



A basket-rack white-tailed buck pauses while walking on private land in Lancaster County. Photo by Steve Zechmann.

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NEBRASKAland

November 2015

A Year
for
Pheasants

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Mule Deer in Nebraska • Water Striders
Nighttime Photography • More Than a Decoy
Keya Paha Fish Study • Moving the Courthouse

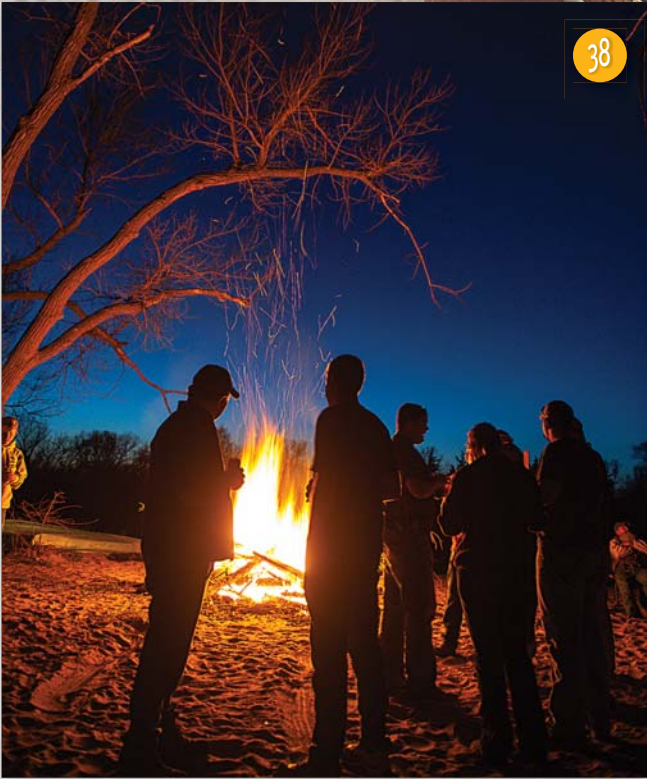


NEBRASKAland Magazine

Volume 93 • No. 9 • November 2015

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ON THE WEB...



WHEN YOU SEE THIS SYMBOL IN THE PAGES OF NEBRASKAland MAGAZINE, VISIT NEBRASKALANDMAGAZINE.COM AND VIEW OUR INTERACTIVE DIGITAL EDITION FOR MORE INFORMATION.

Cover: A rooster pheasant runs through a mix of grass near Calamus Reservoir State Recreation Area northwest of Burwell. See the story on page 20. Photo by Eric Fowler.



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- BIRD POPULATIONS ARE ON THE RISE - GATHER THE TROOPS

With statewide pheasant numbers up 85% and quail numbers up 180% since 2013, Nebraska Game & Parks encourages you to renew your passion for the sport. Start planning now by visiting outdoornebraska.org/upland.

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- GAME PARKS -



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Two-year-old Tripp Williams holds up a bluegill he caught while fishing at Chappell Lake. Photo by Cindy Williams.

From My 1867 Studio Camera

I travel back to Nebraska often and photograph using my old studio camera from 1867. I use 8x10 film and scan the negatives digitally outputting them. This photo of a round barn was shot in Webster County.

Shane Booth
Fayetteville, North Carolina



Outdoor Plates

Jeff Guinae of Omaha shows his preference for bird dogs on his license plate, and spends the fall following them through fields and along creek bottoms in search of pheasant and quail.

If you have a unique outdoor message plate you would like to share, or know someone who does, e-mail a photo (high-resolution, JPEG format only, please) along with your hometown and a brief description of the interests expressed on your license plate to Eric.Fowler@Nebraska.gov.

Stunning Magazine

We recently received an email about *NEBRASKAland Magazine*. My husband and I were absolutely amazed at the gorgeous photography in this email. Loved the landscape and the animals, and the winter scenes. Just stunning!

Betsy and Jim Conway
Omaha, Nebraska

Correction: The October issue incorrectly listed the Aug-Sept. issue's Visitor on page 29. It should have been listed on page 47.

-Editor

Send your comments to:
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Please include your postal address and telephone number. Letters may be condensed and edited. Photographs are also welcome.

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Lindsay Anderson took this photo of her husband Travis and their dog Goose during a teal hunt near Tamora, Nebraska.



Mixed Bag



PHOTO BY JOEL SARTORE

A Mammal Brief

North American Deer Mouse

By Lindsay Rogers

Peromyscus maniculatus

The United States is home to 15 different species of deer mice. All have white feet, white undersides and brown-gray sides and back. Most have extremely long tails – sometimes as long as the individual's head and body combined.

The North American deer mouse is the most common of all deer mice species in North America. They can be found in a wide variety of habitats including grasslands, forests and even urban areas, but should not be confused with the common house mouse.

Although often believed to be a nuisance species, deer mice are ecologically extremely important. They provide food for numerous species – hawks, owls, foxes, snakes, bobcats and skunks to name a few.

Deer mice eat mainly seeds, such as acorns and nuts, but also eat insects. In cooler climates, such as Nebraska, deer mice will cache food during fall months. ■

Lindsay Rogers is an outdoor education specialist with the Nebraska Game and Parks Commission.

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Travelogue

By Jenny Nguyen

Norfolk

Anyone visiting Norfolk will most likely hear about how the city was named. In 1881, settlers proclaimed their village to be called "Norfork" for its location on the north fork of the Elkhorn River. Postal authorities, assuming the word had been misspelled, changed it to "Norfolk." Many locals still call their city by its intended name.

My first "home" in Nebraska, Norfolk holds a special place in my heart. Though small by most standards, with a population of nearly 25,000, Norfolk is still considered the "big city" to surrounding communities in northeastern Nebraska, a sentiment not unfounded. A friendly, thriving community, you'll find gems in this small town.

Johnny Carson's childhood home still sits on 306 S. 13th Street, while city pride endures for being the birthplace of Thurl Ravenscroft, the voice behind "Tony the Tiger." Norfolk residents are enthusiastic supporters of the arts: **The Johnny Carson Theatre** holds community events, plays and concerts year-round and so does **Divots Conference Center**, located on the west side of town. The **Norfolk Arts Center** offers weekly classes for children and adults and hosts its fun **Soup 'R Art** show every winter – 2016's date is Jan. 31.

For a special dining experience, check out **Sakura Sushi & Steakhouse** or **Black Cow Fat Pig**. For a more casual lunch or dinner, my favorites are **Michael's Cantina**, **Smokin' Stan's BBQ**, **Tienda Leon** and the **SandBar & Grill**. Though I have not tried it, the **Vietnamese Noodle House** opened earlier this year. For a quick bite in the morning, **Delight Donuts** makes amazing ham and cheese croissants, but you must arrive early because everything goes quickly.

Looking for a cozy place to hang out on New Year's Eve? I've always had a fun time at the **Office Bar**, which features an up-and-coming musical artist/band almost weekly.

Norfolk is not short on outdoor events and activities either. Fishing and picnicking is popular at **Skyview Lake Park**, which is also the site of **free summer concerts** and the most amazing Fourth of July fireworks show I've seen in my life, the **Big Bam Boom. TaHaZouka Park**, a smaller, quieter area, is stocked with catfish yearly and is also the place where the **Cowboy Trail** begins in Norfolk.

For fishing, **Willow Creek State Recreation Area** in Pierce is a convenient drive north. **Wood Duck** (Stanton), **Oak Valley** (Battle Creek) and **Yellow Banks** (Meadow Grove) wildlife management areas are popular destinations for hunters.

For more information on Norfolk, check out VisitNorfolkNE.com.

The Vietnamese Noodle House is a recent addition to Norfolk's dining options.



Fishing at Skyview Lake Park

Norfolk



Soup 'R Art Craft Show



The Cowboy Trail runs through Norfolk



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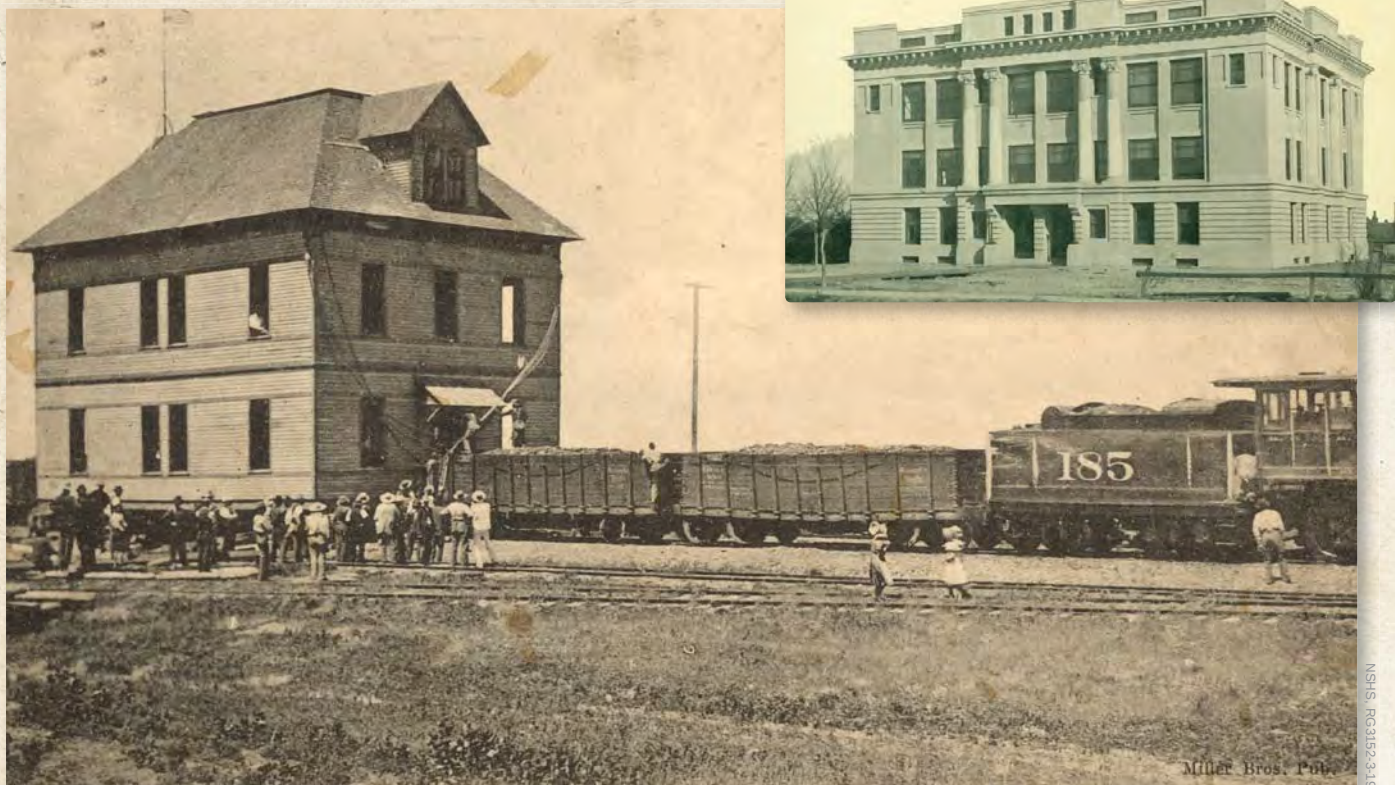
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The county courthouse was moved 20 miles from Hemingford to Alliance on July 3, 1899. Inset, this limestone and brick courthouse replaced the original in 1913.

A Brief History Moving the Courthouse

By David Bristow,
Nebraska State Historical Society

Most Nebraska counties have had a county seat fight at one time or another. Sometimes it determined which towns survived and which folded. In the Panhandle, for example, Nonpareil became the first seat of Box Butte County when the county was organized in 1886, but lost the prize to Hemingford in 1891. You won't find Nonpareil on your state highway map.

Several years later Hemingford lost out to Alliance. But Hemingford had the courthouse and it seemed wasteful to build a new one in the new county seat. So they picked it up and moved it. This wasn't as impossible as it sounds – it wasn't a stone-and-brick courthouse. Still, it required some hard work and help from the Burlington Railroad.

The railroad had reached Alliance in 1888, platting the town on land purchased from the state by the Lincoln Land Company, an auxiliary of the railroad. The company also built the courthouse in Hemingford and leased it to the county. After Alliance became the county seat, the company offered to move the courthouse 20 miles to its new location. They contracted with a house mover from Lincoln and gave him 30 days to get the job done. After 10 days he informed the company that it couldn't be done in time. He hadn't moved the building more than 20 feet.

Now the Lincoln Land Company was in a bind. They had contracted with the county to move the courthouse and have it ready for use by July 15, 1899. The Burlington Railroad saved the day. J. H. Phelan, superintendent of the railroad's Wyoming division, offered to move the courthouse on a flatcar. Phelan's letter to the Lincoln Land Company describes the results:

"Dear Sir: Referring to your message of June 30th asking for information concerning the moving of the court house – The building was safely hauled from Hemingford to Alliance and is now on the way from the track to its permanent location. As you know the building is fifty feet long by forty wide[,] two full stories in height with a heavy truss roof and constructed with a heavy hard pine frame. As there were two cuts to pass through the building was raised on timbers high enough to clear the banks and when ready to start it was fifty feet from the railroad track to the top of the deck on the building. The weight of the building was estimated at 100 tons... Six hours after leaving Hemingford the building was clear of the track in Alliance.... Yours truly, J. H. Phelan, Superintendent."

In 1913 the county replaced the traveling courthouse with a solid, limestone-and-brick Beaux Arts-style edifice that still serves the county and is listed on the National Register of Historic Places. It is a grand building, and perhaps more importantly is too big and heavy to simply haul away. ■

Visit the Nebraska State Historical Society's website at Nebraskahistory.org.

