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NEBRASKAland

March 2017



Chris Masada of Lincoln photographed this red-bellied woodpecker at Wilderness Park in Lancaster County.

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INSIDE
Todd A. Williams Paints Nebraska • Ancient Mosses
Trout on the Fly at Two Rivers • Turkey Color Variations
State of the Birds Address • Salt Creek Tiger Beetle Update



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NEBRASKAland Magazine

Volume 95 • No. 2 • March 2017

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THROUGHOUT 2017, *NEBRASKALAND MAGAZINE* WILL PUBLISH ARTICLES ASSOCIATED WITH THE STATE'S 150-YEAR CELEBRATION. LOOK FOR THIS LOGO TO READ ABOUT NEBRASKA'S RICH HISTORY AND VIEW OUR INTERACTIVE DIGITAL EDITION FOR MORE INFORMATION.

Cover: "Prairie-Settlers 1893" – Fillmore County was painted by Todd A. Williams as part of his Legacy of Nebraska Project. See story on page 24.

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61



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Historical Markers Story

That is a great story about Butch Springgate riding through the state visiting the historical markers on his bike. When I was traveling the state with Physicians Mutual, I would go out of the way to visit a site, learning a lot of small pieces of history and of the people who made and lived it.

Once again, great pictures!

G. E. Dave Fuller
Lincoln, Nebraska



Suz Swanson of Bennington sent this photo of a female house sparrow she saw at the Old Market in Omaha.



Additional Visitor Spotted

Several readers pointed out the spider in a photo of a trumpeter swan feather on page 25.

This was not the intended visitor. Readers who sent in this observation included Bill Bolte, Brad Dietz, Patty Flynn, Ron McDermott, Phyllis O'Brien, Barbara Porter and Leo Turner.

Lifetime Permit Winner Photo

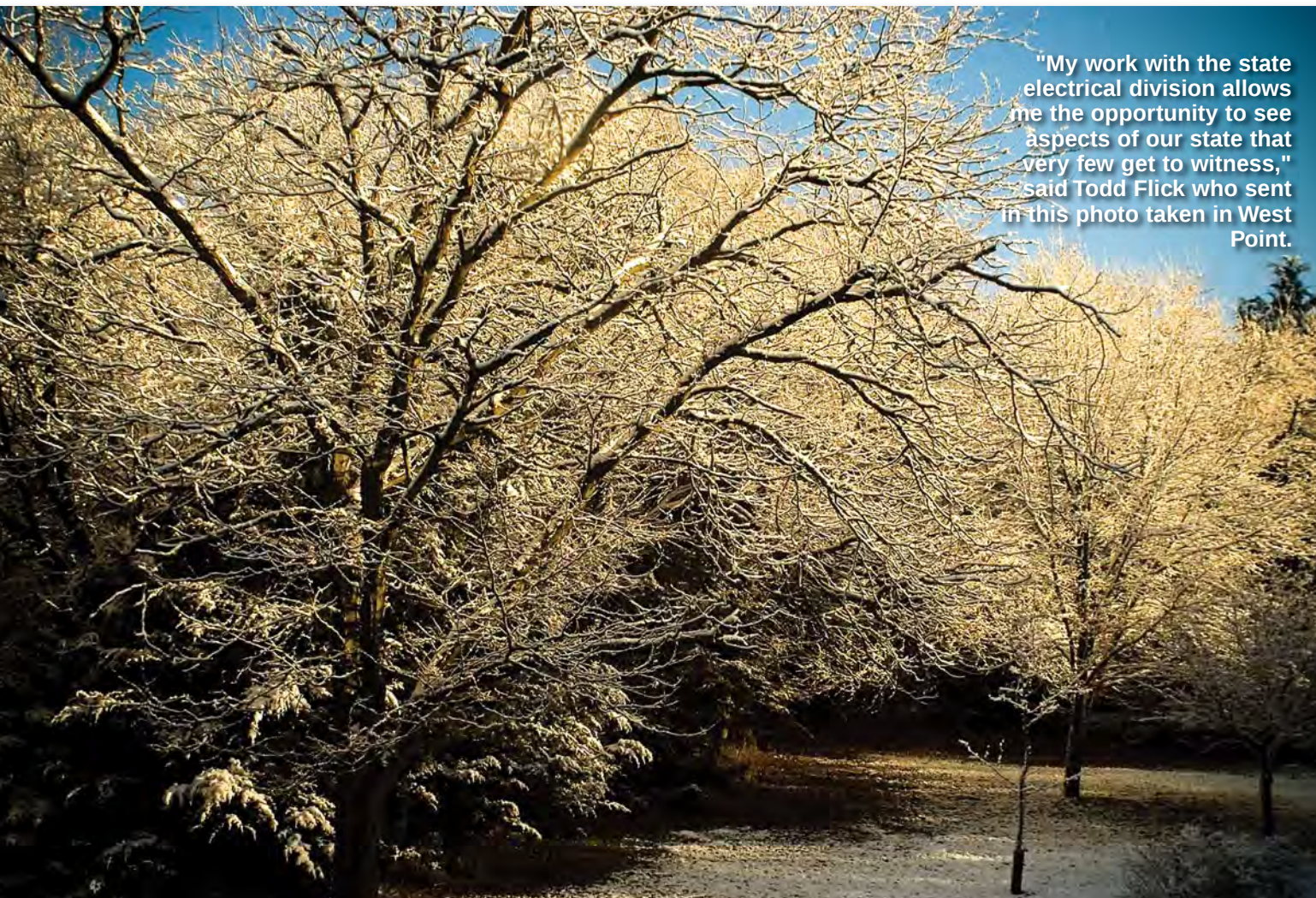
Our family is a big supporter of the Nebraska Game and Parks Commission and all the things you guys do to support hunters like us who have no private ground to hunt, but still want to enjoy this great state.

