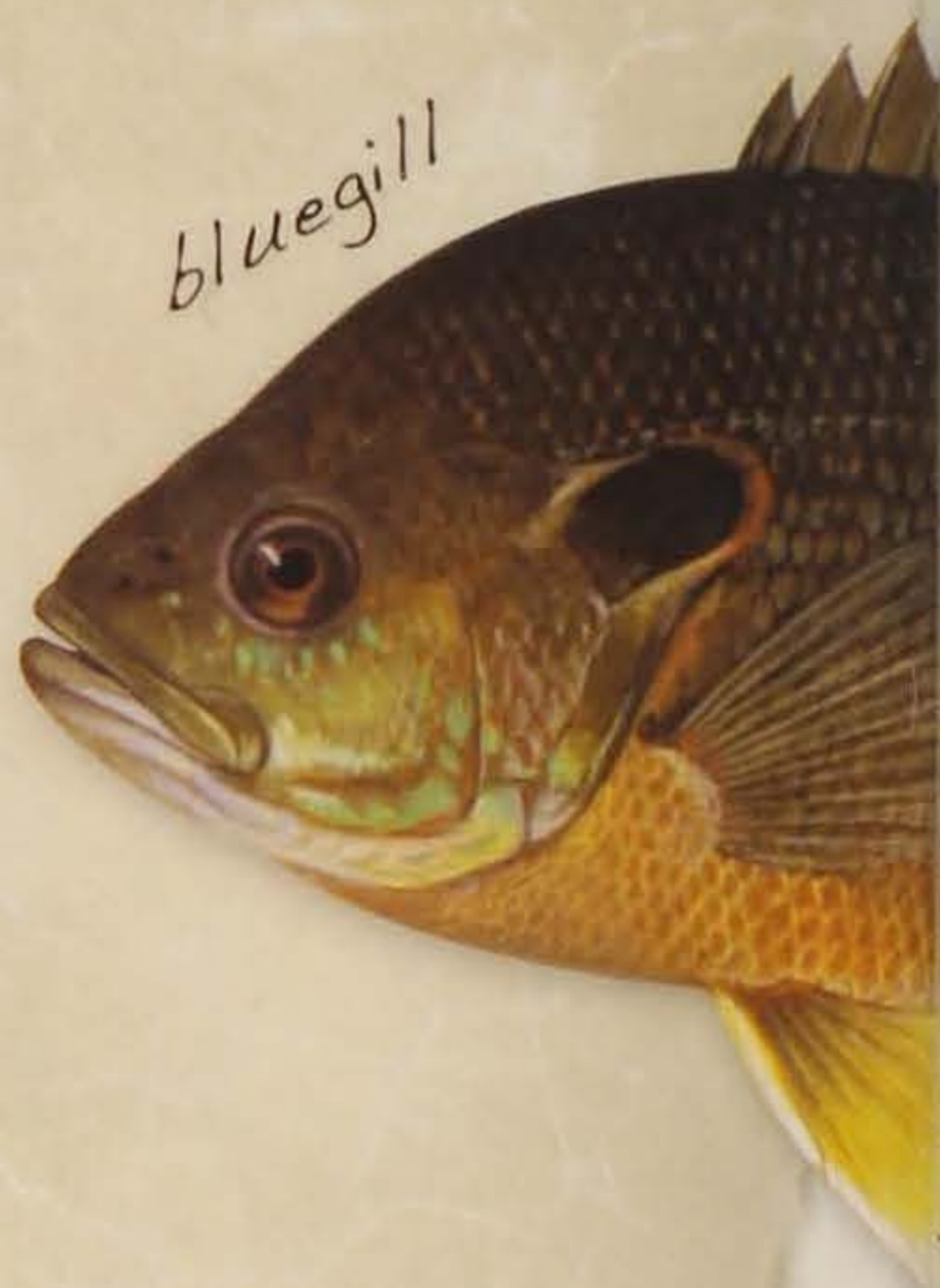
Crappies at *Lower Pine Lake* use the rock riprap along shore during the spawn. A lake trail offers excellent riprap access. *Briggs Woods Lake* is more difficult to fish than Lower Pine. Fish riprap on the dam.

Success landing the legendary *Red Rock* crappies depends on water clarity. If the lake is the color of chocolate milk, forget it. Finding fish will be difficult, at best. Otherwise, fish the drop-offs and areas with woody structure with minnows. *Saylorville Lake*, *Big Creek*, *Rock Creek* and *Don Williams* are also good.

Brown's Lake, west of Salix, has an excellent population of 10- to 14-inch crappies. Use the largest minnows available and fish across the lake from the southwest boat ramp and east of the ramp on the south shore.

As a crappie fishery, *Lake Rathbun* is almost without peer, but 2007 could be a bit of a down year. "It's going to be a waiting game to see if the water levels are up," says DNR fisheries biologist Mark Flammang. If water levels are up, newly flooded vegetation draws crappies in shallow to spawn and offers excellent habitat for young crappies to grow. Keep an eye on water clarity, too. Clearer water means better fishing. "Anglers will have success, but just not the massive numbers. They won't be filling buckets," Flammang says.

Anglers should not overlook **WALLEYES** at Rathbun.



"May has really turned on over the last couple of years," says Flammang. There is a huge population of 14- to 19-inch walleyes. Drift fish the humps and points with a night crawler or leech, or troll crankbaits. "The walleye population is there and it is impressive," he adds.

Walleyes are active in the *West Fork of the Des Moines River* around Estherville. Use a jig and minnow around the old rubble north and south of highway 9. In *Emmetsburg*, three newer rock riffles at the highway 18 bridge and below highway 4 attract and hold walleyes.

Of course, walleye fishing in northwest Iowa is centered at the *Great Lakes*. "Our open water walleye fishing is mainly a May and June event, especially on *Spirit Lake*," says biologist Jim Christianson. "This year, the fish will be a little larger, but the numbers will be down from the record 2006 season." At *Lost Island Lake*, walleye fishing is done from waders around the bridge and in the southwest bay. *Five Island Lake* has been a consistent producer trolling crankbaits between *island two and island three*.

Recently renovated *Swan Lake* is set for a huge year. "Swan Lake is going to be really, really good for nice **BLUEGILLS**," says DNR fisheries biologist Lannie Miller. Fish shallow water off fishing jetties. In late May, *Lake Orient*, *Greenfield Reservoir*, *Mormon Trail* and *Littlefield* turn on for big bluegills. *East Hacklebarney* and

walleye

Cocklin Fish Farm have excellent fishing, but are often overlooked. At Littlefield, bluegills are up to 10 inches and larger. The key is to fish in shallow water near shore. Be aware not to spook the bluegills. Keep some distance and use a small piece of night crawler on a small hook or a 1/32- or 1/64-ounce jig with a black or brown body.

Lake Icaria, Binder, Walnut Creek, Fogle and *Lake of Three Fires* all have 7- to 8-inch bluegills willing to bite into mid-June. *Volga Lake* has consistent fishing for 8- to 9-inch gills on jigs tipped with wax worms along the riprap at the dam.

Bluegill fishing will be good again at *Lake Ahquabi, Hooper, Big Creek* and *Hickory Grove*. *Lake Delhi* has good sizes and numbers for bluegills and crappies. *Plainfield Lake* is now four years old and has 8-inch bluegills.

BULLHEAD fishing at *Center Lake* (Dickinson County) starts in early May. There is a good population of one-half pound fish. Fish from the west side or off the road along the south side. Use a night crawler on the bottom. *Dog Creek Lake* will also have good bullhead fishing.

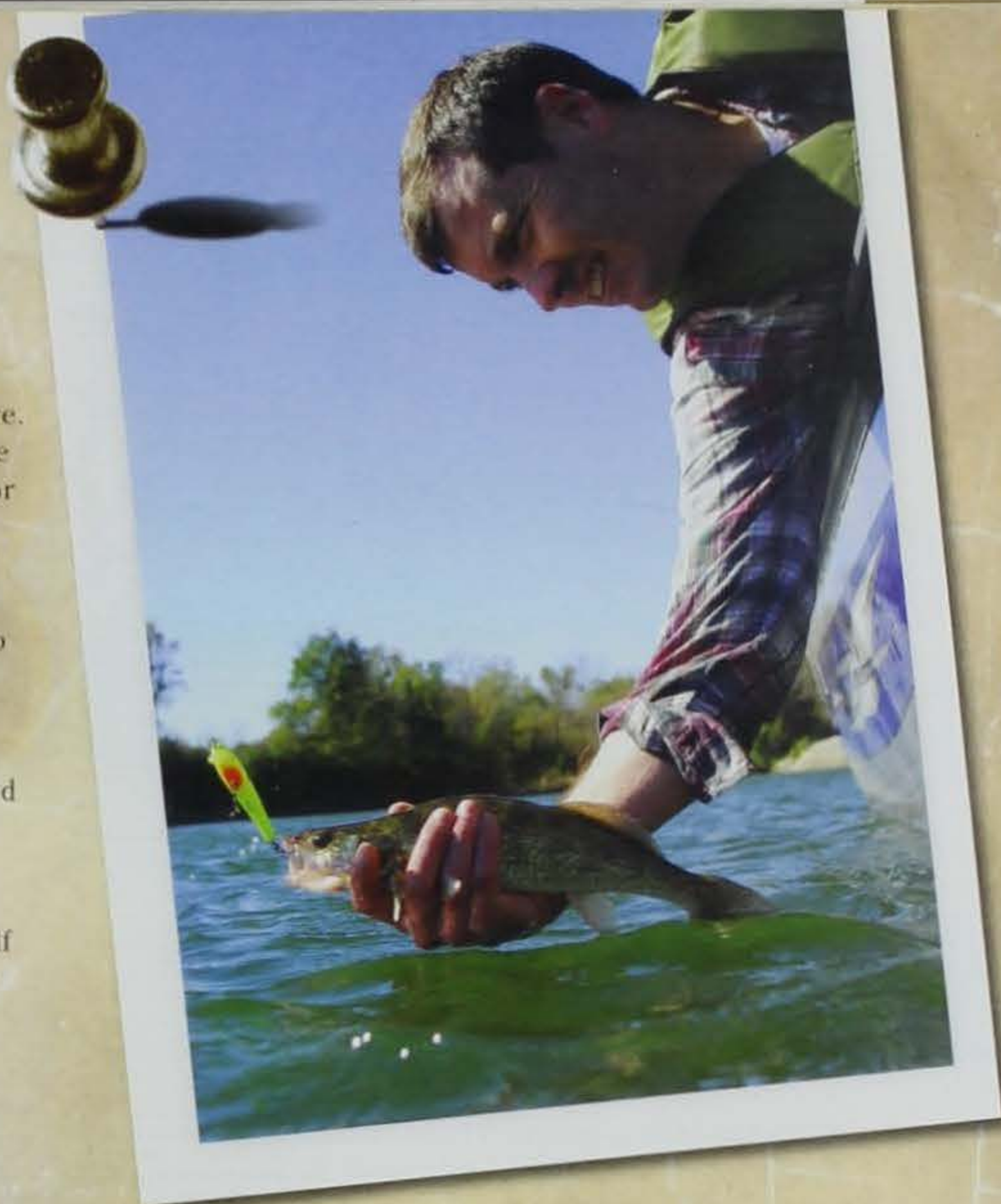
LARGEMOUTH BASS action picks up in May in most lakes. *Mitchell* and *Meyers lakes*, in the Cedar Falls-Waterloo area, and *Martens Lake* are proven bass factories. *Prairie Rose, Lake Anita, Mormon Trail, Rock Creek, Big Creek, Don Williams, Hickory Grove, Arrons Access, Beaver Lake* and *Springbrook Lake* have excellent bass fishing.