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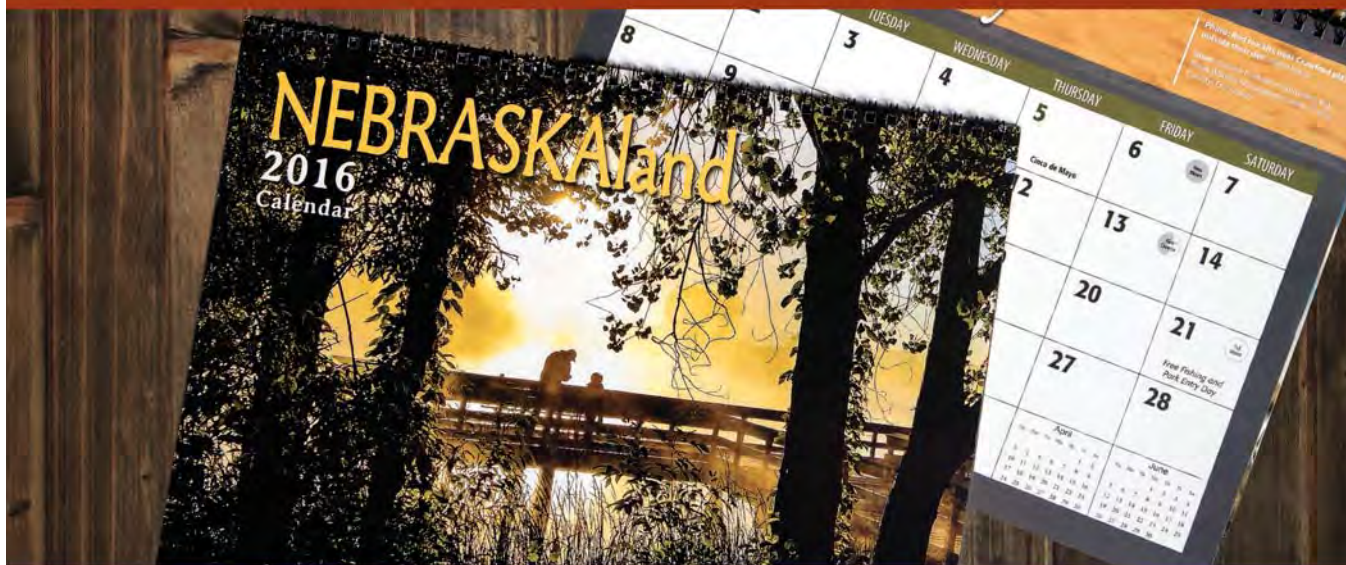
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Cover Your Hide

By Jeff Kurrus

For a few years, I had the opportunity to write migration reports for *Ducks Unlimited Magazine*. I'd place a quick call to guides, weekend warriors and biologists across the country to give hunters the most up-to-date information on duck and goose locations across various regions.

Once I had the information I needed, I would always ask one more question: are there any tips I should pass along to hunters? More than any other answer, by far, was that hunters should focus on "their hide." These exact words were repeated in nearly every conversation, and explains how important this simple camouflaging tip should be to hunters.

Waterfowl focus on movement, so make sure your silhouette is broken up and, if possible, camouflage yourself from head to toe, including your face and hair. From face masks to face paint, hunters use an array of techniques to mask themselves. Even the bill of a ball cap can work wonders in your hide.

The main aspect to remember: if you can see incoming



PHOTO BY JEFF KURRUS

ducks and geese clearly, there's a good chance they can see you clearly as well.

Eliminate this pitfall, and the flaring of birds, by concentrating on your hide now. ■

Product Review: STABILicers Maxx

By Eric Fowler

It wasn't long ago that I didn't bother wearing cleats when I ventured onto the ice. Part of me figured I had good balance and was young and nimble enough that I didn't need them. The other part of me is cheap/frugal and didn't want to buy another set of creepers that might work as poorly as the first I owned.

But when it took weeks for my back to get back to normal after falling on my butt while ice fishing a few years ago, I figured finding some cleats that worked might be cheaper than a hospital bill. I've been through a few pairs since, but don't think I'll need another now that I have a pair of STABILicers Maxx. Made by Stabil in Biddeford, Maine, the cleats have two things going for them that others I've tried did not. First, they actually fit on my oversized pac

boots and boot-foot waders. Second, they stay on.

That second point doesn't hold true for the elastic rubber creepers I've tried. I've had those fall off while simply walking across the ice. I left another in the mud at the bottom of the pond where I goose hunt when I stepped in the hole we'd opened in the ice to set decoys in. We kept that hole open for a while last year, and I was in and out of it often to clear slush ice. While one of my STABILicers Maxx slipped off the toe of my boot once, it didn't find a permanent home in the muck because the straps that wrapped around my ankle kept it there. Those same heavy-duty nylon straps will no doubt hold up better than rubber if I ever accidentally swipe the blade on my ice auger across one while I'm fishing. (Anyone need one elastic creeper?)

I don't know if I'll use them enough to wear out the 17 case-hardened metal cleats that adorn the bottom of each flexible sole. But postmen and others who work outside in the winter appreciate the fact that the cleats are replaceable, adding long-term durability and value to STABILicers.



PHOTO BY ERIC FOWLER

A few of my blind mates now have a pair of STABILicers after losing their elastic creepers in the mud last winter. If you want a pair for yourself, or you would like to check out their full product line (which includes models meant to slip over running shoes for you crazy folks who like to stay overly active year-round), visit the Stabil website at

32north.com. ■

Nebraska Bird Library

Sharp-shinned Hawk

Song or calls: A high "ke-ke-ke-ke." Often heard near nest.

Description: Sexes similar. Slate blue above, white with rust-colored cross-barring below. Differentiated from similar Cooper's hawk by a square, rather than rounded, tail. Tail is often notched. Crown and back are not strongly contrasting. Immatures are brown above, white with brown streaking below. Females are larger.

Habitat: Found in areas of fairly dense forest. Prefers woods with a mix of coniferous trees.

Where in Nebraska: Uncommon to occasional winter visitor and spring migrant across the state. Thought to nest in the forests along the Missouri River Valley.

Field Notes: Often familiar to backyard birders, as sharp-shins will make meals of small birds visiting feeders.

Fun Facts: Sharp-shinned hawk parents will give prey to whichever of their young reached them first while in flight. ■

To learn about more birds visit:

NebraskaBirdLibrary.org.



PHOTO BY JUSTIN HAAG



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Wingtips by Wild Bird Habitat

Sharp-shinned Hawks are a winter visitor in Nebraska breeding in the Boreal Forests of Canada during the summer months.

Short rounded wings allow this hawk to rapidly maneuver through dense woodland habitats chasing prey.

90% of a their diet is other birds.

These hawks ambush prey lurking out of sight of congregating birds before launching their attack.

Their daily hunting route may include city parks, urban and rural woodlands, and backyard bird feeders.

Sharp-shins will only take enough prey to survive on. They do not kill just to kill as the common house cat does.

If a Sharp-shinned Hawk takes a bird in your yard it is a natural predator prey relationship playing out.



My Photo Tip: Searching for Gold

By Eric Fowler

I can't remember if he wrote it or told me, but long-time *NEBRASKAland* staffer Jon Farrar once said it best. When it comes to photography, "Light is everything." It is, especially when it comes to nature photography.

Good light, the sweet, warm type you most often see in the minutes before or after sunrise or sunset, can make a good photo great. Some call it the golden hour, or the magic hour. When the sun is near the horizon, the light is diffused by the atmosphere. Nature's filter reduces the contrast of the scene, opening the shadows and reducing the intensity of the highlights, and often adding an orange cast to the scene. All of these factors make a photo "sing," as I like to say.

Those types of photographs are what

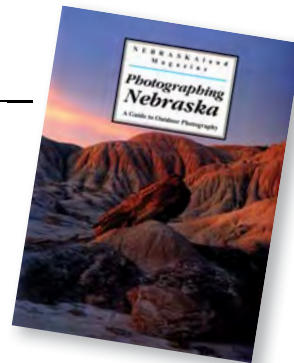
the staff here strives to capture. They are why we often see both ends of the day when we're in the field, why we ask our story subjects to get up early and stay up late. Doing so doesn't guarantee good light.

There have been many times when I crawled out of bed well before dawn, driven and hiked to a location where I wanted to see the sun rise, and then wished I would've stayed in bed when I was greeted by a cloudless sky and watched the light quickly go cold. But there have been other times when the magic hour lasted for two or three.

And then there are rare occasions like an evening I experienced on the Valentine National Wildlife Refuge in July. As storms rolled through, I found myself chasing rainbows, hoping the sun would peek through the scattered clouds in the western sky, light up the lush green grass and the raindrops to the east and create a colorful arch in the sky. I followed the storm, running up hilltops for a good perspective (Not

the smartest move in a thunderstorm but photographers sometimes forget these things when the light is good), and twice found rainbows. Neither rainbow had the full-blown color and intensity I'd hoped for. But what happened as the sun approached the horizon and its rays began bouncing off the bottom of the clouds above me, however, made up for it, lighting up the landscape and eastern sky with the warmest light I'd ever seen. My chase that day lasted four hours, with sweet light coming and going as the clouds shifted. The last 10 minutes were indeed golden. ■

For more photography tips see our article on page 38. You can also purchase a copy of our book "Photographing Nebraska" by visiting NebraskalandMagazine.com and searching under "publications."



The White Mole

By Jenny Nguyen

Ellis Graverholz of Ashland has had it with moles. This small, burrowing mammal leaves unsightly mounds of dirt in his flower beds, and the nonstop tunneling annoys him terribly. In constant search of earthworms and white grubs, the moles have left yellow veins on his otherwise pristine lawn; their burrowing kills the roots of vegetation and trees.

Very few people have actually seen a mole, as they rarely come to the surface. Moles are normally covered in velvety brownish gray fur and have oddly huge front paws for digging. Though nearly blind, moles do have tiny eyes that are protected by skin and fur. And their powerful sense of smell allows them to quickly locate and catch food underground. A mole will eat up to 70 to 100 percent of its body weight each day, which explains why they cause so much damage to people's yards.

"You try your best to keep your lawn looking nice. When you get one mole, two or three show up – he brings all his cousins and relations to come and help. They are a real nuisance," Graverholz said.

In an effort to save his lawn, Graverholz has been using specialized mole traps to control the local population. He has caught many moles in the 67 years he's been married and kept a garden, but Graverholz has never seen a white mole until this summer. Thought to be albino, the mole was



PHOTO BY JENNY NGUYEN

Ellis Graverholz of Ashland found a white mole while trapping for them in his yard. Moles can cause extensive damage to lawns and flower beds.

actually leucistic, the condition when cells responsible for pigmentation do not function correctly. This was indicated by the dark patches on the mole's fur – albinos are pure white.

Though not albino, leucistic moles are still rare. Graverholz has been keeping the white mole in his chest freezer, and despite his past run-ins with the species, he may honor this special find by having it stuffed. ■

Hunter Survey Project Starts

By Caitlyn Gillespie

Hunters often know what makes the perfect hunting spot – whether it's the location, the habitat or an abundance of game. Each year, Nebraska's Public Access Atlas provides hunters with the information they need to find a place to hunt on wildlife management areas, waterfowl production areas and private properties enrolled in the Open Fields and Waters program.

Publicly available lands are often paid for or leased using funds from hunters and anglers, but how often do hunters actually use those places? And are they providing the experiences that hunters are looking for?

Until recently, we had little way of knowing where people were going and why. Now, with the help of hunters throughout the state, researchers at the

University of Nebraska-Lincoln, in collaboration with the Nebraska Game and Parks Commission, are seeking to understand exactly what it is that creates that perfect hunting experience in Nebraska.

To do so, the first thing they need to do is count. Researchers survey areas across the entire state, checking parking areas on hundreds of public sites during hunting seasons. Public access sites seem to be important – last year, they counted over 39,000 cars – but some properties are more popular than others.

So to truly know what hunters think, they go straight to the source: in-person interviews will tell researchers what types of game people are seeking, where else they are hunting and the reasons why they chose that site. The information hunters provide over the next two years of the project will help managers improve the opportunities that are already out there, and provide

even better experiences in the years to come.

So, if you see a "Hunter Survey" sign on a vehicle out there, tell us: how would you rate your hunting experience today? ■

For more information, visit Snr.unl.edu/fishhunt.



PHOTO BY JEFF KURRUS

New Acres Made Available in Open Fields and Waters Program

By Julie Geiser

In Sept. 2015 more than 8,825 new acres of rough canyon land was made available to hunters as part of the Open Fields and Waters (OFW) Canyon Access Initiative.

The Nebraska Game and Parks Commission, working with the National Wild Turkey Federation (NWTF), came up with the initiative to offer increased access to the Loess Canyon region in Lincoln County. These canyons are a biologically unique landscape that provide optimal habitat for turkeys, white-tailed deer, mule deer and elk.

Previously there had been limited sites within the region open to the public, including Wapiti and Cedar Valley wildlife management areas. Now access to this landscape is available to hunters wishing to pursue game in canyon terrain.

Federal dollars raised through an excise tax put on guns, ammo and hunting equipment called the Pittman-Robertson Act provided funding for part of the Canyon Access Initiative. Those funds, along with donations

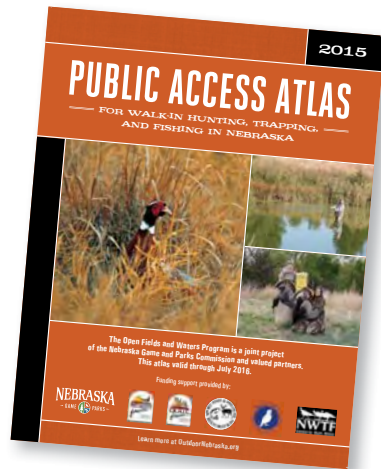


Jake Koenig from North Platte took this mule deer during the archery season soon after the canyon properties became available to the public.

from the NWTF, provided payments to landowners to obtain access in the region.

Parking is available along the county roads and all access to the properties is walk-in only. Hunters pursuing big game are responsible for removing all harvested game from the property. Boundaries have been posted on each site and are visible from the road and from within the properties.

The OFW canyon access sites are published in the 2015 Public Access Atlas, copies of which are free and available at Commission district offices and local vendors. The atlas is also on the Nebraska Game and Parks Commission website at Outdoornebraska.org. ■



The new 2015 Public Access Atlas features public access areas throughout Nebraska.