Whether it's hunting, fishing or camping, the work you guys do has made many options available to us to use and enjoy and we greatly appreciate that.

Thank you!
Steven Speck
North Platte, Nebraska



Jenny Barratt of Omaha took this photo of a bald eagle during a camping trip in Plattsmouth.



"My work with the state electrical division allows me the opportunity to see aspects of our state that very few get to witness," said Todd Flick who sent in this photo taken in West Point.



Bethene Ralph of Bellwood sent us this Christmas day 2016 photo of a double rainbow.



Jake Jadowski of Ralston sent us a collection of GoPro photos from his waterfowl season, including this image of Todd Mills's Labrador retriever, Hope, retrieving a mallard on the Platte River in central Nebraska.



Jadowski also shared this image of Todd Mills of Gretna watching a retrieve from a sandbar on the Platte River in central Nebraska.

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Outdoor Plates

Phyllis Borman bought herself a message plate as a retirement gift. Her home along the Platte River near Gibbon is an easy place to be a birder, especially during the spring migration when she and her husband, Dave, are treated to the roar of thousands of cranes and geese flying to and from the river each morning and evening.

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.

Dutko's Pit Blind

I called Marga Dutko about the picture and story in the Jan./Feb. issue in *Portraits from the Past* about hunting in Mike Dutko's pit blind. Marga is the widow of Mike and still pretty spry for an 80 plus year old. I've also hunted at least a couple times in Mike's pit blind. I so enjoy the magazine.

Leo Turner
Lisco, Nebraska

Corrections: Randy Stutheit was misidentified as Randy Winter on page 60 of the Jan./Feb. 2017 issue. We regret the error.

Send your comments to:

Jeff Kurrus, Editor
NEBRASKALand Magazine
P.O. Box 30370
Lincoln, NE 68503

or e-mail Jeff.Kurrus@Nebraska.gov
Please include your postal address and telephone number. Letters may be condensed and edited. Photographs are also welcome.

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A Mammal Brief

Muskrat

By Lindsay Rogers

At about 20-25 inches long, the muskrat (*Ondatra zibethicus*) is significantly smaller than the beaver, which comes in at about 40-45 inches. The muskrat also has a narrow, flat tail, versus the beaver's characteristically wide, flat tail. Both, however, are found near water, including rivers, lakes, streams and wetlands, though muskrats prefer more permanent bodies of water.