At *West Lake Osceola*, largemouth bass is king, with big numbers of 14- to 19-inch fish. "West Lake is the place to go," said Gary Sobotka, fisheries biologist. The lake has a lot of cover and structure. *Three Mile, Green Valley, Fogle* and *Badger Creek* all offer good bass fishing.

SMALLMOUTH BASS are on the move in the rivers—the *Maquoketa River*, below Lake Delhi, *Shell Rock River* from Greene to Clarksville—especially the Camp Comfort area, and the *Wapsipinicon*. But don't overlook the *Little Maquoketa* and *Whitewater Creek* in Dubuque County or the lower part of the *North Fork of the Maquoketa* in Jackson County. These smaller streams can be floated and fished in May before water levels drop.

YELLOW BASS fishing at *Clear Lake* is tremendous from the first through third week of May. Yellow bass spawn in sandy, rocky shallow areas near shore. The best fishing is from a dock or in waders using a 1/32- or 1/16-ounce jig with a 2-inch twister and steady retrieve. If you are not catching fish, move. Yellow bass travel in large schools.

"In May, things start to happen (on the



Mississippi River)," said biologist Scott Gritters. **NORTHERN PIKE** are active in the mouths of backwaters and main channel and will smack any typical pike lure. Fish up to 38 inches are fairly common. At the same time, **CRAPPIES** move shallow to spawn. Look for backwaters without current and pitch a light jig or minnow to the bank.

Not all backwaters are created equal. Try *Fish Lake, Cordwood Lake, Mud Hen, Joice Lake, the Ambro lakes by Prairie du Chien, Wis., Norwegian Lake, Bussey Lake, Swift Slough, Mud Lake* and *Sunfish Lake*. After the crappies move out, **BLUEGILLS** move in. Sight fishing for bluegills on the nest is popular. Bluegills are much more common in the river than crappies.

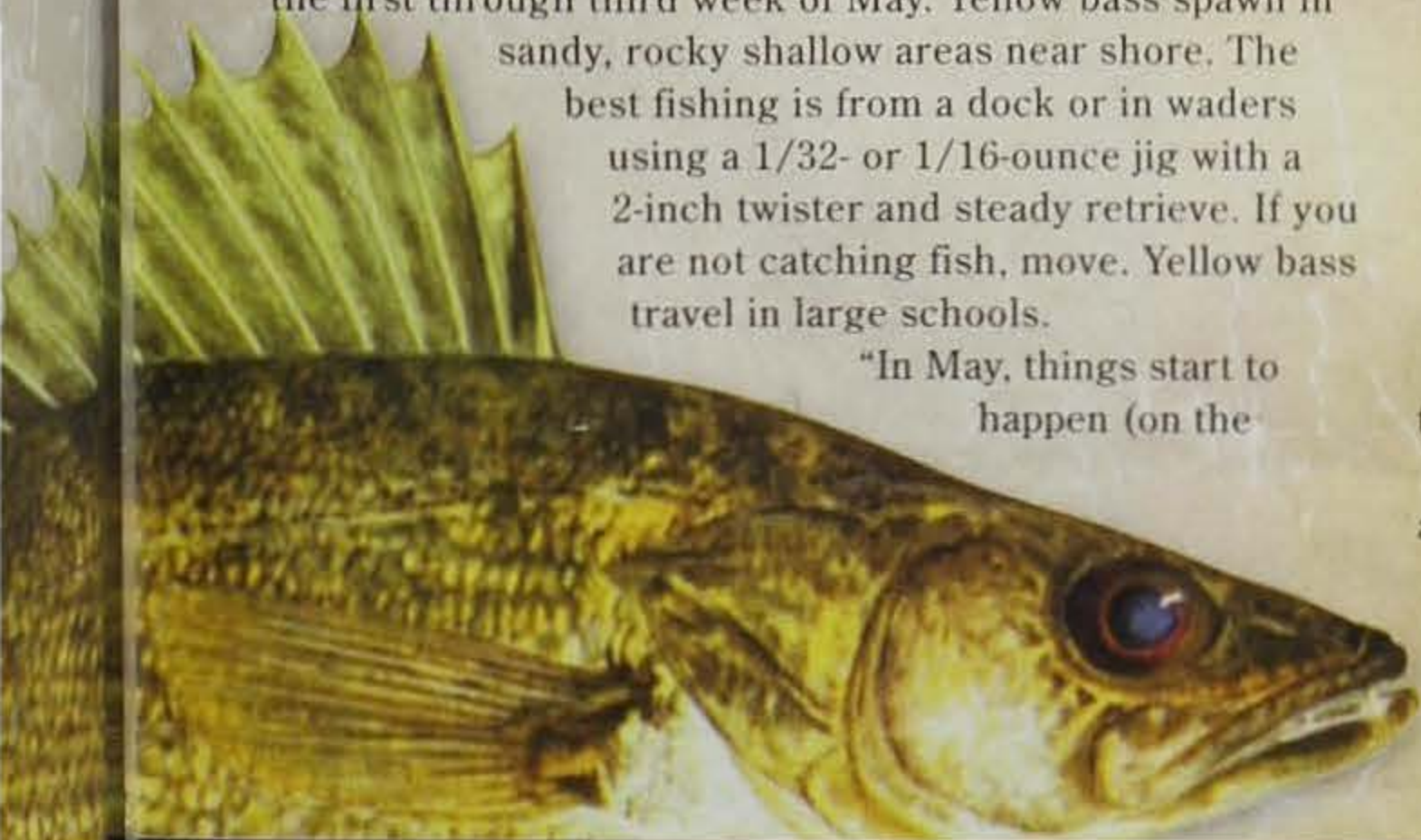
Downstream, bluegills and largemouth bass get active in the backwaters of *Big Timber* and the *Burlington Island complex*.

JUNE

"About everything is going in June," according to biologist Bryan Hayes.

SMALLMOUTH BASS, WALLEYES and **CHANNEL CATFISH** are biting in the *Cedar, Wapsipinicon, Maquoketa, Turkey* and *Upper Iowa rivers* and more, he said.

TROUT fishing is productive at some of the traditional





JUNE

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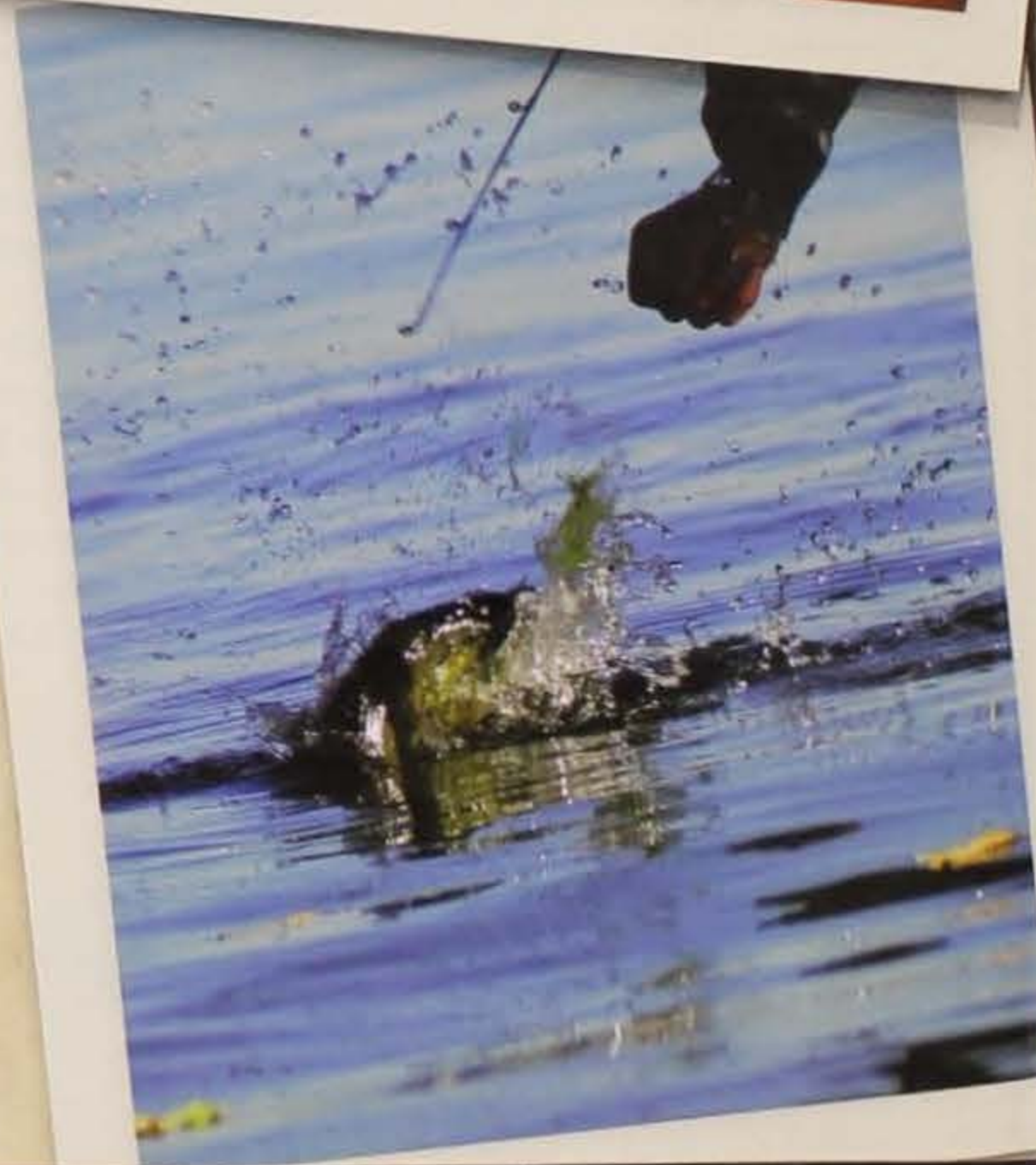
northeast Iowa streams like *Bailey's Ford*, *Richmond Springs*, *Fountain Springs* and *Swiss Valley*.