Upcoming Events

by Jerry Kane

Contact the Nebraska Game and Parks Commission at 402-471-0641 or visit OutdoorNebraska.org for more information. Visit HuntSafeNebraska.org for a list of hunter education classes and BoatSafeNebraska.org for a list of boating safety classes.

- November 1** Late Doe/Fawn antelope hunting season opens
- November 1** Most 2016 annual permits and stamps available for purchase at OutdoorNebraska.org
- November 1** Muskrat and beaver trapping seasons open
- November 1** Hunting and trapping seasons open for raccoon, Virginia opossum, long-tailed weasel, mink, red fox, gray fox and badger
- November 2** Woodcock hunting season closes
- November 2** Christmas Dinner Tickets Tickets go on sale for Historical Christmas Dinner at Fort Robinson State Park (SP), Crawford
- November 3, 17** Ladies Day at the Range Nebraska Game and Parks Outdoor Education Center, Lincoln
- November 5** Backyard Bird Habitat Attracting Birds in Winter, Nebraska Game and Parks Outdoor Education Center, Lincoln
- November 7** Oh Deer, Deer Workshop Wildcat Hills SRA and Nature Center, Gering
- November 7** Candlelight Tour Fort Atkinson State Historical Park, Fort Calhoun
- November 7-8** Pioneer Longrifle Rendezvous Indian Cave SP, Shubert
- November 8** Veterans Appreciation Day Roger G. Sykes Outdoor Heritage Education Complex, Platte River SP, Louisville
- November 8** Shootout at Salt Creek Old West Action Shooting Nebraska Game and Parks Outdoor Education Center, Lincoln
- November 9** Rail hunting season closes
- November 9, 16, 23** First Steps Pistol Nebraska Game and Parks Outdoor Education Center, Lincoln
- November 12** Basic Bird Identification Nebraska Game and Parks Outdoor Education Center, Lincoln
- November 14-15** Cornucopia of Crafts Eugene T. Mahoney SP
- November 14-22** November firearm deer hunting season and Restricted Statewide Buck deer hunting season
- November 15** First segment of crow hunting season closes
- November 16** Special Public Health Hazard Order crow hunting opens
- November 22** Fort Robinson SP longhorn and buffalo sale, Crawford
- November 24** Muzzleloader Deer Hunting Workshop Nebraska Game and Parks Outdoor Education Center, Lincoln
- November 27-29** Roger G. Sykes Outdoor Heritage Education Complex open to the public, Platte River SP, Louisville
- November 28** Christmas in the Woods Ponca SP, Ponca

NEBRASKAland Visitor



Last issue's winner of the Visitor drawing was Mike Holtzen of Yutan, Nebraska, who found the **crane fly** on page 36. Readers are encouraged to contact NEBRASKAland within 10 days after this issue's publication with the correct page number and name of this issue's "Visitor" – a critter found in Nebraska. We will then gather the correct entries and draw one to win a NEBRASKAland mug. To enter each month, write: **NEBRASKAland Visitor 2200 North 33rd Street, Lincoln, NE 68503.** Or e-mail: **Tim.Reigert@Nebraska.gov** with "Visitor" in the subject line of the message. HINT: I'm not even giving a hint this month it's so easy to find. ☺

Crane flies may look like giant mosquitoes, and both are true flies in the order Diptera, but crane flies are much larger and do not bite or sting. They make up a large family, Tipulidae, with more than 1,500 species of crane flies found in North America. Crane flies can be recognized by their long, brownish-gray bodies, extremely long, thin legs, and single pair of slender wings, which may have a span of up to three inches. Crane flies go through complete metamorphosis: egg, larva, pupa, and adult. Larvae are often aquatic, typically found on stream bottoms, though some species are terrestrial and found in the soil. Most larvae feed on detritus, and play an important role in breaking down organic matter. The larvae are also attractive to fish, and can be collected and used for bait.



Special thanks to Julie Van Meter, State Entomologist, Nebraska Department of Agriculture.

A Year for Pheasants

Tips For Hunting Roosters This Season

Story by Jeff Kurrus

With pheasant season opening October 31 and numbers up statewide more than 55 percent since 2014, it's an excellent time to start walking fields. But which fields do you choose? How do you

walk them? And what other tips are going to separate you from the other hunters afield?

Read on to find these answers from some experienced hunters throughout Nebraska.

Mark Vrtiska

Hunting the Rainwater Basin

We look for some sort of plant diversity in the field itself. We look for different forbs, weeds, grasses, to give pheasants more than one habitat. We also try not to say a word. What you're hunting is a little turkey. And you wouldn't go out in the woods being loud hunting turkeys, especially birds getting a little pressure. People will slam car doors and start yapping. One time I was duck hunting in the Rainwater Basin. It was glass that day – really quiet. I heard guys pull up in their truck. I could hear them once they got out talking, and I was a half-mile away. At the same time, I saw pheasants coming out the other end of the field they were going to walk, a lot of them, and were birds these guys were never going to see.



Scott Miller

Hunting Southwestern Nebraska

More times than not, birds run in front of you as you walk a field. And at the end of that field, the birds stop and will usually wait until flushed. I have always taught my boys to stay focused at the very end of the walk so they can flush birds in these “funnel” areas.

We also look for small pockets of fireweed located within or bordering a crop field. These are hot spots.



Ruger, a black Labrador retriever, retrieves a fallen rooster at Pheasant Bonanza Hunt Club and Kennel in Tekamah.

Gerry Steinauer

Hunting South-central Nebraska

I always like to hunt from about 10:00 to 2:00, when the birds are settled into mid-day loafing cover and will sit tighter. In the morning they are out feeding and jumpy, and they often go back out to feed in late afternoon. I like to walk tall grasses or weed patches next to crop fields, especially corn. In a big grassy field I will pick out the weed patches to walk. Birds will feed in the weed patches and hang around their edge or in them. I like to hunt warm, calm, sunny days – the birds seem to sit tight on such days.



Fence lines are good places to look for pheasants, where roosters feel the pinch and are pressured to flush out the sides.



Pheasants can be found statewide, with the highest concentrations in the southwestern region.

PHOTO BY JEFF KURRUS

PHOTO BY JENNY NGUYEN

PHOTO BY JENNY NGUYEN

TJ Walker

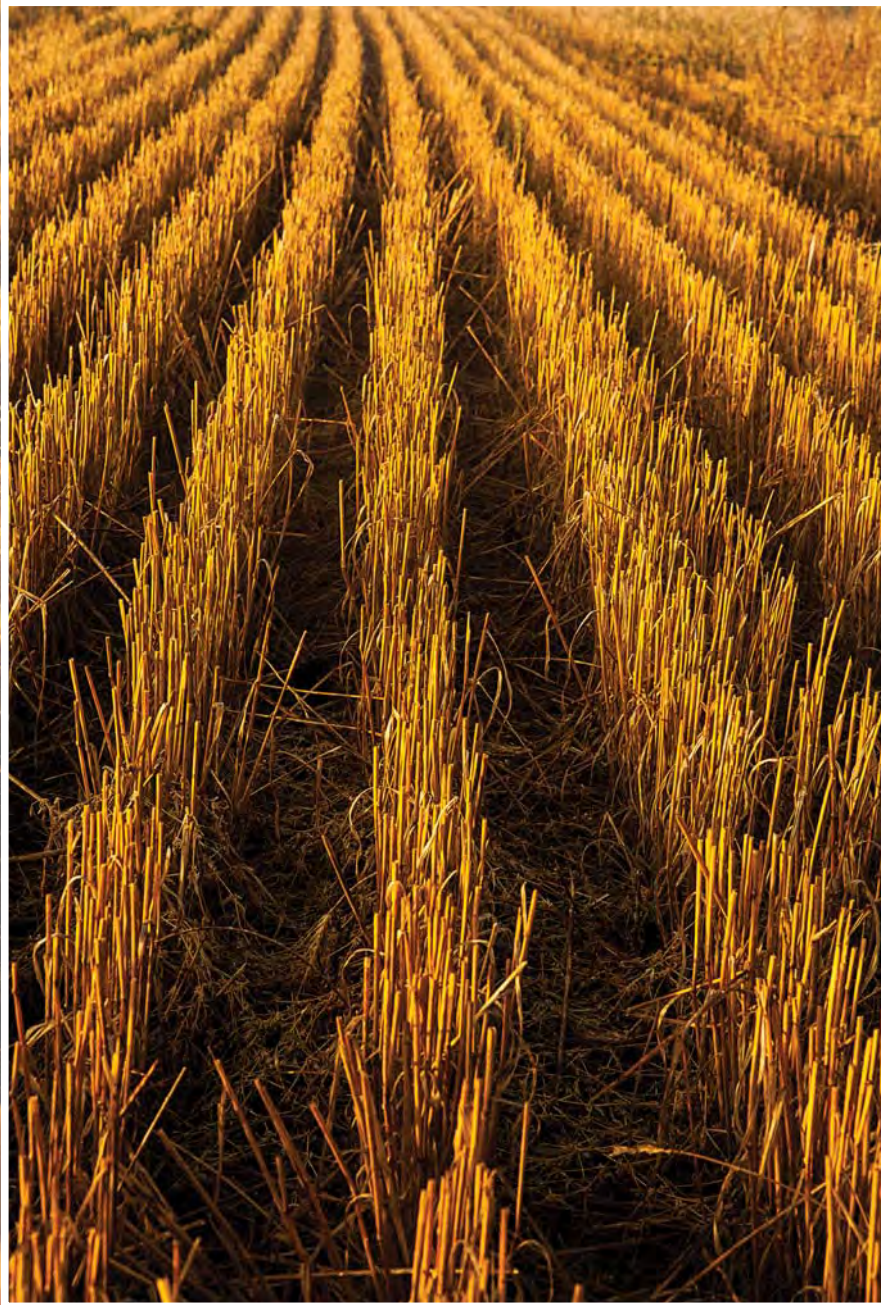
Hunting Southwestern Nebraska

One thing I’ve learned watching hunters and hunting pheasants myself is that hunters tend to become more predictable as the season moves on, always walking the same routes through fields. I can tell



you that while pheasant behavior is also somewhat predictable, their “anti-predatory” responses aren’t. Hunters that mix it up a bit – zig-zagging their trail, stopping to listen for 30 seconds, looping back around here and there – will have more luck, especially later in the season. And if you are hunting alone with a dog, let the dog lead the way. They know where to go.

Another thing would be to resist the temptation to “hurry” to the end of the field when late season birds are flushing out of the end of the field you



Instead of walking down cut winter wheat field rows, while hunting pheasants alter your routes, including walking across the rows.

are hunting. You are not going to catch up with them, and those aren’t the birds you are going to shoot. And truth be told (with radio telemetry and GPS data to support it) you are probably hurrying past as many birds as you are seeing flush, and those “tight sitters” are the ones you have a chance at.

Jerrod Burke

Hunting Southwestern Nebraska

Pheasants are “edge birds.” It doesn’t take large blocks of habitat or an army of hunters to put birds in the bag.

Unless the weather has been especially harsh or there has been a lot of hunting pressure you will likely find the most birds on the edges of fields close to food sources. Focusing on many small patches of habitat that fit the “edge” standard often times produces more birds, especially early in the season.



Mark Davis

Hunting Eastern Nebraska

Before your hunt, with an unloaded shotgun, tape a small flashlight to the end of the barrel. Pick a place on the wall and practice bringing your gun to your shoulder with the flashlight on.

This will help you get used to the proper position for the gun when raised in a hurry. The flashlight gives you an idea how close you are to your target.

Also, when on the practice range, use a hand thrower instead of an electronic clay pigeon thrower. A hand thrower is less likely to be consistent – more like true hunting. My friends and I take turns throwing runners, left and right, high and low in an effort to confuse the shooter. It makes for a fun competition. ■



For more information on pheasant hunting, visit OutdoorNebraska.org.



A gun dog runs through the field during the 2013 Pheasants Forever Rooster Road Trip in Holt and Antelope counties.

PHOTO BY JENNY NGUYEN

Need to Know

- Pheasant season starts on October 31st this year (2015) and ends on January 31st, 2016.
- Pheasants are legal to hunt statewide.
- Daily bag limit is three roosters. Number of pheasants in your possession is a total of 12 (including your daily).
- You are required (if age 16 or older) to have a small game permit as well as a Nebraska habitat stamp to hunt pheasants.
- Hunter education can be taken online at Huntsafenebraska.org.



Gun dog trainer Aaron Phillip Schroder of Tekamah hunts with German shorthaired pointers “Charlie” and “Remington,” and “Rio,” a Labrador retriever, on a Conservation Reserve Program (CRP) field near Homer.

PHOTO BY JENNY NGUYEN

Mulies

The past, present and future of mule deer in Nebraska.

Story and photos by Eric Fowler

From his bed near a Sandhills ridgetop, a lone mule deer buck could see for miles any danger that might approach in front of him. Only with a keen eye could you see him from a distance, his buff coat blending perfectly with the grass. With the wind at his back, he could smell anything that came from behind. And those big ears, the ones that give him his name, constantly turning this way and that, could hear my footsteps crunch through the dry grass at 30 yards. When they did, in a matter of seconds, he shot from his bed, bounded over the hill like he was on a rocket-powered pogo stick and disappeared into the wide open countryside, not even having the courtesy to stop and look back, as his brethren often do, and give me one more photo op.

Nebraska, with its diverse geographic changes from west to east, is on the edge of the mule deer's range. The Sandhills and its wide-open spaces are perfectly suited for mule deer, as are many other places throughout the western two-thirds of the state where the species thrives. In fact, there were more mule deer in Nebraska a few years ago than there ever were – a notable feather in the cap of conservation considering there were but 25 left a little more than 100 years ago – and biologists expect the population to reach that point again soon.

But in some areas, the species merely survives as habitat changes continue to redefine the edge of its range. And even in some strongholds like the Pine Ridge, other factors, including disease,

have reduced the population, grabbing the attention of wildlife managers, landowners and hunters who want to ensure the future of this icon of the plains.

