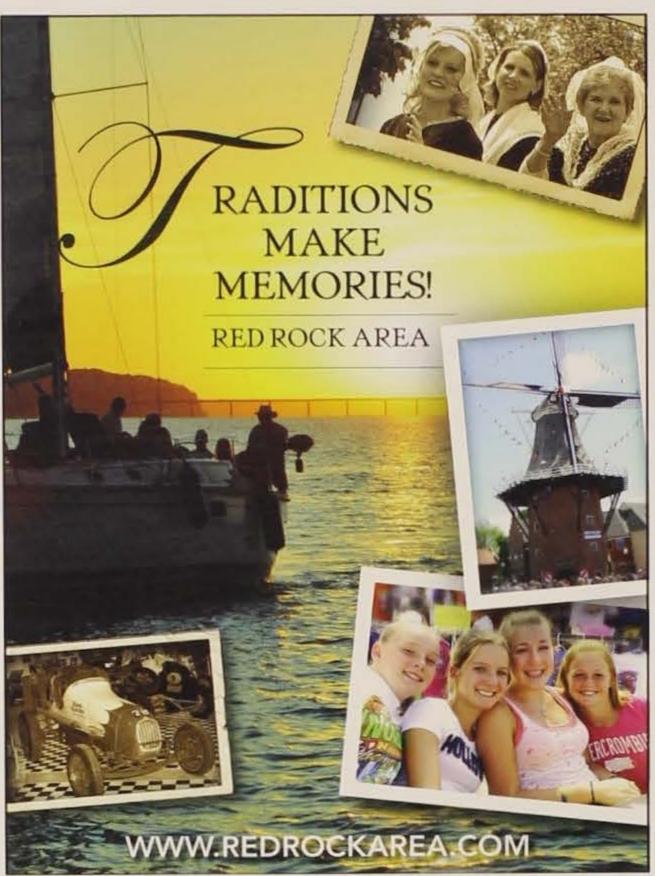
JULY / AUGUST 2010

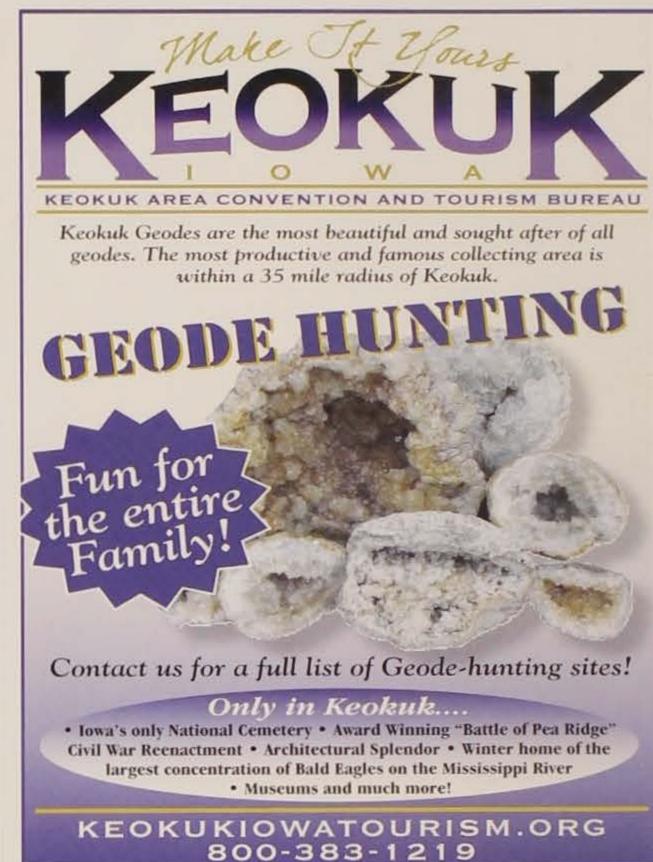
# I WAS OUTDOORS

THE DNR'S MAGAZINE OF CONSERVATION AND RECREATION

IN THIS ISSUE:

DEEP NATURE: A QUEST FOR WILD PLACES
REBUILDING NATURAL AREAS FROM SHALLOW LAKES TO PRAIRIES







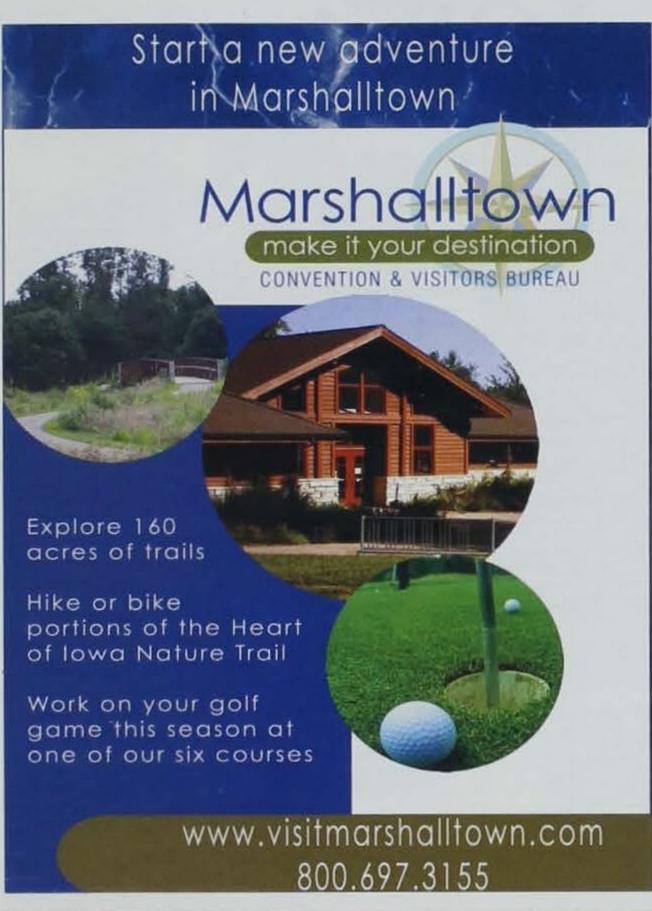
They grow up fast. Give them a gift that will last a lifetime.

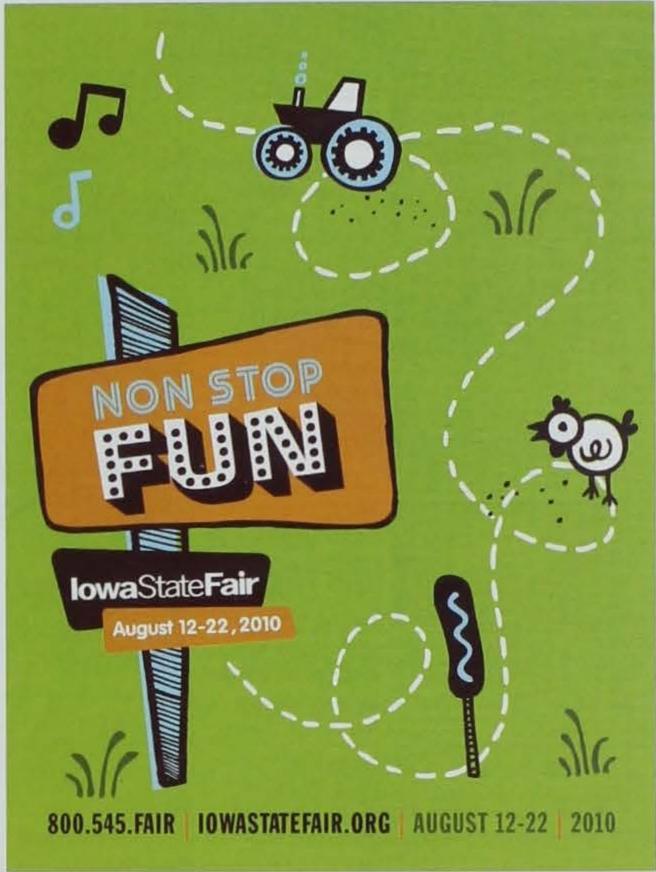
COLLEGE SAVINGS

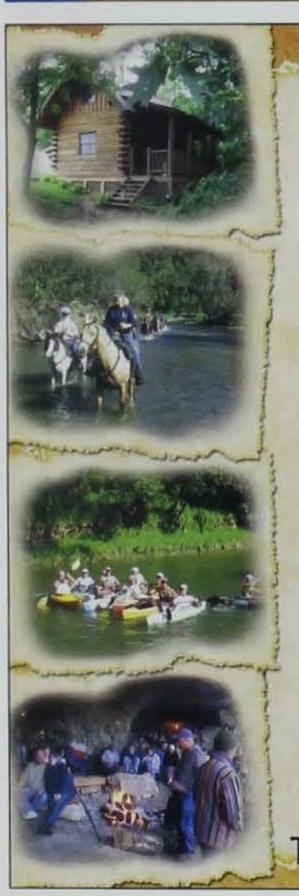


Michael L. Fitzgerald, Treasurer of State

Call 888-672-9116 • Visit www.collegesavingsiowa.com







## **Our 1st Annual Yellow River Yak Fest**

**July 16 - 18** 

Taylored to fun-loving folks who love kayaking, canoeing, music, good food and scavenger hunts.

Come for the day or stay the weekend!

See Yellow River the way it was meant to be seen - lazing along it's banks.

Reserve now as space is limited.



you'll want to stay forever! Near Marquette, IA

(877) 776-2208 ntrlgait@acegroup.cc

### CALENDAR OF EVENTS

May 21 - 22 Cave Concert featuring Switchback

June 12 Cave Concert featuring Big Blue Sky

June 25-27 Doc Hammill Driving Clinic

July 16-18 1st Annual Yellow River Yak Fest July 23 Cave Concert

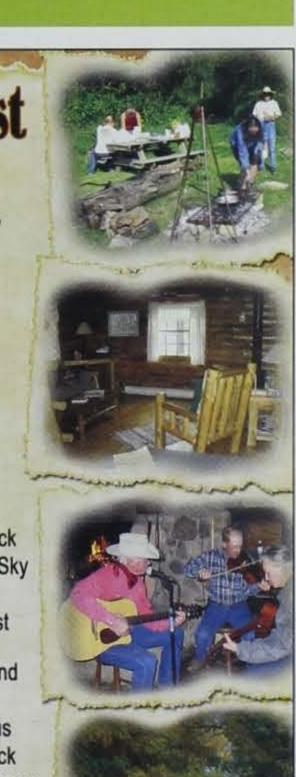
featuring Sawtooth Bluegrass Band Aug 7 ACTHA Ride

Aug 19-22 9th Annual Haybarn Rendezvous Sep 10-11 Cave Concert featuring Switchback

Cave Concert featuring Michelle Lynn

The Natural Gait.com • TNG happenings.com

Oct 9



## **Tontributors**



#### LINDA AND ROBERT SCARTH

of Cedar Rapids
have an incredible
eye for that magic
moment when
small becomes
beautiful. With a
focus on Midwest
flora and fauna,

their passion for the outdoors, coupled with patience and keen eye to detail, allows them to capture dazzling images of nature up close.



FRAN
DERHAMMER lives
with her husband,
Dave, in Volga.
Both retired, part
of their free time
is spent fishing the
trout stream hol-

lows of northeast

Iowa with their

three grandchil-

dren. "The overall beauty of the landscape around a trout stream evokes a kind of peace and serenity, but that tug on the end of the line snaps me out of my reverie. Then it's me against nature and the fight is on."



#### SANDY FLAHIVE

is a writer who
lives in Des
Moines but likes
getting behind the
wheel of her Jeep
and meandering
around Iowa,
discovering the
hidden gems
that lie in its

many nooks and crannies. She also enjoys spending time at her remote cabin near Stephens State Forest in southern Iowa.



#### SAM SAMUELS

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

the Iowa Summer Writing Festival.

## IOWA OUTDOORS

JULY / AUGUST 2010 · VOLUME 69 · ISSUE 4

(formerly the Iowa Conservationist)

#### STAFF

Kevin Baskins - BUREAU CHIEF

Brian Button - EDITOR-IN-CHIEF

Alan Foster - MANAGING EDITOR

Jacob Zweibohmer - ART DIRECTOR

Lowell Washburn; Joe Wilkinson - WRITER/PHOTOGRAPHER

Clay Smith - PHOTOGRAPHER

Julie Tack - MARKETING AND PUBLICITY

#### STATE PRESERVES ADVISORY BOARD

Cynthia Peterson - CHAIR, Iowa City
Stephen Dinsmore, Ames
Armando Rosales, Atlantic
Deborah Lewis, Ames
Carl Kurtz, St. Anthony
Patricia L. Boddy, Des Moines
Gail Brown, Mason City

#### NATURAL RESOURCE COMMISSION

Gregory Drees - CHAIR, Arnolds Park Tammi Kircher - VICE-CHAIR, Keokuk R. Kim Francisco - SECRETARY, Lucas Janelle Rettig, Iowa City Elizabeth Garst, Coon Rapids Dennis Schemmel, Grimes Margo Underwood, Mason City

## ENVIRONMENTAL PROTECTION COMMISSION

Charlotte Hubbell - CHAIR, Des Moines
Marty Stimson- VICE-CHAIR, Cedar Rapids
Lorna Puntillo- SECRETARY, Sioux City
Dale Cochran, Urbandale
Paul Johnson, Decorah
David Petty, Eldora
Susan Heathcote, Des Moines
Gene Ver Steeg, Inwood
one vacant position

#### SUBSCRIBER SERVICES 800.361.8072

#### ADVERTISING OFFICE

Larson Enterprises, Dave Larson at 515.440.2810 or LARSON6@MCHSI.COM

#### **DNR EXECUTIVE STAFF**

Richard Leopold - DIRECTOR • Patricia L. Boddy - DEPUTY DIRECTOR

#### **DIVISION ADMINISTRATORS**

Vacant - MANAGEMENT SERVICES • Diane Ford (interim) - CONSERVATION AND RECREATION
Wayne Gieselman - ENVIRONMENTAL SERVICES

DNR Central Office, 515.281.5918 • TTY users contact Relay Iowa, 800.735.2942

Jowo Outdoors (ISSN 0021-0471) is published bimonthly by the lowa Department of Natural Resources. Des Moines, Iowa 50319-0034.

Periodicals postage paid Des Moines, IA. SUBSCRIPTION RATES: \$15 FOR ONE YEAR.

524 FOR TWO YEARS AND \$30 FOR THREE YEARS. PRICES SUBJECT TO CHANGE WITHOUT NOTICE. Include mailing label for renewals and address changes. POSTMASTER: Send changes to the lowe Outdoors, PO. Box 8462 Red Oak; IA 51591-1462

Federal and state regulations prohibit discrimination on the basis of race, color, national origin, sex or disability. State law also prohibits discrimination on the basis of creed, sexual orientation, gender identity, religion, pregnancy or public accommodation. If you believe that you have been discriminated against in any program, activity, or facility as described above, or for more information, write: Director, DNR, 502 E. Ninth St., Des Moines, IA 50319-0034 or the Equal Employment Opportunity Commission, Washington, D. C. 20240.

#### 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.

#### MAKE A DIFFERENCE

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

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

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

#### HOW TO DONATE

Charitable giving of land, funds, and goods and services greatly enhances Iowa's outdoor living. Contact: Diane Ford at 515-281-6341.

#### SHOW YOUR SUPPORT

The DNR Nature Store offers apparel and gifts with profits for parks. Order online at www.iowanaturestore.com or 1-866-410-0230.

#### SUBSCRIBER SERVICES

To subscribe, or for any subscription issues or questions, call 1.800.361.8072 Monday through Friday from 7 a.m. to 11 p.m. or weekends 8 a.m. to 6 p.m. For ease in processing, please have an issue with a mailing label available at time of call. To purchase a single copy for S5, call 515-281-5918.

#### LEARN MORE

Our webpage, www.iowadnr.gov, is loaded with information for all ages and needs. Buy licenses, reserve campsites or learn more about our environment online.



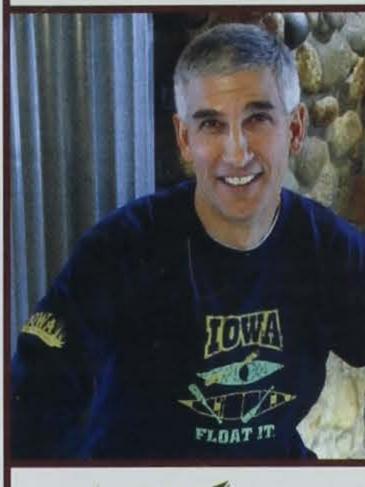






## Unique Iowa outdoor apparel!

Profits from the lowa Nature Store go directly to the improvement of our lowa state parks.





www.iowanaturestore.com or call toll free 1.866.410.0230

## Concrete: Iowa's Natural Choice for Sustainability



Trails and roads built with concrete offer unmatched durability and recyclability, with a low carbon footprint.

Iowa Concrete Paving Association
Iowa Ready Mixed Concrete Association

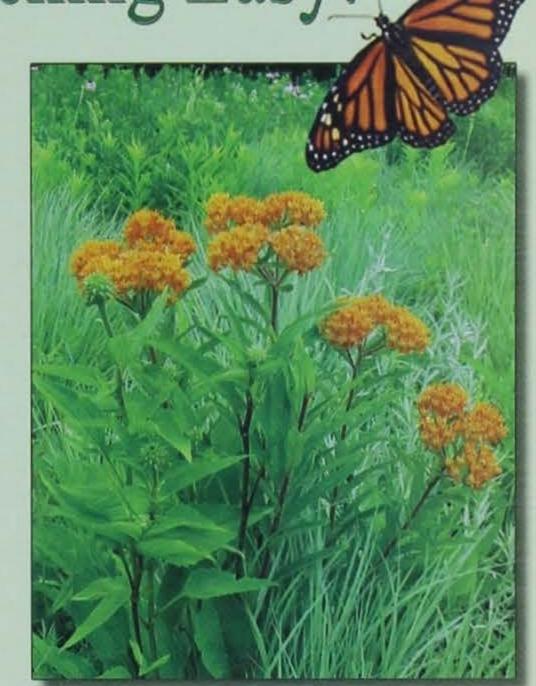
515-963-0606 www.lowaconcretepaving.org 515-965-2575 www.lowareadymix.org



## By using our native plant kits, you can:

- \* Beautify and Restore your waters edge around ponds, marshes, lakes and streams.
- \* Create a rain garden to control water runoff from your property.
- \* Attract Birds and Butterflies to your backyard.
- \* Create your own prairie.
- \* Launch a Floating Island.





# Contents July / August 2010 ABOUT THE COVER Contributing photographers Linda and Robert Scarth, well noted for their stunning nature photography, captured this 12-spotted skimmer at the Wickiup Hill Outdoor Learning Center northwest of Cedar Rapids.

#### **ABOUT THIS PHOTO**

Staff photographer and writer Lowell Washburn, a stalwart in the world of nature photography, captured this dragonfly resting on a river bulrush after feeding. See more of Washburn's photos in the Shallow Lakes Bounty feature on pages 38-43.

## FEATURES

## 28 Gold At The End Of The Rainbow

Spend a lazy day streamside with the author as she roots out what fishing is truly about.

STORY BY FRAN DERHAMMER PHOTOS BY STUDIO Z

## 30 Deep Nature

Explore lowa's prairies and discover one of nature's unique environments—a fen— from the eyes of an ecologist.

STORY BY JOHN PEARSON PHOTOS BY ROBERT AND LINDA SCARTH

## 38 Shallow Lakes Bounty

See how biologists are mimicking droughts to revitalize critical habitat for aquatic and bird life.

STORY AND PHOTOS BY LOWELL WASHBURN

## 44 Catfish Capers

Revisit the days when childhood was all about adventure, exploration and a little river time.

STORY BY BILL KLEIN

## 46 Big Carp

If trophy fish are what you're after, give bowfishing for carp a try. You might just land the next state record.

STORY AND PHOTOS BY JOE WILKINSON

## 50 Rockets Red Glare

Ride along with the author as he takes in the spectacle of a Fourth of July firework display from the deck of a kayak.

STORY AND PHOTO BY JOHN PEARSON

## **52** A Prairie Legacy

See how some lowa landowners are meticulously restoring their property back to the original prairie that once covered much of lowa.

STORY BY SAM SAMUELS PHOTOS BY CLAY SMITH

## Contents July August 2010

#### **ABOUT THIS PHOTO**

Cedar Rapids nature photographers
Linda and Robert Scarth get up close
and personal with a gray tree frog (Hyla
versicolor) resting peacefully on a blunt leaf
milkweed (Asclepsias amplexicaulis) in the
middle of Cedar Hills Sand Prairie north
of Cedar Falls. See more of their stunning
photos in the Deep Nature feature on
pages 30-37, or at www.scarthphoto.com.

## DEPARTMENTS

## 9 Together

Enjoy awesome fireworks at Manawa State Park, celebrate Christmas in July at Backbone and Ledges parks and explore the newly renovated interpretive center at Mines of Spain.

## 14 Myth Busters

Are Iowa's woodlands really filled with venomous snakes? Where do the Iowa State Fair fish come from and what happens to them after the fair?

## 16 Outdoor Skills

Learn how to make fire the old fashioned way—with stick and string.

## 20 Lost In Towa

Make it a vacation at Honey Creek Resort State Park where there's enough to keep busy all week.

## 60 My Backyard

Keep an eye skyward for a possible cause of fish kills.

## 61 Wild Tuisine

Carp might not be the most respected fish, but at Joe Tess Place in Omaha, it takes center stage. Roast your own coffee beans to make the best cup of joe around.

## 64 Flora & Fauna

Is the cicada killer's bark worse than its bite?

## 65 Admiration & Legacy

Meet a couple making a career out of launching safer boaters; a Boone landscaper who created a canoe and kayak portage trail on the Des Moines River; and a club that creates better fishing for local anglers.