The *Wapsipinicon River* has good **SMALLMOUTH BASS**, **LARGEMOUTH BASS** and **WALLEYE** fishing below the lowhead dams. The hotspot is in *Central City*, but the dams at *Anamosa* and *Troy Mills* are good too. Use spinners and crawdad-type crankbaits for smallmouths, spinners and plastics for largemouths and a jig and minnow or night crawler rig for walleyes. Walleyes concentrate in deep holes. "Our additional (walleye) stockings are really paying off," says biologist Paul Sleeper.

At *Three Mile*, walleyes slide to the side of the artificial rock and earth fish habitat mounds dotted throughout the lake. Bluegills are still active and largemouth bass will move to structures offshore after they spawn.

Lake Geode bluegills are whoppers. "As soon as they are on the nest, they (anglers) are going to catch the jumbos—9 to 11 inchers—at Geode," says Don Kline, area fisheries biologist. "Lots of 8-inch plus fish." Use a fly rod and flies in the bays. After the spawn, look for these slabs to be hanging around the end of fallen trees in 10 to 15 feet of water. At *Lake Belva Deer*, near Sigourney, bluegills rule. "It's every month for bluegills here," Kline says. Fish a little deeper—from 10 feet to as deep as 20 feet—using a teardrop ice jig tipped with a night crawler or power grub and jig up and down.

If anglers can get to *Lake Sugema* before the vegetation takes over, bluegill fishing is tremendous. "Sugema has really come on in the last four or five years," said Flammang. Use a small piece of night crawler or a wax worm on a teardrop under a small bobber and fish the weed lines in 5 to 12 feet of water. "The key is to fish the pockets of vegetation and to be mobile."



channel
catfish



largemouth bass



The bluegill frenzy can last all June at *Indian Lake*, near Goodell, depending on weather. Use a 1/64-ounce black hair jig or a small hook with a wax worm under a small float along the vegetation line. Look for a sandy, firm bottom to find these 8- to 9-inch spawning bluegills. At *Lake Pahoja*, fish bluegills around the covered pier.

This will be a really good year for 8- to 9 1/2-inch bluegills at *Brushy Creek*, Miller said. There is not much shallow water to target during the late June spawn, but anglers can try the north shore, west of the north boat ramp or the east shore on the inside edge of the trees where there is 1 to 3 feet of water. "Look for shallow water and you will find fish," Miller said. Use a 1/32-ounce jig with black or brown body tipped with a wax worm.

LARGEMOUTH BASS move shallow before they spawn. Use spinners, big lead-heads or minnow imitating crankbaits. At *Geode*, work the points and fallen timber in deeper water. At *Lake Darling*, work the new habitat throughout the lake, and in *Belva Deer* fish the underwater mounds visible in 4 feet of water in the upper end of the lake. *Upper Pine Lake* has some real pigs—5 to 7 pounders—and good numbers over 20 inches. Productive techniques are Texas rig soft plastics, drop shots and crankbaits.

Little Wall Lake has good numbers of 2- to 4-pounders hanging around the willows along shore. *Prairie Rose*, *Lake Anita* and *Mormon Trail* are excellent bass lakes. At *Willow Creek*, use a night crawler under a bobber, a top-water lure or rubber worm in the evening.

CHANNEL CATFISH prepare to spawn in mid-June and fishing can be super leading up to it. Once the spawn begins, catfish get lockjaw until they are finished. In the *Mississippi River*, fish the upstream side of tree piles

or areas with good current. Use stink bait or a worm. Gritters said catfish in the river are in large schools and once you catch one, you're on them. If none bite in 15 to 20 minutes, move. The bite will last into the fall.

WALLEYE fishing continues at *Spirit Lake*, but most activity will be for **BLUEGILLS** at *West Okoboji*. Fish around the docks or the rock piles near vegetation in 12 to 18 feet of water. **SMALLMOUTH BASS** are in the same area. *Spirit Lake* will develop its weed lines that hold **WALLEYES, BLUEGILLS, YELLOW PERCH** and an occasional **NORTHERN PIKE**. *Lake Rathbun* will shine as anglers catch trophy walleyes—up to 29 inches—and lots of 14 to 19-inch fish. Use leeches or night crawlers or troll crankbaits, just like in the spring.

There is a huge and active population of 10- to 14-inch white bass in *Storm Lake*. Troll #5 Shad Raps, or drift or cast the shoreline with white or chartreuse twisters. If shad are close to shore, toss the twister into the melee. These fish are good to eat if placed immediately in a cooler with ice, and if the red meat is removed from the filet.

In the *Upper Mississippi River*, **CHANNEL CATFISH, FRESHWATER DRUM** (called perch by the locals), **SMALLMOUTH BASS, LARGEMOUTH BASS** and **NORTHERN PIKE** are all biting. *Drum* is probably one of the biggest, most consistent fisheries on the river. Fish around boat ramps or areas with depth and some current. Drum will hit jigs, crankbaits and live bait, especially crayfish, but it is just as productive to use a sinker, hook and a worm. Keep and prepare drum like white bass for delicious filets.

SMALLMOUTH BASS fishing is good all summer in the *Mississippi River*. Pool 9 has the best smallmouth population, but there are good numbers in pools 10, 11 and 12. Fish rocky areas with some current, like the rock



JUNE

(CONTINUED)

piles marked with warning lights, bank protection riprap, and wing dams especially during lower flows. Use small spinners, crankbaits or poppers on the surface.

In the Dubuque area, fish smallmouth around *City Island* and along the Iowa shore from the dam to *AY McDonald Park*.

LARGEMOUTH BASS are still in the backwaters but moving to the weed lines. Large vegetation beds are growing in pools 9, 10 and 11 that are attracting largemouth bass and **NORTHERN PIKE**. Use plastic lures, spinner baits or top-water lures along the weed edges or open pockets in the weeds. The bass bite lasts through early September.

STAY TUNED FOR THE NEXT ISSUE OF IOWA OUTDOORS FOR AN IN-DEPTH LOOK AT LATE SUMMER/FALL FISHING TIPS, TRICKS AND TECHNIQUES.



brown trout

FISHING 101: CATCH AND RELEASE

Fish are plentiful in most Iowa waters and important for a healthy diet. Taking a few for the table is perfectly fine. When releasing unwanted fish, here are a few handling tips to promote fish survival.

HANDS OFF. Keep fish in the water while removing hooks. If you can't, make it quick. Fish breathe under water, so keep the fish out of water only as long as you can hold your breath.

HANDLE WITH CARE. Be gentle. Don't squeeze. Never hold a fish near its gills or eyes. Needle nose pliers or similar devices speed hook removal. Wet your hands before handling. Dry hands and gloves removes the mucous coatings that protects against disease and infection and can damage or destroy scales. Do not beach a fish or allow it to flop around in the net or boat floor. Swallowed hooks should remain inside the fish. Cut the line cut as close to the hook eye as possible.

REVIVE, THEN RELEASE. Gently cradle the fish in the water, one hand supporting the belly, one hand holding the tail. Move the fish back and forth, allowing the oxygen-infused water to rush over the gills to rejuvenate the fish.

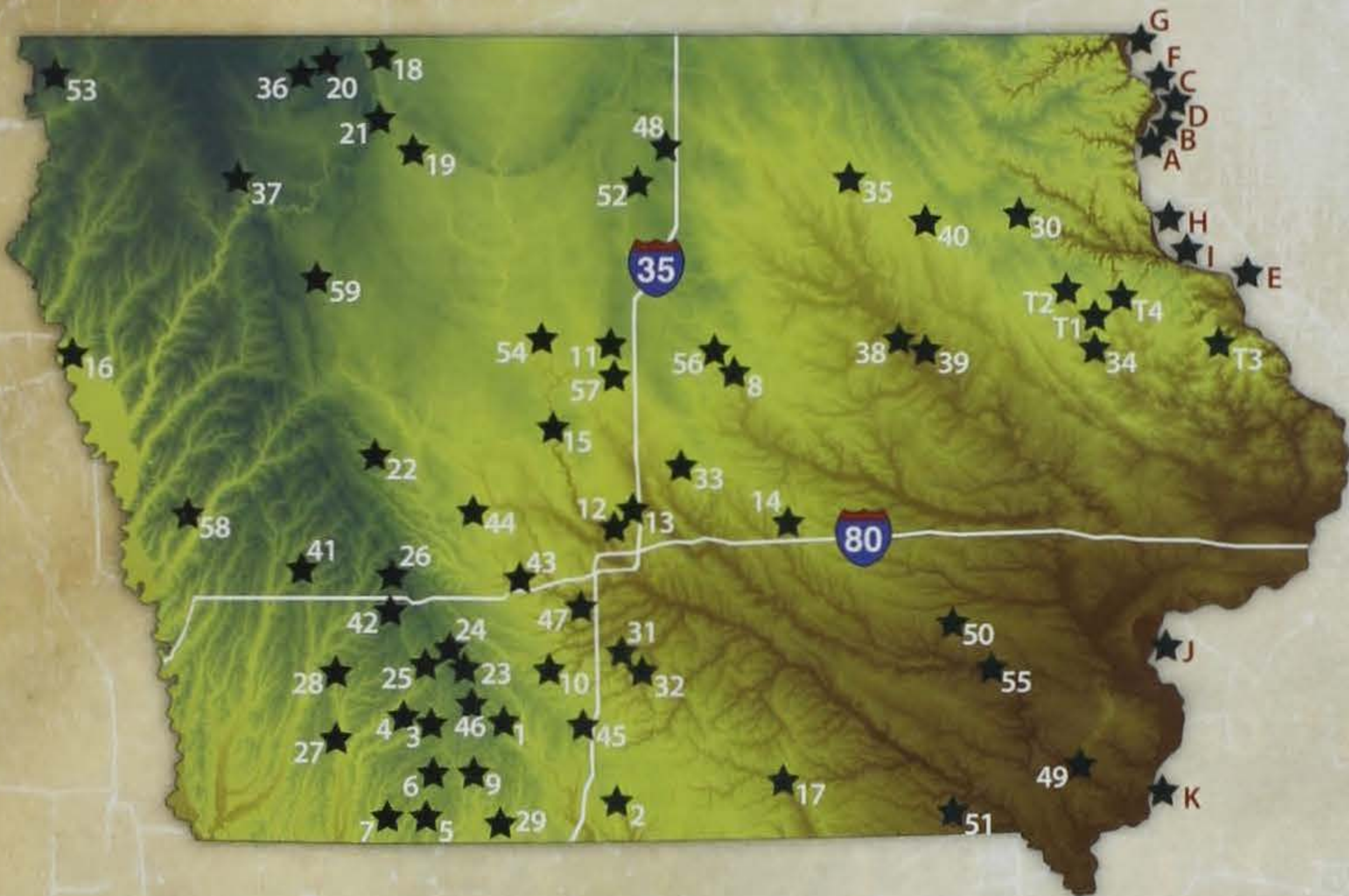
FIGHT THE GOOD FIGHT. Never play a fish to exhaustion. Use the heaviest line possible for each fish species to hasten the fight. If fishing deep water (30 feet or more), bring the fish up slowly to allow for decompression.