Those Ears

The mule deer (*Odocoileus hemionus*) is one of two species of deer that roam the Nebraska countryside. The other, the white-tailed deer, can be found statewide with greatest densities in the east and along rivers and streams. The mule deer prefers wide-open spaces and is found throughout the western half of the state and a few more in the larger expanses of grassland in the eastern half.

While the black-tailed deer found in the northwestern parts of North America is considered to be a subspecies of mule deer, it may actually be the source. Recent DNA studies have led researchers to speculate that black-tailed bucks bred with white-tailed does to produce mule deer following the last ice age between 7,000 and 15,000 years ago.

The species have three easily recognizable differences, the first being the ears: a mule deer's are about 25 percent larger. The species' tail and rump differ as well. A whitetail's white rump is nearly covered when its bushy tail, the top of which is colored the same as its body, is down. When alarmed, that tail is raised as a white flag. A mule deer's tail is small and white with a black tip, almost always down and doesn't cover the deer's

white rump. While not easy for some to recognize, a mule deer buck's antlers are different, too. Unlike a whitetail, which has points rising from a single main beam, a mule deer's antlers branch into two forked beams, giving a typical mature buck four points per side, five if it has brow tines.

Those antlers are sometimes used as sparring weapons during the fall breeding season as bucks stake claim to dominance over a herd. During the rut, which runs from October to December, bucks don't mark their territories with scrapes and rubs like whitetails do. Instead, they roam the countryside searching for does, occasionally stopping to flail their antlers against a tree or shrub, the noise of which signals dominance to other bucks.

A few does are in estrus and ready for breeding in October. If they are

not bred, they will go through up to three more 28-day estrus cycles until they are. Breeding is one of the biggest differences between Nebraska's deer species. About 60 percent of whitetails are bred in their first fall, compared to only 7 percent of mule deer. Those yearling white-tailed does occasionally have twins, and regularly do the rest of their lives. Mule deer are much less likely to have twins. These differences have made it easy for whitetails to expand their range and numbers, and also make it difficult for mule deer populations to grow.

Most mule deer fawns are born in June, about 200 days after breeding, weighing 5 to 7 pounds. To help protect them from predators, especially coyotes, they are camouflaged with white spots on their coat, are relatively scentless and spend their first few

weeks laying in tall grass or brush. They begin eating grass and other vegetation at about three weeks and are weaned at four months. They begin traveling with their mothers in August, and stay with them until the following spring when does are preparing to deliver their next fawn. By November, fawns weigh about 70 pounds. While weight varies with age and diet, a 3 ½-year-old buck will weigh about 200 pounds and a doe 125. Mule deer can live to the age of 10 or so in the wild, and up to 20 years or more in captivity.

Most male fawns grow button antlers their first year. Antler development begins in the spring for mature bucks. By September, they begin to rub the soft velvet covering, which contains blood vessels that fuel antler growth. In winter, bucks shed their antlers and soon begin growing another set.

History

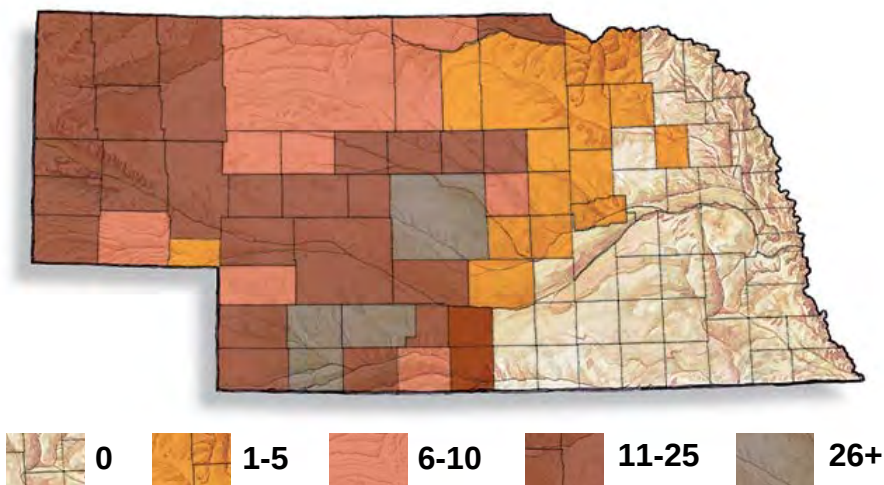
The range of mule deer across Nebraska has declined from historic times, and even from the middle of the last century. Lewis and Clark reported an abundance of white-tailed deer along the Missouri River in eastern Nebraska. Their first report of a mule deer came near the mouth of Ponca Creek in Knox County. Trappers reported seeing both species in the 1800s. Emigrants on the Oregon Trail saw few deer of any kind along the Platte and North Platte rivers between Grand Island and Scotts Bluff County, and ate all they found.

James Clyman, a mountain man who explored the mountain West in the 1820s, was part of an Oregon Trail wagon train in 1844. "Supped on a most dlecious [sic.] piece of venison



A mule deer doe and fawn survey the landscape at sunset from a Sandhills ridgetop in Cherry County.

Mule Deer Buck Harvest by County



Adult bucks harvested per 100 square miles in 2014. Source: Nebraska Game and Parks Commission.

from the loin of a black tailed buck ...” Clyman wrote in his journal after shooting a mule deer while camped in the Gering Valley near Scotts Bluff. The following day, he wrote of the Wildcat Hills: “where these hills were finely stored with game Such as Black tailed deer antelope mountain sheep & some times Buffalow [sic.], elk and grised bear.”

Reports of deer from other settlers

in Chase County can presume to be of mule deer. The easternmost report came from Dakota County, and a 1957 report by the Nebraska Game, Forestation and Parks Commission, the precursor to the Nebraska Game and Parks Commission, lists Nance County as the southeastern extent of its range. Still expanding their range at the time, they may not have been present in all of the areas they inhabit now.

Settlers needed food to survive on the plains, and deer proved to be an easy target for those wanting to feed their families or for meat to sell on the market. Their numbers surely had dwindled by 1880. Winter that year was harsh, and deer succumbed to storms, hungry settlers and wolves. Soon, few deer, be it whitetails or mulies, remained. A survey in Sioux County in 1901 noted that the mule deer was rare, or even extinct. Myron Swenk, in his 1907 report “A Preliminary Review of the Mammals of Nebraska” for the Nebraska Academy of Sciences, wrote that a few whitetails remained in the Pine Ridge, but the mule deer had disappeared. The only other mention of mule deer was of 25 found in Thomas and Hooker counties. It was that same year that the Nebraska Legislature, which in 1873 had restricted the harvest of deer to four months in the fall and winter and in 1897 to only November and December, closed the season on deer, elk, antelope and beaver altogether.

With that protection, and likely with some movement of deer into Nebraska from surrounding states, deer numbers slowly increased. Surveys in the winter of 1939-40 estimated between 2,000 and 3,000 deer, mostly mule deer, were found in the Pine Ridge and a few more in the Platte and Niobrara River valleys, but few, if any, elsewhere. While whitetails had been the last deer standing in the Pine Ridge, most of the forest there had been cut for building or fuel, and only the steepest slopes were still timbered, making the region more suitable to mule deer.

By 1945, the population had grown enough in the central Sandhills that deer were causing damage to trees and leaving an extensive browse line on the Bessey Division of the Nebraska National Forest near Halsey. In response, the state held its first modern deer season. Five hundred permits were issued and 361 deer harvested, all but two of which were mule deer.

Despite the herd growth to that point, a March 1949 report by the Commission showed that wildlife biologists had much to learn about deer management. “On the basis of present knowledge, there are no indications that the deer population of Nebraska will reach numbers great enough to warrant a statewide open season such as those in some states where many thousands of animals are harvested annually. Deer range in Nebraska will probably not support such numbers.”

In the fall of 1949, the state’s second hunting season offered 1,500 permits for all or parts of six western and northwestern counties. All 910 deer harvested were mule deer. The area open to hunting increased gradually each year after that, and by winter 1955-56, deer had found their way to every county in the state, and in 1956, the total harvest was about 6,500. Nearly half of the harvest that year came from Pine Ridge, but that

wasn’t enough to appease landowners who were being overrun by a rapidly expanding herd. Desperate to get deer numbers in check, biologists issued 5,000 permits for each of two seasons in 1957. Hunters harvested 4,709 mule deer and 46 whitetails.

That rapid growth and liberal harvest occurred in other regions as well, and by 1961, the entire state was opened to deer hunting.

Because most mule deer live in remote locations where there are few roads, they are difficult if not impossible to count, but biologists estimate there are 75,000 mule deer in the state today.

Changes in Habitat

Mule deer roam throughout much of western North America, living in tundra, mountains, prairies and deserts

from Alaska, if you include the black-tailed subspecies, to the Baja Peninsula and from Texas through the Dakotas and northwest into Canada and the edge of the Yukon Territory. Much of that country, including Nebraska, looks like it did when white man first visited more than 200 years ago, or even when deer were nearly extirpated 100 years ago.

Nebraska was, for the most part, a treeless sea of grass, with western and Sandhills streams like the Loup and Dismal supporting a mix of buckbrush, plums, chokecherries and other shrubs that make up a large part of the diet of the mule deer, a browser that nibbles on leaves and twigs in the fall and winter and eats primarily forbs in the spring and summer, grazing a little on grass throughout the year.

That diet changed, however, when pioneers started tilling Nebraska’s soils and raising corn, wheat, beans, alfalfa and other crops. For the mule deer,



Sporting velvet covered antlers in early June, a trio of mule deer bucks feed in a crop field on the edge of the forest in Dawes County at sunset. Bucks often hang in bachelor groups outside the rut.



The mule deer was first recognized and accurately described by Lewis and Clark but not formally described until 1817. It was first mentioned on Sept. 5, in the vicinity of the Niobrara River, when the descriptive term “black-tailed deer” was applied to several deer seen by one of the crew members.

Illustration from *The deer of all lands*, 1898, Richard Lydekker.



Wearing their scruffy summer coats in late May, a mule deer doe and yearling cross a field of crop stubble in Hayes County. While center pivots have proliferated much of southwestern Nebraska, the ruggedness of this canyon-laced country has preserved mule deer habitat, and the species is doing well. In other parts of the state, agriculture has replaced mule deer.

this has been good news and bad. The good news is that the crops offered a high-energy food source that improved breeding success and winter survival, a factor that helped speed up their recovery in the state. Where there are crop fields, especially corn or wheat, adjacent to broad grasslands, you are sure to find mule deer nearby.

But the conversion of native grasslands to cropland consumed large swaths of the mule deer’s native habitat and pushed the edge of their range west. Mule deer were found as far east as Stanton County in the 1950s, and from Holt County west, mule deer outnumbered whitetails. By the mid-1970s, that line had shifted westward to a line between Harlan and Cherry counties, a fact due to both a decline in mule deer and an increase in whitetail numbers.

In the mid-1980s, some cropland was returned to grass through the USDA Conservation Reserve Program, restoring some habitat for mule deer. These grasslands have proven to be valuable as fawning areas, escape and winter cover and for food when planted to mixtures rich with forbs. High crop prices during the past decade, however, have led to decreasing enrollments in the program and the loss of nearly

half of the 1.4 million acres that were enrolled at the peak in Nebraska. In areas where extensive conversion occurred, mule deer numbers have declined.

There are still mule deer in many areas there once were, just fewer of them. Small populations live in isolated grasslands as far east as Stanton and Polk counties.

The control of historic wildfires and flooding has also been good and bad for mule deer. Ponderosa pine forests in the Pine Ridge, Wildcat Hills and Niobrara River Valley, cedar forests in canyons in southwestern and central Nebraska, and woodlands in the bottomlands and in the hills near the Missouri and Platte rivers have expanded their reach and grown more dense. Where cedar trees have grown too thick for a mule deer’s liking, especially along the Keya Paha, Niobrara and Missouri rivers in northeastern Nebraska and in the Loess Canyons of central and southwestern Nebraska, the species’ range has been further reduced, a trend that continues in some places and is being abated in others. In the open grasslands, plant diversity has been reduced in the absence of fire and through herbicide use and grazing. While deer

and livestock can coexist, grazing also reduces plant diversity and the amount of forbs. Overgrazing can ruin grasslands for cattle and deer.

Disease Concerns

The greatest threats to mule deer in Nebraska today are diseases and parasites that were not found here historically: chronic wasting disease, brainworm, EHD and chewing lice.

EHD, epizootic hemorrhagic disease, was first identified in New Jersey in 1955, and has been seen in most states east of the Rocky Mountains since. Transmitted by a biting midge, it causes fever, hemorrhaging of internal organs and, in most cases, death. The disease is present at some levels each year, typically appearing in late summer, but is exacerbated by drought, which concentrates deer at remaining water sources, where midges can easily spread the virus from one deer to the next.

The first severe outbreak of the disease in Nebraska killed 30 to 40 percent of the state’s deer in 1976. Severe drought across Nebraska in 2012 fueled another outbreak that trimmed a third of the herd, mostly whitetails. While the disease primarily

affects whitetails, it can and does kill mule deer, with losses in some years greater among mulies. Bighorn sheep, pronghorn and elk can also be affected by the disease.

The opposite is true for brainworm, which has little effect on its principal host, the white-tailed deer, yet is fatal to mule deer. The parasite lives a complicated life cycle that begins in the brain of a deer. There, the worms lay eggs that move through the bloodstream to the lungs, where they hatch and grow. When deer cough, the larvae can be sprayed onto grass. It can also be swallowed by the deer and passed in mucous covering its feces. Once on the ground, larvae attach to the foot of a passing snail and continue to develop in this intermediate host. When these snails are inadvertently eaten by browsing or grazing deer, the larvae penetrate the deer’s stomach, migrate through its nervous system to the brain, develop into worms and restart the cycle.

In whitetails, the brainworm remains mostly in the meninges, the membrane surrounding the brain. In mule deer, elk, moose and sheep, however, it enters the brain and spinal cord, causing neurological damage. Because an infected animal often walks in circles, the affliction is sometimes referred to as whirling disease. Deer may also lie on the ground and spin in circles, or simply show no fear of humans. It is believed to always be fatal in these species. A dramatic decline in moose numbers in Minnesota has been attributed to the disease.