Muskrats are so named for their resemblance to a large rat and the musky odor released from their perineal glands, which is used for communication between muskrats and to warn predators.

In contrast to muskrats' slow and cumbersome movement on land, they are extremely agile swimmers and often retreat to the water to escape predators. Minks, owls and coyotes are no match for a muskrat's ability to quickly disappear underwater and remain there for more than 10 minutes. ■

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

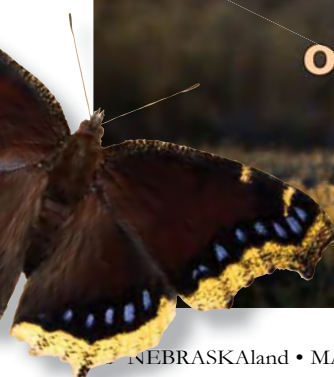


PHOTO BY CHRIS MASADA

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Date	Chapter	Location City
1/14/2017	Lewis & Clark PF	Bow Valley
1/28/2017	Saline County PF	Wilber
2/4/2017	Great Plains PF	Holdredge
2/4/2017	Webster County	Blue Hill
2/11/2017	Prairie Hills PF	Kearney
2/18/2017	Custer County PF	Broken Bow
2/18/2017	Little Blue River PF	Hastings
2/24/2017	Cornhusker PF	Lincoln
2/24/2017	Franklin County Covey QF	Franklin
2/25/2017	Cedar River Ringnecks PF	Greeley
2/25/2017	Lower Elkhorn Valley PF	West Point
2/25/2017	Maple Creek PF	Howells
2/25/2017	Plains Sportsman PF	McCook
2/25/2017	Ponca Creek Ringnecks PF	Spencer
2/25/2017	Rainwater Basin PF	Sutton
2/25/2017	Seward County PF	Seward
2/25/2017	Southwestern Nebraska PF	Imperial
3/3/2017	High Plains PF	Sidney
3/4/2017	Heritage PF	Alliance
3/4/2017	Lincoln Creek PF	Aurora
3/4/2017	Bazile Creek PF	Creighton

Date	Chapter	Location City
3/10/2017	Nemaha Valley PF	Johnson
3/10/2017	Wachtel Fur Immer QF	Eustis
3/11/2017	Corn Country PF	McCool Junction
3/11/2017	Dixon County PF	Ponca
3/11/2017	Loup River PF	Ord
3/11/2017	Mile High PF	Kimball
3/16/2017	Douglas County West PF	Elkhorn
3/17/2017	Elkhorn Valley PF	Norfolk
3/17/2017	Logan Creek PF	Wayne
3/18/2017	Dodge County PF	Fremont
3/18/2017	Golden Prairie PF	Neligh
3/18/2017	Otoe County PF	Syracuse
3/18/2017	Sherman County PF	Loup City
3/18/2017	Washington County PF	Blair
3/24/2017	Lower Platte PF	Ashland
3/25/2017	Republican Valley PF	Cambridge
4/1/2017	Cass County PF	South Bend
4/1/2017	Medicine Creek PF	Stockville
4/1/2017	Niobrara Sportsman PF	Gordon
4/8/2017	Southwest Praire QF	Culbertson
4/15/2017	Antelope Valley PF	Oshkosh



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Travelogue

By Hannah Hundley, Nebraska Tourism Commission

Valentine

There is a beloved little town up in the northern region of the state amid pine-topped ridges, waterfalls and rolling sandhills. Some call it the "Heart City," and others just call it good ol' **Valentine**.

In and around Valentine, there is adventure waiting at every corner. Hiking, horseback riding, nationally acclaimed canoeing, tubing, kayaking, hunting, fishing, camping – there's never a dull moment. And it's all wrapped up in the scenic beauty that Cherry County is famous for.

Smith Falls State Park is only 20 miles east of Valentine, and it harbors one of the many waterfalls tucked within the mystical woods of the **Niobrara River Valley**. It isn't just any waterfall though: it stands at an impressive 70 feet, making it the highest waterfall in the state. The only access to these spring-fed falls is across a historic truss bridge that spans over the river, which proves to be just as breath-taking in the still of winter as it is in the fervor of summer. This 76-mile stretch of the river winds through broad canyons lined with steep cliffs and peaceful snowy banks.