BY BRIAN BUTTON PHOTO BY J. SCOTT COOPER

## ACTIVITIES, TIPS AND EVENTS FOR THE WHOLE FAMILY



## Lake Manawa Kaboom!

It's a 15-minute pyrotechnics show that attracts 80,000 viewers in and around Lake Manawa State Park and caps a day of fishing, lazing on the beach, family barbeque, boating and camping.

Held a weekend before the Fourth of July so as to not compete with other metro Omaha area fireworks, these over-the-water explosions mirror off the boat-studded lake with reverberating booms.

If camping, you'd best get a reservation (1-877-IAPARKS), or plan on securing a non-reservable site early in the week, says DNR park manager Dan Jacobs. Some sites have a lake view, otherwise bring lawn chairs to the grassy area along the south shore.

Boaters should use the south boat ramp for a quicker post-pyro getaway. "The south ramps clear faster than the west ramp," says Jacobs. Just be patient. With big crowds and traffic, plan an hour to leave.

INSIDERTIP: Try the beach. "It's probably the least crowded area in the park," says Jacobs. The concession stand is open during the show, although swimming closes after dark. For a modest fee (\$3 adult/\$2 child, under 4 free), beachgoers can cool off in lifeguard-protected waters all day and bring a cooler and grill onto the sand for an All-American family beach party.

Be green and carry out your trash.

TRAVEL NOTES: Held a week before the Fourth of July, the fireworks are hosted by the Council Bluffs Fish and Game Club on June 27 at 9:59 p.m. Lake Manawa State Park is 2.5 miles south of Interstate 80 (Exit 3) at Council Bluffs and 2.5 miles west of I-29 (Exit 47).

Reserve campsites at www.reserveiaparks.com. For details on the fireworks or membership to the Council Bluffs Fish and Game Club visit cbfishandgame.net or call 712-366-9930.

Together Half Day On \$50 BY MEAGAN SAVAGE PHOTOS BY CLAY SMITH

## Christmas In July

Pack flip-flops and wrapping paper, it's like a Hawaiian Christmas—without the airfare.



The reindeer are still resting and the snow won't fall for a few months, but the Christmas spirit is alive in central and eastern Iowa.

Each year campers come loaded with tents, sleeping bags, Christmas lights and decorations that would make Clark Griswold proud, all to compete for prizes like the appropriately named National Lampoon's Award for the most lights and the Boone and Crockett Award for the biggest constructed reindeer.

But there are plenty of other activities if your inner electrician is on vacation. There's a paddle boat and kayak race, golf ball and spoon race, sack race,

wheelbarrow race and even a kids' waterslide. Backbone has a bicycle parade where kids decorate their bikes in a Christmas fashion. Children can also make paper chains, birdseed pinecones and color Christmas pictures.

And it couldn't be Christmas in July without a visit from the big man himself, riding in on a horse-drawn carriage. Santa stops by campsites to pass out candy canes to all the good girls and boys. After he heads back north until December, carriage rides are available for campers.

Get into the Christmas spirit, feel free to belt out your favorite carols and exchange gifts—just don't let Aunt Bethany wrap up the cat.



Mines of Spain State Park is home to some of
the most ecologically diverse land in Iowa with
wetlands, creeks, rivers, forests, prairies, meadows
and bluffs awaiting those who trek to Dubuque. But
this summer visitors can wander a new attraction with

this summer, visitors can wander a new attraction with the unveiling of the renovated E.B. Lyons Interpretive Center. Twice the size of its predecessor, visitors can stop by the hands-on activities area with the kids, walk through a realistic lead mine and view aquariums

of native fish, amphibians and reptiles.

Behind the renovations is the Friends of Mines of Spain group, which raised \$1.5 million for the project. The renovation gave the group "the ability to do a lot more programming and introduce people to the outdoors," says Treasurer Rich Henderson.

The center's updated interactive exhibits include information on lead mining, Julien Dubuque, American Indians, prairies, forests and animals to name a few.

"Parents can be reading and kids can be self-entertained," says Park Ranger Wayne Buchholtz. The expansion includes classrooms to study topics from local history to wetland ecology. There's also a student biology lab.

The center practices what it preaches. The new building is made from partially recycled materials and features water-efficient fixtures and high-efficiency mechanical units. Plus, the wood, adhesives, carpet and paint are all low-VOC, to minimize volatile gases.

"This project leads by example; it serves as a useful educational tool for visitors. A nature center that lessens its impact on the natural environment must believe what they teach," says Christina Monk, center designer.

The center offers courses and programs including hunting and canoeing safety, walks with naturalists and animal demonstrations throughout the summer.

View events at www.minesofspain.org or call 563-556-0620.

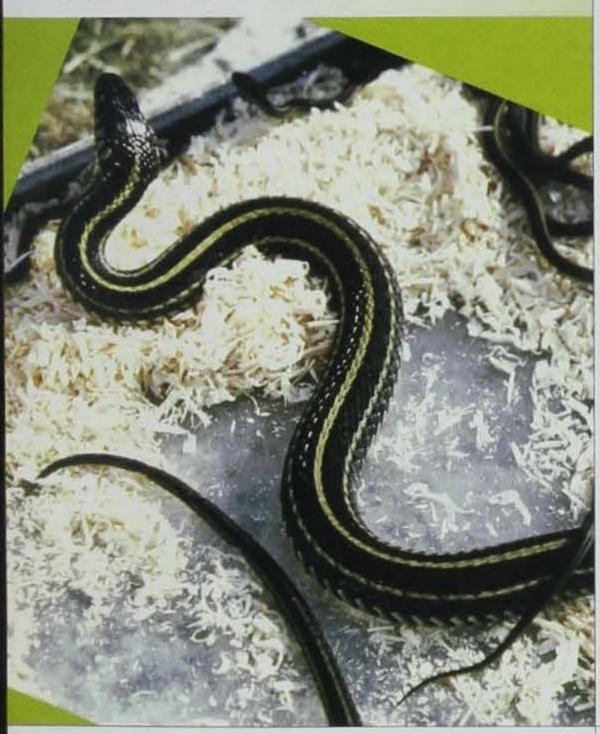
## But Why? Helping adults answer children's nature questions BY A. JAY WINTER

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

#### JAKE IN COLFAX ASKS:

#### How do snakes move?

Snakes move via a combination
Of friction, muscles and scales.
Snake scales act like skis or skates
to keep a snake moving forward. The
friction, or resistance of the scales on
the ground allow the snake to keep
moving. Muscles force the scales to
push against the rough surface of the
ground to propel them forward. On
slick surfaces, snakes have a difficult
time because their scales can't grip
anything. Snakes can move very quickly
if they need to, and they can slowly
crawl over the ground as well. Many
snakes can even climb up trees.





This summer Charlie Wittmack, lowa's answer to the Energizer bunny, will take off on a triathlon 1,000 times longer than the typical Ironman Triathlon. He is calling his effort The World Triathlon. In this feat, he will swim the Thames River, the North Sea and the English Channel. He will then bike through Belgium, Germany, Poland, Ukraine, Russia, Kazakhstan, China, Tibet and Nepal. From Kathmandu he will run to the lowest point of Nepal and then climb to the highest.

#### So what are your plans?

For the record, it seems like a World Quadathlon (swim, bike, run, climb), but no matter what you call it, it will be an impressive effort. Meanwhile, back in lowa, there are teenagers that have never been to a park, canoed an lowa river or know how to ride a bike or swim. The "epidemic" is so bad that even lawn ornaments are gaining weight. Reiman Gardens at lowa State University now features one weighing 8,000 pounds. Even our pets are becoming overweight and obese. Our pets! Our gnomes! Our kids!

So let me share with you the best way to teach a child how to ride—remove the training wheels and the pedals. If you provide a youngster a bike sans pedals, they quickly learn to use it like a scooter—that you sit on. After a bit, you will notice that they are pushing off and then holding their feet in the air, just about where the pedals would be. At that point, place the missing pedals back on and the child now has a resting place for his or her feet. After learning the whole balancing thing with the feet out as safety and security devices, learning to pedal is a snap.

From that point on the bike can be a vehicle, recreational device, weight loss machine and exercise equipment, often times all at once. Hardly a month goes by that lowa doesn't become a better place to bike and be active. Trails are being connected, rivers spanned and parks and communities mapped. The great thing about a bike is that you can ride to work and use the gears in such a way that you don't work up a sweat and then turn around and crank it so you are in a targeted heart rate zone. On a bike you can coast, or get after it.

I have even seen cyclists "walking their" dogs while riding. Now all we have to do is invite the gnomes.

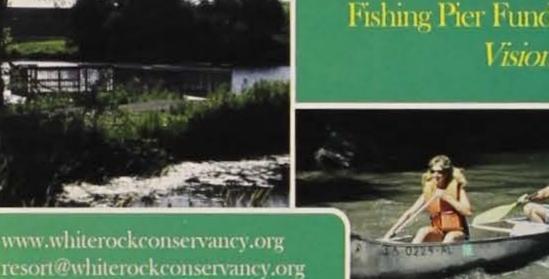
Tim Lane is the fitness consultant with the Iowa Department of Public Health. A marathoner, former director of the National Ski Patrol, climber and volleyball coach, he has cycled across America once and Iowa 25 times. He's a regular on RAGBRAI. Tim also helped design and promotes Live Healthy Iowa.

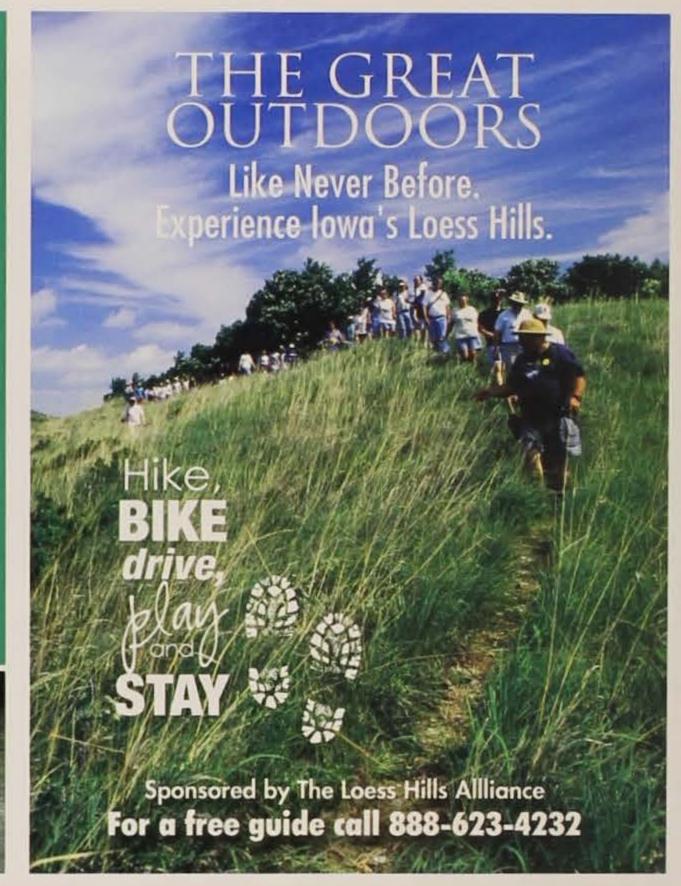
At Whiterock, it is easy to explore Iowa's natural history and learn about our conservation efforts while hiking our 30+ miles of dirt trail systems or floating along a scenic 8 mile section of the Middle Raccoon River. Contact us to reserve your spot for adventure!

712-684-2697 Ext.112

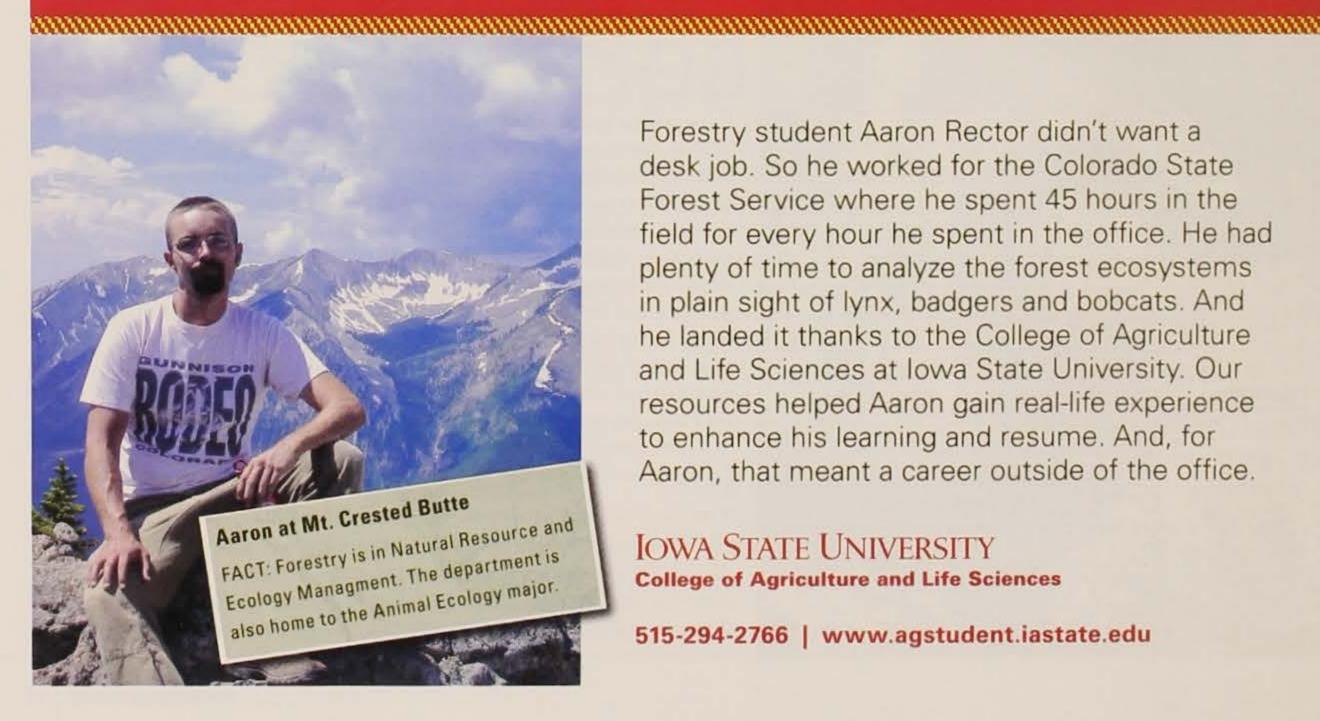


Whiterock Offers: . 6 Site River Campground . Canoe Trips . Guided Nature Hikes . Over 30 Miles of Trails New Town Loop Trail & Handicap Accessible Fishing Pier Funded by Vision Iowa





Live green. Learn green. Earn green.



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

**IOWA STATE UNIVERSITY** College of Agriculture and Life Sciences

515-294-2766 | www.agstudent.iastate.edu

## VIPERS ON THE LOOSE?

slithering rumor has been rattling about that Iowa's Awoodlands are crawling with poisonous snakes. We're striking back to let you know that this venomous myth has no bite. There are more than 2,500 species of snakes in the world and of the 400 that are venomous, only four are found-but rarely seen-in Iowa.

These include the MASSASAUGA RATTLESNAKE, TIMBER RATTLESNAKE, PRAIRIE RATTLESNAKE and the COPPERHEAD, collectively known as pit vipers. Iowa's pit-vipers once inhabited about one-third of the state. Since settlement, population sizes of all four species have been severely reduced and three of the four are now listed as endangered.

Massasauga Rattlesnake The name Massasauga means "huge river mouth" and was so named because this reptile lives in marshes and around rivers. Only four populations of Massasauga rattlesnakes have been verified in Iowa. One of those populations can be found at the Sweet Marsh Wildlife Area in Bremer County. Bites from swamp rattlesnakes in Iowa have been mild and are rarely fatal when treated.

Timber Rattlesnake Timber rattlesnakes are found in northeastern Iowa among the Mississippi River bluffs and a small population can be found near Winterset in central Iowa. While the Timber rattlesnake is venomous, it is not an aggressive species. The majority

of documented bites have occurred while individuals were trying to pick up the snakes. The last fatality from a Timber rattlesnake bite in Iowa was in the 1800s.

Prairie Rattlesnake The Prairie rattlesnake is very rare and is found only north of Sioux City in the Loess Hills bluff areas at The Nature Conservancy's Broken Kettle Grasslands Preserve in Plymouth County. The prairie rattlesnake is aggressive; coiling and striking with little provocation, but a bite is rarely fatal if treated.

Copperhead The Copperhead is one of Iowa's rarest snakes, found only in a few locations in southeastern Iowa. Although capable of delivering a dangerous bite, there has never been a known fatality caused by a copperhead bite in Iowa.

Although snakes may be found in every county in Iowa, it is rare that you will run into one that is venomous. It is even less likely that you will be bitten by one and even more unlikely that a bite will result in fatality. As a matter of fact, according to the Iowa Association of Naturalists, more fatalities occur each year from honeybee and wasp stings than snake bites.

Ask The Expert Jackie in Jones County asks: "Where do the state fair fish come from?"

BY SHELENE CODNER

COPPERHEAD RATTLESNAKE PHOTO BY ISTOCKPHOTO.COM

The Department of Natural Resources building located at the Iowa State Fairgrounds (west of the grandstand along the Grand Avenue concourse) reels in thousands upon thousands of visitors every August. Visitors are lured by the intricately detailed swans and eagles adorning the outside of the brick building. Once they step inside and view the historic aquarium, they're hooked.

Construction on the aquarium began in 1919, and was requisitioned by then State Fish and Game Warden William Albert. The aquarium (which is a far cry from the steel stock tank that it replaced) is filled with fish of various sizes and species—all found in lowa.

Fish for the fair come from several sources and are transported in oxygenated hauling tanks to the Iowa State Fairgrounds. All trout species come from the Manchester Hatchery. Northern pike and larger fish are generally the same ones from year to year and are hauled in from the Spirit Lake Hatchery where they are housed in a pond throughout the rest of the year.

Spirit Lake Hatchery staff members seine the pond in July (a seine is a large fishing net that hangs vertically in the water by attaching weights along the bottom edge and floats along the top). Staff then inventory the fish and inform biologists—doing summer survey work—what other species are needed.

The remaining inventory needed for the fair generally consists of bluegills, crappies and smaller fish. These are acquired by electrofishing, which is a common method used by biologists while sampling fish populations. Electrofishing is a procedure that uses electricity to stun fish. Electrofishing causes no permanent harm to the fish, which return to their natural state in as little as two minutes after being stunned.

During the fair, the water temperature in the aquarium tanks is maintained at a cool 62 degrees with a 0.5 percent salt concentration to minimize disease and reduce stress. After the fair, fish are collected and hauled back to their respective homes.

The record holder for state fair appearances was a fish named Oscar, a rock sturgeon that weighed in at more than 100 pounds. Oscar made 28 straight appearances at the fair throughout the early 1950s and remained a fixture until the late 1970s. After his death, Oscar was mounted and was on display for several years at the Springbrook Conservation Education Center near Guthrie Center.

If fishing isn't your angle, then flock to the pond on the west side of the building to view some of lowa's feathered friends including trumpeter swans, mallards and Canada geese.

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

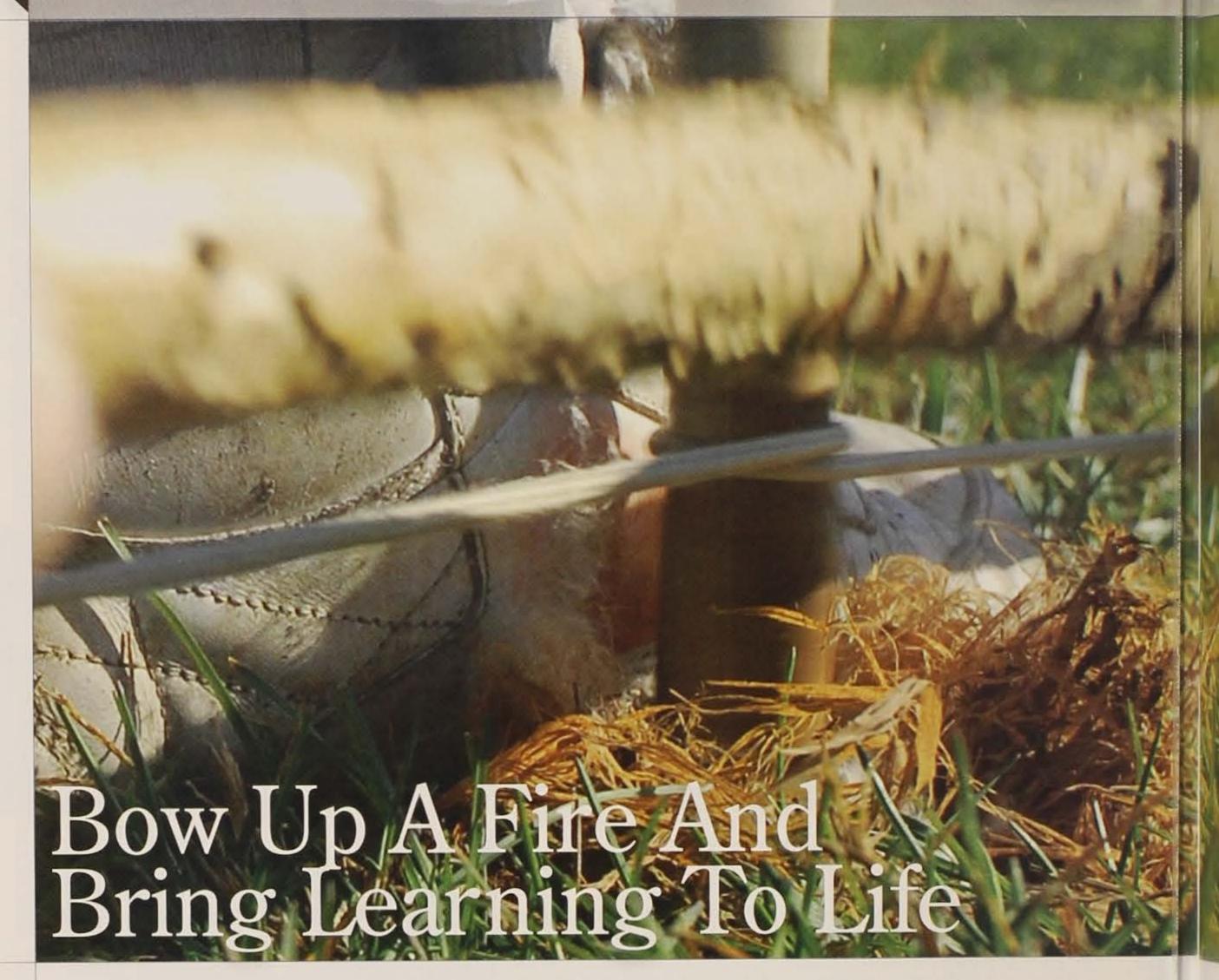


15

## Outdoor Skills

BY BRIAN BUTTON PHOTOS BY CLAY SMITH

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



Using friction to create fire is perhaps the pinnacle of outdoor skills, yet for firestarting experts Chris Adkins and Don Jay, it is more than making fire, but a spiritual connection to and deep understanding of the natural world.