Brainworm has moved from the East Coast through the Midwest. The first documented case in mule deer came from Nebraska in a 1997 surveillance effort by the Commission. Biologists received about 30 reports a year of deer exhibiting the disease until 2008, when reports began to climb. In 2009, they investigated 133 reports of sick mule deer, many of them in central Nebraska, with testing of many confirming brainworm as the culprit. Mule deer numbers dropped in many parts of the state in the years that followed, and biologists believe brainworm was the cause. The number of cases has declined in the past few years.

Chewing lice (*Bovicola tibialis*)

first appeared in Washington in 2003, when the state began receiving reports of hair loss among black-tailed deer, a subspecies of mule deer. It is believed to have come to North America on fallow deer imported to game farms from Europe. It soon moved to mule deer – populations in Washington have dropped 30 to 50 percent since its arrival – and has spread east throughout most of the mule deer range, appearing in Nebraska in 2009.

Not having evolved together, this foreign louse overproduces in mule deer. It causes an allergic reaction to which the deer itch and scratch, causing hair loss, a decline in body condition, infections, hypothermia and death. While there were numerous reports of the lice after their arrival in Nebraska, they have subsided, and it is yet to be known the long-term effects it will have on mule deer in Nebraska.

The same is true for chronic wasting disease (CWD), a neurological disease that causes a spongy degeneration of the brains of infected deer, elk and moose that leads to emaciation, abnormal behavior, loss of bodily functions and eventually death. First recognized in captive mule deer in a Colorado research facility in 1967, the condition wasn’t identified until 1978, when researchers linked it to a group of diseases known as transmissible spongiform encephalopathies (TSEs) that also includes scrapie in sheep and goats and bovine spongiform encephalopathy (BSE) in cattle, also known as “mad cow disease.” It is caused by a prion, an abnormal protein that has been found to persist in the environment.

CWD appeared in 1979 in a similar Wyoming research facility that had traded research animals with the



Mule deer does walk through a grassland on the rim of the Snake River canyon in Cherry County.

While the bounding gait of a mule deer, known as stotting, can carry a deer 15 feet in a single leap, it is much slower than the sprint of a startled whitetail.



The free-roaming nature of mule deer and the vast landscape they live in requires that hunters, especially bowhunters like John Griess of Ogallala, pictured here on a hunt in Arthur County, resort to spot-and-stalk techniques to get within range.

Colorado lab. The first positive tests in the wild came from Colorado: elk in 1981 and mule deer in 1985. It is now found in captive and wild deer and elk in 24 states and two Canadian provinces. Nebraska began testing for the disease in 1997, and its first positive case came in 2000 from a mule deer in Kimball County. In all, 48,000 deer and elk have been tested in Nebraska, with 286 positives from 28 counties in the western two-thirds of the state, with the highest rates in the northwestern corner of the Panhandle, parts of Kimball County and an area of the Sandhills southeast of Alliance. The natural movement of deer, especially the dispersal of yearling bucks from their home range each spring, is fueling the spread of CWD and other diseases.

Many states, including Nebraska, have tried to reduce deer herds to slow the spread of the disease, with little success. Prevalence rates in some parts of Wyoming have reached 50 percent of hunter-killed, road-killed and targeted animals. Deer can carry the disease for several years before showing symptoms, and many, especially bucks, are harvested before they reach the age where the disease becomes prevalent. Biologists in Nebraska believe that CWD will continue to spread across the state and will remain a threat to deer and

elk populations for the foreseeable future. Nebraska stopped testing for the disease in 2012 when federal funding was lost. Commission biologists will resume testing during this year's firearm season, with plans to collect samples from hunter-harvested deer at check stations in northeastern Nebraska. In the years to come, testing will rotate between regions, allowing biologists to track changes in the distribution and prevalence rates of infection.

Some states have taken other steps to stop the spread of CWD. These include bans on feeding and baiting deer, which artificially concentrates the animals and makes them more susceptible to infection, something that is also true with brainworm. Bans on the movement of captive wildlife, which is believed to have been a major factor in the spread of the disease, have been implemented by some states. In others, powerful lobbying efforts of game farm interests have rebuffed attempts to enact restrictions that could help slow the spread.

Management

Hunters have long been the best tool wildlife managers at the Commission have for controlling deer herds, which if left unchecked often outgrow

their welcome with landowners by causing damage to crops and stack yards. But managing mule deer has been a complicated task in Nebraska. Populations vary greatly from one deer management unit to the next, and even within a unit, and the presence of both white-tailed deer and mule deer further complicates the issue.

Mule deer could be considered easy to hunt by some. Whitetails sprint away from danger when disturbed, often never to be seen again. On the other hand, mule deer are known for their seemingly slower stotting gate, in which all four hooves push off the ground simultaneously, sending the deer bounding away in leaps that can easily take them over a fence and cover up to 15 feet. Often, mule deer will stop after covering 100 yards, give or take, and turn to get a better look at what they were running from. That makes them extremely susceptible to today's high-powered and even muzzleloading rifles.

Hunters in 2014 harvested 9,200 mules, with deer coming from all 18 of the state's deer management units. That was up from 2013, when 8,600 deer were taken, the first time since 1983 the total had dipped below 9,000, but down from the 2008 record of 11,787. Whitetail harvest surpassed that of mule deer in 1973 and in 2014

totaled 42,000, considerably lower than the record of 77,000 in 2010.

Mule deer buck harvest has averaged about 8,000 per year for the past 20 years, and in recent years, the age structure of harvested bucks has increased steadily. With older bucks in the population, hunters have become more selective than they once were. In 2014, 80 percent of the mule deer bucks harvested were age 2½ or older and 46 percent age 3½. Just 10 years ago the percentages were 63 and 21, respectively. Even in what some consider the heyday of mule deer in the state, the 1960s and 1970s, less than 40 percent of the bucks harvested were age 2 or older.

Most of the mule deer harvest comes from the 10 management units that cover the western two-thirds of the state. In all but four units, mule deer doe harvest is not allowed except by hunters with landowner or statewide youth permits. In theory, the population as a whole should grow in these units, and the number of mature bucks should grow if buck permits are unchanged. In five management units in eastern Nebraska considered on the edge of the mule deer’s range, however, that growth has not been seen despite restrictions on doe harvest for most of the past two decades.

One of those units, the Keya Paha unit in north-central Nebraska, was the first to test species-specific harvest regulations in 1971. After several

years of not allowing mule deer doe harvest on firearm permits, biologists didn’t see the increase in mule deer buck numbers they had hoped for. The restriction did work as intended when reinstituted in 1999, with herd growth allowing buck harvest to increase to a record 424. But numbers soon began to drop, and have continued to do so, falling to a 20-year low of 145 despite doe harvest averaging fewer than 20 per year for the past 16 years.

This decline, according to biologists, indicates there are other factors inhibiting mule deer populations, with habitat loss to grassland conversion and tree encroachment being the likely culprits. The situation is the worst in the Republican management unit in south-central Nebraska, where mule deer harvest has plummeted from 855 in 1997 to 87 last year, with most of those coming from the western edge of that unit. The Calamus East, Loup East, Keya Paha and Missouri units have all experienced a recent downward trend in buck harvest after reaching record harvests in 2008. Doe harvest in those units has been minimal for the past 20 years. The lack of species-specific doe harvest regulations may have contributed to a decline in mule deer in the Pine Ridge. In the late 1990s and again in the mid-2000s, the state was flush with deer and landowner complaints of crop damage. While whitetails were the primary source of complaints throughout much of the



A pair of young mule deer bucks spar playfully in a pasture near the Snake River in Cherry County. Mature mule deer bucks occasionally fight to the death in an effort to establish dominance over the herd during the rut.



A mule deer bucks sniffs a doe to see if she is ready to be bred in a Sandhills pasture in Arthur County.

state, especially the east and along rivers, mule deer were also causing trouble, just as they had been in the late 1950s. In response, the Commission greatly increased the number of antlerless deer permits it issued, including adding bonus tags to most buck permits.

The Pine Ridge unit contains nearly 200,000 acres of public land – more public land than any other region in the state – including rugged, forested canyons in the Nebraska National Forest, several state wildlife management areas and Fort Robinson State Park, and the wide-open Oglala National Grassland. This makes the region a big draw to hunters, including

nonresidents, who purchased more than one-third of the regular permits sold in the unit in 2014, the highest percentage of all units, and have been happy to add antlerless permits to fill their freezers. The number of mule deer does taken on these permits, however, was much higher than anticipated by biologists. Mule deer doe harvest had averaged 320 from 1996 to 2003, jumped to 691 in 2004 and 735 in 2005, and remained above 300 until 2013. Buck harvest in the unit peaked at 1,021 in 2007, but fell to a modern low of 581 last year. Seeing the decline, biologists implemented new regulations in 2011 that prohibited the take of antlerless mule deer on all

state and federal land in the region. With little change in deer numbers, in part due to poor recruitment caused by drought in 2012, they expanded that restriction to the entire unit in 2014, cutting the antlerless mule deer harvest to just 48.

Biologists believe CWD and EHD losses may be higher in the Pine Ridge than in other units. And mountain lions, a predator that in recent years has established a resident population and is found in higher numbers here than elsewhere, are no doubt contributing to mule deer mortality, but to what extent, no one is certain.

On the other end of the spectrum is the Frenchman management unit in the

southwestern corner. Disease doesn’t appear to be as big of a problem in this region, and mule deer are doing well. More than 2,200 mule deer were harvested in the unit in 2014, nearly double the next highest unit. That includes about 350 does, the most of any unit. Many of the does came from a subunit in the western portion of the Frenchman, where mule deer are doing so well that antlerless season choice permits are being issued. The creation of that subunit followed a unit-wide cut in doe permits in 2004, which helped the population grow and boosted the number of mature bucks in the harvest to 90 percent, many of which reach trophy quality.



Mule deer are browsers, preferring to nibble on leaves and buds of deciduous trees, forbs and even the needles of ponderosa pines.

The Frenchman unit is also at the heart of another management strategy biologists have employed since 2010 in this and three other units – the Platte, Buffalo and Republican – deemed part of the Mule Deer Conservation Area. High permit demand in the Frenchman unit was increasing, leading many hunters who didn’t draw a permit for the November firearm season to pick up a muzzleloading rifle and a permit for that December season. In response, a special permit is now required to harvest mule deer bucks in these units which allows hunters to choose the season in which they hunt. Archery was initially included.

It’s Complicated

Nebraska’s mule deer don’t face some of the dire problems they do in other states. Urban sprawl, and its accompanying development, has pushed deer out of the lowlands of the foothills of Colorado – from Colorado Springs to Denver to Fort Collins – and degraded their habitat in the mountain valleys where they wintered. In Wyoming, an increasing network of roads servicing oil and gas wells has brought more noise to once quiet wild lands, fragmented habitat and made it easier for hunters to get to deer.

Some deer do move between summer and winter range in Nebraska. Two does in a CWD-related study of radio-collared deer in western Nebraska moved 60 miles between their winter range near the North Platte River in Morrill County and their summer range in the Sandhills southeast of Alliance, where they went to birth their fawns. In the mountain states, however, seasonal migrations from the high country to wintering areas at lower elevations are often fraught with man-made hazards, most notably busy highways. Few Nebraska winters are harsh enough to cause direct losses to mule deer, which sometimes starve in the mountains when heavy snow covers food.

There are plenty of factors in play that affect our state’s mule deer, though. Widespread shooting and poisoning of coyotes and other predators during much of the last century helped boost mule deer herd growth. These days, coyotes prey



Mule deer does are less likely to have twins than whitetails, and breed at a later age, contributing to a species productivity that is roughly one-third less.

on deer enough that biologists see increased recruitment when outbreaks of mange cut coyote numbers. Grasslands continue to be converted

to cropland, both native and those enrolled in the CRP. Drought can cut fawn production and survival.

Massive wildfires in the Pine Ridge and Niobrara River Valley may provide a boost to mule deer herds. Pine forests along the Niobrara had become so overgrown that mule deer were seldom found in the canyons above the river. They are starting to move back, taking advantage of the flush of grasses and forbs that are growing there. While not as overgrown, the fires also opened up heavily forested expanses of the Pine Ridge. Biologists believe previously mentioned issues have slowed the recovery of mule deer in these areas, but that numbers will begin to climb. In the western edge of the Pine Ridge, it appears as though some mule deer – and elk – moved to greener pastures in Wyoming immediately after the fire and did not return.

Clearing of cedars in the Loess Canyons in southwestern Nebraska has restored some mule deer habitat, but not yet at a large enough scale to greatly influence mule deer numbers.

Apart from habitat loss, biologists can only speculate how much any of these factors are affecting the state’s mule deer, and why they are doing so well in some units and poorly in others. In hopes of finding answers to these questions, Commission biologists have proposed a multi-year study that would track mule deer does and fawns and to determine survival rates, habitat use

and seasonal movements. If funding is approved, the study, the most intensive to date of mule deer in the state, would begin in 2017.

Already underway is an aerial winter survey of the Pine Ridge and adjacent grasslands in northwestern Nebraska that aims to get a more reliable estimate of the mule deer population from which upward or downward trends can be based. Next year will be the third year for the five-year project.

Wildlife managers have seen a growing desire by many landowners to protect mule deer, whether their numbers are trending upward or downward. In some places where numbers haven’t changed, individuals who not long ago were saying there are too many mule deer are now saying there aren’t enough. Few use the opportunity to harvest a mule deer doe on a landowner permit.

As is the case wherever a species’ range ends, managing its numbers is a complicated issue. But mule deer have persisted. And with the likelihood that the remaining grassland habitats will persist, especially the Sandhills, mulies will continue to be a fixture on the plains of Nebraska, perched high on a hilltop, surveying the landscape. ■

Information for this report was provided by Nebraska Game and Parks Commission wildlife division staff, including: Kit Hams, Big Game Program Manager; Todd Nordeen, Big Game Disease & Research Program Manager; District Managers Tom Welstead, Lance Hastings and Pat Molini, and biologist Ben Rutten.