TIMING. Fish stress the most during hot weather. Anglers fishing the hot summer months should fish during the cooler periods of the day (morning and evening) or plan to keep their catch.

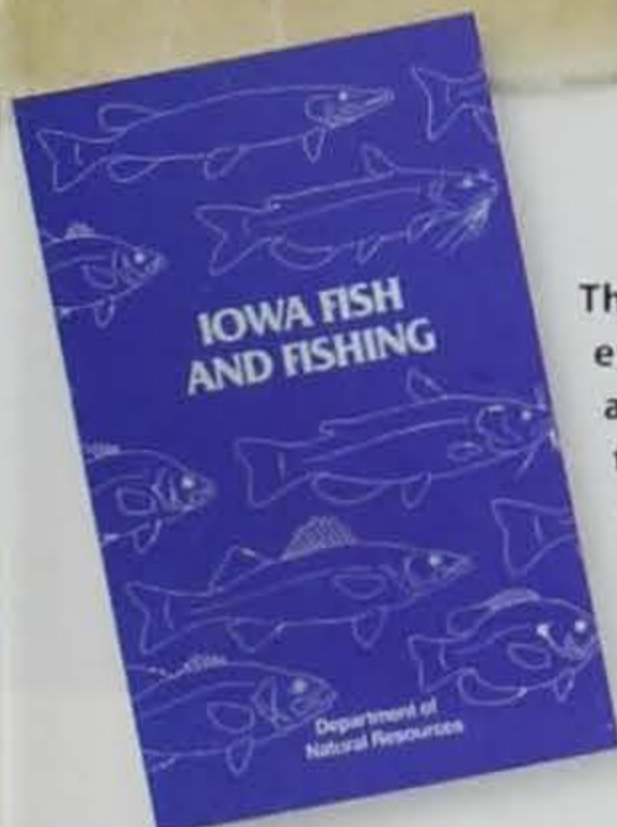
HALT HIGH-GRADING. Not only is high-grading or culling—the act of replacing smaller, creel fish with larger fish—illegal, it almost certainly spells death to the rejected. Any fish in possession should remain in possession.

FISHING HOLE FINDER

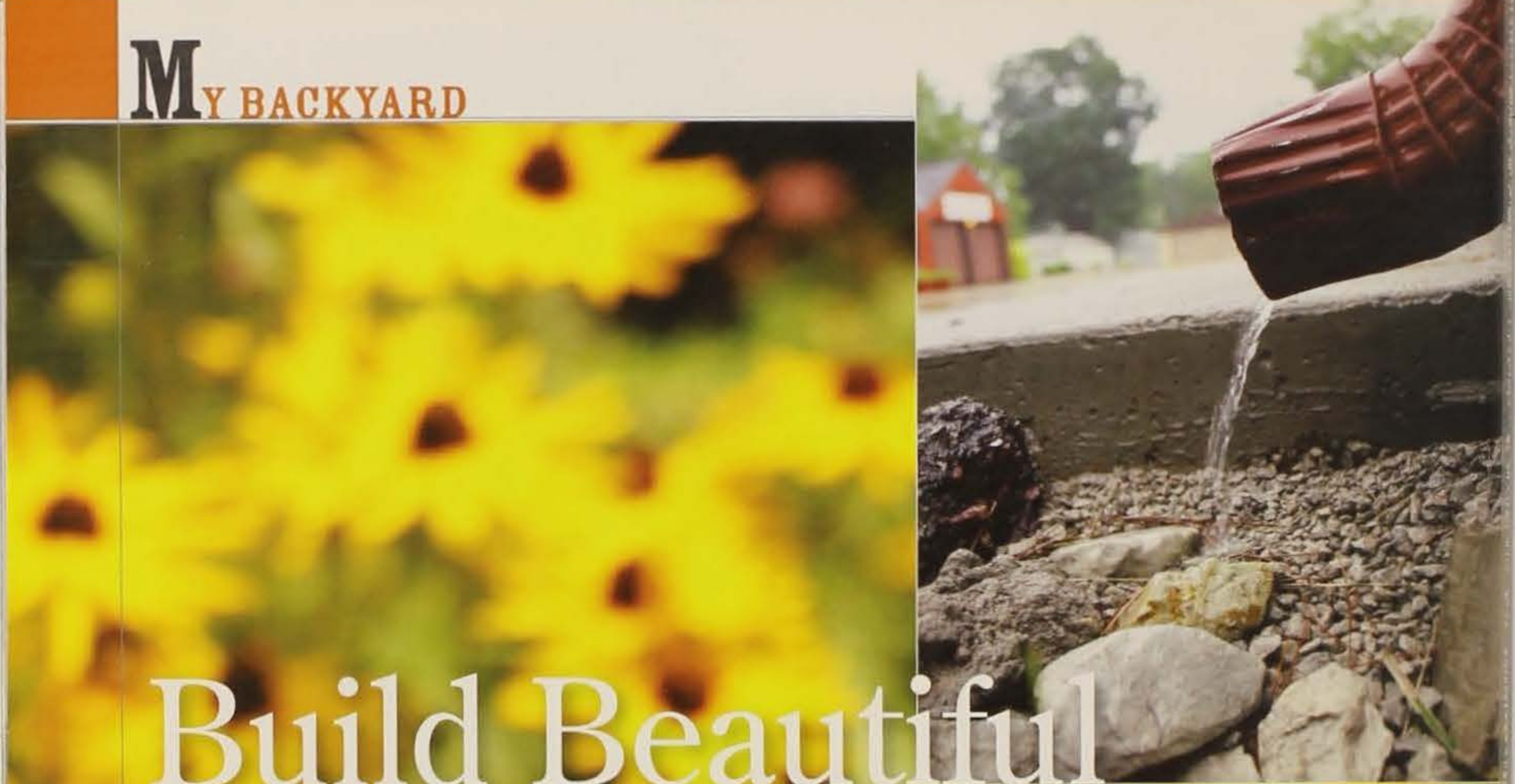
BUY LICENSES ONLINE AT WWW.IOWADNR.GOV



- | | | | |
|------------------------|---|-----------------------|------------------------------|
| 1) THREE MILE LAKE | 17) LAKE RATHBUN | 32) HOOPER | 53) LAKE PAHOJA |
| 2) LITTLE RIVER | 18) WEST FORK OF THE DSM RIVER NEAR ESTHERVILLE | 33) HICKORY GROVE | 54) BRUSHY CREEK |
| 3) BINDER RESERVOIR | 19) FIVE ISLAND LAKE | 34) LAKE DELHI | 55) LAKE DARLING |
| 4) LAKE ICARIA | 20) SPIRIT LAKE | 35) PLAINFIELD LAKE | 56) UPPER PINE LAKE |
| 5) LAKE OF THREE FIRES | 21) LOST ISLAND LAKE | 36) CENTER LAKE | 57) LITTLE WALL LAKE |
| 6) WILSON LAKE | 22) SWAN LAKE | 37) DOG CREEK LAKE | 58) WILLOW CREEK |
| 7) WINDMILL LAKE | 23) LAKE ORIENT | 38) MITCHELL LAKE | 59) STORM LAKE |
| 8) LOWER PINE LAKE | 24) GREENFIELD RESERVOIR | 39) MEYERS LAKE | A) SUNFISH LAKE |
| 9) FOGLE LAKE | 25) MORMON TRAIL | 40) MARTENS LAKE | B) FISH LAKE |
| 10) CRISS COVE | 26) LITTLEFIELD | 41) PRAIRIE ROSE | C) MUD HEN |
| 11) BRIGGS WOODS LAKE | 27) EAST HACKLEBARNEY | 42) LAKE ANITA | D) AMBROUGH SLOUGH |
| 12) SAYLORVILLE LAKE | 28) COCKLIN FISH FARM | 43) BEAVER LAKE | E) MUD LAKE |
| 13) BIG CREEK | 29) WALNUT CREEK | 44) SPRINGBROOK LAKE | F) JOICE LAKE |
| 14) ROCK CREEK | 30) VOLGA LAKE | 45) WEST LAKE OSCEOLA | G) NORWEGIAN LAKE |
| 15) DON WILLIAMS | 31) LAKE AHQUABI | 46) GREEN VALLEY | H) BUSSEY LAKE |
| 16) BROWN'S LAKE | | 47) BADGER CREEK | I) SWIFT SLOUGH |
| | | 48) CLEAR LAKE | J) BIG TIMBER |
| | | 49) LAKE GEODE | K) BURLINGTON ISLAND COMPLEX |
| | | 50) LAKE BELVA DEER | TROUT WATERS |
| | | 51) LAKE SUGEMA | T1) BAILEY'S FORD |
| | | 52) INDIAN LAKE | T2) RICHMOND SPRINGS |
| | | | T3) SWISS VALLEY |
| | | | T4) FOUNTAIN SPRINGS |



The hardbound classic covers everything you want or need to know about 140 Iowa fish species. Includes bait and tackle chapters and in-depth details on catching major species (including trophy fish) and fisheries management. Illustrated with over 60 of Maynard Reece's perfect fish paintings. A must-have for all anglers. \$16.00, 320 pages. Available at 1-866-410-0230 or iowanaturestore.com.