"The fire is a metaphor. First, you have to light a fire within you to get a relationship with the natural place that you live in," says Adkins, a naturalist with the Dallas County Conservation Board. He invokes the Lakota words "maka ochante" (pronounced ma-ka o-shawn-tay), a reference to having a profound awareness of place, a deep knowledge of the natural surroundings.

"The greatest teachers of this landscape are the trees, plants and rocks of this place," he says. To make fire, you must know which materials to use. Just any tree species won't work. In Iowa, basswood, willow, cottonwood and

cedars are important in making fire. And a cottonwood tree that died within the last year provides the best wood.

For Jay, an expert tracker and firestarter from rural Van Meter, just educating people where these tree species often grow is a learning opportunity. "So now you have to know: Where do cottonwood trees live? They live along riparian or waterway areas. And you must know of their coming and goings. Do you know of a cottownwood that has recently died? You have to get connected to their cycles. You need to learn that natural place story to use the local woods."

## Tools for Makin' Heat

A bowdrill has four pieces: the bow, hand-hold, spindle or drill, and the fireboard. The bow is used to rapidly rotate the spindle on the fireboard. The faster the push-and-draw



motion, the more friction is generated. By leaning heavily onto the hand-hold, pressure and friction increase.

HAND-HOLD OR TOP BIT: Made of wood, bone or stone and easy to palm, it holds the spindle and should be smooth to reduce friction. It must have a small depression bored into one side to hold the spindle.

FIREBOARD OR HEARTH BOARD: Half-inch thick and split or cut flat on both sides. Contains a socket for the bottom end of the spindle. The socket gets deeper over time as the wood is rubbed into char, or embers of very hot sawdust. Make a new socket when the original wears through.

SPINDLE OR DRILL: Pointed at the top and rounded and roughed on the bottom end to increase friction.

**BOW:** Use a lightweight, sturdy sapling or branch about an inch thick and 30- to 35-inches long, or slightly longer

than your arm. The branch should have a curved shape. Notch at each end to help hold nylon cord or rope, shoelace or string. Tie cord off at each end, leaving some slack.

## Igniting the Past

Using a bowdrill is a relationship with the past, "It is shaking hands back to the people that were here centuries ago," says Adkins. If you make fire then "you shook hands with the very first ones that walked this landscape."

He should know. In Dallas County streambeds, Adkins has found rock hand-holds, artifacts used centuries ago or longer, shaped to fit a human hand with a smooth socket worn from countless turns of a wooden spindle.

To connect to the past, get started by making a hand-hold from wood, bone or stone. Create a small divot Outdoor Skills



in the center to receive the pointed spindle top.
The hand-hold should fit comfortably in your hand.

Make a spindle from a 6-inch straight stick about ¾-inchthick. Whittle a point to fit into the hand-hold and coat this end with ear wax or skin oil by rubbing it against your nose or forehead. With sandpaper or sandstone, rough up the bottom to increase friction. Adkins' choice is "a 300-million-year-old sandstone rock from when Iowa was beachfront property."

Make the fireboard by splitting a 10- to 12-inch section of cottonwood flat on each side. Whittle a v-shaped notch into the side with straight walls. Smooth the walls so char or embers will fall and collect.

## The Hot Spin

Put the fireboard on dry ground, holding it under your left foot. Prepare the bow by wrapping the cord once around the spindle. Put the rounded spindle bottom into the fireboard socket and secure it with the hand-hold placed on top. The string side of the bow should face your left leg with the wood held in the right hand.

Lean down over the left knee, bracing the front shin against the left arm, allowing more body weight to press onto the spindle to increase friction.

Move the bow back and forth to get the spindle moving, and lean more weight down onto the spindle while increasing the stroke speed. When smoke appears, keep stroking a few seconds. Remove the spindle and notice the hot char in the fireboard notch created from the worn wood. Dump the hot ember into a bundled nest of tinder made of fine dry grasses, cattail fluff, fibers scraped from the insides of cedar, basswood or cottonwood bark or other materials. With puffs of air, blow it into a fire.

When Adkins instructs people how to bow up a fire, he doesn't watch the coal ignite into flame, but their face light up in a bright smile. "It has nothing to do with the fire, but bringing people knowledge. It's wonderful to watch their face—they've added a relationship to their place through fire, lighting an awareness of understanding that everything you need to survive is right there in a wild area."

See it done: Video at www.iowaoutdoorsmagazine.com



Consider purchasing GREEN household products and only the amount you readily need.

### Remember to:

- Store Hazardous Materials in its original container.
- Store in a well-ventilated area away from heat.
- Take unwanted Hazardous Materials to a Collection Center.





Go to www.SafeSmartSolutions.org to learn how to purchase, use, store and dispose of Household Hazardous Materials

A message from the Iowa Department of Natural Resources



BY SANDRA FLAHIVE PHOTOS BY CLAY SMITH

## A Honey of a Summer

Slowly...slowly.....the burnished copper tint of first light stretches across the horizon, mirrored in the deep, silent waters of Rathbun Lake.

Breezes whisper at the mist suspended over the glassy surface, sending it scuttling into the lush prairie grasses beyond the zigzagging shoreline.

A drowsy whip-poor-will rousts itself for one last sleepy song, and before its closing trill meanders through the timber, dawn shimmers and shakes and finally explodes...all fiery orange and pink...over Honey Creek Resort State Park.



## THE SERENE INAUGURAL

of a summer day at Honey Creek belies the hours to follow, for while tranquility may lurk somewhere, the resort is not a "lazy days of summer" sort of place. At Iowa's first destination park and its anchor, Rathbun Lake, there's such a flurry of outdoor activity keeping guests hopping—happily so—that the word lazy doesn't fit. But refreshing, renewing, fun? Those work!

Although visitors are welcome for any length of stay,

Jeremy Slagel, resort general manager, explains, "As a destination park, Honey Creek's accommodations and outdoor opportunities are designed to attract guests for a week or longer."

The accommodations Slagel refers to are of the "somethingfor-everyone" variety: the lodge, with 105 spacious rooms, conference center and oh-so-welcoming lobby (though any kid knows the coolest feature of the building is Buccaneer Bay, the indoor water park); the cabins, all 28 luxurious with one to four

Set in the laid-back beauty of southern lowa, Honey Creek Resort State Park, with Rathbun Lake as its anchor, offers the best of all worlds to vacationers, families, conventioners, campers and sports enthusiasts alike. A vast range of activities, dining experiences and accommodations, including the imposing lodge, await the lucky traveler to this welcoming oasis, the state's newest outdoor destination park.



bedrooms and electric fireplaces; and the RV park, offering 20 full-service hookups and a nearby boat ramp, picnic shelters, and playground equipment. Not to be forgotten are the cabins and multiple campsites in the original Honey Creek State Park, several miles from the new resort.

To be sure, great lodging goes a long way, but add myriad outdoor opportunities and—bingo!— it's the winning combination that makes the resort the popular summer oasis it has become.

#### IT ALL BEGINS WITH THE WATER

Rathbun Lake offers 11,000 sparkly acres of fun in the sun. Much of the water activity begins at the resort dock, a short jaunt from the lodge, where 50 slips hold both private and rental watercraft. There, boats and jet skis bob expectantly, waiting for takers, while kayaks and canoes rest on the shore, begging to be pushed into action.

Fishing ranks as Rathbun's number one sport—always has, always will—and while most anglers want to be

21

## Lost In Towa



ABOVE: On a sunny afternoon, Mary Pat Sinclair takes resort visitors on a pontoon ride around Lake Rathbun, the perfect way to observe nature both on the lake and along the shoreline. TOP RIGHT: A boat ramp, docking facilities and watercraft rentals (jet skis, canoes and motor boats) are within easy walking distance of both the lodge and cabins. BELOW RIGHT: At Honey Creek, you'll never hear "There's nothing to do." Rathbun Lake offers 11,000 acres of fun on the water, exploring the nearby woodlots, hiking, fishing and daily organized activities.

out on the lake, the dock, endowed with fenced sides, roof, comfy chairs, and accommodating hole in the floor, introduces a laid-back version of the pastime. It also provides a safe location for DNR fishing lessons for kids. Frequently, a squeal of victory floats from the dock up to the lodge patio, a signal that a youngster has just caught that first-ever fish.

Or, maybe that squeal comes from the newly opened swimming beach farther down the shore where Mallory Downs, resort activities director, and a group of youngsters are gathered. "We have water games going on daily, like Dribble, Dribble, Drench and Beat the Drip," says Downs. "Lots of kids staying at the resort sign up for our programs."

A guided Twilight Tour of the lake is always a crowd pleaser. Near the end of a sun-filled day, Mary Pat Sinclair, whose family operates the watercraft rental business Quality Power Sports, guides passengers onto a pontoon for an hour-long cruise. "This is the perfect time to be on the water," she sighs. Everyone agrees.

Prairie grasses and lavender and yellow wildflowers

dot most of the shore's 155 miles. Seagulls swoop overhead, no doubt giddy with their lot in life, and a prevailing breeze gives life to two sailboats. A man in a distant fishing rig can be heard shouting gleefully, "I got it!" as he reels in what apparently is a good-sized walleye, crappie or catfish, the lake's most popular catches.

During the ride, Sinclair indicates the location where President Richard Nixon dedicated the lake in 1971. She also points out Island View and Prairie Ridge, two of the other parks and campgrounds on Rathbun's shore. In one of the unnamed coves, a large boat is anchored for the night, its cabin lights glowing in the twilight.

As the pontoon returns to the dock, the expansive lodge looms from the earth, the setting sun framing it in fire, while lights in the lobby blaze an unspoken "Welcome back!"

On a different moonlit night, another water adventure begins with the stealth-like entry of DNR-provided kayaks into the lake. Although daytime programs are available for novice kayakers, night ventures are for



ABOVE: Recognized by three national golf magazines in their annual rankings of top United States courses, the 18-hole championship Preserve Golf Course is an exciting and scenic part of Honey Creek Resort State Park. The Audubon-certified course has an on-site PGA professional.

UPPER RIGHT: Day's end comes gently at the resort. Behind the lodge, frequent gatherings near the campfire brings guests from around the world together for conversation and story telling. Nothing wraps up a day more satisfying nor contributes more to a good night's sleep than a hike along the resort trails under the light of a full summer moon.

the experienced, according to guide and interpreter
Kenneth Hamilton. "Paddling under a full summer moon
is breathtaking," he says. "The living night accompanies
us, the slight wind makes the black night breathe, and
moonbeams kiss the water, spraying us with light."
Equally enamored is Jennifer Nolan, of Centerville.
"Night kayaking is magical," she says. "You feel so alive.
All the senses are heightened."

#### THERE'S LOTS FOR LANDLUBBERS, TOO

On either side of the winding entrance into Honey Creek Resort, the pristine bent grass fairways and greens of The Preserve Golf Course beg to be admired—and played. Darin Fisher, director of golf, says the 18-hole championship course has rave reviews. "Reaction has been beyond our expectations."

Of course an on-site PGA professional and golf carts equipped with GPS don't hurt, but other features make The Preserve anything but an everyday golfing experience. "It's Audubon-certified," explains Erik Hansen, golf superintendent, "meaning that the existing prairie and oak and hickory savanna were left relatively undisturbed during course construction. We maintain wildlife habitat and conduct educational outreach here, too." He emphasizes that strict guidelines regarding chemicals are followed and only reclaimed water is used. Golfers also are treated to stunning views from many of the tees, including No. 5, which looks down upon Ham Creek as it flows into Rathbun Lake.

For visitors wanting to observe nature up close, miles of multi-use trails follow the shoreline and wind through the wooded areas of the park and resort. Des Moines resident Sharon Bandstra is convinced Honey Creek has it all. "The resort even provides a backpack loaded with everything a hiker needs," she says appreciatively, "and our guide explained everything we were seeing: animals, birds, vegetation. Who knew that Queen Anne's lace was in the carrot family or that Iowa sumac isn't poisonous? I sure didn't."

Those who like to take off on their own can go right

## Lost In Towa



On a perfect July evening, reluctant to go indoors after a tales-around-the-campfire presentation by DNR guide and interpreter Kenneth Hamilton, guests linger around the campfire, enjoying the remains of the delicious summer day. Live the Lodge Life Buy gift cards or make reservations at www. honeycreekresort.com or 1-877-677-3344. WWW.IOWADNR.GOV 25

## Lost In Towa







ABOVE LEFT: With the help of eager audience participants, instructor Kenneth Hamilton conducts a class on outdoor Dutch oven cooking, one of many such offerings at Honey Creek presented by DNR staff, RIGHT: Beneath the towering trees encircling Rathbun Lake, the 28 upscale cottages at the resort are not only luxurious, but also charming and welcoming.

ahead. Interpretive signs and wildlife viewing blinds and platforms are plentiful on the trails. Display boards along the short but fascinating Woodland Interpretive Trail let hikers know that the earthen knolls they encounter are sacred prehistoric Indian mounds.

To top off a summer day on land, a full-moon night hike is in order. With DNR guide Lizzy Monat leading the way, participants follow a pitch-black path...until the blood-red orb skims the treetops, causing everyone to gasp. A barred owl proclaims its approval of the nocturnal wonder by issuing a hearty "oo-oo-ooo-ooo," and Bandstra whispers, "And I thought the afternoon hike was as good as it gets!"

Hikers and bikers can travel on the resort's paved trails as well. Bikes, tandem bikes and baby trailers can be rented for an hourly or daily fee.

A different mode of transportation is offered on Friday and Saturday afternoons, when Billy and Barney come clip-clopping up the resort drive about five o'clock, pulling a white carriage with red-cushion seats. The two paint/haflinger horses, with owner Brenda Hebl at the reins, give passengers a merry little ride on the roads around the lodge. "Everyone smiles when they see us," laughs Hebl. "It gives people joy."

#### TIME TO KICK BACK A LITTLE

Don't even think about trying to find nothing to do at Honey Creek. That's impossible. However, when you're ready to pull up a chair and just observe and learn, there are programs galore—like an evening presentation by Hamilton on outdoor Dutch oven cooking. With 30 children and adults licking their lips, Hamilton, with the help of volunteers, prepares deer steak, zucchini cakes and chocolate cherry cake. Tom and Susan Duncan, of Blue Grass, are intrigued. "We're planning to buy a Dutch oven and need some pointers," says Susan. Volunteers Maggie Fleming, of St. Louis, Mo., opens two cans of cherry pie filling; Minnesota residents Christa Hanann and her nephew, Aidan Mellesmoen, crush crackers for the zucchini; and Lorena Hardinger, of Albia, peels the



TOP LEFT: Brenda Hebl and her two paint/haflinger horses, Billy and Barney, offer carriage rides on the resort grounds each Friday and Saturday afternoon. LOWER LEFT: Bikers find no lack of paved trails at the resort. Bikes, tandem bikes and baby trailers are available for rent by the hour or day. RIGHT: Enjoy a satisfying meal at Honey Creek Resort, either indoors at the handsomely designed and furnished Lakeshore Grille or on the attractive patio with sweeping views over the water.

zucchini. Within 40 minutes, the hot coals on the lids and under the ovens have worked their magic, and everyone enjoys a taste test.

More evening entertainment? How about a spooky story or a fable around the campfire behind the lodge? A rapt audience listens to Hamilton's interpretation of how bears lost their tails, asks questions regarding the tragedy, and joins in as he sings camp songs. When it's all over, Kathleen Crall, of Urbandale, with grandchildren in tow, remarks, "This has been a great way to end the day. Our only regret is that it ended too soon."

#### YOU'VE GOTTA' HAVE FUEL

No resort passes muster without a good restaurant, and Rathbun Lakeshore Grille, which includes a restaurant, lounge and outdoor patio, satisfies all the needs—and stomachs—of diners. Many diners! According to Kenny Peterson, restaurant manager, "Some months we've had three times the customers we anticipated." Maybe that's because Chef Patrick Koffman has a goal. "I like to put

a little 'wow factor' in our menu, like putting a twist on classic menu items," he says. Both Peterson and Koffman are adamant about using Iowa products, including the state's wines and beers.

Not only resort guests patronize Lakeshore Grille. From throughout Iowa, diners come to enjoy the food and soak up the ambiance. Judi Millemon, Karen Seeley and Dee Beechum, from the nearby communities of Moravia, Centerville and Mystic, respectively, meet monthly on the patio to eat and reconnect. "The native vegetation, the lake view of sailboats and skiers—it's beautiful," says Millemon. "Plus, we love the food," adds Beechum.

At the end of a day packed with activity, it's only natural that just before nodding off—in the lodge, a cabin, an RV or a tent—guests take stock of the day and contemplate tomorrow.

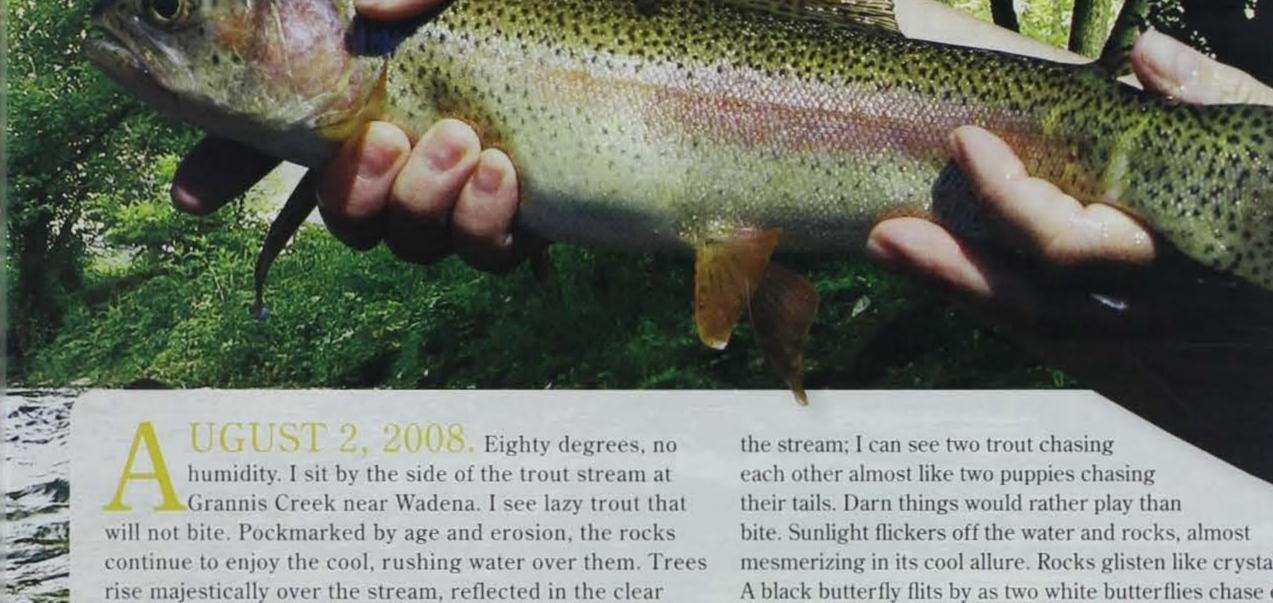
"Let's see... breakfast in the Grille, then a bike ride, maybe I'll rent a boat and take the kids fishing, then...we'll...."
Finally... Honey Creek Resort State Park rests!
But only for a few brief hours.

## GOLD ATHE ENDOFTHE RAINBOW

BY FRAN DERHAMMER PHOTOS BY STUDIO Z

O NET WT/ PESO NETO





Butterflies flutter and flit, cicadas click. Bright yellow daisies pop among the weeds. Someone once said a weed is a plant you haven't gotten to know yet. Other anglers gather, some friendly, some serious. My Cabela's safari hat protects my head and back of my neck. I see a little boy, about 4 years old, bright orange shirt, bright blue Cubs hat, walking by excitedly talking about the rainbow trout he caught with a piece of golden corn. I drink a root beer and spray on some more OFF!. My husband puts on new bait. He tries a jig, a worm and corn. Corn did it on the first try! Corn—2 points.

spring water. Gnats and mosquitoes think they have to join

us. I close my eyes and listen for the sounds and songs of

the birds. Many songs emanate from various birds when,

all of a sudden, the singing turns into buzzing from a

mosquito. Hope I have better luck catching a rainbow.