Water Walker

Story and Photo by Justin Haag

A common insect has a highly uncommon characteristic.

During a hike in the Pine Ridge Ranger District of the Nebraska National Forest, I had my eyes peeled for big mammals. I knew elk were in the area, and it was my goal to bring home some nice photos of Nebraska's largest big game animal.

After a while, with the sun rising high in the sky, I figured I had struck out on getting any interesting photos that day. As the trail crossed Bordeaux

Creek, however, a different creature caught my eye – albeit, at just one half-inch long, a fraction of the size. With sunlight barely projecting through the trees of the forest onto the stream, a group of common insects were scurrying on the surface of a small pool along the bank in the fashion of hockey players on ice. I'd seen this insect with its mosquito-like appearance countless times without giving it much attention,

but in this light they looked especially interesting. I put down the big lens and opted for the 100mm macro. For the next half-hour or so, I took a prone position along the creek's edge to get the best angle on these fascinating insects.

Most commonly referred to as water striders, the insects are from the family *Gerridae* in the order of *Hemiptera*. They go by other names, including

water skippers and the biblical reference “jesus bugs.” There are more than 1,700 species of gerrids and they are commonly seen throughout the continental United States and other locations throughout the world.

Because of their ability to walk on water, water striders have been the subject of ample research. Their highly adapted legs and distributed weight allow them to capitalize on the surface tension of water to float. Surface tension is created where liquid meets air because water molecules attract to each other better than they do to molecules in the atmosphere above. In essence, it's like an extremely thin elastic membrane that covers the water's surface.

The bugs can be ferocious. While

their diet includes dead insects, the living also can become a target. Mosquito larvae or an injured terrestrial insect such as a dragonfly can fall prey to their quick movements, front claws and the sharp, beak-like rostrum designed to suck up body juices. The striders' ability to scurry, with the middle set of legs designed for propulsion and rear legs for steering, keeps them from becoming prey themselves.

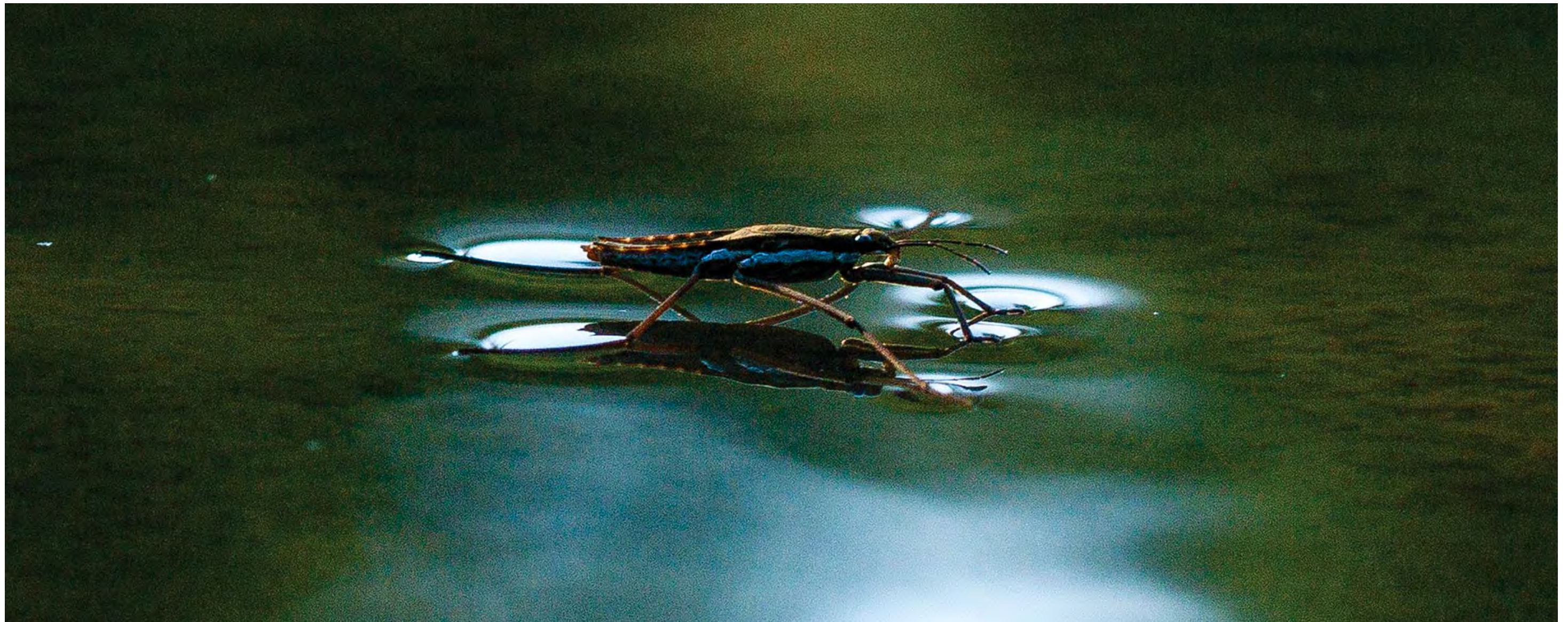
The legs, of course, are the subject of much of the microscopic research. Not only does the weight distribution from their proportionally long appendages help keep them afloat, but hairs on those limbs repel water by holding air between each. Amazingly, the insect can carry up to 15 times its body

weight without sinking.

Prior to the early 2000s, scientists thought the ability to walk on water was from wax secreted on the insects' legs. Chinese researchers discovered the hairs, drawing special interest from those who want to create water-resistant textiles and innovative aquatic devices.

No, I didn't come home with any elk photos that day. But, when the light is right interesting photo subjects come in all shapes and sizes. With its unique abilities, this is one insect that deserves to be photographed. ■

A water strider walks on the water of Bordeaux Creek in the Nebraska National Forest.



Night Moves

Some of the best images these days are being captured after dark.



A campfire, the Milky Way and the distant lights of Lincoln illuminate the sky and Platte River at Two Rivers State Recreation Area near Venice on a summer night. Nikon D4, 24-70 mm lens, 20 seconds at f/2.8, ISO 1600, manual, tripod.

PHOTO BY ERIC FOWLER



PHOTO BY ERIC FOWLER

From atop the Red Cloud Buttes near Fort Robinson, an orange moon can be seen rising over Whitney Lake between Chadron and Crawford. Nikon D3s, 500 mm lens, 1/30 second at f/4.0, ISO 400, aperture, tripod.

By Justin Haag

Not long ago, nightfall meant putting the camera away until sunrise for even the most skilled photographers. Today, though, the fun is increasingly just beginning when the sun goes down.

Vast improvements in the capability of digital cameras to work in low-light conditions are helping photographers capture scenes that a few years ago were nearly impossible to record. In a state that boasts dark skies as one of its great attributes, these developments come to the delight of shutterbugs – our staff included. From Nebraska's wide expanses of open grasslands and rugged topography in the west, to dazzling cityscapes and shimmering waters of the east, the possibilities for night photography abound.

Of course, photographers have long been capturing images at night, dating back to the first moon photo in 1840. The task hasn't been as easy or economical as it is today, however.



The Coyote mini-lodge at Ponca State Park in northeastern Nebraska shines bright in the November night, lit by a handheld flash. Canon 1DX, 24-70 mm lens, 33 seconds at f/5.6, ISO 400, bulb, tripod.

PHOTO BY JEFF KUPRUS

The cameras' ISO number, which measures the sensitivity of the camera's sensor, an equivalent to what was film speed in the pre-digital days, is perhaps the industry's greatest development in recent years. Today, entry-level cameras have sensitivities four to eight times higher than the ISO 3,200 digital SLRs sported a decade ago, and produce images that are usable at those high settings. One of the newest releases can be



Campers at the inlet of Lake Minatare State Recreation Area fish by the light of lanterns on a calm summer night. Nikon D4, 70-200 mm lens, 1.6 seconds at f/4.5. ISO 5000, manual, tripod.

PHOTO BY JUSTIN HAAG



PHOTO BY JUSTIN HAAG

Light painting by the photographer, and the coincidental glow from a passing train in the distance, accentuate the moon-like scene at Toadstool Geologic Park north of Crawford. Nikon D800, 28-70 mm lens, 15 seconds at f/5.6, ISO 6400, manual, tripod.

boosted to ISO 409,600, making it capable of processing night scenes better than the naked eye does. Consequently, captivating images of the Milky Way spanning across the summer's night sky are becoming increasingly common.

Still, there's more to night photography than just picking up a camera and snapping a photo, and it helps for people to know how to adjust settings. Generally, it's good to start with a shutter speed of 15 to 30 seconds, an ISO above



PHOTO BY JUSTIN HAAG

A light with an adjustable color temperature gives a dead tree at Whitney Lake Wildlife Management Area a stark appearance before sunrise. Nikon D800, 16-35mm lens, 15 seconds at f/5.6, ISO 140, manual, tripod.



The photographer's red headlamp and a flash pop illuminates his tent under a starry sky in the Wildcat Hills. Nikon D7100, 16-35 mm lens, 30 seconds at f/4.0, ISO 3200, manual, tripod.

PHOTO BY ERIC FOWLER

5000 and an aperture of 5.6 or wider. With such long exposures, a tripod is a must. Manual focus is often required, as most lenses still have a hard time searching for the focal point in low light. Carrying a flashlight will help you focus and paint the scene. It may also keep you from falling in a hole, tripping over a log or becoming spooked by all the things that go bump in the night.

Despite a few obstacles, we're increasingly seeing the light in regards to night photography. With such rapidly developing technology, we'll surely look back at this article and laugh at how we were taken with today's offerings. For capturing images at night, it seems the sky is no longer the limit. ■



PHOTO BY ERIC FOWLER

Lightning bolts crash over Ogallala during a summer thunderstorm. Nikon D3, 18-135 mm lens, 13 seconds at f/9.0, ISO 200, manual, tripod.



PHOTO BY ERIC FOWLER

Young hunters toast a successful Sandhills deer hunt with flaming marshmallows over a campfire. Nikon D3, 20-35 mm lens, 2 seconds at f/4.0, ISO 800, aperture, tripod.

More Than a Decoy

Story by Callie Rietfors, photos by Brad Moser



Pest control is a challenge for every gardener, especially preventing damage caused by rabbits. As great horned owls are predators of rabbits, many garden supply stores sell realistic owl decoys. Brad Moser of Hickman purchased several of these life-sized great horned owl decoys to deter rabbits from his

flower beds. He placed them around his barn, putting one in the barn's upper window.

In January he noticed a great horned owl flying in and out of the barn, and a month later he spotted two heads popping up through the barn's top window. Although Moser had heard owls on his property before, he'd

never seen them nesting in his barn – it seemed that the decoy had attracted them.

Through binoculars or the lens of his camera, Moser observed the owls perching next to the decoy, even leaning against it. "The mom might have been using the fake owl to guard the chicks while out hunting," Moser

speculated.

Intrigued by the new residents, Moser set up an infrared camera near the owls' nest to capture their flying patterns and feeding process. For the next few months, Moser photographed the owls' behavior: the two adults bringing mice, snakes, and rabbits to the two chicks; the owlets exercising

their wings to fly; the owls spending their time eating leftovers, sleeping, grooming each other and watching cars pass by from their barn window vantage point.

In late April, Moser snapped a picture of one of the fledglings leaning its head against the fake owl, its eyes halfway closed. After that the chick was gone. The last picture Moser took of the owls shows a parent that had returned to the nest with a mouse, discovering that there were no longer any chicks left to feed.

Moser's photography equipment and

experience enabled him to observe the owls' behavior, but he credits the fake owl for drawing them to his barn. Not only did Moser gain insight and respect for the birds of prey but he also acquired additional protection for his flower beds. Though the owls have left, the decoy remains, and Moser hopes that the owls will return to the nest next year. ■

Callie Rietfors is a freelance writer in Denton. This is her second feature for NEBRASKAland Magazine. Her first, "Flying Saucers," appeared in the June 2015 edition.



A great horned owl flies from photographer Brad Moser's barn, where an owl decoy had been placed, near Hickman.

Glacial Relicts in the Keya Paha

By Jenny Nguyen

“Everything around us, that we’re driving through right now, would’ve looked much like the Rocky Mountains,” said Cassidy Gerdes, a South Dakota State University (SDSU) graduate student, as we traveled west through northeastern Nebraska.

Gerdes was referring to the last Ice Age, when massive sheets of ice came plowing through eastern Nebraska about 12,000 to 14,000 years ago, creating an exceptionally cold climate on the glacier’s edge that allowed for coniferous forests to grow. Four thousand years later, the glaciers retreated, and drier conditions gave way to fire, incinerating the



CASSIDY GERDES

PHOTO BY JENNY NGUYEN

vast spruce forests that reached southward as far as Kansas. Rising temperatures transformed the landscape, resulting in the Great Plains. “That’s what gave us the landscape that we have today. The trees are gone due to the fire regime, but still, in a few places like along the north facing slopes of the Niobrara River, you find little groups of aspen trees that are glacial relicts,” Gerdes said. Ice Age survivors, aspen have been able to persist in cold pockets in Nebraska – micro habitats that have provided conditions needed for this cold-tolerant species to linger.

However, Gerdes was not particularly interested in trees as far as her master’s project at SDSU was concerned. Instead, the trees were a good story to set the stage for her chasing three special little fish.

Special Fish

Much like the aspens, species of glacial fish have also been able to endure in cold pockets where local factors allow for cooler, more northern-like conditions to persist. In the Keya Paha Watershed, which begins in Todd County, South Dakota, and extends into Boyd County, Nebraska, Gerdes and a small team of technicians set out to find and study three of those species in the summer of 2013 and 2014.

The Keya Paha Watershed has a unique glacial relict population of stream fish. SDSU researchers sampled three tributary streams in the watershed’s instream habitat distribution.



PHOTO BY JENNY NGUYEN

Research technician Miles Arnette from SDSU takes depth and velocity measurements in one of the transects in a Keya Paha Watershed stream. Cassidy Gerdes follows behind to record habitat measurements, including substrate and temperature.