Valentine is in the center of a diverse region of quiet lakes, rolling hills, a national forest and two national wildlife refuges. **Merritt Reservoir** has great opportunities for the ice-fisherman. It is well known for its walleye; however, the lake also boasts largemouth bass, smallmouth bass, channel catfish, perch, crappie, bluegill, northern pike, and muskellunge. Bordering the Merritt Reservoir lies the 115,000-acre **Samuel R. McKelvie National Forest**. This area offers excellent upland game bird, waterfowl and deer hunting. Travelers can also pitch a tent in the **Steer Creek Campgrounds** at one of the beautiful and secluded campsites in the pines of the forest.

While in town, visitors will be sure to check out the **Centennial Hall Museum** – Valentine's historical landmark built in 1897, now the oldest standing high school building in the state of Nebraska. After getting a fix of history, the smell of fresh baked goods from **Auntie D's** will lure travelers in for a nice hot cup of coffee and a bite or two of something sweet. Then, when it's time to get a little more warm and cozy, travelers can check in to the **Blue Moon Ridge Bed and Breakfast**.

This lovely little B&B sits on 10 acres of canyon, surrounded by 100-year-old pine trees, with a deck that overlooks the canyon, making it the best place to cuddle up and watch the sunset over the Sandhills.

Valentine sure lives up to its slogan: "Small town. Big adventure." ■



Smith Falls State Park waterfall



Auntie D's in downtown Valentine

Valentine



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A Brief History Footrests for Nebraska Lawmakers, 1932

By the Nebraska State Historical Society

We can't tell you what bills your state senator is supporting in Lincoln this month, but we can assure you that your senator isn't sitting in the legislative chamber with his or her feet propped up on the desk. We can't say the same for earlier generations of Nebraska legislators.

Prior to the first legislative session in the house and senate chambers of the new state capitol, the *Lincoln Star* on September 26, 1932, speculated about how the lawmakers would adapt to their new quarters. (Nebraska had a traditional two-house legislature until 1937.) Evidently it was common for legislators meeting in the old capitol building to rest their feet on their desks, but this indulgence would not be possible in the new chambers, and some members were not happy about it.

"Two very commodious and ornate halls have been provided in the new capitol as permanent meeting places for the Nebraska state senate and house of representatives, which those bodies will occupy beginning with next winter's session. The rooms and their furnishings are far beyond anything ever before used by a lawmaking assembly in this state in point of convenience, luxurious appointments, and decorative beauty; but some solons, no doubt, will discover things to criticize and find fault with.

"One objection already advanced to the seating of the chambers is that it will not be possible for legislators to get their swivel chairs in position where they can comfortably elevate their feet to the top of their expensive walnut desks. This is because both the chairs and the desks are screwed down fast to the floor, and the chair does not sit far enough from the desk to permit its occupant to assume such a posture.

"Also, the swivel part of the chair is fixed so as to turn only half way around – that is, the sitter can swing to the right or to the left, but cannot make a full circuit so as to face backward. That prevents him from sticking his brogans up on the desk just behind him. It just seems as though



Senators make themselves comfortable in the "diabolically contrived" chairs in 1947.

the designers of the senate and house furniture did their best to keep the manufacturers of laws from enjoying their accustomed comforts.

"Trenmor Cone of Douglas County, who recently tried out the acoustics of the new house chamber by making a sample speech there to an imaginary audience, has already voiced his dissatisfaction. 'These seats are so diabolically contrived and set up,' Cone says, 'that a man can't get his feet on his own desk, and he can't swing around to see what is going on in the rear of the chamber. His only chance of getting a good

footrest is to use the desk of his neighbor on one side or the other, and I'm afraid that won't work very well.'

"However, the plan of making swivel chairs fast to the floor has one advantage from the lawmaker's standpoint. It makes certain that he can lean back in his seat and go to sleep without any danger of tipping over, as has happened not infrequently in former sessions. A dignified statesman doesn't like to be tumbled backwards on the floor in full view of his colleagues and the public. The arrangement, too, gives the taxpayers assurance that members will not be taking the chairs home with them at the close of the session.