I notice weeds with elephant-ear sized stalks and a bright red berry tree along the bank. So many shades of green dot the countryside. Toss out corn; a yellow speck that sinks to the clear bottom. Trout might nudge it, then swim away, come back, temptation too much, bites, is caught. Dinner. A buttercup-yellow butterfly flits by as the trout struggles on the line. The Monarch reigns if only for a short time. Toads and tree frogs croak and sing around me. Another young boy, about 12, dressed in a purple UNI Panthers shirt, proudly walks by with two trout on his stringer. I look at him enviously; I look at my line tempting a lazy trout. I just do not have the technique yet. Ah, but I will. Come here, my pretty.

We move downstream where, by now, the sun is brighter so I sit in the shade by the Queen Anne's lace, tall, spindly stalk, fragile, but stately.

It's my turn to catch a rainbow. It's so clear up above

each other almost like two puppies chasing their tails. Darn things would rather play than bite. Sunlight flickers off the water and rocks, almost mesmerizing in its cool allure. Rocks glisten like crystals. A black butterfly flits by as two white butterflies chase each other. Are they emulating the trout? Dead trees provide safety from predators, as the trout hide under rocks. Clumps of vegetation cling to the bank, creeping Charlie always a presence. I think of what our 6-year-old grandson Conner, "wise-beyond-his-years," says, "It takes patience, Grandma." I'm wishing he were here now to remind me of that fact.

My fisherman husband of 42 years says, "Sometimes you catch a snag, sometimes you catch your lip if you put the hook in your mouth. Ouch." Yes, dear, I say. Under my breath, I say, "A scissor would work much better for cutting the line than your teeth." So I sit and wait in the blue chair in the shade of this comfortable summer day, a slight breeze blows as I at least enjoy the peaceful essence of the stream. Others fish, too, a sort of camaraderie among fishermen. "Catch any yet?" A sparrow flits over the surface, snatching a mosquito or two. We traipse through another trail leading to another stream. By noon, the place is deserted. All have either caught their limit or given up. I try a night crawler now. Ee-ewww. Frustrated but not giving up. Beautiful Kahuna of a night crawler. Cast out. Cast out again and again. No luck. I give it one more try-this time with corn. It worked! I catch one! Then I catch another one! Beautiful rainbows. I get it now-the corn is the gold at the end of the rainbow, or is it the rainbow's end? A dragonfly in all its iridescent beauty skitters over the ripples upstream. One more cast, just one more. OK. I'm thirsty. I've had enough. The trout made me work too hard, but I caught four. I walk to the car and put the chair away. The car is hot, but sweating is good. I pop open a Fastco root beer, half-sugar, half-refreshing. There really is something about gold at the end of the rainbow. A pan of trout for dinner is my treasure.

{Excerpted from the book, Deep Nature}

BY JOHN PEARSON PHOTOS BY LINDA & ROBERT SCARTH

## SHEEDER PRAIRIE PREQUEL

umb with a day of dull driving on Interstate 80, I fumble with the Iowa road map. A graduate student at Southern Illinois University, I left Carbondale this morning-May 30, 1977-and have driven through a seemingly endless succession of cropfields in Illinois and Iowa, with the discouraging breadth of Nebraska yet to come. I am on my way to Wyoming for a summer job as a backcountry ranger in the Absaroka Wilderness bordering Yellowstone Park. Now I am somewhere west of Des Moines and need to find a place to camp, hopefully not far from the highway. I would especially like to find a park with some natural habitat to explore before dark, but jaded from the lack of natural places in this relentlessly agricultural landscape, I have begun to doubt that I will find one. Glancing at the road map one last time during a moment stolen from the bug-specked windshield, my eyes are suddenly arrested by a blue dot hovering in white space only an inch from the



thick green line of the interstate. Its pastel label quietly displays a promising name: Sheeder Prairie.

Prairie! I know prairie, but only recently. Growing up in the Midwest, my exposure to natural areas has been almost entirely of forest, because it is the only natural vegetation of significant extent left after more than a century of farming and urbanization. In my home state of Michigan, on the outskirts of Detroit, my childhood adventures centered on a patch of woods bordered by suburban backyards and the county landfill (a mysteriously treeless place). Trees filled the pictures I took of natural places that caught my fancy for a 4-H photography project. Becoming a naturalist at a local nature center, I learned the names of trees and forest wildflowers: oaks, maples, Solomon's seal, sweet William. Now in college, I study forest ecology in the hills of southern Illinois, measuring forests with diameter tapes wrapped around the trunks of trees.

Then I discovered prairie. Not in Midwestern remnants missed by plows and cows in cemeteries, railroad rightsof-way, and tiny postage-stamp preserves, not even in the lectures of my biology professors as they described the demise of prairie under the utilitarian press of agriculture, first by pioneer homesteaders and later by modern industrial farms. My prairie awakening came thousands of miles from home, on the far side of the Great Plains, where I had gone searching for western forest. As a student in a Montana field ecology class last year, I sampled my way through a glorious gradient of desert grasslands, foothill prairies, conifer forests and alpine meadows. Early in that sequence, prairie arrested my attention: so colorful, diverse and wonderfully big. Its wild aspect was an intoxicating contrast to the tame suburban habitats of my Midwestern homeland. Prairie at last appeared in my increasingly conscious quest for wild and natural places.

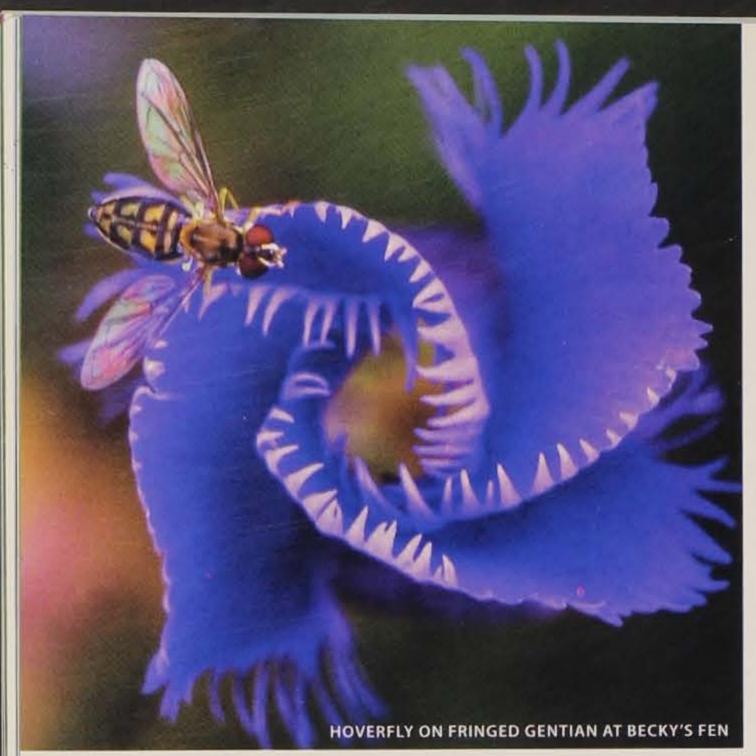
So now I am in western Iowa, hunting for Exit 76.

sparsely populated farmland to Sheeder Prairie State Preserve. In the final mile of my approach, the day-long whine of smooth pavement under my tires is replaced by the clatter of gravel on an unpaved road rising to a hilltop. The sun is low in the sky when I finally climb stiffly out of the car and step through a gate into the prairie. It has been recently burned: short, green grass studded with colorful, blooming forbs abound where fire passed a month ago, while tall brown clumps of big bluestem and Indiangrass stand somberly in an unburned patch beyond. In the fading light, I find porcupine grass, prairie phlox and white sagewort . . . plus many more I do not recognize from my experience in the Rocky Mountains. It takes only five minutes to cross the tiny remnant and encounter the fence separating it from freshly tilled cropland. I end my short hike on a quiet hilltop and watch evening slip into night. The sun is setting, the moon is rising; redwings are coming in, fireflies are coming out. Lightning flashes silently from a distant thunderhead, illuminating a trio of deer standing like ghosts against the black soil of the neighboring field, watching me. A breeze brushes the dark landscape. Gazing at the quiet scene, I churn with ambivalence for this prairie: love of its ambiance mixed with sadness for its loss.

"To be prairie, really good prairie, it must embrace the horizons," John Madson wrote in "The Running Country," one of many essays expressing his love for the prairie world. As a postage-stamp preserve of only 25 acres, Sheeder Prairie cannot measure up to that horizon-sweeping standard, but not saving it because it is too small to be "good prairie" seems all wrong, too. Despite its tiny size, I sense traces of its original diversity and wildness, a mystique that transcends size. That's the contradiction I've been mulling: this prairie is small, but it still has magic. I know Madson would agree.

As I drift back to the gate, I recall someone telling me Finding it, I follow a zigzagging route of rural roads through that Iowa employed an ecologist whose job it was to look





after prairie remnants and the other bits of natural land that remained in this highly altered state, "like trying to save the world after it was destroyed," he had lamented. Habitat loss and fragmentation—ecological culprits plaguing natural areas throughout the country—have been especially rampant in Iowa, whose abundance of gentle, fertile soil has facilitated widespread conversion of natural land to agriculture. "Sounds like an impossible task," I murmur as I start my car and resume driving to Wyoming, "I can't imagine who would be up to it."

As we drive over the last hill, it comes into view. There it is! A bright green mound of vegetation gleams softly amid the black soil of the cropfield like an emerald dropped in the dirt. Our excitement spikes even though we have learned to check our expectations, the result of many disappointments with previous visits to seemingly promising places. Time and again, we have visited sites whose dark, irregularly shaped images on aerial photographs normally filled with the rectangular white blanks of cultivated land had tantalizingly indicated that something was still there . . . only to find degraded patches overrun with common weeds: ragweed, nettles, parsnip, foxtail. We are hunting for something more significant: lady's slippers, gentians, cotton-grass, sage willow, grass of Parnassus and other denizens of the boggy, peaty wetlands known as fens.

Quickly gathering our notebooks, maps, soil probe and pH meter, we prepare to hike away from the car toward what we hope will be a high-quality fen. On this August morning in 1988, botanist Mark Leoschke and I are in the first day of our fen foray into Fayette County, one of several counties included in our third year of a statewide inventory of fen wetlands in Iowa. Our inventory is driven by a desire to protect these special wetlands and

is facilitated by county soil maps depicting the locations of Palms muck, an organic soil of highly decomposed peat and a reliable predictor of fens. Several winters ago, we painstakingly scanned county soil maps, recording over a thousand locations of this indicative soil series. Over 700 of them were eliminated from further investigation when our inspection of aerial photographs revealed that they had been drained and plowed. We are now in the process of checking the remaining 300 sites with field visits. As we draw closer to this one, we discern sedges and cattails filling a gentle slope, harbingers of a hanging bog—a fen perched on a hillside. Our pace quickens.

Entering the wetland, we experience the oddity of stepping up onto a suddenly wet, soft, sloping surface. We find ourselves in a landscape of knee-high tussock sedges and head-high cattails, but it is the lesser vegetation that immediately attracts our attention. A galaxy of grass of Parnassus flowers seems to float above the ground, which now quakes and shudders beneath our feet as we walk, star-struck at the cast of plant species we are encountering. In all directions, there are tall green spikes of valerian, yellow arches of Riddell's goldenrod, and hoary splays of sage willow. At the far end of the site, near a spring, Mark finds cotton-grass, its fluffy springtime fruits now reduced to wispy tatters. Collectively, these water-loving, calcium-loving, organic soil-loving species fairly shout "FEN!" A quick probe of the soil confirms its saturated, organic nature, and the pH meter's reading of 6.7 verifies its nutrient-rich status. We have found a fen, a very good one.

While Mark carefully collects voucher specimens of the rarest plant species, I wander through the fen to compile a more comprehensive list, coming up with a total of 75 species today. (Additions from future inventories by other botanists will eventually double this figure.) During the survey, I enjoy a diversity of architecture: the coarse, arching fronds of sensitive fern and the finely dissected, erect ones of marsh fern; the tall, narrow, vertical leaves of blue-flag iris and the short, rotund, horizontal ones of marsh marigold; the open, frilled flowers of fringed gentian, open to all species of flies and bees, and the closed, unfringed ones of bottle gentian, its tightly pinched opening passable only by powerful bumblebees. Even as I examine a bottle gentian flower, it begins to wobble as if possessed, its walls deforming and rebounding as an unseen bumblebee, sated with nectar, struggles to turn its bulky body around inside the narrow throat, a hymenopteran bull in a stamen-studded pollen shop. A moment later, the overlapping tips of the flower rotate apart as the bumblebee pushes through the aperture and flies away, its hairy legs flecked with gentian pollen.

Meandering up the gentle slope of the fen, I reach a subtle crest. Looking back to where Mark still crouches, I see I am on the highest point of the fen, the summit of a mound of wet, quaking peat about 10 acres in size. Casting my view in all directions, I perceive that the fen is the

highest point in nearly the entire landscape; only a subtle rise to the south, in a neighboring cornfield, appears to be slightly higher. Unlike "normal" wetlands-potholes, sloughs, swamps and streams-that occupy the lowest parts of the landscape where runoff flows, fens arise from groundwater seepage high on the lay of the land. I know this intellectually, but the sight still seems surreal. In addition to being marvelous, my view is also troubling: except for a sliver of untilled ground in a nearby drainageway, the fen is everywhere bordered with cropland and far isolated from the next nearest fen-an ark of nature awash and alone in a flood of rowcrop agriculture. Recognizing that its surroundings will never again be unending prairie, buffering this small, special place with benign land use, and someday reconnecting it to other remnants are our best hopes for ensuring its survival in this hard-working landscape.

Finishing our surveys, Mark and I excitedly exchange accounts of our discoveries. It is obviously one of the best fens we have encountered during our inventory. Like the vast majority of the fens we have found, its fate rests in the decisions of the farmer who manages this private land. We want to alert him to the ecological significance of the fen and the importance of saving it, so we decide to drive to the nearby farmstead and meet with him. "What's his name again?" Mark asks as we climb into the car. We make a practice of contacting all landowners to secure advance permission for our visits, so I page through our notes to find the answer: "Kauten . . . Bill Kauten. He mentioned having a young daughter who might be interested in this sort of thing. I think he said her name was Becky." Driving away from the field, I catch one last glimpse of the fen before it disappears behind a wall of tall green corn. As we pull into the driveway, it dawns on me that our short trip from the fen to the farmstead symbolizes the long-term progression of our efforts from finding fens to protecting them. Their conservation future will not be assured until we recruit the willing support of farmers and landowners. Where willingness exists, our job will be easy, but where willingness is lacking, our charge will be to educate, convince and respectfully persuade . . . to cultivate willingness. We have worked hard to find the fens, but our biggest mission of all has just begun.

PRAIRIE Emerging from bur oak woods, I step into yet another prairie opening, the biggest one so far. Big bluestem, Indiangrass, little bluestem, lead plant and wild rose gently brush my legs as I amble toward a high point where I will try to get my bearings. Walking through a bewildering mosaic of oak forest and tallgrass prairie spread across a dissected landscape of steep hillsides and steeper ravines, distracted by head-high compass plants and interrupted by cedar trees that compel me to duck and weave, I have lost track of how many openings I have traversed since I started hiking this morning. Keeping one eye on my pathway, I continue jotting colorful plant

names into my notebook as I walk: purple prairie-clover, redroot, blue-eyed grass, green-flowered milkweed. This is my 25th prairie list since starting the Waterman Creek Prairie Inventory three days ago and the last one needed to complete my sweep of the valley. I have found so many prairie remnants in this complex of rugged glacial valleys along the Little Sioux River in O'Brien County that my note-taking has progressed from a dutiful compilation of species to a roll call of familiar friends. Arriving at the high point, I cap the page-filling list with a brief description of the habitat: "a series of small cedar savannas with a large prairie at its south end." I squeeze the generalization into the narrow line between the species list and today's date: June 5, 1989.

Resuming my inventory, I move slowly across the big prairie opening toward another wooded ravine. But instead of passing through a thickening band of prairiekilling cedars like those rimming the previous openings, I find myself walking through a scattering of stunted bur oaks, their lightly shaded bases lapped with prairie vegetation. As I begin to close my notebook and stow my pen to prepare for another tree-grabbing descent into the upcoming ravine, a small gleam of white in my peripheral vision causes me to freeze. Pricked by a distant memory, my mind has already flashed an image of what I think I saw, but I reject the thought. No, that can't be, it doesn't grow here. But when I turn my head and focus on the plant, it contradicts me. Small white lady's slipper! I stare in amazement at the orchid, half-expecting it to resolve into something more ordinary. When it remains unchanged, I kneel for a closer look, lightly lifting its shining white flower with my forefinger. Its thumb-size "slipper" suspended gondola-like by an arching stem over a bouquet of pleated leaves, is undeniably that



of Cypripedium candidum. Memorized from frequent readings, the conservation profile for the lady's slipper plays spontaneously in my mind: originally occurring in all 99 counties of Iowa, recently confirmed in only 14, now confined to tiny, isolated remnants of wet prairie. A fresh swirl of contradictions furrows my brow: O'Brien County is not one of the 14 and this Waterman Creek prairie is not tiny, isolated or wet.

I notice that the flower in my grasp is not alone. Another white moccasin dangles from a neighboring stem in the same leafy clump. Looking up, I spot another clump, and another and another. Standing up to scan more broadly, I see nearly a dozen clumps, all bursting with flowers, on the hillside below me. I count the number of stems and flowers, finding an especially prolific clump containing 60 stems and 45 flowers. When I tally the whole population of 10 clumps, there are 200 stems supporting a total of 119 flowers. Two-thirds of the flowers are still fresh, but the others have begun to wither. Had I arrived a week earlier, I might well have seen fresh flowers on all 200 stems.

As I count, I also note the plant species associated with the orchids. One tree: bur oak. Three shrubs: lead plant, wild rose and hazelnut. Four grasses: big bluestem, Indiangrass, little bluestem and Canada bluegrass. Eight forbs: ground plum, stiff goldenrod, prairie coreopsis, purple prairie clover, smooth aster, strawberry, rattlesnake root and bastard toadflax. The abundance of forbs reminds me of one more element of the orchid's habitat profile: a diversity of nectar sources. This is a critical feature because the lady's slipper itself produces no nectar to attract insect pollinators. Instead, relying on the presence of nectar-producing neighbors to draw insects into the neighborhood, it tricks its pollinators-small sweat bees and miner bees-into entering the pouch of its attractive slipper with empty promises of a nectar reward. Once inside the pouch, the gullible bee follows colored lines that normally lead to nectaries, but after squeezing through a one-way gauntlet of stigmas and anthers in the lady's slipper, it encounters nothing but an exit hole in the heel. The bee has no choice but simply to fly away, charged with a fresh coating of pollen.

Finishing my observations, I climb to the crest of the hill to begin my hike back to the car. Traversing the edge of a high, level upland-an easy route compared to my incoming trek across ravine-studded slopes-I reach an overlook with a commanding view of the land I have spent four days surveying. This morning's inventory slips like the last piece of a jigsaw puzzle into my comprehension of the scene. Far to the south, I see the long, high ridge of prairie over the Little Sioux River where prairie bush clover grows. My eye follows a tributary northwestward to Dog Creek Park, where prairie moonwort thrives. In the middle ground, a curving, flat-topped hill juts like a scimitar into the Waterman Creek valley, its sandy summit home to needle-and-thread, a Great Plains grass reaching its easternmost outpost. Closer at hand, I recognize the jumble of treeless hills in the McCormack Wildlife

Area where shortgrass prairie resides on a high ridge, its community of ankle-high grasses—June grass, satin grass, hairy grama and blue grama—interspersed with equally short pasque flowers and gayfeathers. Peering to the north, I discern the grazed, rolling hills above Wittrock State Preserve; although dominated by bluegrass and dotted with musk thistle, they are still rich with prairie forbs. Awed by the vista, I linger on the point, idly stroking the leaves of silky aster between my fingers as I gaze at a precious Iowa landscape.

Rousing from my reverie, I recall a favorite passage from "On the Loose," a rhapsodic tribute to rambling in wild places by Terry and Renny Russell: "One of the best-paying professions is getting ahold of pieces of country in your mind, learning their smell and their moods, sorting out the pieces of a view, [finding] what grows there and there and why, how many steps that hill will take, where this creek winds, and where it meets the other one below . . . This is the best kind of ownership and the most permanent."

As I descend the hill toward my parked car, I realize that my professional experience prompts me to take one exception to this long-held personal perspective. Intimately knowing wild places is unquestionably rewarding, but it is not permanent ownership. True permanence of the wild places we cherish requires active stewardship to ensure their persistence. Prairies, in particular, need to be more than merely known, owned or even loved to prevent cedar trees from invading, leafy spurge from spreading or cattle from overgrazing. Prairies need ownership of their stewardship by knowledgeable and loving managers. In my days here at Waterman Creek, I have come to know—and "own"—its prairies well. I wonder if we can assure their stewardship?





### SHEEDER PRAIRIE SEQUEL I return

to Sheeder Prairie on a freakishly sultry springtime day. Hot, steamy air from the Gulf of Mexico lolls thickly across the landscape, atmospheric peanut butter smeared by the dull knife of a southern warm front. White, wet haze floods the air, drowning vistas with milky gauze, stifling the escape of perspiration from wretched skin, smothering me like a hapless wrestler pinned under a hot, sweaty opponent. Tornado weather, needing only the touch of a cold front to ignite a thousand-mile arc of Midwestern storms, a front that is already moving my way. My weather radio has been panic-stricken, wailing new warnings every few minutes since I turned it on upon leaving the Whiterock Conservancy BioBlitz at noon. It calls out a sequence of county names coming increasingly closer under storm alerts, like a row of giant dominoes tumbling in my direction: Harrison, Shelby, Audubon and now Guthrie . . . where Sheeder Prairie is. Peering to the northwest, I cannot yet



see the squall line, but I know I must make this a short visit.