Finescale dace, northern redbelly dace and pearl dace were the targeted glacial relict species in the researchers’ three study streams in the watershed. The populations there are on an island.

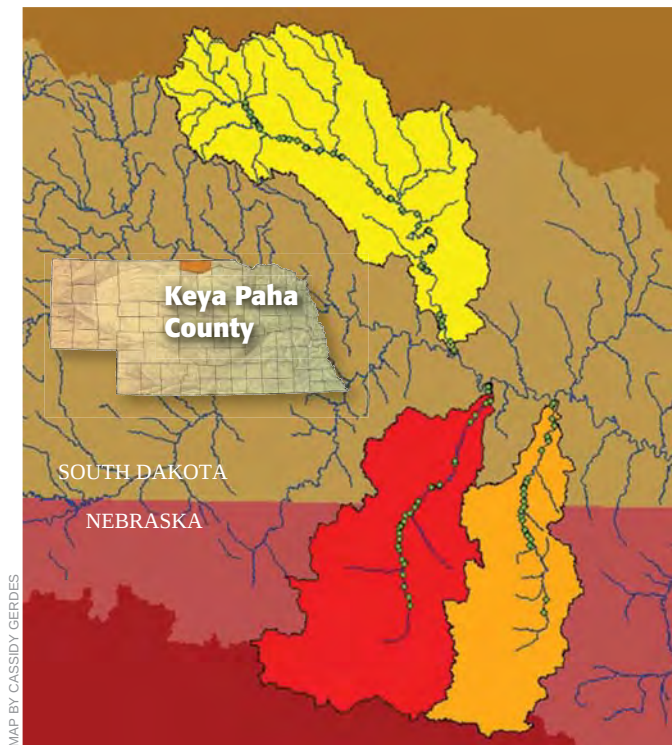
“These species of dace are very common in Minnesota, Wisconsin, and all the way up to the northeast part of the country and up to Canada,” Gerdes said. “But that’s their main range, and then there’s this gap where you don’t find them again until you get to basically the Sandhills of Nebraska and then across the border into South Dakota. The fish should have

disappeared when the glaciers receded, and yet, “we’ve got here in Nebraska and South Dakota this really unique pocket where these fish have remained and that’s solely because these streams sit over the Ogallala Aquifer.”

Typical Great Plains streams are “flashy,” meaning that they often run dry and flood on a fairly frequent basis, providing unstable environments. Where these fish still exist, however, those prairie streams receive a constant influx of ground water from the aquifer, which not only buffers their tendency to go dry or to flood, but also

buffers temperature, providing the fish with living conditions similar to their habitat farther north.

As peripheral species in Nebraska and South Dakota, dace are at higher risk of extirpation than those fish that live in the main northern populations. This spurred the South Dakota Game, Fish and Parks and the Nebraska Game and Parks Commission’s Natural Legacy Project to partner in applying for SD State Wildlife Grant program funding, which would be used to continue efforts in understanding the fishes’ distribution and environmental



MAP BY CASSIDY GERDES



Pearl Dace



Northern Redbelly Dace



Finescale Dace



Northern Redbelly and Finescale Dace Hybrid

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needs. Although the fishes also exist throughout the Sandhills, the Keya Paha Watershed was chosen for the study because of the unique opportunity to collect data in two states. Wildlife action committees decided to give this project to a master's student.

Gerdes, who was going back to school to earn her master's degree, chose this study for her research project, which would be conducted through SDSU. The university's objective was to build upon a previous student's work, Eli Felts, who updated the statuses of the species by sampling fish throughout several watersheds in South Dakota in 2011 and 2012.

"What Eli noticed when he was out there, for the most part, was that the fish were few and far between, but once in a while there were lots of them," Gerdes said. "The Keya Paha Watershed, with its spring-fed streams, really stood out as an important stronghold for these species' population." However, Felts only sampled in South Dakota. It made sense to expand the study to include the streams on the Nebraska side.

The Questions

Furthering Felts's work, Gerdes is studying why these species of dace were abundant in certain locations and absent from others. SDSU Associate Professor Dr. Katie Bertrand hypothesized that barriers and unsuitable habitat were playing a role, and she recruited Gerdes to test those hypotheses, with the help of seven other graduate students, and dozens of undergraduate researchers in the Bertrand lab group.

"In research and stream management now, 'barrier' is our sexy buzzword because a lot of streams, especially streams in the Great Plains, are 'flashy.' They are very rarely stable environments, and so most of the fish that have adapted to living in these streams have adapted to recolonizing after a catastrophic event, but in order to recolonize a place, they have to be able to move up and down the stream," Gerdes said. In the Great Plains, barriers are more often than not culverts. Generally, there is a road every single mile that cuts across a stream, and in order for that road to cross a stream, a culvert is built.

"A little fish can jump about twice its body length," Gerdes said. Culverts that are placed too high are beyond the jumping capacity of these fish, hindering their ability to move up and down the stream. "Even though we have a whole stream for them to live in, if they can't get to 60 percent of it, we're slowly losing species. We want to look at barriers pretty closely and try to gain an understanding of how that is affecting population distribution."

Gerdes sampled each Friday, Saturday and Sunday from mid-May through the end of August in 2013 and 2014. Her team counted and measured fish at every kilometer along the entirety of the study streams, from the headwaters to the confluence where each stream dumped into the Keya Paha River in South Dakota. "Very few projects involve sampling an entire stream. Most projects pick spots here and there, and you get a snapshot of the stream and also a snapshot in time," Gerdes said. To sample the entirety of the study streams was the university's idea to better understand how the fish were using the length of the streams, and perhaps how they moved throughout them at different times of the year. The researchers also paid special attention to habitat features.

"We had information from farther north, things that the fish tended to like, certain temperatures, cool water – we knew that. We knew they like pool habitat. They also tend to coexist with beavers. But that's several states away. And our streams are different than those streams. We needed to nail down what they needed in Nebraska and South Dakota," Gerdes said.

The Findings

Outfitted with a backpacker electrofishing unit, nets and measurement tools, Gerdes and her team were relentless in collecting, measuring and counting fish. They kept sheets upon sheets of habitat notes. In the end, the researchers were able to locate populations of pearl and northern redbelly dace, but were unable to detect finescale dace within the three study streams. However, they did see good numbers of a hybrid between finescale and northern redbelly. These hybrid populations are typically female. Interestingly, these

female populations, called gynogens, are clones of the previous generation.

After the sperm – most typically from a northern redbelly male – initiates development in the egg, the egg kicks out the male's genetic material so that every egg the female hybrid lays is a clone of herself. The original hybridization between northern redbelly and finescale dace was not recent, but perhaps occurred during post glaciation when the species became "scrunched" or conditions somehow became just right for this phenomenon to occur.

"It's common for hybrids to make up a significant portion of the species assemblage, even without the presence of the finescale parental species," Gerdes said. "Though they're hybrids and therefore fall short of a species status, these hybrids are typically found co-existing with these other relict species, and their presence still may serve as an important indicator of the quality and condition of those stream systems."

Though Gerdes is still in the writing and data analysis phase of research, ultimately she hopes her data will give a clearer picture of the distribution and habitat preferences of the target species within the study streams of the Keya Paha Watershed. Furthermore, much like Felts's research that spawned Gerdes's research, John Lorenzen, one of the technicians that assisted in sampling during the first summer, has continued on to begin his own research.

"John is building fish ladders to attach to culverts. He had a season where he just lab tested them and tried different widths and designs to see which was most passable. Now they're being field tested, and it is super cool. It's neat to see how the initial project has built up for more," Gerdes said.

The Land and People

Though the fish were interesting, the field work was memorable for many other reasons. Before sampling, Gerdes and her researchers spent a lot of time knocking on doors. All three study streams were located on private land, and gaining permission from landowners to access those streams was crucial in getting the study off the ground.

"At first, I think they thought we were crazy, and then they just thought we were really weird, and then they started to ask questions about it. Water is always a contentious issue in this part of the world. And so for us to show up in a government vehicle and they don't know us from Adam and say, 'Hey, can we go catch fish in your stream?' was really a huge leap of trust. Some people were really uncomfortable with it at first, but we were open about what we were doing the whole time," Gerdes said. Thanks to generous landowners, Gerdes was able to gain sufficient access and a comprehensive picture of all three streams.

Prior to this study, Gerdes had no background in fisheries biology. But as a farm bill wildlife biologist with Pheasants Forever, she does know landowners. "As wildlife biologists, as stream ecologists, as fisheries biologists, we are wired to go out and work with people to do projects that benefit both the landowner and the wildlife," Gerdes said.

Gerdes recalled an older landowner name Viola Keszler. "She said, 'You betcha. You can go and sample in the

stream, but sit down and have a visit for a while.' We wandered through the backyard with her son and her grandson and we stood in the backyard for three or four hours, talking.

"About halfway through, she looked at us and said – after she had told us a lot about her family and the place, 'You know, a lot of times I worry about who's going to tell our story.' I know it kind of resonated with us that day.

"Learning about the fish was cool – the more we learn about them, the more unique and spectacular they become. That they've been able to persist for thousands of years as the whole landscape around them dramatically changed is incredible. But the place where these fish are located is completely special in its own right. And it all worked together." ■



Blacknose Shiner

Gerdes also sampled for the blacknose shiner, which existed in abundance in prairie streams before the settlement of the Great Plains and is an important indicator species of high water quality. Completely intolerant to turbid water and pollution, and requiring clean, cool and well-oxygenated streams to live in, the blacknose shiner's range has shrunk considerably compared to their historic range in South Dakota and Nebraska.

"There are so few of them left," Gerdes said. "We found six of them, which weren't even in our study streams. They were in a stream to the west of our study streams and all we were able to do was get a presence record from that. But it's good to know that they're there."

Little research was conducted on the blacknose shiner in the southern portion of its range while it was still a common species. Though they remain abundant in their northern range in southern Canada from Saskatchewan to Nova Scotia, this species of minnow is disappearing in its southern range, which historically extended south to Missouri and Ohio.

"Although the water in the streams may be passable for the dace, maybe it had degraded just enough to where it was past the threshold for the blacknose shiner," Gerdes said.

Time Well Spent

What to do in November

By Cara Pesek

One can only spend so much time in a deer stand this month, a month perfect for a wide range of outdoor endeavors as long as you bring your jacket with you. Here are a few to try. ■



PHOTO BY JENNY NGUYEN

Celebrate an Old-fashioned Christmas Outdoors

Nov. 28

Ponca State Park, Ponca

Enjoy lighted hayrack rides, refreshments and other family activities at Ponca State Park's annual holiday kickoff event beginning at 9 a.m. This is the first of many holiday activities taking place at Nebraska's state parks throughout the season. Bring your cross-country skis, hiking boots and, of course, cameras, and take advantage of the many activities amid beautiful scenery this park has to offer.

Learn the Basics of Birding

Nov. 5, 12

Nebraska Game and Parks Outdoor Education Center, Lincoln

A series of workshops at the Outdoor Education Center in Lincoln will help new birders learn the basics. Learn how to attract birds to your backyard this winter during the first of these workshops on Thursday, Nov. 5. Learn about basic bird ID on Thursday, Nov. 12. Both workshops run from 6:30 to 8:30 p.m.



PHOTO BY JUSTIN HAAG



PHOTO BY JENNY NGUYEN

See Fort Atkinson in a Different Light

Nov. 7

Fort Atkinson State Historical Park, Fort Calhoun

Take a candlelight tour of Fort Atkinson State Historical Park on Saturday, Nov. 7. This popular annual event guides visitors on a first-person dramatization of fascinating historical events that took place at the fort. For tickets or more information, visit Fortatkinsononline.org.

Take Advantage of Fall Fishing

All Month Long

Statewide



PHOTO BY JEFF KURRUS

Think fishing is just for spring, summer and ice? Think again. Between summer and ice-up, fish species such as northern pike are hungry getting ready for winter. It's a lot like fishing in spring, but you will want to use bigger bait to imitate the forage species that has had all summer to grow.

Stay in a Cabin

Cabins at state parks and recreation areas will offer a 30 percent discount in the off-season, from Sunday-Thursday and excluding holiday time periods, from October to April.

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My First Deer

Start a lifelong memory during this fall's season.

By Jeff Kurrus

What happens when a cliché is also the truth? Those who have never deer hunted are often told by those who do that it's unlike any other outdoor passion – where long durations of extreme silence and monotony are suddenly filled with excitement so great that you can't stop your entire body from shaking.

Below are a few examples of hunters who have experienced these same feelings, those who still remember everything about their first deer – where they hunted, who they were with, and the entire story behind the shot.

So if you find yourself contemplating whether this year is *the* year to start deer hunting, contemplate no further. There's no better time to start. ■

Submit your first deer photos to Nebtrailcam@gmail.com.



Archer Katie Griess shot her first deer on Sept. 13, 2015 in Fillmore County.



At the age of 33, Jon Watts was quite proud of his first deer on private land in Custer County.



Josh Oswald was all smiles after his first deer in Sheridan County near Rushville on Nov. 15, 2014.



Marcus Rand shot his first deer on Nov. 17, 2014 on private land in Cass County.

That Darn Tickle

Make your own cough muffler and suppress that noise while hunting.

By Julie Geiser

Anxious hunters rise early and head to their favorite hunting spot. They get settled in and wait for their quarry to pass by and then it happens, a tickle in the throat or a cough from a cold that won't go away. Trying to hold it in or taking a drink of water and praying the cough goes away isn't enough – the only way to remedy the cough is to let it out, giving up your location to wildlife within a large radius around you.

Using cough drops gives some relief but gives off a menthol scent that deer will notice for yards; coughing in your coat will work, but then you risk giving your location away with arm movements and the sound may still travel.

The answer, my friends, may lie in the purchase of a cough muffler or silencer. When I first saw this device, I thought "what a gimmick!" But I went ahead and bought it anyway – it was on clearance, and I'm a sucker for accessories.

After trying the cough muffler deer hunting, I was a believer – it really did work. Sneezing and clearing my throat while turkey hunting was also much quieter when

using the cough muffler.