Build Beautiful Rain Gardens to Purify Water

“Rain, rain, go away.
Come again, some other day.”

BY KAREN GRIMES PHOTOS BY BRIAN BUTTON



While rain storms are natural, storm water runoff is not. Flowing from rooftops and surging out downspouts, across the yard, into the street and down the storm sewer untreated, rainfall is routed to the nearest stream or lake. Runoff is often polluted. In its rough and tumble downhill journey, rain picks up heavy metals, oils, fertilizers, soils, sediment, and pesticides.

BEAUTIFUL SOLUTIONS

Reverse this process and beautify yards with a rain garden—a shallow, saucer-shaped ground depression planted with low-maintenance plants. Deep roots and soil act as a sponge, soaking up runoff as water-loving perennials and native plants help purify pollutants.

Attractive in any landscape, rain gardens gild a low lying area with carpets of wildflowers to help improve water quality, sustain stream flows during dry periods and reduce flash flooding and stream bank erosion. They add beautiful habitat for butterflies and birds too.

CREATING RAIN GARDENS

CHOOSING A LOCATION

Take advantage of existing drainage patterns by looking for low areas where water naturally flows. Choose sunny spots at least 10 feet away and downhill from your house. Choose a flat area to minimize excavation.

Stay away from areas under large trees where tree roots could be affected. Areas where water pools may drain poorly and should be avoided as should areas around septic tanks. To avoid buried utilities, check with Iowa One Call at (800) 292-8989 several working days ahead of digging.

AMENDING SOILS

A rain garden must be able to soak up runoff and allow it to slowly infiltrate soils. A simple test for your soil's ability to absorb is to dig a bucket-sized hole and fill it with water. Watch as the water recedes. If it goes down at least one inch per hour, the soils are okay. If it doesn't, you will need to find another location or replace the soil with a sand and compost mix, a labor-intensive and expensive process.

GARDEN SIZE AND SHAPE

The greatest water quality benefits occur when rain gardens hold the most runoff from your house and driveway. Calculate the area (length multiplied by width) of roofs, driveways and other non-porous surfaces draining to your planned area. Remember: only part of your roof drains to your garden area.

Most gardens require 7 to 10 percent of the area being drained. Sandy soils need less area, but clay soils take



LEFT: A bee sips from swamp milkweed (*Asclepias incarnata*). Suited to home use, rain gardens can also hold and clean commercial parking lot runoff. A permeable surface allows rainwater to enter the ground and rocks guide excess to flow toward a rain garden. **ABOVE:** Roof and driveway runoff collect in this vibrant front yard rain garden. With proper design, water percolates into soil within 24 hours. Since mosquitoes require at least 10 days to mature from egg to adult, rain gardens are not viable habitat.

extra space and may need amended soils and a below-ground drain.

Choose a shape based on your yard and the area being drained. Any shape will work: square, rectangle, kidney, oval or circle. Outline the garden shape with a hose or rope.

EXAMPLE SIZING: To estimate the area of a standard 1500-square foot ranch house (30 feet X 50 feet) with a gently sloped roof and a three-foot overhang on all sides:

- Add the length plus overhangs: $50 + 3 + 3 = 56$ ft.
- Add the width plus overhangs and allowance for slope: $30 + 3 + 3 + 4 = 40$ ft.
- Multiply length times width: $56 \times 40 = 2240$ sq. ft.
- Multiply by portion of roof that drains to rain garden: $\frac{1}{2} \times 2240 = 1120$ sq. ft.
- Add length times width of driveway, sidewalk, etc. to get total area drained: $1120 + 600 = 1720$ sq. ft.
- For well-drained soils, multiply 7 percent by total area: $0.07 \times 1720 \text{ ft}^2 = 120$ sq. ft.

A 120 sq. ft. rectangular garden is 10 by 12 feet.

MY BACKYARD

GARDEN CONSTRUCTION

Prepare soil by digging at least two feet deep. To keep soil loose, remove it as you dig and be careful not to compact it as you replace it. Add compost to increase permeability. Replace poorly drained soils with a mix of 50 to 60 percent sand, 20 to 30 percent compost and 20 to 30 percent topsoil. Ensure no clay is in the topsoil.

The bottom of the excavation should be flat, not bowl-shaped, with gradually sloping sides. The top layer of the garden should also be flat and lie about six inches below the surrounding lawn. If on a slope, build an embankment on the downhill side to keep the garden surface level.

PLANT CHOICE

Choose plants with a pleasing mix of height, bloom time and color. Select from water-tolerant native plants and perennials with low maintenance requirements. Avoid plants that frequently need dividing, and invasive species such as purple loosestrife. Many garden shops have lists of suitable plants.

MAINTENANCE

Water regularly until plants are established. Later, native plants only require watering during drought. Fertilizers are not necessary. Weed regularly, especially the first year. Shredded hardwood mulches minimize weeding and watering, and keep the soil surface from sealing. 🌱



1) Rose mallow (*Hibiscus laevis*) adds distinctive flower shape to gardens. A lover of wet ground, it may reach 6 feet heights, so allow plenty of space. 2) Roof runoff flows across porous pavement that allows water to enter the soil with excess flowing toward an adjacent rain garden. 3) Droplets splash onto a permeable parking area to absorb into the ground, reducing flow to city storm drains. 4) Late season color. 5) Black-eyed susan. 6) Fluted, colorful red cardinal flower will attract hummingbirds. FACING PAGE: Oil-laden runoff flows between parking lot curbs towards bed of sneezeweed.



WHAT NATIVE SPECIES TO PLANT

A FEW PLANTS SUITED FOR IOWA RAIN GARDENS:
T, M, S refers to Tall, Medium and Small plant heights.
Sp, Su, F refers to Spring, Summer and Fall blooms.

 attracts butterflies  attracts hummingbirds

- Big bluestem (*Andropogon gerardii*) **T - Su, F**
- Swamp milkweed (*Asclepias incarnata*) **T - Su** 
- New England aster (*Aster novae-angliae*) **T - Su, F** 
- Prairie Indian Plantain (*Cacalia plantaginea*) **T - Su**
- Cup Plant (*Silphium perfoliatum*) **T - Su, F**
- Prairie cordgrass (*Spartina pectinata*) **T - Su, F**
- Meadow rue (*Thalictrum dasycarpum*) **T - Su**
- Blue vervain (*Verbena hastata*) **T - Su**
- Culver's Root (*Veronicastrum virginicum*) **T - Su** 
- Michigan lily (*Lilium michiganense*) **T - Su**
- Prairie blazing star (*Liatris pycnostachya*) **T - Su** 
- Boneset (*Eupatorium perfoliatum*) **T - Su**
- White turtlehead (*Chelone glabra*) **T - Su**
- Blue joint grass (*Calamagrostis canadensis*) **M - Su**
- Bottlebrush sedge (*Carex comosa*) **M - Sp**
- Brown fox sedge (*Carex vulpinoidea*) **M - Sp**
- Virginia wild rye (*Elymus virginicus*) **M - Su**
- Bottle gentian (*Gentiana andrewsii*) **M - Su, F**
- Sneezeweed (*Helenium autumnale*) **M - Su, F**
- Spotted touch-me-not (*Impatiens capensis*) **M - Su, F** 
- Blue flag iris (*Iris shrevei*) **M - Sp**
- Cardinal flower (*Lobelia cardinalis*) **M - Su, F** 
- Great Blue lobelia (*Lobelia siphilitica*) **M - Su, F**
- Fringed loosestrife (*Lysimachia ciliata*) **M - Su**
- Prairie loosestrife (*Lysimachia quadriflora*) **M - Su**
- Purple monkey flower (*Mimulus ringens*) **M - Su, F**
- Marsh phlox (*Phlox maculata*) **M - Su**
- Glaucous white lettuce (*Prenanthes racemosa*) **M - Su, F**
- Mountain mint (*Pycnanthemum virginianum*) **M - Su** 
- Swamp saxifrage (*Saxifraga pensylvanica*) **M - Sp**
- Canada anemone (*Anemone canadensis*) **S - Su**
- Prairie phlox (*Phlox pilosa*) **S - Sp, Su**
- Marsh vetchling (*Lathyrus palustris*) **S - Sp**
- Wild strawberry (*Fragaria virginiana*) **S - Sp**
- Holy grass (*Hierochloa odorata*) **S - Sp**
- Marsh marigold (*Caltha palustris*) **S - Sp**

ADDITIONAL RESOURCES

- Find plants at your local landscape supply vendor or order native plants from www.ionxchange.com in Harper's Ferry, 1878 Old Mission Drive. 1-800-291-2143.
- www.raingardens.org
- www.urbanwaterquality.org/RainGardens/rgindex1.htm
- Urban Resources & Borderland Alliance Network, Ankeny www.ci.des-moines.ia.us/departments/PR/rain_gardens.htm



WORTH A VISIT

Rain garden under construction at Elinor Bedell State Park overlooking Lake Okoboji. Underground water filtration system near parking lot at Harbor Inn located on west side of Clear Lake—an alternative way, like porous paving, to treat storm water runoff.

WHAT'S HAPPENING IN IOWA

VISION IOWA GRANTS **\$8 MILLION**

In a major decision, the Vision Iowa Board granted \$8 million to the Dubuque County Historical Society to fund a major expansion of the National Mississippi River Museum & Aquarium.

The \$8 million grant will be used towards construction of the Great Rivers Center, River Research Center and RiverMax Digital Theater. It supports the \$218 million America's River Phase II development at the Port of Dubuque.

The Great Rivers Center will provide additional room for the Museum & Aquarium to expand its exhibits and will include a new digital theater. The River Research Center will be a storefront for river science in Iowa, according to John Sutter, director of marketing and sales for the Museum & Aquarium.

The research center will focus on the conservation of river life, working especially to help endangered species like the Wyoming toad and Higgins eye mussel thrive. The center will also investigate ways to improve river habitats and water quality, researching nutrient and sediment control. Historical and cultural research will look for ways to tie in historical photos, maps and data into current research.

"Our main goal is to educate and protect the resource," Sutter said. "This [new center] will encourage that type of research and educate the public."