Today—May 25, 2008—marks 31 years, nearly to the day, since my first visit here. Then an out-of-state graduate student never expecting to see Sheeder Prairie again, I had driven onward to Wyoming, where I ultimately earned a doctorate in botany before starting my career as an ecologist in South Dakota. Moving to Iowa, I joined the Iowa Department of Natural Resources in 1985 and have returned to Sheeder Prairie many times for many purposes:

prairie inventory, rare plant census, interpretive field trips, prescribed burns and prairie-rescue workdays. My purpose today is more mundane: removing dilapidated stakes abandoned by a long-completed research project that are now merely nuisances to managers. From the gate, I spot the hilltop where I watched the approach of a more benign storm on that evening three decades ago. My meandering search for the widely scattered stakes will take me near there.

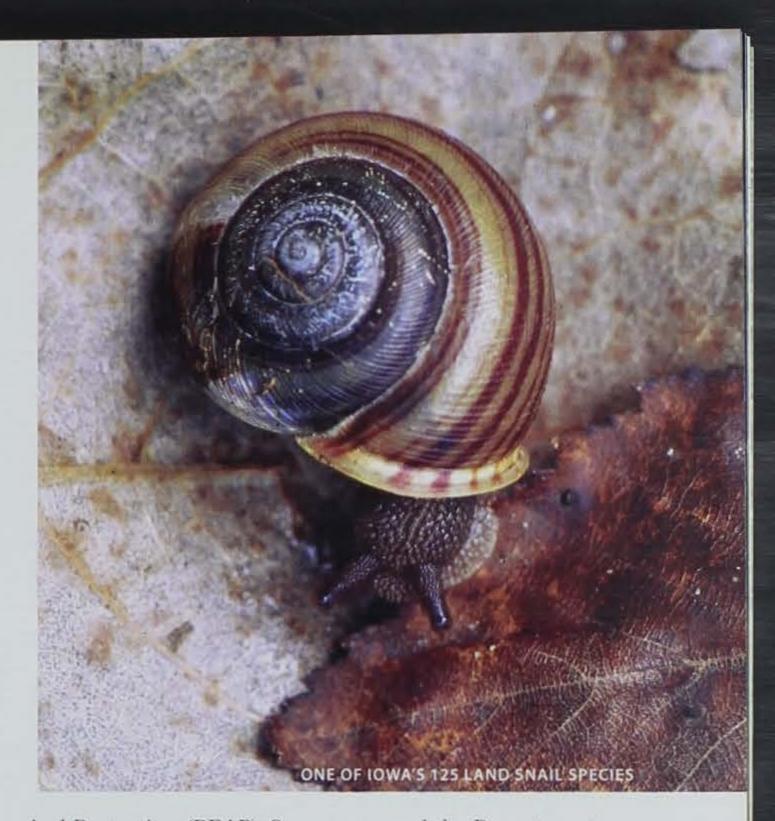
I start down the hill and cross the first swale, passing

blooming wood betony, wood sorrel, hoary puccoon and strawberry, hubs of bumblebee activity. Finding several orphaned research stakes, I pull them from the ground. While I hunt for more stakes, I watch closely for subtle signs of our prairie management. I spot low stubs of shrubs and trees, tucked among grasses and thatch, whose stems were painstakingly cut and judiciously dabbed with sprout-suppressing herbicide to reclaim open prairie from brush. I step across a burn boundary dividing the prairie into segments; burned in rotation, there is always a patchwork of different-aged stands for insects and birds to find their preferred habitat. Satisfyingly, I find no trace at all of the harvesting crew that swept through here last fall, gathering ecotypically sound native seeds to propagate for plantings in realistic prairie reconstructions.

Reaching the hilltop, I look out over the prairie, comparing the scene to the sketchy notes I wrote 30 years ago. Species are easy. Red-winged blackbirds-check. Porcupine grass, prairie phlox, white sagewort—check, check, check. Fireflies-too early in the day, but probably check. Deer-none in sight, but their general superabundance earns a triple check. One more element gets an easy check: thunderstorm-not yet here but due to arrive soon. Then the questions get harder: ambivalence, sadness, saving the world. Setting aside ambivalence and sadness, I focus on saving the world. The world is a big place, with an overwhelming number of places that need to be saved, but at least three I know well have been saved here in Iowa: Becky's Fen, the Waterman Creek prairie complex and Turkey River Mounds.

In 1988, when Mark and I drove to the Kauten farmstead in Fayette County to alert the owner about the fen we had found, we learned that Mr. Bill Kauten was intent on converting it to cropland. He had tried mightily to drain it in the years preceding our visit but to date had been foiled by the exceptionally deep peat, once miring two tractors in its quaking muck. At great expense, he had installed a network of drainage tiles, but the shifting peat disrupted them. Despite an application of herbicide, the vegetation rebounded. By the time Mark and I contacted him, he was contemplating using dynamite to blast holes for ponds. Although initially unenthusiastic about relinquishing his long-held goal of someday farming the site, Bill was eventually persuaded by his daughter Rebecca-then in middle school-to adopt the fen as a family wildflower sanctuary, ultimately protecting it with a conservation easement in 1995 and naming it Becky's Fen. Cropland bordering the fen has been retired to become a buffer, and an adjacent property containing part of the fen has been preserved by neighbors as the Gray-Hart Memorial Preserve. This fen has become iconic among naturalists throughout Iowa and the Midwest as an example of an outstanding natural area saved through voluntary landowner action.

In 1990, shortly after the Waterman Creek Prairie Inventory was completed, the Resource Enhancement



And Protection (REAP) Congress urged the Department of Natural Resources to find and protect a large prairie area. After evaluating several options, the Waterman Creek area was chosen for its abundance of high-quality prairie. The initiative became controversial when many farmers in the valley objected to DNR acquisition of large tracts of land. A creative solution combined a moderate amount of public acquisition with Landowner Incentive Program (LIP) funding for assistance to landowners interested in managing their prairies with brush control, prescribed burning and conservation grazing. The original controversy faded away, replaced with a cooperative effort between landowners and DNR biologists that has saved many prairie tracts.

Supported by the State Preserves Advisory Board, botanist Bill Watson has worked in recent years to inventory the flora of Turkey River Mounds and to restore its hill prairies by removing invading cedars and by conducting controlled burns with the assistance of DNR managers from Pikes Peak State Park. This marked the beginning of a shift by the Preserves Board to support management activities in addition to its traditional emphasis on descriptive studies. Initiatives to manage hill prairies have spread to several other preserves as a result of this example. The hill prairies are in better shape now than they have been for many years.

And, of course, Sheeder Prairie. Though more needs to be done, efforts by DNR biologists and volunteer citizens have reversed woody encroachment over much of the prairie and provided an abundance of seeds for new Sheeder Prairies across central Iowa. I am satisfied with what I see. But what of ambivalence and sadness? No time for them, I conclude as thunder finally rolls in the distance, I am too busy saving the only world I know and love. Besides, there's a storm coming. I need to move on. Hiking back to the gate, I start my car and drive deeper into Iowa. 🗪

# Shallow Lakes Bounty

Scientists Mimic Drought to Renew Rich Ecosystem

STORY AND PHOTOS BY LOWELL WASHBURN

### TLOVE BEING OUT ON THE

lake at sunrise. And although that event remains more than an hour away, the morning sky is already beginning to color. As the impending dawn slowly but surely brightens, the deafening chorus of frogs, insects and other aquatic lifeforms begins to fade. New sounds take their place as yellow-headed blackbirds, great blue herons and a boisterous group of wood ducks all punch in for the day shift at Emmet County's Four Mile Lake.

Four Mile Lake is listed in that unique class of Iowa water bodies known as natural shallow lakes. In most cases, the term lake is somewhat misleading. In reality,

most of Iowa's shallow lakes are actually very large marshes containing mud bottoms and maximum water depths of 5 feet. That's plenty of water to provide for the needs of aquatic plant and animal communities, but not enough for pleasure boaters intent on getting skiers on their feet or for personal watercraft to go zipping across summer waves. But acre for acre, gallon for gallon or drop for drop, these water-filled basins support more life than about any other habitat the landscape has to offer.

"I don't think a person can really visualize a shallow lake's potential until they visit a place like Four Mile Lake for themselves," says Todd Bishop of the DNR's Wildlife

ECOLOGICAL WONDERS: Healthy shallow lakes require wet and dry cycles to regenerate. But due to increased runoff stemming from widespread loss of waterabsorbing prairies, dry cycles must be created by draining lakes. Dan Greene Slough in Clay County is one of four shallow lakes undergoing restoration. Once repaired, clean water supports aquatic plants and insects that create the food foundation to supply an abundance and diversity of species previously absent for 80 years.

Bureau. "The abundance of birdlife is most obvious. The spring and fall migration—especially for waterfowl—is nothing short of spectacular," he says, noting Iowa boasts some of the highest bird densities anywhere along the entire migration route. During breeding season, boisterous waterfowl and secretive bird species use these habitats.

"Shallow lakes are living systems that are rich, not only in the total abundance of wildlife, but in their diversity of species as well," says Bishop.

Iowa's shallow lakes have complex hydrology-a unique, time-tested connection between natural wet and dry cycles. This ebb and flow, boom or bust relationship provides prime habitat for ducks, geese, swans and a host of other water birds, as well as turtles, furbearers and other life.

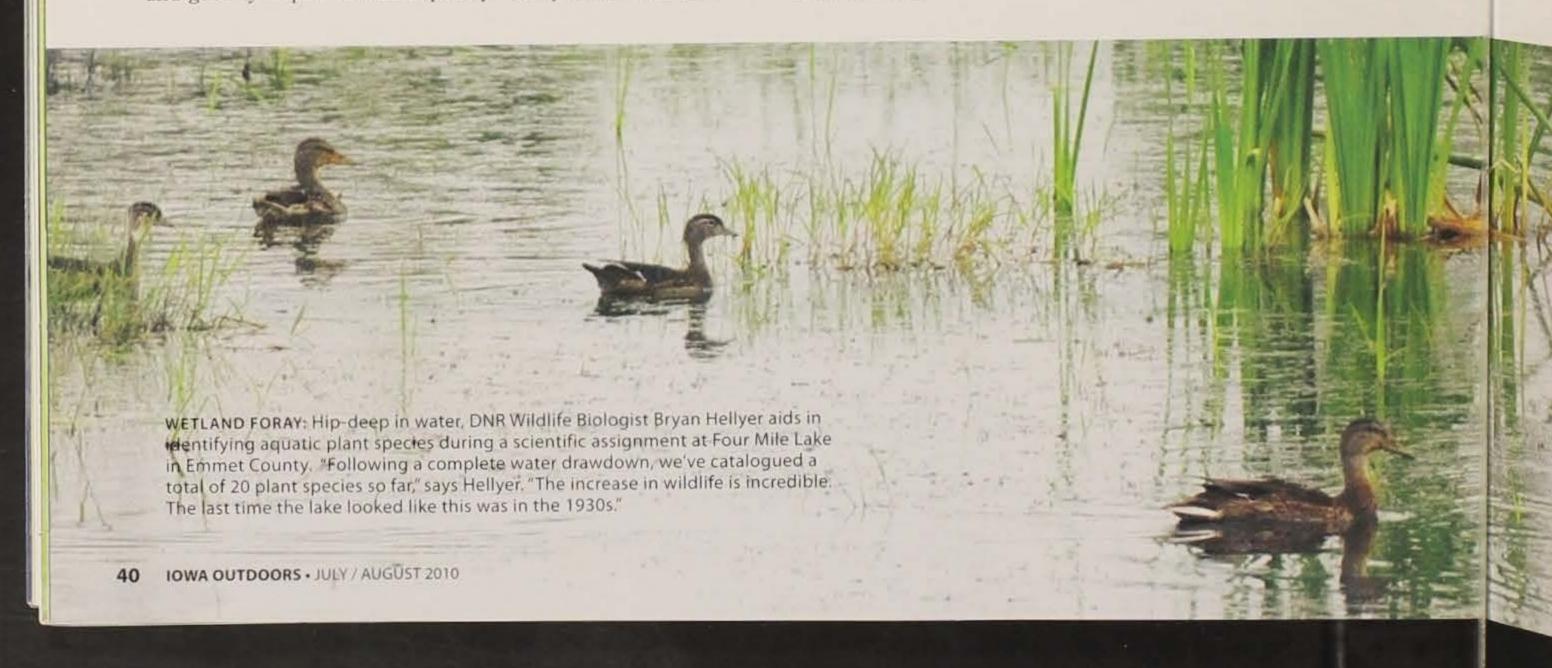
Historically, shallow lakes were maintained by the natural shift of wet and dry cycles. Following years of abundant moisture and ample water levels, natural periods of drought would empty wetland basins. Bottom sediments would harden and crack. Vanished plant life would reemerge. As nurturing rainfalls eventually returned, new growths of aquatic plant life held sediments in place while effectively trapping and consuming nutrients. Ecosystems thrived, peaked and slowly ebbed until the cycle repeated.

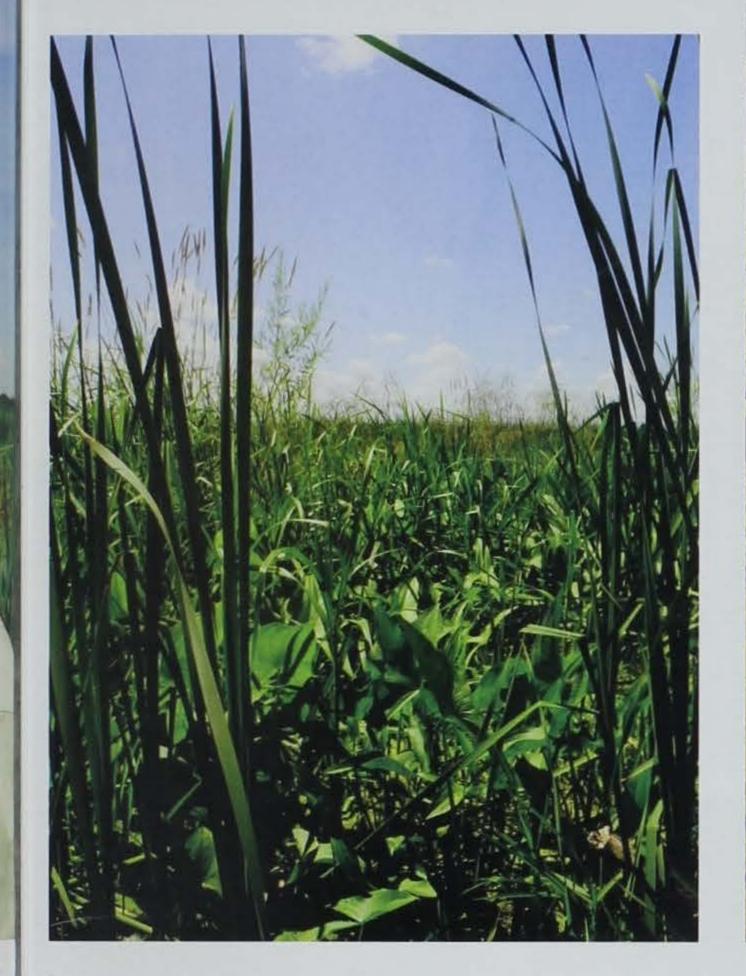


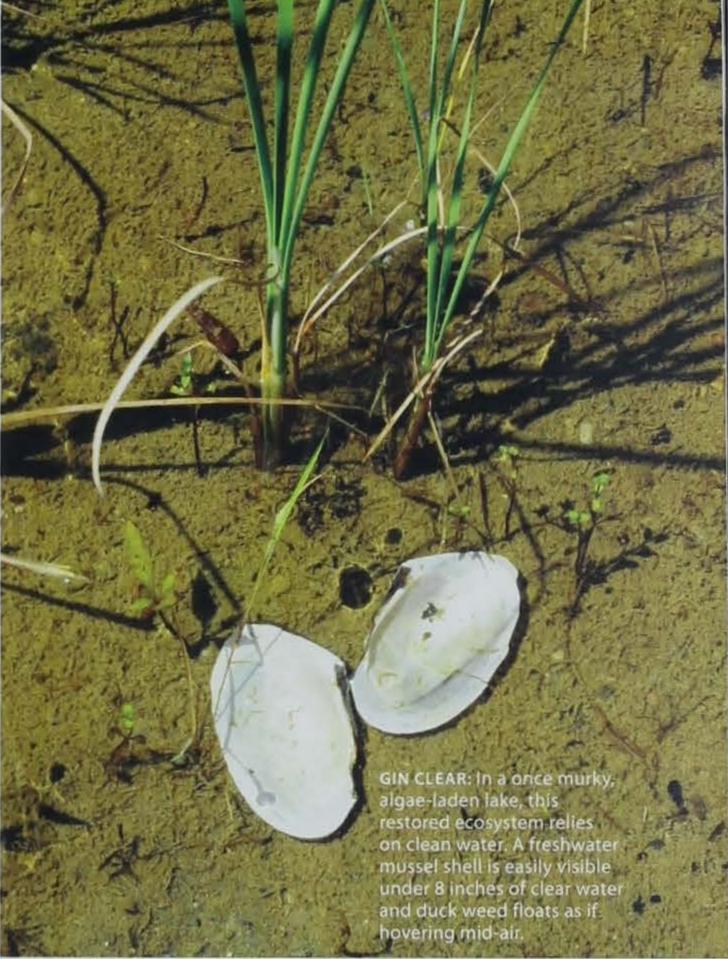
Unfortunately, these natural systems are no longer viable. As millions of acres of marsh and prairie were converted to agricultural and urban uses, Iowa's shallow lakes receive ever-growing amounts of runoff. The increased volume prevents low water cycles, even during periods of drought. The dilemma is intensified as invasive fish species, such as carp, destroy vegetation, uproot sediments and promote algae growth. The final result is decreased species diversity and greatly impaired water quality. Ecosystems that once

flourished became little more than giant mud holes providing little value to native fish, wildlife or humans.

But with proper management, these ecosystems are being restored by simulating natural drought cycles through well-planned water level drawdowns. Most are conducted prior to winter freeze up. As warm weather returns in spring, dormant plant life regenerates. Once aquatic plant beds re-establish, water is allowed to slowly refill the lake.







"As restoration progresses, we see dramatic improvements in water quality," Bishop says, noting a striking increase in desirable plant species above and below the water, thus attracting wildlife. "But the outside pressures remain, and it's not a one-time fix. We can't assume that these restored systems are going to function indefinitely—they never did. Sooner or later, we'll have to someday revisit the project and complete a cycle that was once accomplished by natural droughts."

But work to restore clean water and heal the ecosystem also provides recreation and education. Lush plant and animal life provides an exciting stage for environmental education. Birders marvel at unparalleled viewing. With increased waterfowl, duck hunters can thrill to the age old spectacle of cupped wings as flocks of migrating mallards settle to decoys. And the waters offer cash opportunities for trappers or a tasty meal of perch fillets for eager anglers.







## Water Irony: When Dryness Renews Lakes

HISTORICALLY, IOWA'S SHALLOW LAKES WERE THE shimmering blue jewels of pristine prairie landscapes. Today, these once dynamic ecosystems are used, abused and horribly degraded: transparent waters clouded by silt and laden with algae; native fish populations largely replaced by destructive invasive bottom feeders, such as common carp; highly valued aquatic plant communities eradicated while the abundant and diverse wildlife populations they once supported have been severely reduced in numbers or, for several species, vanished altogether.

But help has arrived.

In northwest lowa, scientists are implementing a large scale, aggressive management plan to return prairie lakes to their former glory. Dickinson County's Diamond Lake represents one of four showcase examples of how lowa lakes are responding to a radical new management. After draining the lake two summers ago, Diamond Lake is slowly refilling. Late last summer, lowa's leading plant experts, fish researchers and wildlife biologists toured the area to assess the lake's biological progress. None were disappointed. Most were amazed.

"It's really hard to believe that this lake has just been pea soup green for the past 80 years," says DNR District Fisheries Biologist Mike Hawkins while wading into the clear waters of Diamond Lake to catalogue the newly emerged plant life. "Today, the water is so absolutely clear, so completely transparent that you can see every single detail of what's on the bottom. We're seeing a very strong vegetative response here as well as a dramatic increase in wildlife. There's plenty of sound too. Birdlife is everywhere."

Lush growths of bulrush, arrowhead, bur reed, and cattail stretch to the edge of the lake's open water center. Sedge wrens, rails, yellow-headed blackbirds and other marsh birds call from among the vertical threads of this living green curtain. From beneath the water, the pearly lining of an empty clam shell reflects the afternoon sunlight with signal mirror clarity. As the scientific entourage advances, scores of marsh creatures—tadpoles, water boatman,

dragonflies and leopard frogs by the hundreds—scurry for cover.

"What we're essentially trying to do is restore health to a set of highly degraded natural systems," says DNR Wildlife Supervisor Mark Gulick. "If there is one constant, it's that water quality improvement is the driving force behind each and every project.

"We take each lake case by case and strive to restore that system to what it was historically," says Gulick. If it lacked native fish, the group won't try to turn the lake into something it's not.

Since Diamond Lake is the only shallow lake that once contained a fishery, last year 80,000 fingerling perch were stocked, with fingerling northern pike added this year.