"Some solons will see a drawback in the fact that the front of each desk does not rise far enough above the top to permit the attachment of a placard showing his name to the people in the side and rear balconies. There will be a nameplate on the front, which the presiding officer and secretary or clerk can see, but that is all. It will be tough, indeed, to get up and make a ringing speech, only to have people in the audience asking: 'Who is that man?' and answering each other: 'I don't know.' Legislators naturally don't care to be classed with children. They want to be seen, heard, and known." ■

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



The Nebraska House of Representatives meeting in the new capitol, 1933.

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Downsizing for Turkeys

By Jarrod Spilger

With spring shotgun turkey season just over a month away, we know you're already checking spray patterns of various guns. And while the versatile 12-gauge is undeniably the most popular turkey-taking tool, many hunters don't realize the 20-gauge can be just as effective. The key is using the right choke and load – which you can begin practicing now on the range.

First, forget that full choke that came with your gun and get a true extra-full turkey tube to deliver the maximum number of pellet strikes to a gobbler's head and neck vitals. A 20-gauge turkey choke in the .585- to .575-inch range is a good place to start.

A 3-inch 20-gauge magnum is preferable over a standard 2¾-inch round. Likewise, a 1¼-ounce charge weight should be the minimum, while 1¾- or 1½-ounce payloads are even better. A soft-shooting, gas-operated semi-auto, such as Winchester's 20-gauge SX3,



will help tame recoil from magnum loads.

Also, consider switching to a tungsten-based non-toxic load, such as Hevi-Shot or Federal Heavyweight. Tungsten-based shot is heavier and denser than traditional lead shot. As such, it provides better downrange energy and penetration. With the proper choke, 20-gauge tungsten-based turkey loads are capable of legitimately and cleanly taking gobblers out to 40 or even 50 yards.

Don't be afraid to downsize to number 7s, either, with tungsten-based loads. Number 7s provide both higher pellet counts and denser patterns than number 6s, 5s, or 4s, while their tungsten composition provides plenty of downrange penetration and knockdown power.

Youth, women and elderly turkey hunters will especially benefit from toting a lighter, softer-shooting shotgun into the spring woods. Maybe you, too, should consider downsizing to a 20-gauge this upcoming season. ■

PHOTO BY JARROD SPILGER

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MARCH 1, 2017

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Mapping the Missouri

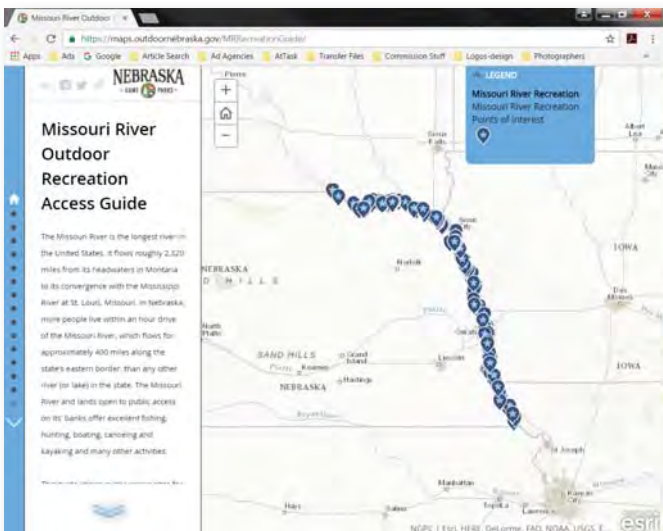
By Renae Blum

Flowing for about 400 miles along Nebraska’s eastern border, the Missouri River, along with the lands open to public access along its banks, is a prime place for recreation of all kinds: fishing, hunting, boating, canoeing, kayaking and more. It’s also within easy reach for many of us: More people live within an hour’s drive of the Missouri than any other river (or lake) in the state.