While there will be a limited staff on-site, the center will work with universities and other researchers.

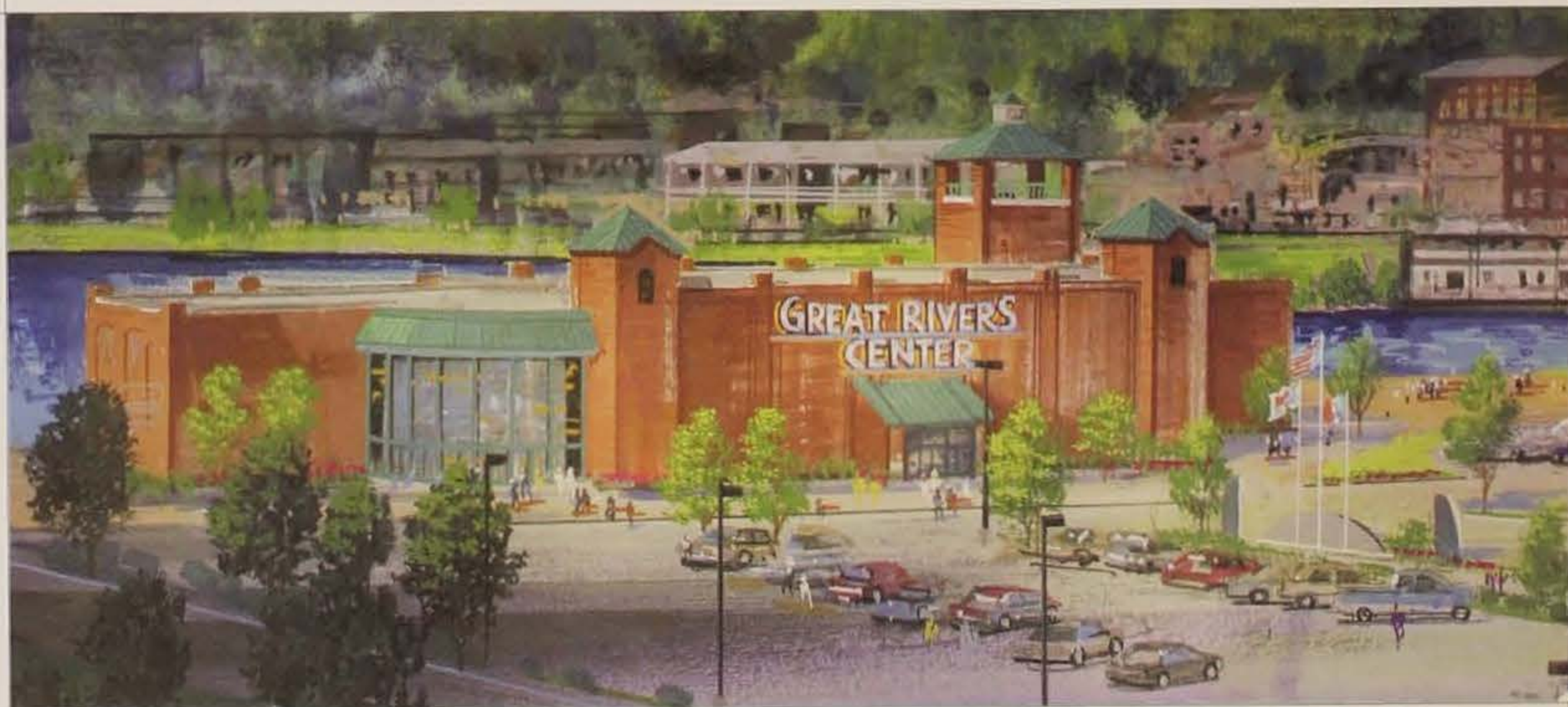
"We will be working with others to add to the excellent work already being done to have a cleaner river, healthier habitats and to propagate species, especially threatened and endangered," said Jerry Enzler, executive director of the Museum & Aquarium.

The Museum & Aquarium, which currently draws 230,000 people annually, is expected to almost double its ticket sales with the expansion.

"This Vision Iowa grant gives us the impetus to create another landmark project for Dubuque and for Iowa," Enzler said. "The Great Rivers Center will be a national center for the study of rivers, positioning the Museum & Aquarium as one of the leading river museums in the world."

The Museum & Aquarium will launch a major campaign for fundraising in the tri-state area and throughout the country to support the expansion. Most of the leverage activity will begin construction immediately with openings in 2008. The Great Rivers Center and River Research Center are expected to open in 2010.

"This is the first Vision Iowa grant in nearly three years," said Vision Iowa board chair Andrew Anderson. "Dubuque's proposal is an exciting expansion of the Museum & Aquarium and it will enhance what already is one of the premier attractions in the state."



Save these dates this summer!

APRIL 30 BOAT REGISTRATION DUE. Fee based on vessel type and length. Register at local county recorder's office.

MAY 4-6 FREE CAMPING WEEKEND. Camping fees waived at all state parks for Iowa residents. No reservations accepted, however anyone registered for a site on May 3 will be allowed to stay through Free Camping Weekend.

MAY 5 WALLEYE SEASON OPENS on West Okoboji, East Okoboji and Spirit lakes (Dickinson County). Midnight.

MAY 5, 7-8 P.M. SNAILS OF LAKE KEOMAH PRESENTATION. Find out why the state park has such huge snails. Snail decorating crafts for the kids, escargot-tasting opportunities for those who dare. Mahaska County near Oskaloosa.

JUNE 1 LAST DAY TO SIGN UP FOR PROJECT A.W.A.R.E. (A Watershed Awareness River Expedition) without incurring late fee. This year's volunteer river clean-up project will be June 16-23 on the Middle and North Raccoon rivers, starting at the Whiterock Conservancy in Guthrie County and ending at Des Moines Waterworks Park. For details go to www.iowaprojectaware.com.

JUNE 9 WHAT'S IN THEM CREEKS? Seine Granger Creek at Mines of Spain Recreation Area for minnows, crawdads, frogs, tadpoles and more. Dubuque County near Dubuque. 10:30-noon.

JUNE 1-3 FREE FISHING DAYS. License requirements waived for Iowa residents only. Trout fee required to trout fish. All other regulations, including length and possession limits, apply.

JUNE 9-10 LEWIS & CLARK FESTIVAL AT LEWIS AND CLARK STATE PARK. Experience first-hand the life and times along the historic 1804 Lewis and Clark Expedition. Make time to hop aboard the full-size reproduction of Lewis' and Clark's keelboat, Discovery. Monona County near Onawa.

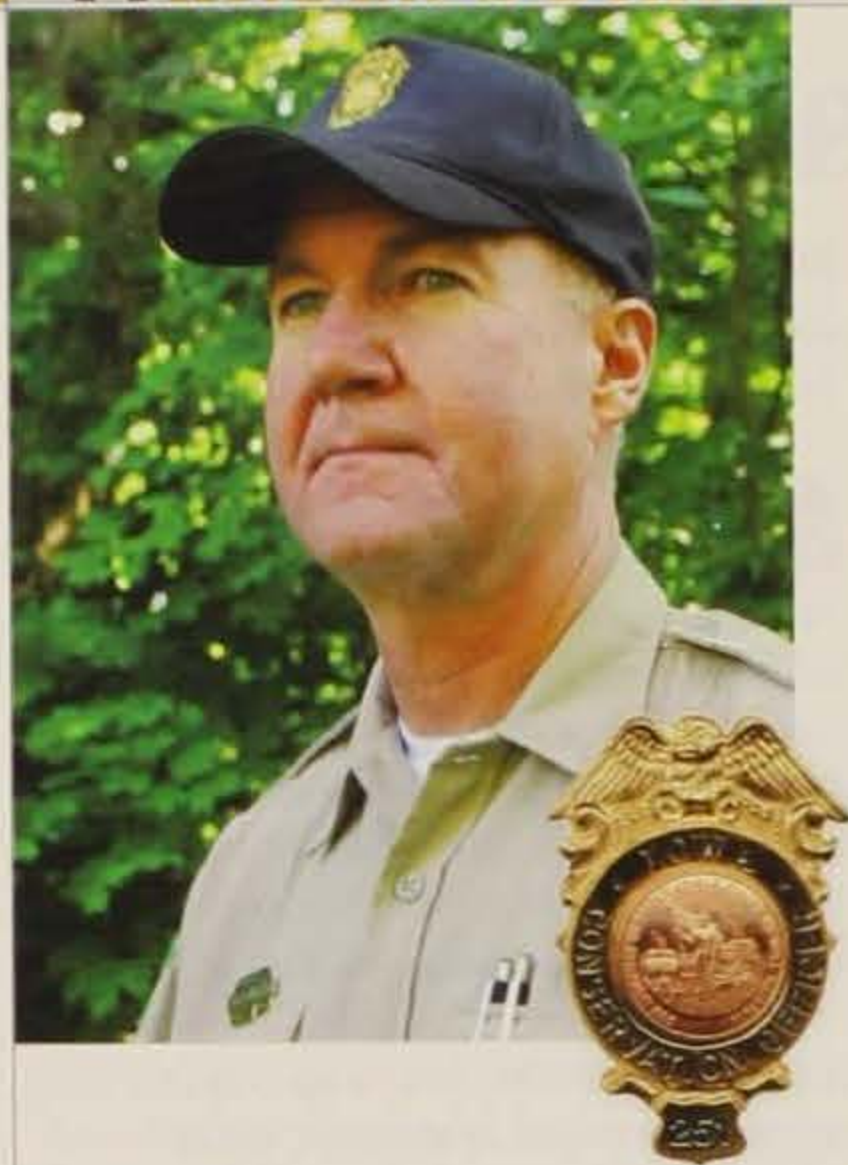
JUNE 30 BUILD AN EAGLE NEST/THINK LIKE A BIRD. Mines of Spain Recreation Area. Learn how to build a bird's nest. Start big and build an eagle's nest; follow up with a robin's nest. Dubuque County near Dubuque.

JULY 1 FIREWORKS OVER LAKE MANAWA STATE PARK AT DARK. Pottawattamie County in Council Bluffs.

JULY 4-8 BUFFALO FORKS SETTLERS RENDEZVOUS AT WAPSIPINICON STATE PARK. See first-hand what life was like during settlement. See a mid-1800s encampment, learn how to throw knives and tomahawks, and experience primitive living. Don't miss the Candy Canon, a favorite for kids of all ages. Jones County near Anamosa. 319/462-2761

JULY 8, 1 P.M. NORTH AMERICAN BUTTERFLY COUNT AT MINES OF SPAIN RECREATION AREA. Join the Dubuque Audubon Society in counting butterflies and identifying the various species. Dubuque County near Dubuque.