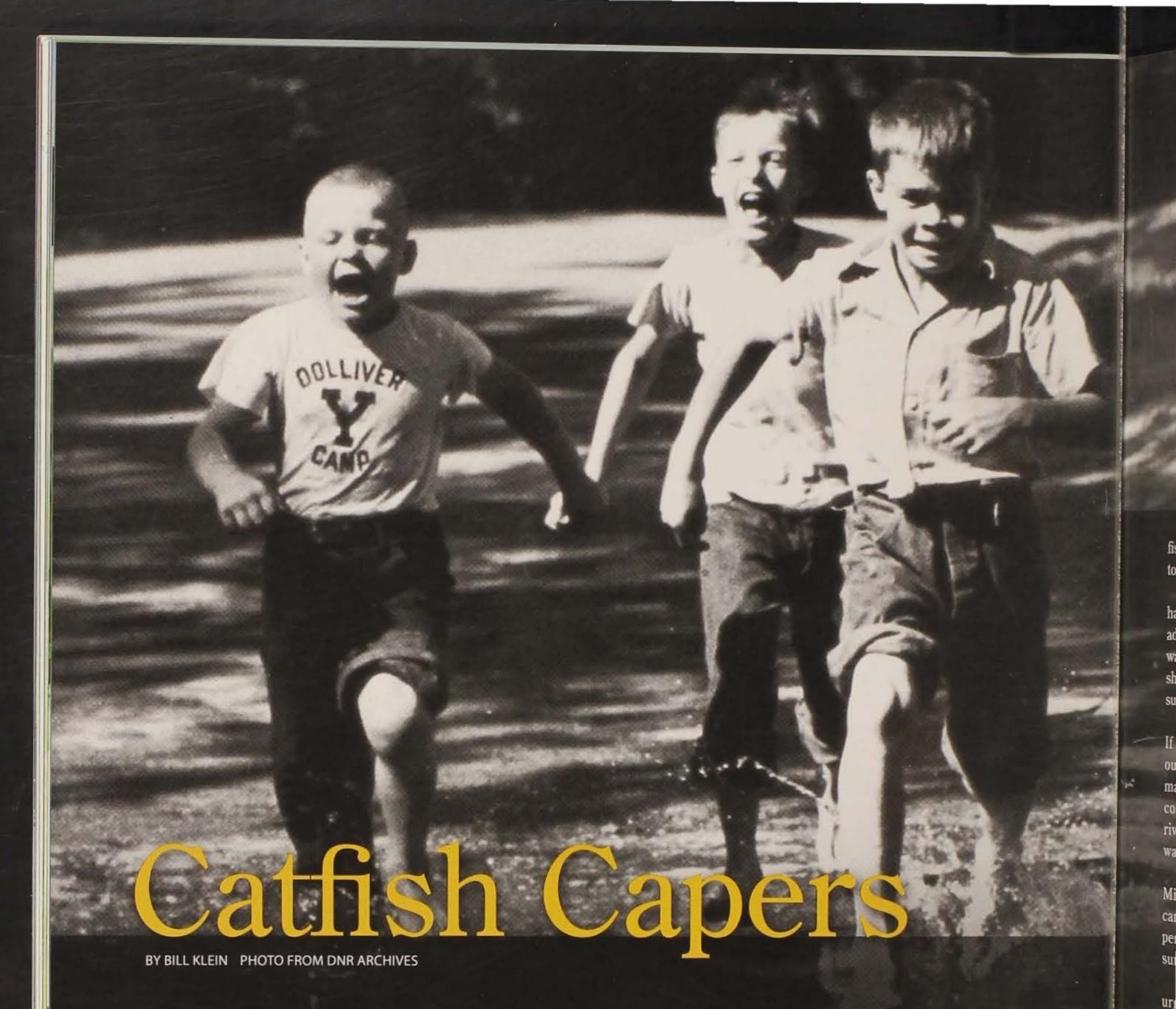
It's like taking the Dead Sea and creating a viable, living resource, says Gary Phillips, an aquatic plant specialist and environmental studies coordinator at Iowa Lakes Community College in Estherville.

"Due to an abundance of newly established aquatic plant growth, Diamond Lake insect populations have exploded," says Phillips, who also serves as water level adviser for shallow lakes restorations. The benefits of desirable insects to fish growth can't be overstated, he adds.

After a natural drought, "I've seen first-hand examples where lakes refilled and anglers were catching foot-long perch hand over fist and not keeping anything smaller. Those aren't just jumbo perch—those are super jumbos," says Phillips, who's certain the same phenomenal fish growth will occur at Diamond Lake along with significant increases in ducks and geese.

And it all begins with water quality.

Wetland scientists Gary Phillips, Mike Hawkins and Mark Gulick examine newly emerged aquatic plant life at northwest lowa's Diamond Lake. Following a lake drainage, desirable wetland plants jumped from four to 24 species. The lake was allowed to refill last summer. Following the increase in aquatic plants, marsh birdlife returned. The lake was then stocked with fingerling perch and northern pike.



HE RACCOON RIVER—
lazing its way toward downtown Des Moines—was
a 1950s boyhood nirvana for me and my two best
friends, Larry and Ted. As classmates at St. Augustin's
grade school and later at Dowling High School, we'd pass

clandestine notes in class planning our next adventure.

We loved exploring the woods en route, but the real lure was the river itself and all the romantic notions its current carried for pre-driving teenagers. Huck Finn stuff. The river was going places we'd never been. Wild, wonderful places. And maybe we could join it someday. We dreamed of riding all the way to the Mississippi on a homemade raft. Skinny dipping in the moonlight. Camping out on sandbars. Catching fish was only an afterthought.

To get there we pedaled our bikes through Greenwood Park, past the pond where we skated in the winter, up tennis court hill, all the way to the end of the Ashworth pool parking lot. There, known only to a few outdoor adventurers, was a secret path that snaked through the woods where we hid our bikes and then walked for a mile at least, crossed the Rock Island railroad track, and finally stumbled down a sandy bank to the river.

Ko

Fo ler ba

re

tau

We named the path through the woods Lightning Lane. Not because of the speed it offered to the river. It was fraught with blowdowns and swampy sections. No, its name recalled a bolt from the sky that literally charred the ground a scant 10 feet in front of us and the accompanying thunder blast that sent us to our knees. Literally speechless, we beat a hasty retreat home that day.

But this day, and this night, we were determined to mine the river for its bounty of catfish that surely awaited our stink bait. We had been to the river many times but never considered



fishing. Until one of my buddy's uncles, a river rat in his youth, told us about channel cats, dough balls and trot lines.

To say we were enraptured by this sporting news would have been a huge understatement. Whole new worlds of adventure sprang to mind. Titanic struggles in waist deep water with giant fish; the art of filleting on a flat rock; sizzling shore lunches. What had been a mere exploration destination suddenly blossomed into our own, members-only fishing hole.

The first thing we did was swear ourselves to secrecy. If news of this newfound fishery leaked out, throngs of our friends would want in on it. The second item on our master plan was a well-considered lobbying effort to convince our parents to let us camp out overnight on the river. Among the tips we'd gleaned from our adult tutor was that catfish bite better at night.

We agreed that our Boy Scout experience at Camp Mitigwa made us seasoned veterans of overnight camping. This would be the main theme of our permission pleas. Still, we were more than a little surprised that all three sets of parents said yes. Yes!

And so in the middle of a high-summer afternoon we urged our Schwinn bikes through Greenwood Park with new determination. We had fish to catch. The bulging gunny sack lashed to my bike held the bare necessities we felt we needed for this adventure.

In there, hatchets, flashlights and canteens filled with Kool-Aid clanged against a huge cast iron frying pan. Four blankets (one to make a pup tent), rope, matches, lengths of stout braided fish line, highly odiferous dough balls (despite their triple wrapping in wax paper) and a box of Pflueger fish hooks were all part of our river-men retinue. Along with stringers. Many stringers.

We were dismayed to find that even our blanket bed rolls smelled of the Limburger-cheese-based dough balls when we set up our camp on a sandbar. But our tutor had taught us the smellier the bait the better for channel cats.

The dough balls were, of course, homemade. Oatmeal, flour, melted lard and grated cheese were mixed and then rolled into shooter-marble size in the palms of our hands.

We had hoped for spoiled chicken gizzards, too, but none of our moms were willing to waste perfectly good food.

We made it to our fishing hole in record time and immediately floated huge hunks of driftwood downstream and grunted them ashore on opposite sides of the river. These would be the anchors for our trot line. Next, about every 6 feet we tied off lengths of fish line, with bitten-on sinkers and the dough balls molded around snell hooks borrowed from my dad's tackle box. We found the river current to be surprisingly strong for water only waist deep. And now we were ready for action.

But something was missing from this new style of fishing. There were no fishing pole tips to stare into a quiver. No bobbers to will into an upstream swim. We filled the void by taking turns checking the trot line about every 10 minutes before deciding that was probably spooking the channel cats.

Darkness came abruptly in our riverine tunnel in the woods. The cicadas in nearby Waterworks Park began their night-long August oratorio. All the thrashing about in the current had taken its toll on even young legs. We decided to bed down, but agreed we would rise at midnight to check the all-important trot line.

Dawn came with aspiration fog enveloping our fishing hole. The twin bridges, just down river, cast a ghostly shadow through the gloom. We were collectively shocked all three of us had slept through the midnight line check.

We leapfrogged one another checking the dozen baits for fish. And were thrilled when two hooks yielded channel catfish in all their silver-grey glory. Not as big as we had imagined, but bewhiskered beauties nonetheless. I hurried to stoke the campfire and dig out the frying pan while my pals jabbed at the fish tentatively with their fillet knives. Shore breakfast coming right up! We ultimately made do with beheaded, gutted and butterflied fish because they were too slippery to skin.

While our ravenous appetites may have been a factor, those fish were truly delicious. Between bites out of our communal pan we made plans for another outing and agreed channel cat had a superb flavor. With maybe just a hint of Limburger.

# CARP STORY AND PHOTOS BY JOE WILKINSON HILLIAN STORY AND PHOTOS BY JOE WILKINSON HILLIAN STORY AND PHOTOS BY JOE WILKINSON

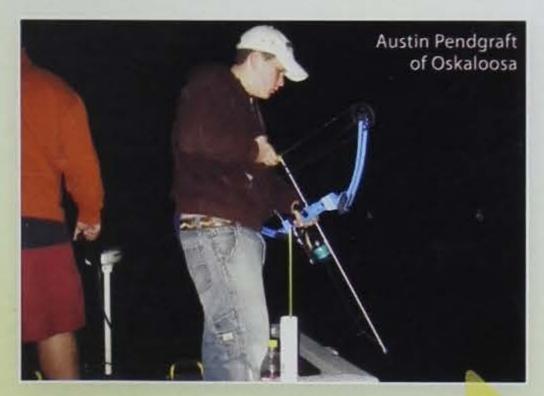
Tracy Seaton looks for shadows from oversized bighead carp just below the waterline. Seaton arrowed the state record bighead in this Cedar Rapids impoundment last June. Bowfishing for rough fish is growing; with tournaments and websites devoted to the speciality sport. Days after landing the 79 pound, 4 ounce monster, Seaton was back, looking for one that got away—it was a foot longer than his record.





#### Keep Safe: No Snap Back!

Safe bowfishing involves more than just tying string to an arrow and letting it fly. All that line in the wrong place can cause a snap back, when tangling on the bow or line whips the arrow and its razor-sharp barbs back toward the shooter. A safety slide can be created with a small plastic ring on the shaft. The line attaches to the ring, ahead of the bow rest. As the arrow is drawn, the ring remains in front. On release, the arrow travels down the rest and toward its target, hauling that slide and attached string to the target.





## Bowfishing: Give it a Shot

Whether it's at night under floodlights or in broad daylight along the shoreline, bowfishing combines the best of two worlds.

"It's a blend of hunting and fishing together," offers Shawn Peterson, a technician at the Spirit Lake fish hatchery research facility. "You can get into big fish—fish that are fun to fight. If you bow hunt, it keeps your muscles toned. It's a fun way to combine the two."

The basics are the same. You can use your deer bow, and with a couple adjustments, be rigged for arrowing carp instead of whitetails. Or you can take the plunge and buy a fish-ready bow. The primary change is the spool. A wrap-around spool or a heavy-duty spinning reel, something like a Zebco 808, can be mounted in the stabilizer hole of your bow. You might want a zero drag retrieval reel, which mounts into the sight screws. Peterson likes to use braided 50 to 100 pound test line.

A roller rest, with a similar but stiffer whisker biscuit holds the arrow in place for the draw and release. You want to use a specific fishing arrow, too. Most are fiberglass or aluminum over fiberglass. That makes them more durable and heavier. The extra grams of weight are important for penetration through the water.

The arrowhead itself is geared for catching fish. "There are all kinds of fish points," says Peterson. "Basically, you need a barbed point. The exact type depends on the species you are hunting, or fishing, for."

In lowa, it will be rough fish. Common carp are the most common species pursued, if for no other reason than that there are so many of them. Bigmouth buffalo are also popular and the growing population of Asian carp, bighead, silver and the grass carp are picking up as favorites of bow-fishers.

"Look for shallows with a little current flowing. Those conditions are favored for spawning," explains Peterson. "In Spirit Lake, that might be where the creeks come in, or where one lake flows into the big lake. You can also bowfish in sloughs, rivers, streams. Backwaters and vegetation are preferred."

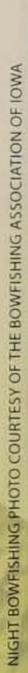
Spawning periods bring fish into the shallows. Concentrated there, they offer more opportunities whether you fish from shore or on board a boat. More people walk to their favorite spots. Boats are becoming more popular, especially at night. "Any boat will do, but a trolling motor is a must," says Peterson. "And elevated platforms are great to have. The higher you can get, the more straight down your shot will be. That helps as you try to figure the light refraction."

The deeper the water, the more light plays tricks on you. A good rule of thumb is to aim 4 inches below the fish for each foot of water between the fish and you.

And besides keeping your shooting eye sharp, bowfishing is just plain fun. Sometimes the action is pretty much non-stop. "I've taken 75 carp before in two hours. You're getting a lot of shots," says Peterson.

#### **Three Tips for Beginners**

- · If you fish at night, light it up. Four to 10 500-watt bulbs bring your quarry into view.
- · For daytime fishing, polarized sunglasses reduce glare off the water.
- · A windy day? Find something else to do. Clear and calm conditions are best.

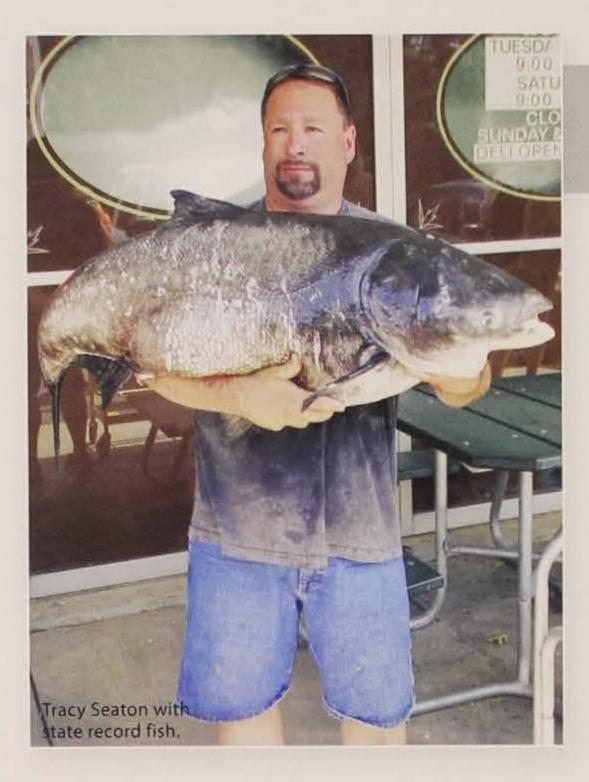


53-11

reco

throu

in inc



#### Learn More

Learn more at the website of the Bowfishing Association of Iowa, www.bowfishiowa.com.



### For the Record

No mistake about it, Tracy Seaton earned his spot among lowa's record fish anglers. Bass fishing last summer near the Cedar River, he made out big shapes in the water through his polarized sunglasses. Mostly, the shapes stayed away from shore. Sometimes, they worked their way toward the bank, only to take off as Seaton approached. Monster carp? Not the kind he was used to.

So Seaton, of Shellsburg, left his rod and reel home. He hadn't bowfished for about 10 years, but figured it was time to invest in some new gear. He went back to the quarry. "There was a big cut in the bank. I hid in the cut, sliding down close to the water so they couldn't see me," recalled Seaton. "I shot a 53 pounder. I knew it was a different species, because of its mouth and other (features) and how it appeared in the water, but didn't know if it was a bighead," carp, he says.

At the time, he was laid off from work with time to concentrate on the monsters. He did arrow a 53 pounder. "I went back and saw bigger ones in there. It took me three days to get a shot. I finally got a head shot—79 pounds, four ounces," pronounced Seaton. He had broken the lowa catch record for bighead carp by about 3 pounds.

"The fish came up, had just one if its side fins up out of the water doing circles. I knew it was a pretty decent fish," said Seaton. And as he arrowed his record on that late June day, he had to settle for his best shot. "As I shot this one, I saw another one next to it," said Seaton. "I couldn't get a shot (at it). It was a foot longer!"

The presence of bigheads—as well as other Asian carp—in lowa's river systems is concerning to fisheries and wildlife biologists. Filter feeders, they displace native game fish by eating the same zooplankton, algae and insect larvae they depend upon. Relatively recent escapees from southern aquaculture facilities—fish farms—they have found their way north into the Mississippi-Missouri river system, and up inland streams like the Cedar where they grow bigger each year.

So while the presence of these giant exotics is troubling; they are here and they are 'fair game'.

48

# OPE

Tracy Seaton, of Shellsburg, strains to hoist a state record 53-inch bighead carp. He took the 79 pound, 4 ounce Asian carp to a meat market to weigh on an official scale to document the record. Asian carp, escaped from southern aquaculture operations, are making their way upriver through the Mississippi-Missouri River system and are showing up in increasing numbers below dams on lowa tributaries.

# Rockets Red Glare

STORY BY JOHN PEARSON PHOTO BY DIANE MICHAUD LOWRY

THE FAR END OF Cordova
Cliffs along the shores of Lake Red Rock, I find a
spot to turn around and face the sunset. I gasp at the
transformation of the sky that has occurred behind me. The hot,
white disk of the afternoon sun had blazed in a hazy blue sky
when I first paddled away from the Mile Long Bridge, but now
it is an orange ball draped with crimson cirrus clouds, hovering
momentarily over the edge of the world. I had nearly missed it
for lack of twisting around in my kayak seat. The long avenue of
water stretching northwestward from my bow to the horizon is

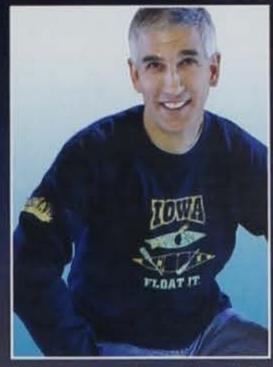
a spectrum of evening color: white in the farthest distance, blue grading to indigo in the middle ground and finally black at the edge of night engulfing my kayak. Twilight's last gleaming.

froi

dots

cros

Silence prevails over the darkening landscape: the motorboats have retired to ramps and marinas, the wind is calm, there are no waves slapping against my hull as I rest my paddle quietly over the cockpit. A gentle thumping draws my attention to the south, where I recognize the faraway fireworks of Knoxville, muted by distance and shrunk to Lilliputian size by the immensity of the uncluttered sky. They



Showcase your love of paddling with these short or long sleeve tees. Prices vary by size, \$14.95 for small short sleeve to \$19.95 2XL long sleeve. Order at www.iowanaturestore.com or 1-866-410-0230.

are scarcely louder than the firefly flashes erupting silently from the dark woods rimming the bluffs next to me. Stars emerge slowly into view, joining the cityglow of Des Moines on the horizon, the strobing flashes of radio towers elevated on distant, steel stilts, the pulsing lights of airliners migrating steadily across the troposphere, and the constant, bright dots of planets shining across outer space. Headlights of cars crossing the Mile Long Bridge, its solidity lost in darkness, appear to be flying across the black lake through a suddenly stellar universe. Their flight from the shimmering spheres of

multi-colored fireworks over Knoxville looks like starfighters fleeing an exploding Death Star.

I paddle slowly back through the night, arriving too soon at the take-out. After loading my boat onto the rack by starlight, the bright headlights of my car narrow my vision to a harshly illuminated tunnel carved into the night. Passing through Knoxville, where the fireworks show has just ended, I drive upstream against a heavy flow of white headlights leaving the fairgrounds but then am past the portals and become part of the red stream of taillights headed for home. 🗪



ву

is o

but wou into with Her Fre viso

Peld Brown pres

# Prairie Legacy

BY SAM SAMUELS PHOTOS BY CLAY SMITH

JDY FELDER HAS A LOT ON her mind, in particular a lot of plants. On this July morning, already sweltering by about 10:30, as she paces back and forth across an approximately 20- by

70-foot patch of recently mowed prairie, Felder's mind is on Canada thistle.

"The pink flags are if I see any," Felder says, holding a handful of slender wire poles with bright pink plastic flags on the ends. "Then I'll come back with my stinger and spray the little bastard."

Back in North Carolina, Felder used to be a physical therapist. When she and her husband moved to Iowa to follow his career as a cardiologist, and her new home state didn't accept her certification, Felder did odd jobs for years.

Now she does this. She's a petite woman, dressed today for prairie. Over a t-shirt she wears a long-sleeve button-down shirt torn so far up the back most people would have consigned it to the rag pile. Her jeans, tucked into her socks to guard against ticks, are held together with bright green duct tape. (More on duct tape later.) Her reddish hair is hidden by a hat that looks like a French Foreign Legionnaire's cap-canvas with a long visor in front and a flap in back-to cover every exposed inch from the sun.