Cough mufflers are durable and pocket size. They can be worn with a lanyard and are extremely lightweight and disassemble for easy cleaning.

After some trials, I've come up with my own version of a cough silencer. Using a vitamin or Ibuprofen bottle, one can be assembled in minutes with minimal supplies: a bottle, cotton, drill, bit and cording.

Drill a hole using at least a 3/16 drill bit; any smaller and the air will not pass through the cotton and bottle. Place the hole near the top of the bottle where the downward curve starts. If the hole is drilled near the bottom of the bottle, hands and fingers may cover it while in use.

Once the hole is drilled, pack cotton balls in the bottle to suppress the cough noise. After a few uses you will want to change the cotton to prevent moisture and mold from building up in the bottle. Using a piece of foam cushion cut to fit the bottle is better; after use simply wash in soapy water and air dry before putting back in the bottle. Drill a hole in the bottle lid for a cording lanyard, allowing the bottle to be worn around the neck – otherwise carry in a pack or pocket.

Use the homemade cough muffler by taking off the cap and coughing into the opening of the bottle, keeping your lips sealed around the edges. ■

Julie Geiser is a regional editor for NEBRASKAland and public information officer at the North Platte office.



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The author's homemade cough muffler was made easily with just a few common items.

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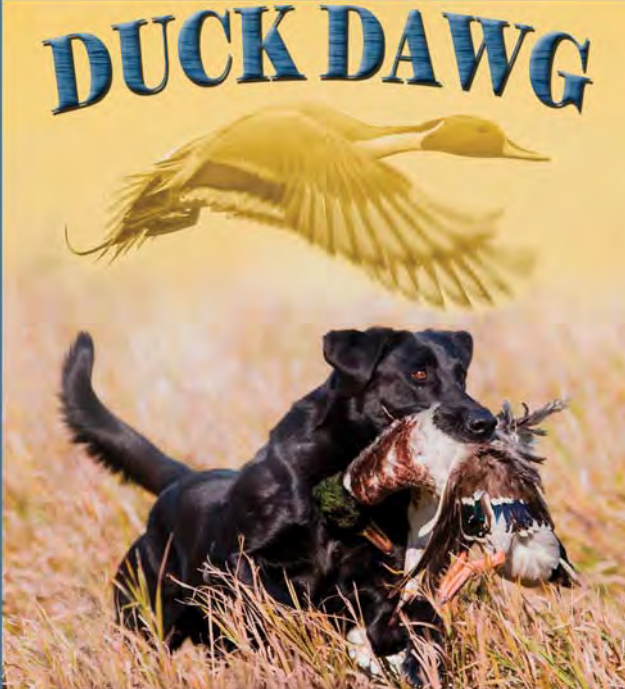
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The Harvest

It's pickin' season for all.

By Roger Welsch



One of the many things I love about Nebraska is that we have seasons, and just about the time you're sick and tired of one, another comes along. Summer, winter, spring ... they all have their drama, but for me autumn is the most impressive. And it's all because of harvest. The roads and fields are full of huge alien machines lurching along in rolling clouds of dust and debris, an almost invisible helmsman in a sealed environment pod somewhere among the churning wheels and flailing levers. I'm not a farmer ... I don't have the spine or optimism to place bet on Nebraska's fickle ways ... but I am fascinated by the explosion of energy and commotion that comes along every year about this time.

I once met a neighbor on the highway, headed to the grain elevator with a load of corn, and behind him was his wife driving another load. I wondered how that must feel ... to grasp victory at last after long months of watching the sky, markets, drought and flood, the wacky ways of man and weather, and at last be hauling the result of his labor and worry to market. So the next time I saw him, I asked him that very question. I listed some of the things I knew he had had to get through to celebrate that triumph ... insects, hail, wind, fire, too dry, too wet, too ... well, in Nebraska it could be too much of almost anything ... and asked, "What does it feel like when you finally take the crop in and know that this year you won." His response set me back but taught me more about farming than I'd ever read in books: "Rog, I haven't cashed the check yet."

That's it. In farming you never declare victory. No sense in tempting the gods.

Linda and I have a tree farm, but the truth is, this place is a word farm and when a crop fails, it doesn't take much to replant. As Linda once explained when a friend (a farmer!) wondered aloud how I make money writing, "Rog can use

the same words over and over ... but he has to put them in different order every time."

But it's not as if I live without agricultural experiences even without farming. Finally this year we dodged that usual late spring freeze that annually takes our plums and chokecherries. We didn't get enough rain (we never do) but rains came along in a fairly timely manner so we had hopes of gathering sage and sweet grass. Wild grapes and hops cones hung in clusters off our back porch arbor. Finally, I began to think, this was going to be my year.

Shoulda knowned. Deer got the plums, raccoons harvested our chokecherries. Wind got the mulberries. Late autumn heat took the hops and sweet grass. Cardinals got the grapes. Hail pounded the sage into the ground. Deer jumped the fence and ate Linda's burning bush and my cherished weeping mulberry.

Clamus, garlic chives, daylilies ... not this year.

At least I had the comfort of knowing that like it or not, I was at least in this way a farmer. That point was made all the clearer when one morning I found a pile of coyote scat (a polite word for, uh, well – you know) up the hill behind the house. I've written before on page 49 about my fascination with the, uh, gift that coyotes leave around here, providing a vivid insight into what life as a coyote must be. So I returned the next day to the scene of the crime hoping to see what Mr. Coyote's diet had been over the past few hard-scrabble weeks.

Again I was too late; someone else got to the harvest before I did. Two dung beetles were already reducing my scientific sample to skeletal remains of hair, bone and plant fibers and were busily rolling their prizes off to a safe place before some natural calamity robbed them of their harvest. Which may say more about life in Nebraska and farming than is appropriate for mixed company. ■

Roger Welsch is an author, humorist and folklorist. He has appeared in NEBRASKAland Magazine since 1977.



PHOTO BY BILL HAGER





▲ From left, Mike Larson, Paul Larson, Ben Siebler and Jeff King pose with four opening day limits of pheasants shot on private land near Prague in Saunders County in 1972.

– Paul Larson, Fremont, Nebraska



► Pictured is my father, George Tibbetts, on the left and his friend, Joe Humpal. They had a good day duck hunting on the Loup River near Ravenna. I think it must have been around 1920.

He had returned from Europe, where he had fought in the First World War. He passed away in 1966.

– Tib Henderson, Springfield, Nebraska

Send contributions to: Portraits from the Past, *NEBRASKAland Magazine*, P.O. Box 30370, Lincoln, NE 68503-0370. Or e-mail to Tim.Reigert@Nebraska.gov. Photos should show people enjoying Nebraska outdoor activities, such as camping, boating, hunting or fishing, and must have been taken before 1980. We will give priority to unusual photos or activities. When possible, please include a story about the photograph and identify the people, places and approximate date it was taken. Photos will be returned.

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Apricot and Curry Venison Kebabs

A slight alternative from a Namibian recipe.

By Jenny Nguyen

Occasionally, people send recipes to me to try, and typically, they come from hunters residing within the United States. But a few years ago, a recipe for oryx, a species of African antelope, popped up in my inbox. To my pleasant surprise, the correspondence came from Martenique Scott, a hunt guide at the Omuwiwe Hunting Lodge in Namibia. Martenique said that it was one of her favorite recipes, one that the lodge often serves to guests out of its kitchen. Looking at the list of ingredients, I knew it was a good one.

This is an adaptation of Omuwiwe's "Sweet Curry Oryx Sosatie;" sosatie is basically kebab in South Africa. I used white-tailed deer, but any kind of venison or red-meat game would work – even waterfowl. You may omit the beef fat, but I wouldn't. The fat basted the surrounding venison, keeping it moist. And once slightly charred, it also added a sweet, rich flavor to every bite.

Servings: 4

Prep Time: at least 4 hours

Cooking Time: about 10 minutes

Ingredients:

Marinade

- 1 tablespoon of oil
 - 1 large onion, chopped
 - 1 cup of white wine vinegar
 - 1 cup of water
 - 2 tablespoons of sugar
 - 2 tablespoons of mild yellow curry powder
 - 1 teaspoon of kosher salt
 - 4 tablespoons of apricot preserves
 - ½ tablespoon of turmeric
 - 1 tablespoon of corn starch
 - 1-2 tablespoons of water
- Kebab
- 1½ to 2 pounds of venison roast
 - 1 large onion, cut into large chunks
 - ¼ pound of beef fat trimmings, cubed small
 - about 12 wooden skewers, presoaked

1. In a medium saucepan, heat 1 tbs. of oil. Fry chopped onion until softened and slightly golden. Then add all other marinade ingredients, except the corn starch and water. Bring to a boil, and then simmer for 15 minutes. In a small bowl, whisk 1 tbs. of corn starch into

1-2 tbs. of water, making sure there are no lumps. Add the slurry to marinade and mix well. Simmer marinade for another 5 minutes, or until thickened. Allow to cool completely.

2. Clean venison roast of all silver skin and fat. Cut into 1½-inch cubes. In a medium size bowl, combine cubed venison and beef fat. Add ¾ of the cooled marinade and mix well with your hands. Reserve the rest of the marinade for basting. Marinate for 4 hours, covered in the refrigerator.

3. Remove meat from the fridge 1 hour prior to grilling to allow the meat to come to room temperature. Place onion, meat and fat onto skewers. Arrange on a hot grill and cook about 3-5 minutes on each side, or until about medium-rare to medium. Baste kebabs with remaining marinade. ■

This recipe and photograph originally appeared on Jenny's Food for Hunters blog at Foodforhunters.com.



PHOTO BY JENNY NGUYEN

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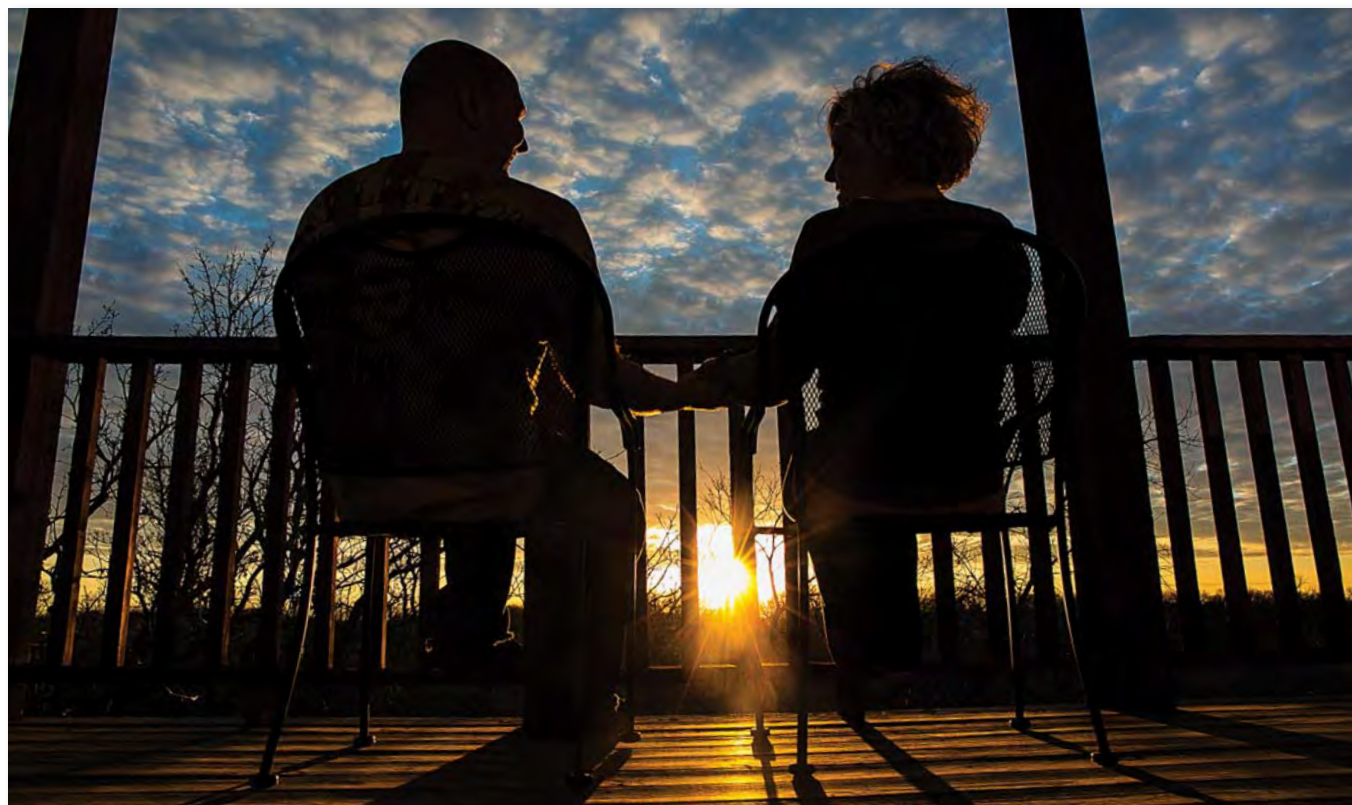
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Ponca on My Mind

"Madeline told me earlier today that her favorite season was fall," my wife Laura said during a recent car ride.

"Mine too," I replied, thinking of sitting in the deer stand.

"She said it's because she gets to go to Ponca."

Ponca. Ponca. Ponca. It's all I've been questioned about for the last few weeks from friends who make our annual post-Halloween pilgrimage to the northeast to visit our favorite Nebraska state park. *When are we going? Who's going? How many are going?* And now my 6-year-old was starting.

"She said she loves when we have our pumpkin-carving contest," Laura added, "and you know Eli wants to go back to the playground."

And Matt, Kevin, and Jeff's respective families want to fish at the trout lake, while Betsy and Terry want to do nothing more than sit in the cabin and enjoy the comings and goings of all who have ventured with us.

I guess when I say that Ponca is a park for everyone, I have no better proof than looking at my own family and remembering the checklist of activities that we just *have* to accomplish each time we visit.

And I wouldn't change a thing.

Jeff Kurrus
September 19, 2015



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