If you’re planning a trip to the Missouri River or are curious about what you can do there, one resource to explore is the Missouri River Outdoor Recreation Access Guide, an online, mobile-friendly interactive map created by the Nebraska Game and Parks Commission. All 164 public access sites along the river are marked clearly, with notes on boating, fishing, hunting, camping and wildlife viewing opportunities at each site. The map is also a handy navigational guide, showing river mile markers, proximity to cities and other sites, and boat ramp locations in case of emergency.

The mapping application is the product of more than five years of work and input from more than a dozen experts across Game and Parks’ various divisions. From the beginning, the goal was to compile the vast amount of information that staff had gathered over the years into one place, so that users could see in a glance all their recreation options in a particular area.

The application does more than simply share information. It’s an example of storytelling mapping, a type of mapping that incorporates narratives, images, video and more to provide a closer look at the map’s subject.



Storytelling mapping was developed by ESRI, a software company in the GIS geospatial community. Game and Parks IT applications developer Trisha Schlake built the map using ESRI’s new storytelling mapping templates, incorporating *NEBRASKAland* photography and in-depth narratives about recreational opportunities and various segments of the Missouri. She also added links where users can access guidebooks, reserve campsites and buy permits. Last spring, Schlake entered the map in an international storytelling mapping contest held by ESRI, winning first place in the category of Travel, Destination and Recreation.

“The possibilities are almost endless on how we can use this technology to share information,” said Game and Parks Director Jim Douglas. “This interactive map really allows us to help more people enjoy all aspects of the Missouri River.”

View the Missouri River Outdoor Recreation Access Guide at maps.outdoornebraska.gov/MRRecreationGuide. ■

PHOTO BY ERIC FOWLER



Bug Banter

Mountain Pine Beetle

By Julie Van Meter
State Entomologist, Nebraska
Department of Agriculture

A number of exotic, invasive pests are causing problems in native and urban forests across the country. Pests like the emerald ash borer and gypsy moth have killed millions of trees since they were introduced and became established in the United States. But not all forest pests are exotic; some of our native insects can cause serious damage, too.

The mountain pine beetle (*Dendroctonus ponderosae*) is one example of a native insect pest causing tremendous damage to trees. The mountain pine beetle, or MPB, is native to much of the western United States, with the eastern range of this pest butting up to the native pine stands in western Nebraska. Several species

of pines are attacked by the MPB, including native ponderosa, limber, and lodgepole pines and the introduced Scotch pine.

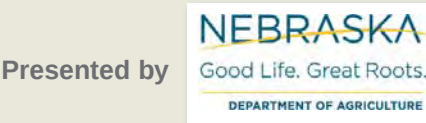
The MPB is a small beetle, dark brown or black beetle, 1/8 to 1/3 inch in length. Adult beetles emerge from pine trees in mid to late summer. Females will bore into living trees, creating galleries under the bark in which they will lay their eggs. These galleries run vertical and may be several feet long, holding up to 100 eggs. Larvae hatch from the eggs in roughly 14 days and begin feeding. They tunnel at right angles to the egg gallery, overwinter under the bark, pupate and emerge from the now dead tree the following summer as adults, ready to infest a new tree.

Signs of beetle infestation include pitch tubes on the trunk of trees, which result from resin produced by the tree pushing out where a beetle has bored into a tree. Sawdust created by beetle boring may collect in bark crevices, and woodpecker damage may be noticeable. Pine needles turn

yellow to red and ultimately the tree dies, typically several months after infestation.

The beetle feeding damage alone doesn’t kill the tree. Blue-stain fungus is carried on the bodies of MPB, and as the beetle feeds, it spreads the fungus throughout the tree. The fungus disrupts the ability of the tree to transport water, and the tree dies.

While the beetle is native to the western United States it is not known to occur in eastern and southern pine forests. There is great concern that should the beetle be introduced, these forests could be decimated. Firewood is one way that this pest could easily be transported to uninfested areas. Remember not to travel with firewood; obtain it when you get to your destination, and leave any unburned firewood behind. Visit dontmovefirewood.org for more information on pests that move in firewood. ■



YOU NEVER KNOW WHAT IS LURKING IN YOUR FIREWOOD

Tree-killing pests, like the emerald ash borer, hitchhike on firewood and spread insects and diseases that destroy our trees. Keep your backyard, campgrounds and favorite places safe from these pests.