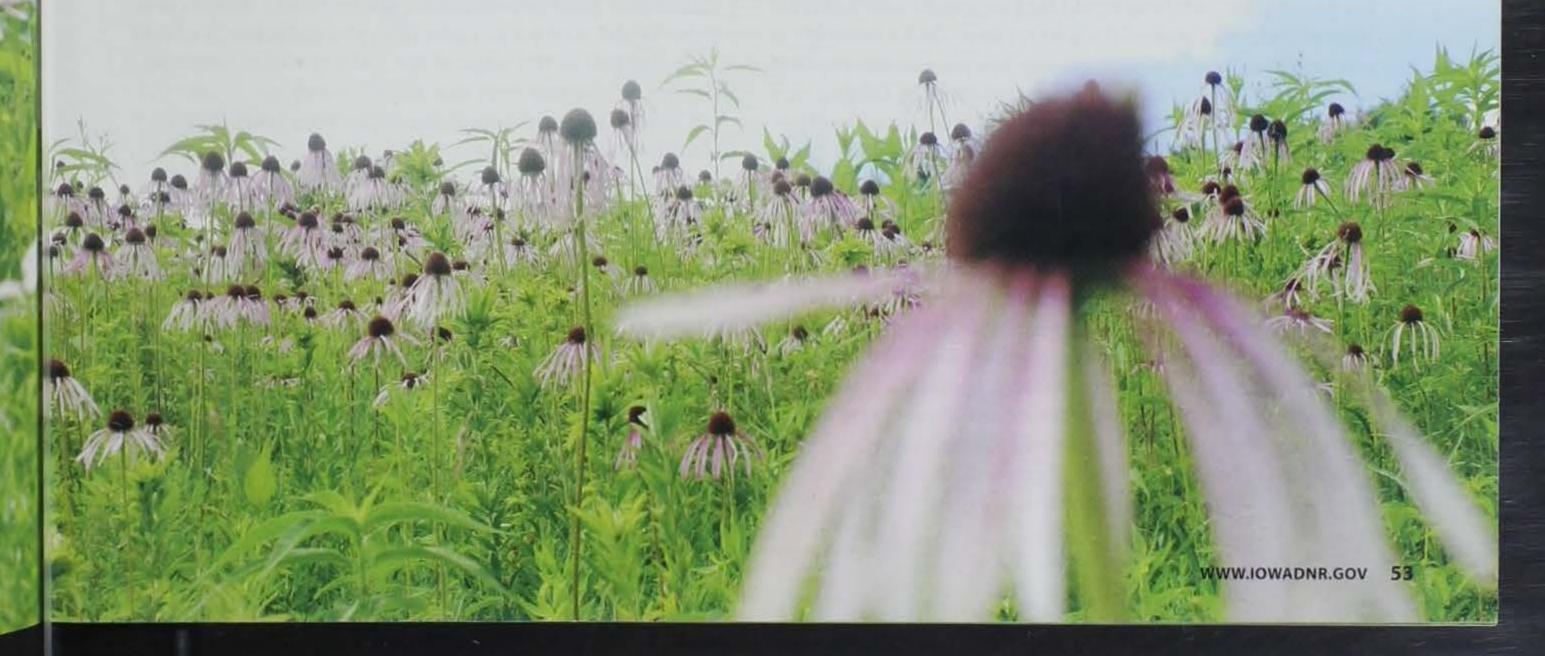
Most days of the week, every season of the year, Felder and her partner in prairie preservation, Mary Brown, make the half-hour drive from Iowa City to this preserve they call Indiangrass Hills to mow, pace, inspect,

burn, lop, survey, spray and generally nurture 640 acres of what's turning out to be a thriving prairie remnant in a former rough, rolling farm.

Generations ago, nobody needed to care for a prairie. Bison would periodically thunder along and graze the plants down to the ground. More importantly, prairie fires would rip through on a regular basis. Native prairie plants, many with roots 12 feet deep, are naturally resistant to fire. Trees aren't. So fire kept the prairie from turning into scrublands.

Today, with fire suppressed by humans, prairie can be quickly overgrown with woody plants like dogwood, sumac and cedar or by nonnative plants like leafy spurge, Canada thistle, smooth brome grass, crown vetch or other plants that choke out the native species. Here at Indiangrass Hills, Felder and Brown face a plethora of alien plants. Some were planted intentionally in the area. Sweet clover makes good hay, but can easily drift over from neighboring farm fields and take over the prairie. Autumn olive was planted as an ornamental tree in the nearby Iowa County park, and birds carry the seeds and berries into the prairie. It's a constant battle for Felder and Brown, patrolling the prairie and using every trick at their disposal to root out these non-native species.

At the top of Felder's to-do list today is inspecting areas with patches of Canada thistle that should be free of the plant by now. She has invited me to come with her on today's chores, crossing the prairie sometimes on foot and sometimes on one of her two Polaris Ranger ATV's.





Our first stop is Canada thistle patch number 6.

Canada thistle is a tough opponent. Most native prairie thistles have a root system with a single tap root. Pull out the tap root, and the plant is done for. Canada thistles grow from a network of underground rhizomes. An entire patch of them could be one giant cloned plant interconnected through the root system. It's a fiercely competitive, weedy beast that has been found as far afield as Italy and the banks of the Yangtze River in China.

Felder and Brown have a method for eradicating the tenacious plant. In the spring, when the first flush of new growth occurs, they mow down every known patch of Canada thistle. Then they wait two or three weeks and go back to inspect the patch by eye. It's easy to spot where a Canada thistle is regrowing through the short grass. They spray each plant with an herbicide that's specific to members of the legume and aster family. The next year, they repeat the process. If the herbicide worked, there will be no more Canada thistles. To be safe, they repeat the process for two to three years until they find zero thistles, at which point the patch is considered retired. When they started, there were 175 patches. Today they are down to 45.

With any luck, by the end of the morning that number will be down to 44. Patch number 70 is in its second year, so it needs zero thistles today and a zero a year from now to retire it. But patch number 6 hasn't had a Canada thistle in two years. If it's clean today, it's retired.

offi

cre

tha

It is

It W

Fel

rest

of I

deg

Whi

exp

Othe

nam

Pass

care

day

anor

San

Back and forth Felder paces, methodically walking the patch. As she walks a straight line, she periodically plants a blue flag just at the edge of her field of vision, marking the place where her next row needs to begin.

"I have very good eyes," she says. "Good for spotting thistle."

Spotting thistle is one thing. Telling an alien Canada thistle from some variety of native thistle is another. Both kinds have similar, silvery-backed leaves. Natives tend to have a basal rosette, a cluster of leaves ringing the base just above the ground, while Canada thistles don't. About halfway through her methodical walk, Felder stops to inspect a thistle.

"This is a pasture thistle," she pronounces. "It's bushier, leafier. Canada thistles tend to be longer, with less leaves on the stem. That's not a Canada thistle."

She comes to the end of her inspection.

"I think we can say zero," she says. She hasn't had



to spray any herbicide, and patch number 6 is now officially retired. Felder moves on to number 70.

"This was Sandy's technique," Felder says, giving credit for the method of mowing, inspecting and spraying that has so effectively rid this spread of Canada thistle. It is not the first time she's mentioned Sandy today, and it won't be the last.

#### SANDY

Felder did not start out as an expert on prairie restoration. She took a few classes at The University of Iowa in botany and taxonomy, thought about another degree, but wasn't about to start one at age 50. For a while, she worked in the university's herbarium, took an interest in prairie plants and began to develop her expertise. For some reason, the Latin names of birds and other animals refuse to stick in her head, but the Latin names of plants just pour out of her effortlessly as she passes them in the prairie. She began to volunteer taking care of small prairie patches, spending a day here and a day there pulling non-natives. One day, she encountered another volunteer who would change her life. Richard Sanders Rhodes II. Sandy.

"He was just the weirdest character," Felder says. "A small man, with long hair braided down the back. He'd braided his beard."

Eccentric perhaps, but Rhodes was also a gifted and charismatic prairie preservationist. A geologist by training, Rhodes was a passionate advocate for prairie and spent most of his time tending to known patches of native prairie remnant, either alone or leading groups. Felder was quickly drawn to him.

"He was probably the smartest individual I have ever met," Felder says. "Not just in his field, but in terms of common sense."

Sensing immediately that she wanted to work with and learn from Rhodes, Felder introduced herself. Rhodes produced a matchbook and wrote her name and number on it. It was months before he called her, but eventually he did. She began to spend time with him, learning the invasives and the natives, coming to recognize and cherish the look of a healthy, diverse prairie.

The matchbook was eventually Rhodes's undoing. A lifelong pipe smoker, he succumbed to lung cancer in 2005. But over the last years of his life, he and Felder and Brown became a sort of three-person army



#### Get Involved

Volunteer, learn more, see maps and view photos at www.indiangrasshills.org.



defending native prairie. After a while working on other people's prairies, the threesome decided to look for a 40-acre patch of their own, something they could tend to regularly and build back up to its original, native splendor. Together they pooled their financial resources, including their various inheritances, and went shopping for some land.

"We ended up with 480 acres," Felder says with a laugh. "We looked at each other and said, 'What are we doing?' But it had a life of its own." Eventually a friend and fellow preservationist, Barbara Buss, bought an adjacent 160 acres to add to theirs, creating the whole Indiangrass Hills preserve. It was rough farmland, with about 80 acres of native prairie tucked into it. Of those, about 40 appeared never to have been plowed, while the other 40 were somewhat degraded.

"It was terribly abused land," Felder says. "The owners had been renting it to farmers. There were crops on 100 acres, and the rest was pastured to death."

Felder speaks passionately about the difference between prairie restoration and reconstruction, the latter lacking any native prairie remnants. She maintains that this land is being restored, not reconstructed.

"Iowa has very little native prairie left," she says. "What's left is hidden. Suppressed. There is this move to reestablish tall-grass prairie. The quickest way is to do the agricultural thing." In some areas, restorers are getting fast results by clearing an area of cropland and planting prairie seeds. Rhodes disdained this kind of restoration and taught Felder and Brown to avoid it. Rhodes's theory was that deep in the soil, even underneath land that had been grazed for decades, lay a dormant seed bank of native prairie.

"Iowa knows how to plant," Felder says. "That's what all their energy and time and work goes into. One of our missions was to prove even on a rough farm there are prairie remnants present. We wanted to identify and bring them back without throwing seed at it. Get the cows off,

burn, and wait. See what happens."

What's happening at Indiangrass Hills is spectacular. Their acreage today features biologically diverse prairie on a former rough farm that was grazed to death. Some plants not seen on grazed pasture in this part of Iowa for years have staged a comeback here. Felder and Brown hired an assistant to help with the labor. They welcome hunters to the property, though they require hunters to register using a permission form (available on their website, www.indiangrasshills. org). Working with their lawyers, Felder, Brown and Rhodes devised an ingenious plan to preserve the property in perpetuity. They donated a conservation easement to the Department of Natural Resources, but after their deaths the property itself will go to the Iowa Natural Heritage Foundation. This way, the two agencies will both have an interest in the management of the property forever. The deal was negotiated quickly after Rhodes learned of his cancer.

"Sandy was able to sign and know it would be conserved in perpetuity before he died," Felder says.

Walking and driving these hills, there's hardly a moment when Felder doesn't stop to admire some plant or other that is rare for this area. Her thistle inspections done for the day, Felder takes me on tour of the place by ATV, with frequent stops to show me some hidden gem or to bemoan the advance of some invasive plant.

Walking along the border of two fields separated by a steep slope perhaps three feet high, we stop to search for one particular native plant Felder has come to know and love. Felder moves from one clump of grass to another, lifting the long blades of grass that hang down to search for her prize.

"Oh, it's here," Felder says, parting the grass like a curtain. "An orchid. Liparis liliifolia, the twayblade, a brown widelip orchid."

We stop to admire this specimen, while Felder explains why it's found here.

"We have this in two locations in the whole 640 acres. This is a little microhabitat. It's cooler on this slope with water flowing down."



stalks on what appear to be seven distinct plants.

"I'm not going to touch it," Felder says, gently replacing the grasses that she had moved aside to reveal the orchid. Sometimes restoration means doing nothing.

One after another, prairie plants reveal themselves to her keen gaze and their names roll from her tongue. Desmodium, blazing star, prairie milkwort. Then, in the middle of a field, she stops me. I haven't noticed anything, but she's spotted a small bird rising up from the ground. Indiangrass Hills is officially an Iowa Important Bird Area, a designation of the Audubon Society, and was the first piece of private property to earn the honor. Now I see why.

"Look here," Felder says, parting the grasses right at the spot the bird had flown up from. Underneath is a sparrow's nest, perhaps a field sparrow, perhaps a grasshopper or Henslow's sparrow. I would have gleefully tromped right past it, or perhaps even crushed it underfoot. Under the shelter of the grass, in a tiny bowl-like nest, are three downy grey chicks. Our slight disturbance triggers their hunger, as they seem to mistake us for their mother. Their faces turn up to us, eyes squeezed shut, mouths gaping open to reveal bright orange throats ringed with a light yellow edge,

She inspects the plant closely, counting three blooming a perfect target for us to drop food down in, if only we, too, were sparrows.

be (

Slop

prai

the

call

Nov

Шe

and

for 1

cam

Eac

3S 0

calls

in th

horn

When it's time for us too to stop for some food, we head back to the property's pole barn and meet Brown for lunch. I'm struck by the tone of their conversation. Each reviews what she's done that morning, the plants mowed or invasives sprayed, in voices as calm and genteel as if they were talking about passing the tea and crumpets. Brown is mowing today and needs a hand lubricating her mower.

"Hey, Judy," she says, "would you please rotate that mower blade so I can locate the zerk on that PTO?"

Of course, and would you like cream in that? Lunch is rounded out by a planning session, figuring out what is the next top priority on the list of invasives to be weeded out. A neighbor's dog pays a visit, gnawing a stick and playfully throwing it around. As the stick lands at my feet, I notice it has reddish brown fur on it and a cloven hoof. There's a wildness here, even for this friendly canine.

Lunch completed, Felder and I go back to our tour, driving the ATV in and out of ravines and over bonejarringly bumpy hills. Not just individual plants, but whole hills and meadows are like old friends to her, full of meaning. There's one field full of compass plants, so



called because their leaves grow vertically and tend to be oriented north-south. We pass hills she calls Puccoon Slope and Babtisia Slope for the rich growth of those prairie plants.

"This is a nice prairie slope," Felder says as we drive the ATV past a particularly verdant hill. "It used to be called the Dalea Slope, after the purple prairie clover. Now we call it Sandy's slope."

Again, the memory of Sandy Rhodes is everywhere, in every plant, vehicle, hillside and notebook he touched and passed on to Felder. There was a memorial service for him in town, but afterward the inner circle of friends came to this slope to share stories of him in a circle. Each friend was given a small vial of his ashes, and each in turn scattered their portion on this slope.

There's little time for sentimentality, though. Almost as often as Felder sees a good plant, she sees a bad one.

We plan to end our day with a cold beer on a hill she calls Sunset Ridge. As we bump along to the desired spot in the ATV, Felder is taken aback at what she finds.

"Oh, god," she says, her voice shaken. "This is horrible." The whole field has become overgrown with sweet clover. It's a commonly planted crop, which is not giving up to the prairie easily. The dense plants are a good five feet tall, their many tendrils ending in clusters of tiny white buds. As we drive the ATV through it, it flattens down before us, kicking up clouds of white pollen particles. "This has got to be hayed."

Within moments, she's on her cell phone, talking to a farmer, arranging for him to come and hay the whole area.

When we eventually do find a spot to crack open that beer, Felder reaches into a worn old plastic bag for an opener. It's an old pipe-tobacco bag, with the logo "Natural Cavendish." Another heirloom?

"Yes, it was Sandy's tobacco bag," Felder says. "This was his Igloo, too," she adds, pointing to the ice chest with the beers. A few years ago, an intern ran the Igloo over in a truck.

"The handle was torn off and lost. The lid was torn off and lost." Felder found the parts and put them back together with duct tape, another item Sandy taught her to keep near at all times. "I'll use it 'til it falls apart."

It's a promise I'm sure she will keep. For Felder, and for Brown as well, this prairie is more than just a project or a volunteer job. It's a promise they keep on a daily basis, a promise to a friend who lives on in the prairie he loved.

BY KAREN GRIMES PHOTO BY ISTOCKPHOTO.COM

Report fish and crayfish kills immediately to the DNR's 24-hour spill line at 515.281.8694. If you've been sprayed with a pesticide, check with your doctor or call the National Pesticide Information Center at 800.858.7378 (www.npic.orst.edu), or call the lowa Poison Center at 800.222.1222.

## FOLLOW THE LABEL OR RISKS ABOUND

Fish, dead and dying. Swimming in slow circles. Alive, but easy to pick up.

ne of the first reports came in 2007. More followed, including one from a highway repair crew that noticed fish leaping out of the water as if trying to escape something painful. As they watched from the span of a bridge, the crew saw the fish leap desperately, then soon turn on their sides and swim in slow circles.

What's going on? For the last three years DNR's environmental specialists and fisheries biologists have struggled to understand a rash of late summer fish kills. All the normal causes were ruled out. Oxygen levels, acidity and temperatures in the water were normal. Ammonia levels were low, and there was no scent or sign of petroleum or manure; no mats of decaying algae.

What could be causing fish to roll sideways and die? As environmental specialists investigated, several clues emerged. The fish behaved the same way in each instance, swimming in circles, then floating motionless. The kills began in late July, about the time soybean crops formed canopies and corn tasseled, continuing into August and September. These kills were often confined to small areas-maybe only 700 yards of stream.

Other common themes emerged as DNR staff talked to observers who saw flyers spraying fields prior to the kill. As the investigation continued, DNR field staffers found the pilots were spraying two chemical compounds: pyraclostrobin, a fungicide for corn leaf diseases, and chlorpyrifos, an insecticide used on soybean aphids.

Looking at the labels, it's clear that both pesticides are deadly to fish and other aquatic organisms at very low concentrations. For example, 0.041 parts per billion of the insecticide causes chronic problems to aquatic life. It acts on the central nervous system, which explains the

erratic whirling behavior. It also kills the most vulnerable aquatic animals, like crayfish or tiny insects and worms, at 0.083 parts per billion (ppb). Larger fish, like bluegill, are vulnerable to quantities as small as nine or 10 ppb. Generally a part per billion is equated with one drop of water in an Olympic-sized swimming pool. So eight onehundredths of a part per billion is a very small amount.

Once the DNR and the Iowa Department of Agriculture and Land Stewardship (IDALS) figured out the cause of the fish kills and confirmed them with lab test results. they addressed the problem. IDALS passed a rule in February 2009 requiring supervision of aerial sprayers. The DNR is pursuing legal action and penalties in a few cases that will act as a deterrent to careless sprayers. One of the cases involves a fish kill caused by dumping rinse water into a ditch after cleaning out the sprayer tanks.

you

lo

bes

515

IA.

bod

FUL feel.

Most important is education to make people aware that it's critical to read and follow instructions on pesticide labels. Whether at home or on a field, these chemicals require trained workers and careful application. Applicators need to take care, too, to limit their exposure.

Aside from being toxic to soybean aphids and other terrestrial insects, chlorpyrifos' label clearly says that it kills non-targeted species if improperly applied. That includes fish, aquatic invertebrates, bees, small mammals and birds. The label cautions against applying it directly to water, or allowing it to drift or runoff treated areas to water. Even the rinse water used to clean the equipment is dangerous if not disposed of properly.

When such small amounts are lethal to non-target organisms, it pays to be extra careful and read the label not just once, but maybe two or three times.

### Camp Roast Beans for Perfect Coffee

For the freshest, most flavorful coffee, fill the campground air with the aroma of roasting beans. With do-it-yourself roasting, you control the process and can experiment with varying degrees of bean darkness to suit your taste. Not only are unroasted beans about half the cost, they are very stable and can be stored a year without flavor loss. Once roasted, coffee begins to lose flavor, or go stale, within weeks, so fresh roasted beans produce a rich, aromatic brew of unrivaled quality.

Because roasting produces smoke and chaff, doing so outdoors while camping is a great option. Roasting coffee beans over hot coals or a camp stove is simple. Over medium-high heat, place a quarter to half pound of beans in a cast iron skillet or wok. Constant and rapid stirring prevents burning and achieves even roasting. Depending upon temperature, roasting can take three to 25 minutes as heat begins to chemically alter sugars, turning the beans from green to yellow and the desired darkness of brown.

When the beans reach about 380°, they expand, making a popping sound, and begin to yield chaff. You've just hit a roasting stage called "first crack." Most commercial coffee is roasted to this stage. Stop roasting now, or continue to reach a slightly darker brown, or medium roast. For full roast, the beans will pop again as they reach about 430°, called "second crack." Oils will also rise to the surface, providing a slightly shiny coat. To reach double, or French roast continue stirring the beans until heavy smoke forms as sugars begin to carbonize. Roast beyond this and you will make, well, charcoal!

Upon reaching the desired degree of roast, cool the beans by pouring them back and forth into containers while blowing out any chaff. Don't forget to pack along a coffee grinder to enjoy some of the best coffee of your life around a campfire.

Order unroasted beans from a local coffee house or online. Java Joe's in Des Moines ships unroasted beans. 515-288-JAVA (5282), 214 Fourth Street, Des Moines, IA 50309 or javajoescoffeehouse.com.

#### ROAST

LIGHT: Common roast used in commercial coffees. Has light body, higher acidity

MEDIUM: Sweeter than light roast, greater balance of acidity, aroma and complexity

FULL: Slight shine to bean, some spice, heavier body or mouth feel-with aroma and flavor from the roast becoming apparent DOUBLE OR FRENCH: Smoky and sweet, light body but intense roast flavor





CLOCKWISE FROM LEFT: Green, or unroasted coffee beans, full roast beans from Kona, Hawaii, and cinnamon roast or light roast Sumatra beans. Notice how the beans have expanded after roasting. Roasting is easy and allows java lovers complete flavor control.

## Wild Tuisine Kitchenside

BY BRIAN BUTTON PHOTOS BY CLAY SMITH







## Where Carp is King in south omaha, try the open-faced fried carp sandwich—on the menu since 1935

Last April, a seining crew worked at three-quarter mile long net at Iowa's Black Hawk Lake in Sac County, hoping to fill their Falt Fisheries truck with 20,000 pounds of carp. Much of the haul will end up on a slice of rye, served with three pickle slices and side of slaw and fries.