STRONG COFFEE, GOOD FRIENDS

I pulled into the driveway and shut off the engine. I looked around and sat for a minute. I wanted to take just one last look.

The house stood empty now. But to me, it looked as if I had just pulled into the drive that day 20 years ago almost to the day. I had just transferred into the territory where I now live. One of my first calls was from the couple who lived in the house. I remember it well. "There's a guy who drives by here every morning in a yellow pickup. He's shooting at pheasants from the window."

So, the next morning I drove there early, parked below the crest of a hill and waited. Sure enough, right on time, a yellow pickup popped over the hill. I had flipped the switch for my red lights. I walked up to the driver's side window. And, sure enough, there was a loaded shotgun, out of a case, sitting on the seat beside him.

After issuing the ticket, I drove to the house, knocked on the door, and they invited me in. I told them I had caught the guy, and I thanked them for their help.

Well, from that moment on, they "adopted" me. We became good friends.

The house sat next to a double section of land, which had been mostly in set-aside acres covering the hills formed from the material pushed by the last of the glaciers to dip down into Iowa. There was a marsh in the area owned by the county as a refuge. To say it was a haven for wildlife is an understatement.

But, that made for problems. It was so full of pheasants that sometimes I would park at sunset just to watch them fly out of the set-aside and over the road. They were in head-shaking numbers. That became well known, and it became a favorite of some whom, unable to secure permission to hunt in the area, would drive around and around the section looking for a chance to shoot.

The couple was not really well liked by some hunters in the area. In my estimation it was because they didn't allow anyone to hunt on their property, and because they

kept license plate numbers, descriptions, times and other information about what they saw which they would pass on to me. This stuff was written down. It was a gold mine for me. Why did they do it? Well, probably due to situations such as having people run into their very yard to shoot at pheasants in the grove next to their house. One time she came out of the house to find someone literally picking up a pheasant in the front yard. Her protest was met with, "I can do anything I feel like doing." And, that should be a wakeup to the hunting community. Sadly people like that are out there. They are the poachers who ruin it for everyone and shut off land to hunting. I know "turning somebody in" may seem distasteful, but this couple understood helping us was the best way to put a stop to it.

They were both retired. She from teaching, and he from factory labor, and they enjoyed watching wildlife. They had an enclosed back porch from which they would watch their bird feeders, deer, ducks and geese. They had a soft spot for cats. One time I stopped by, and he had nailed some 1-inch by 6-inch boards horizontally under the windows with ramps leading from the ground. "What in the world are those for?" I asked. "So the cats can look in the window," he answered. I shook my head.

Many times I would park behind their house to watch the area. It was a great help, because if you ask any officer what's the biggest impediment to their job, the marked patrol vehicle would probably make the top three. It's like driving around the countryside with a big flashing arrow on top, except it says "Game Warden" instead of "Sale." With being one guy covering two counties, I discounted the "deterrent" theory years ago.

I would wait behind the house for hunters to drive by, then pull out and check them. It got to the point where, the family told me, that people would drive by, slow down and look all around for me.

Usually after awhile, he would come out and say, "You'd better come in, the pot is on." Now let me tell you

this wasn't any ordinary coffee. A couple of cups, and you'd be awake until Thursday! Then, to my protests, cinnamon rolls. I'd try to tell them no. They wouldn't have it. We'd talk about many things. She loved to read, and would tell me what she was reading lately. He would ask her to go into the kitchen for something, then peer around the corner to make sure she was gone. Then he'd quickly jump into his easy chair and say, "I didn't want her to hear this because she hates me telling these, but did you hear the one about...?"

I had pulled in many a cold evening with snow starting to blow. It was close to an hour for me to drive home. They ended up putting a cup with my name on it on a hook by the door for me. I'd be working and my phone would ring. The voice would say, "the pots on, better stop in," then hang up.

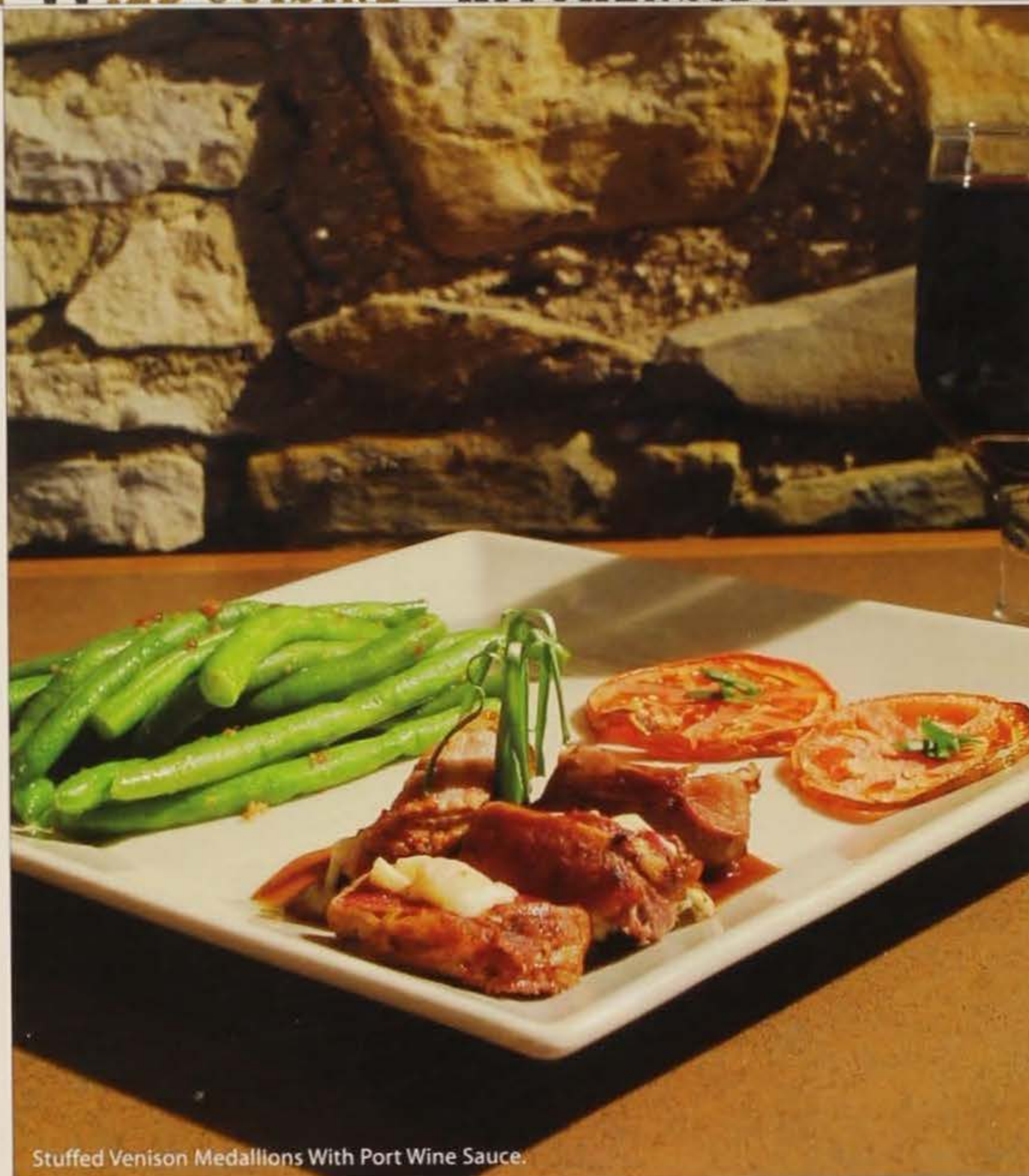
She passed away a few years ago. I knew he was lonely, and I tried to stop by when I could. During the

summer I didn't stop much as I was busy on the water. Not too long ago I stopped, walked in, and it was evident his health was failing. We talked for a few minutes, and finally he said, "I just can't quite place who you are." I reminded him and it clicked. I walked back to my pickup, and I was heartbroken.

I walked up to the door and peered in one last time. The easy chair was still there. I could close my eyes and see them waving me in. The hook was probably still on the door frame. I hoped whoever ended up there would love the place as much as they did. I turned around, lowered my head against the wind and walked away. I miss them. I thought about how a chance to help someone 20 years ago became an enduring friendship.

Every officer can tell you a similar story. That is if they are worth their salt. Law enforcement is more than writing tickets. As a sage officer told me 30 years ago, "Law enforcement is the people business." 🐾





Stuffed Venison Medallions With Port Wine Sauce.

The oldest standing wall in Humboldt County, built in 1867, from limestone hand-dug to build a nearby millrace anchors this building. Long a local gathering place for ballroom dances, roller skating, prize fighting and indoor basketball, general manager Lenny Paterson helped restore this 1903 building, locally known as the "old John Deere building" as it once served as an implement dealership. Today, the enclosed freight elevator creates a cozy private eating area, an antique wood-carved bar is a centerpiece and the limestone, brick and wood interior invokes its connection as a local landmark. Lenny serves Eagle Grove-raised elk the first weekend each month.



Chef Lenny Paterson

Great Recipes to Clear the Freezer of Last Season's Venison

STUFFED VENISON MEDALLIONS WITH PORT WINE SAUCE AND BLACKENED VENISON TENDERLOIN OVER APPLE CHUTNEY.

These dishes make great, light fare for the heat of summertime. The stuffed venison medallions are a great appetizer or light summer meal served with green beans sauteed in chablis with crisp bacon crumbs.

STUFFED VENISON MEDALLIONS WITH PORT WINE SAUCE

- 1 venison backstrap
- 4 ounces or ¼ cup crumbled cheese such as Maytag Blue or feta
- 1 large jalapeno chile, seeds discarded
- 4-6 slices of slab bacon
- toothpicks

PORT WINE SAUCE

- 2 cups demi glaze sauce mix

¼ cup port wine

Combine and add to sauce pan. Over low heat, simmer until reduced by half.

Trim backstrap of all fat and filet off all silver connective tissue. Cut into 4-5 ounce fillets. With the grain, make a slit in the middle of the filet. Stuff openings with cheese and jalapenos. Wrap the steak with bacon making sure to cover the stuffing. Hold in place with toothpicks. Season with salt and pepper. Dry sautee, using a few drops of cooking oil, in a non-stick pan until desired doneness. Medium rare is preferred. Serve with warm port wine sauce.