Joe Tess Place is known for its famous fried carp sandwich, pickled carp, chowder, carp sausage and the adjacent Falt Fish Market. The iconic eatery was featured on "Diners, Drive-Ins and Dives" on the Food Network, which attracted patrons from California to Florida. But that's just recent hubbub. Locals have been

eating here since 1935, says Dan Falt, one of three brothers that operate the live fish market and restaurant, taking over from their father who worked with original owner Joe Tess long ago.

Patrons can choose a rib or tail section, and smothering it in hot sauce is a popular custom.

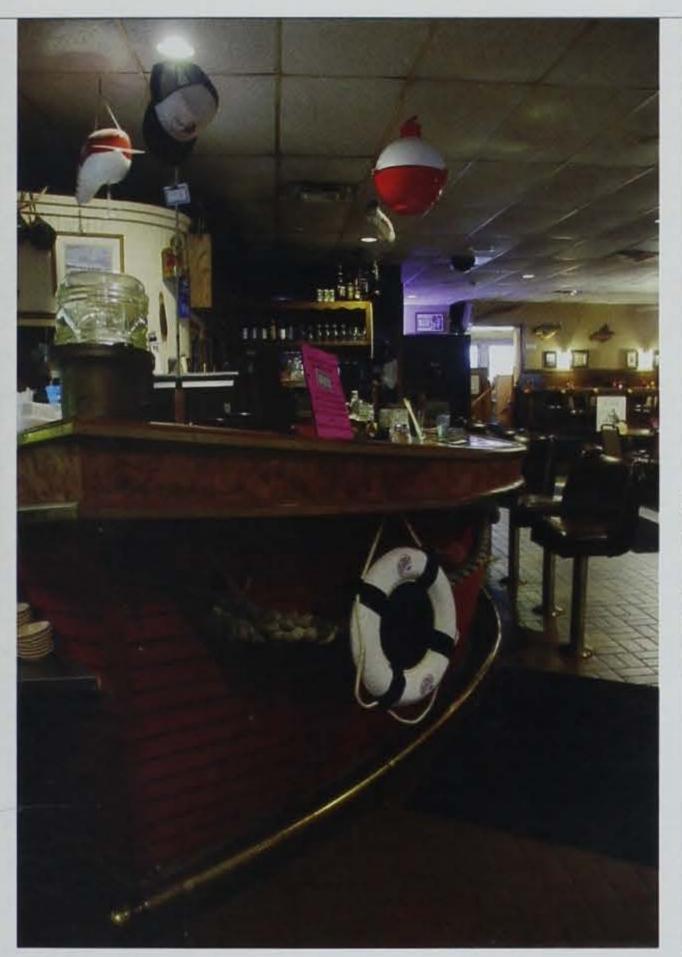
#### SECRET ART TO FRIED CARP

The numerous small bones make preparing carp a challenge. The secret is scoring a series of repeated, deep cuts—each merely a quarter-inch apart—down to the main bone so hot oil can cook off small bones.

Falt prefers 3- to 5-pound fish.

Another skill at Joe Tess is the breading procedure. With the fish piece in the flour, "you need to briskly rub it in and not just tumble it in the flour," says Falt. "You want to scrape your fingers across the fish, or tickle the fish to get the flour down into the score marks and it will fry up nicely." Shake the meat to remove excess flour.

Heat frying oil to 325' F
Rub in favorite breading, ensuring
to work into the deep score marks.
Shake off excess
Cook 5 to 7 minutes until golden brown



If you think there is something fishy with carp, reconsider, as this eatery with an oyster-shack vibe can pack in 400 diners and weekly serves a ton of carp. During Lent, lines form. Throw in catfish, walleye, salmon and trout, and they serve more than 3,000 fish a week.

A kid-friendly restauarant now run by the three Falt brothers, the walls at Joe Tess Place are adorned with family photos next to fish trucks, nets or giant flathead catfish and '30s era photos of original owner Joe Tess. An ancient jukebox cranks out everything from Waylon Jennings to polkas. The authenticity of this type of joint is what chain restaurants poorly attempt to imitate.

And while its fried carp put them on the map, fried chicken, oysters, catfish, shrimp or grilled fish and lighter salads attract families, blue-collar workers, suits and even cowpokes after dropping off herds at the nearby stockyards. It's where fathers bring sons after Little League—just as their fathers did decades ago. Diners still debate the merits of rib versus tail sections. Pass the hot sauce.



JOE TESS PLACE 5424 South 24th St. Omaha, NE www.joetessplace.com 402-733-4638

#### HOURS:

Sunday-Thursday 11 a.m.-9 p.m. Friday-Saturday 11 a.m.-10 p.m. Drive through and take-out counter

Order famous fish flour, dressed buffalo, carp or catfish at www.faltfisheries.com.







## CICADA KILLER (Sphecius speciosus) As lowa's largest wasp, the brightly colored cicada killer paints a fearsome picture.

But unless you're a locust, this beneficial insect is more bark than bite.

#### LONERS

Cicada killers are solitary wasps. That is, they live independently rather than in colonies. While females are mostly loners, the males are more often seen in groups, dog fighting for top position on the breeding chain and protecting their territory. It is not unusual to see two or three locked in mid-air combat. While it may appear intimidating to nearby humans, the males are harmless. Their focus is only on other insects, and they cannot sting. However, both genders can bite.

#### SHORT LIFE IN THE SKIES Within one to two days

of egg laying, larvae emerge. They feed on the cicada, developing quickly within two weeks. They overwinter in the cell, pupate in the spring and emerge in July or August when cicadas start singing to attract mates. All told, the cicada killer spends more than 90 percent of its life underground as larva. Above-ground life lasts two to six weeks. Adults feed primarily on nectar.

Oth

of

#### THAT'S A BIG WASP!

Females dominate the species at up to 2 inches, males are about half that size. Females are also the only ones able to sting. Both have hairy, reddish and black areas on their thorax (middle section) and black to reddish brown abdominal (rear) sections with light yellow stripes. Some confuse cicada killers with yellow jackets and hornets due to their appearance.

#### PREPARING THE NURSERY

actual size

Shortly after locusts start singing in the summer, cicada killers prepare for egg laying. The female digs a tunnel, roughly the size of a quarter and as long as 2 feet. She then captures a cicada, paralyzing it with a sting to the nervous system, and places one to three cicadas in a holding cell. Each burrow may hold between 10 and 20 cells. She deposits an egg on the insect; an unfertilized male egg gets one cicada, a fertilized female egg up to three due to the size difference. She then seals off the cell and leaves, never to return.

## Admiration & Legacy

BY JESSIE ROLPH BROWN PHOTOS BY CLAY SMITH

## AT THE READY TO HELP

PAULINE AND RON LONGNECKER, TREYNOR
Western lowa boaters devoted to helping others on the water

"Semper paratus" is more than fitting in describing Pauline Longnecker. Since 1988, she's embodied the U.S. Coast Guard Auxiliary's motto of "always ready," logging 18,000 hours helping lowa and Nebraska boaters. Put all those hours together, and it would total working 24 hours a day for two years straight. Through the Auxiliary, the civilian volunteer branch of the Coast Guard, Longnecker teaches boating safety classes, inspects boats for safety, patrols lakes and rivers to help boaters in need, participates in search and rescue missions and works on numerous other projects. After nearly drowning twice, Longnecker says she learned to respect the water and wanted to help others. So she and husband Ron joined the Auxiliary and began teaching classes. Just last year, she spent 140 hours teaching kids, personal watercraft users, new boaters and others safety basics. "I would never say I know everything about boating, but it's about helping people," she says, quickly adding,

Pauline and Ron Longnecker

"it's not just Ron and Pauline, it's a lot of people nationwide helping." Last year, she organized an effort to paint life jacket reminders on 150 lowa boat ramps—all this in addition to her full-time information technology job. "Pauline's dedication and passion for boating safety enables lowa to magnify its efforts," says DNR Boating Safety Coordinator Susan Stocker. "She's the glue that binds the DNR and Auxiliary together."



## A TRAILBLAZER FOR WATER

RYAN HANSON, BOONE
Boone County landscaper does the heavy lifting for water quality, recreation

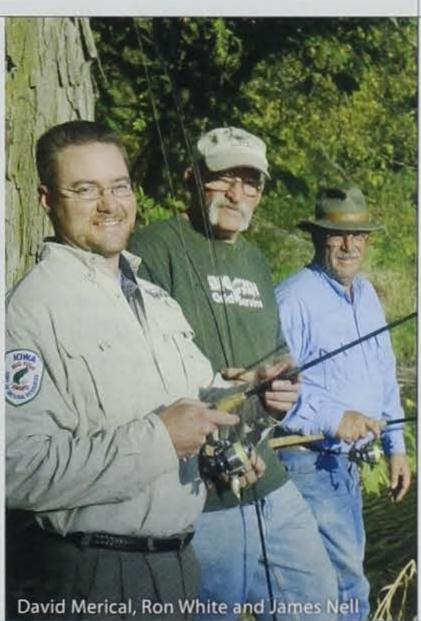
What would have taken a team of volunteers weeks to do, Ryan Hanson did in a couple of days. And now paddlers and anglers have a safe way to get around a low-head dam on the Des Moines River near Fraser. The owner of Hanson's Landscaping in Boone, Hanson used a mini-excavator to create a portage trail around the dam after finding out the original plan was for volunteers to use shovels to dig a hillside trail. He also helped place gravel on the trail and built a road down to the trail, making the area accessible to many that couldn't reach the river before. It also held through the floods of 2008. "It's been nice hearing people say 'wow, it's sure nice somebody did something," Hanson says. Providing safe access for paddlers around low-head dams is important, as the dams create dangerous re-circulating currents that can trap and drown a person. "Any time I called for help with the Fraser dam project, he never said no. He would drop whatever to be there," says DNR Construction Technician Luke Wright. Hanson, an occasional paddler, also serves on the planning committee for River Run Garbage Grab, an annual cleanup event along the Des Moines River. Hanson's dump trucks and skid loaders help pull "heavy, nasty stuff" like appliances, cars, couches and more out of the water, "I just like taking care of the environment," he says. "It's a way to give back to the community, and I enjoy the challenge of it."

## SINKING TREES, RAISING HOPES

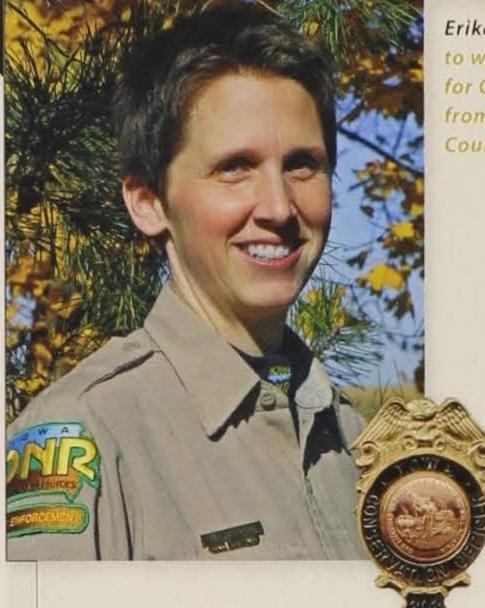
CENTRAL IOWA ANGLERS, DES MOINES

Club works to preserve the legacy of fishing with conservation, youth outreach

A few cedar trees strategically placed on the ice this winter at Big Creek Lake have now sunk to the bottom, creating both a place for fish to hide and some choice spots for the Central lowa Anglers to help kids snag a fish. The Des Moines-based group began in 2004 to help others improve fishing skills while working to ensure angling's legacy through conservation and outreach to young people. "We love catching fish, so we're concerned with the future of fishing in Iowa," says board member David Merical. "It's important to encourage more people to fish because if you love it, you want to preserve it." The group helps with shoreline cleanups and habitat work at Saylorville Lake and Big Creek, providing funding and labor, and makes details of the work available for other anglers to benefit. Club members assist with DNR fish netting and tagging studies and with a project to raise hybrid striped bass in rearing ponds at Saylorville for later stocking. "They work very hard to improve fish habitat for all species and understand water quality is important," says DNR Fisheries Biologist Ben Dodd. "When they see something that needs attention, they call us. They serve as our eyes and ears." Recognizing that the future of our natural resources relies on the next generation, the group works to get kids hooked on fishing. They partner with organizations to hold fishing clinics and tournaments. They host a Big Brothers Big Sisters event every year and provide gear to a camp for at-risk kids. "Some would not have the opportunity to go fish or get on a boat," says Ivan Brehmer, the club's president. "That kind of work pays big dividends."



BY ERIKA BILLERBECK PHOTO BY CLAY SMITH



Erika Billerbeck is the fourth officer to write Warden's Diary, taking over for Chuck Humeston, who retired from the DNR. She lives in Johnson County and began her career in 2000.

# Litter Love-Hate

Garbage and I have a history. Our relationship began several years ago when I was a fledgling deputy conservation warden for the Wisconsin Department of Natural Resources. Deputy wardens are what you might call "assistants" to the full-time wardens and, therefore, often get roped into tasks a sane person would probably find unpleasant.

When the first warden I worked with told me, "We're going to go make some littering cases today," I thought, "Huh?" I was under the impression that wardens were always out saving lives and catching dangerous poachers, not waiting for someone to drop a candy wrapper on the ground. The warden continued, "So, you are going to go over there, sit in the weeds, and watch for someone to litter."

I sat under the sweltering sun in the company of 4 million mosquitoes, waiting for one of the hundreds of anglers below the dam to arrive carrying a six-pack of Pepsi and leave with nothing but their limit of fish. After spotting a litterer, the procedure was that I'd radio the warden (who, by the way, was sitting in his air-conditioned truck down the road, listening to a baseball game on the radio and eating an ice cream cone) to advise, "The guy with the green shirt walking toward the blue Dodge Ram came in with three bottles of pop but doesn't have anything now." The warden would respond, "What kind of pop?" After failing to remember whether the bottle was 7-Up or Sprite, I quickly learned to write everything down: male, green shirt, blue hat, three Sprite bottles. Finally, the warden would swoop in for the big takedown and ticket. A few minutes later he'd crackle through on the radio, "Thanks. Good work. Not too hot, are you?"

Since my first experience, my relationship with garbage has blossomed into a passionate love-hate affair. Well,

mostly hate, I guess. For some reason, state wildlife areas are magnets for garbage-dumpers. I don't know why this is. They look nothing like a landfill and nowhere do I see signs saying, "Dumping Is OK Here." Nonetheless, it happens. I really cannot come up with a logical reason as to why an otherwise normal person occasionally feels the need to seek out a remote corner of one of our beautiful state areas to deposit his or her trash. I'd rather spend my time chasing down poachers or watching for someone to over-limit on bass, but after years of driving through wildlife areas and encountering loads of junk, the little flame inside me has finally set my blood to boil. I don't know how many hours and truckloads natural resource technicians dedicate to cleaning up the wildlife areas, but it is far too many.

thro

Stor

one

Witz

Hor

Asi

Willi

off ]

bag

bon

Colo

unfo

Seve

the

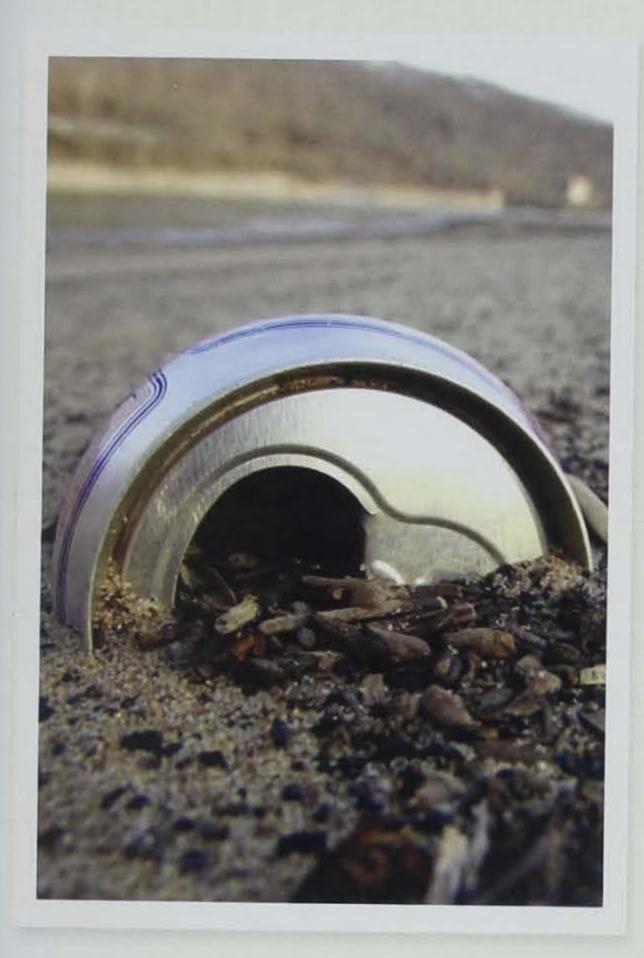
SOM

Seve

Cou

I'm in the somewhat unique position of being married to one of these assistants, a natural resource technician who works at the wildlife unit in my territory. When my cell phone lights up and I see my husband's name appear, I try not to get my hopes up that he's calling just to remind me how beautiful I am. In fact, I've never gotten a call like that. Instead I get, "There's a pile of garbage on the south side of the area that you might want to dig through." Gee, thanks honey. Actually, I can't blame him. Usually, the wildlife folks do the dirty work and dig through the garbage for me while picking up the mess, but I occasionally get a chance to sift through it on my own.

After getting his call, off I trudged to dig through some garbage. Why? That's where the evidence is. More often than not, the litterer unknowingly leaves some clues behind revealing his or her identity. Things I've found ranged from large appliances, furniture and old toilets, to the disgusting,



surprising and enlightening. In an effort to make this part of my job tolerable, I've made a game of it; when I dig through someone's garbage, I try to piece together a "life story" of the owner based on what I find.

One such story I found interesting began when Julie, one of the technicians, called me to report that she had witnessed a woman unload something from her blue Honda Civic into the refuge. I admit, I was a little jealous. Aside from the occasional pop can tossed from a car window, I have yet to catch someone red-handed. Julie raced down the road to confront the woman, but she took off like Daisy Duke, leaving Julie inhaling gravel dust.

I arrived on the scene, ripped open the three garbage bags and carefully plunged in. Amongst the pork chop bones, yogurt containers (banana, judging from the color), and an unidentifiable brownish viscous liquid that unfortunately covered much of my right hand, I found several items of interest. There was a "hotel" bill from the county sheriff's department stating how much money someone owed for meals and lodging for an extended stay at the jail, a copy of a traffic ticket, a pocket calendar with "the day Pat proposed to me" written on one of the dates, several sealed, unsent Christmas cards from Pat and Courtney, which conveniently provided me an address,

and finally the most intriguing piece—a letter. It began, "Dear Pat, I don't know how to tell you what we both already know." Hmm, sounds like some bad news for Pat.

When I knocked on Courtney's door to issue a citation, I heard the frantic yelps of a small dog, but no one answered. I knocked again—still nothing. Finally giving up, I was walking away from the front porch when I heard a door shut in the back of the house. By the time I made it to the backyard, all I saw was the back end of a blue Honda Civic driving through the yard to the opposite side of the house. I ran back to the front just in time to meet the car before she had a chance to pull onto the road. I flagged my arms and yelled at her to stop.

A woman wearing medical scrubs rolled down the window and peered at me, "Is there something I can help you with?" she asked. It took all the willpower I possessed not to answer with, "I don't know how to tell you what we both already know." Instead I said, "Why did you just drive all the way around your house?"

She answered, "I'm on my way to work and your truck was blocking my way."

Can't argue with that. "Is there a reason you dumped garbage on the wildlife area yesterday?" I asked.

"Not really. I just didn't know where else to put it." Hmm. Not much I could say to that either. I wrote her a ticket and told her not to litter on a wildlife area again. I advised her that one possible way to address her garbage conundrum would be to sign up for the city's garbage pick-up program.

She responded "OK, I guess I could check on that." Good idea.

There are a few questions that still nag me: What did Courtney do with the rest of her garbage? What exactly was it that she wanted to tell Pat but couldn't? And most importantly, what possesses otherwise normal people to believe that a wildlife area is the best depository for their garbage?

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

# Celebrating the best tractors under the sun!

The classic green workhorses of the past shine on in the "Legends in the Field" Light Catcher, a first-ofits-kind collectible crafted of beveled-edge crystalclear glass and colored glass panels filled with art of John Deere Models B, G and D and a vintage John Deere logo.

Crafted in the form of a luminous six-sided prism with handsome metal detailing, matching metal hanging chain and a handpainted pewter sculpture of the Model B Wide on top, this collectible captures sunlight and sends it dancing through the glass and the art in a dazzling display. Simply hang it in a sunny spot in any window and let the light show begin!

## An exclusive limited edition limited to only 3,000...and an excellent value!

Strong demand is expected for this Bradford Exchange Exclusive limited edition, and only 3,000 will ever be crafted, so act now to acquire your "Legends in the Field" Light Catcher in three easy, interest-free installments of \$26.65 each, for a total of \$79.95\*. Your purchase is backed by our 365-day money-back guarantee. Send no money now. Return the Reservation Application today so you don't miss out!

RESERVATION APPLICATION SEND NO MONEY NOW

## BRADFORD EXCHANGE

9345 Milwaukee Avenue · Niles, IL 60714-1393

YES. Please reserve the "Legends in the Field" Light Catcher for me as described in this announcement.

Limit: one per order. Please Respond Promptly

Mrs. Mr. Ms.

Name (Please Print Clearly)

Address

City

State

Zip

\*Plus \$10.99 shipping and service. Limited-edition presentation restricted to 295 crafting days.

Please allow 4-8 weeks after initial payment for shipment. Sales subject to product availability and order acceptance.

Only 3,000 will be made! Shown smaller than actual size of 814 inches tall www.bradfordexchange.com/deere ©2010 BGE 01-4075-001-BILUS