BLACKENED VENISON TENDERLOIN OVER APPLE CHUTNEY

The chutney can be made in advance, allowing this dish to be easily cooked at campside. Use apple cider vinegar to compliment apples in the chutney.

- 1 venison tenderloin
- 1 cup blackened seasoning
- 2 tablespoons sugar

Trim the tenderloin of all fat. Combine above seasonings and place on a plate. Dredge tenderloin in seasoning, grill until desired doneness. Medium rare preferred. An open flame caramelizes the sugar, but meat can be pan-seared too if easier.



Blackened Venison Tenderloin Over Apple Chutney

The sweet heat of Lenny's recipe for blackened venison tenderloin over apple chutney can fall apart in the mouth if done right. "Don't overcook venison," says Lenny, who recommends medium-rare. While renovating the old building, he found two signs: "Gentlemen: Please Remove Your Hats" and "No Spitting on the Floors" as proof of town gatherings held on-site in past decades. Now it hosts periodic comedy shows with dinner and wedding receptions in the 10,500 square-foot eatery.

HAVE A GOOD RECIPE OF WILD FOODS TO SHARE? Send to: WILDCUISINE@DNR.STATE.IA.US

APPLE CHUTNEY

- ¼ cup red currant or cherry jam
- 3 tablespoons apple cider vinegar
- 1 tablespoon unsalted butter
- 2 teaspoons peeled fresh ginger, minced
- ½ teaspoon kosher salt
- 1 teaspoon curry powder
- 1 cinnamon stick
- Pinch red pepper flakes
- ¼ red onion, large dice
- 3 soft cooking apples such as McIntosh, peeled, seeded and diced
- 2 tablespoons dried cranberries
- 2 tablespoons chopped cilantro leaves

1) In microwave-safe bowl, stir together jam, vinegar, butter, ginger, salt, curry powder, cinnamon stick,

pepper flakes and onion. Cover with plastic wrap and cook in microwave oven on full power for 2 minutes.

2) Carefully remove the cover, add apples and cranberries and stir to lightly coat fruit with the flavorings.

3) Re-cover and microwave at full power for 10 minutes. Poke holes in the plastic wrapping and set aside for 10 minutes. Stir in the cilantro.

4) Pour chutney onto serving plate and add cooked meat on top. Dip meat into chutney and enjoy the mild heat offset with sweetness.

RUSTIX RESTAURANT & RECEPTION

716 Sumner Avenue, Humboldt

RESERVATIONS:

Not accepted, except for banquets.

HOURS: Lunch 11 a.m.-4 p.m., Tuesdays-Saturdays; Dinner 4-9 p.m., Tuesdays-Thursdays and 4-10:30 p.m., Fridays and Saturdays; Sunday brunch 11 a.m.-2 p.m. Closed Mondays.

LIQUOR: Bar with full wine list.

SMOKE FREE DINING.

515-332-1441

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The Best Crappie Chowder Ever

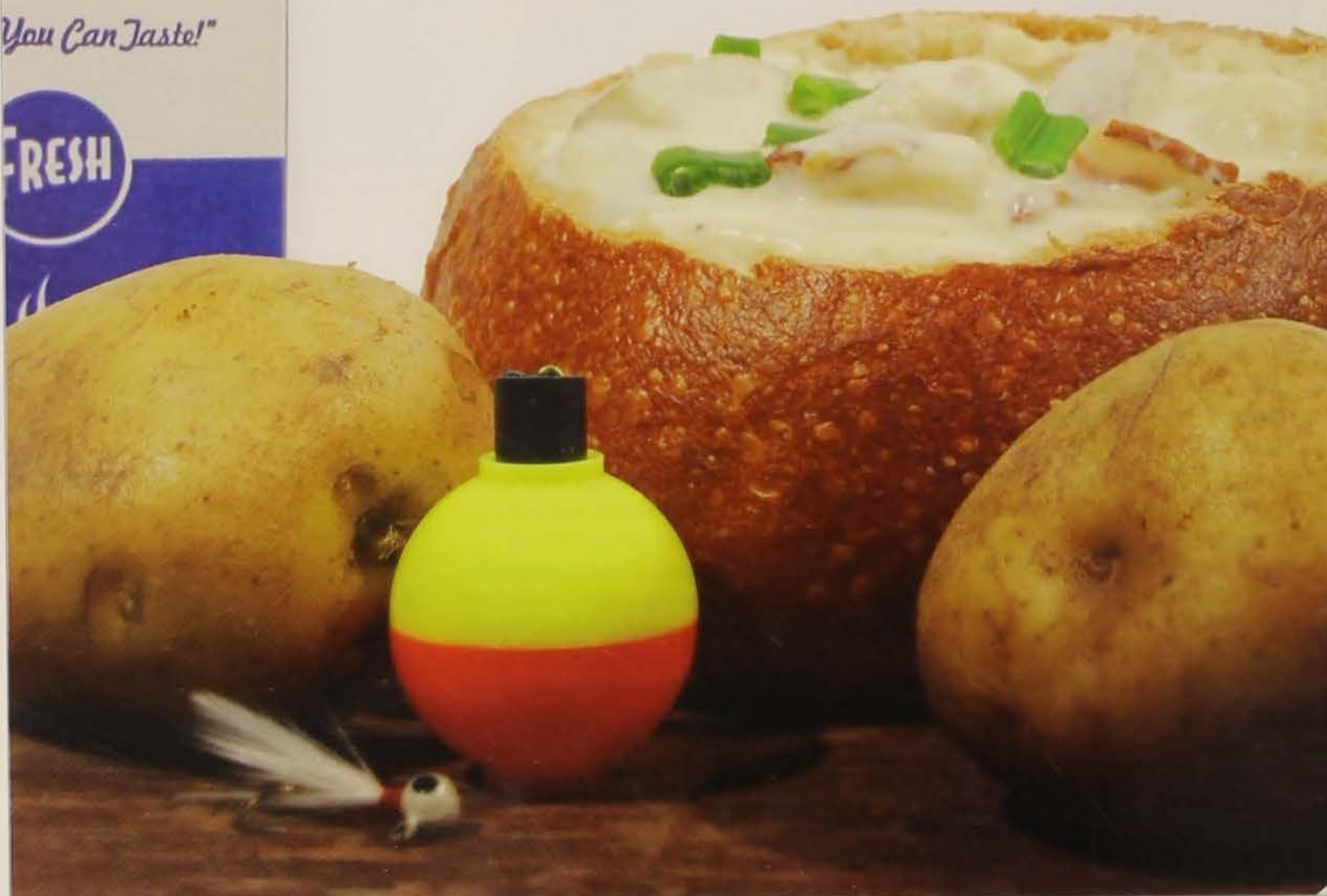
TAKE YOUR PANFISH TO NEW HEIGHTS WITH THIS RICH, CREAMY CHOWDER



Fried fish and potatoes may be the quintessential end to a successful day on the water, but give this simple chowder a try, and it might just replace its crispy counterpart at your dinner table. This simple meal works equally well as a quiet dinner at home or a hearty campside meal after a long day on the lake.

- ½ pound bacon
- One large onion, chopped
- Three celery stalks, chopped
- 1 cup flour
- 2 cups chicken broth
- 1 bottle clam juice
- 6 potatoes, cut into cubes
- 4 cups raw or precooked mild white fish, like crappie, bluegill, walleye, perch or northern pike. Cut into chunks.
- ½ gallon half and half
- Salt and pepper to taste

Fry bacon until crisp; remove and crush into little pieces. Cook cubed potatoes until crisp tender; do not overcook. Add onion and celery to bacon grease and fry until golden. Remove and reserve with bacon. Add 1 cup flour to pan drippings and stir over medium heat for 3-5 minutes to make a roux, making sure not to burn. Add 2 cups chicken broth and clam juice and stir until mixed. Add potatoes and half and half, and salt and pepper to taste. If using raw fish, add now. Mix well and cook on low heat for about 20 minutes, stirring occasionally, until desired thickness is reached. If using pre-cooked fish, add near end of cooking time. If thicker chowder is desired, add about 4 tablespoons cornstarch or flour with half cup cold water to mixture, stir well and cook an additional 5 minutes. Garnish with diced scallions. Serve in bowl or hearty, hollowed-out round bread loaf.



BY ALAN FOSTER PHOTO BY CLAY SMITH

SHORT-TAILED SHREW (*Blarina brevicauda*)

"... it biteth deep and poysoneth deadly..." E. Topsell

Topsell, a 17th century cleric, apparently had encountered North America's only poisonous mammal with less than pleasant results. In his book, *Speculum Mundi*, the author noted the mammal, also known as the shrew mouse, "...containeth in it poison or venime, like a spider, and if at any time it bite either man or beast the truth of this will be apparent..."

VORACIOUS APPETITE

While primarily insectivores, short-tailed shrews also consume earthworms, spiders, centipedes, snails, mice, salamanders, baby birds, nuts, fungi and plant material. Due to their high metabolic rate, they must eat almost continuously. They can consume their own body weight in food per day.

SMELLY DEFENSE

These mammals emit a strong musky odor, which serves as a defense mechanism. Although some predators mistakenly kill them, few will actually eat them. Known predators include owls, hawks, snakes and weasels.

BLIND NAVIGATOR

Short-tailed shrews are active both day and night throughout the year, however they are most active at night and early morning. They spend their time scurrying through shallow runways beneath the surface litter or in burrows of other animals. Given these habits, one would credit the shrew with having incredible vision. They don't. They navigate these darkened corridors via ultrasonic clicks.

TOXIC BITE

The short-tailed shrew uses toxin in its saliva to immobilize prey, sometimes caching its catch for several days for a fresh, live meal later. The toxin is typically not dangerous to humans, although the bite may cause pain and swelling that last for days.

SMALL IN STATURE

Short-tailed shrews are roughly 3¼ to 4¼ inches in length, of which ¾ to 1¼ is tail. They weigh roughly ½ to 1 ounce. While individuals may live up to 30 months, most rarely make it past 1 year. Common and abundant, they are often mistaken for mice.



ACTUAL SIZE



A smallmouth bass cruises near the overturned hull of the Hafer Wreck in West Lake Okoboji.

State Library Of Iowa
State Documents Center
Miller Building
Des Moines, Iowa