PREVENTION IS KEY:

- Buy locally-harvested firewood.
- Ask a park ranger or campground host about where to get local firewood when you travel.
- If you brought firewood in from another area, BURN IT! Don’t leave it, don’t take it with you.

BUY LOCAL, BURN LOCAL.

To report potential emerald ash borer, contact the Nebraska Department of Agriculture at 402-471-2351.

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Layering for March

By Julie Geiser

Layering is one of the best ways for adapting to changing weather conditions, especially in Nebraska during a month like March, where the weather can change by the hour. Knowing how to dress and what fabrics to look for to keep you warm and dry will make outings more enjoyable.

Layering is about being versatile but effective and involves dressing in a number of lightweight items that can be put on or taken off as conditions or levels of activity change. As you start your day you may be a little chilly. However, as you move your body will produce heat, and if you're wearing too many layers you'll get too hot and start to sweat. Remove outer layers at the first sign of overheating.

The first, or base, layer should wick sweat away from skin and dry fast so you don't get chilled. Synthetic materials like polyester are great base layers for wicking and fast drying. Wool/synthetic blends may be the best of both worlds for wicking, fast drying and warmth. These layers should fit snug, include tops and bottoms and come in light to heavy weights for any activity or temperatures. Cotton, because of its inability to dry quickly, should be avoided.

The mid layer offers warmth without adding bulk. This layer consists of long-sleeved polyester shirts, lightweight fleeces and wool or synthetic pullovers or vests. In addition, hybrid pants come in many different fabrics that are worn over the base layer and in extreme conditions are worn under the shell pant layer. In moderate conditions a base, mid and outer layer may be all you need.

Insulating layers are worn over mid layers in very cold conditions. Jackets made from polar fleece, pile fleece or Thinsulate materials are warm. These synthetic materials are breathable, moisture-wicking and fast drying. Heavy Merino wool sweaters or down vests or jackets can be worn when conditions are extreme.

As temperatures warm or when you are moving around a lot, this layer might be put in your pack. Allowing for body heat to escape and dissipate must be monitored as you move. Once you stop moving you'll need to add this layer so you don't get cold as sweat dries.

The shell, or outer, layer cuts wind and keeps you dry in wet or snowy conditions. A good coat and pants are your main protection from the elements. Waterproof and breathable materials like Gore-Tex keep water out and let sweat vapors escape. This final layer should be large enough to fit over the rest of your layers so you may need to buy a size larger than you normally wear.

Finally, always pack a stocking hat and gloves and don't forget your feet. Layering a moisture-wicking sock under a wool-blend sock will keep your feet dry and warm. ■



WILD SPACES, OPEN SEASONS Hunting and Fishing in American Art February 12–May 7, 2017



Wild Spaces, Open Seasons is the first major exhibition to explore American artists' fascination with hunters, fishermen, and the sporting life in paintings and sculptures from the 1820s through the 1940s. Illuminating changing ideas about place, national identity, community, wildlife, and the environment, the exhibition offers compelling new insights into these meaningful pastimes.



IMAGE: James Goodwyn Clonney (American, born England, 1812–1867), *The Happy Moment* (detail), 1847, oil on canvas, Museum of Fine Arts, Boston, Massachusetts

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Lek Etiquette

By Julie Geiser

A truly unique outdoor experience lies in Nebraska's prairie grasslands, where courtship rituals of prairie chickens and sharp-tailed grouse take place. The songs and dances of these birds peak in the Sandhills and prairies across the state late March through early May each year.

In early spring, flocks of both species break into small groups of separate sexes, marking the start of spring courtship. Groups of males of each species arrive on display grounds, referred to as leks, before sunrise each day and vie for territory and the favor of females by intimidating other males with vocal and visual displays.

Often confused for one another, the sharp-tailed grouse is slightly smaller than the greater prairie chicken. Sharptails have v-shaped markings on their breast, while prairie chickens have a uniformly barred breast.

Each species also displays a different courtship ritual, both of which are intriguing, spectacular phenomena. Prairie chicken displays begin with short running episodes followed by abrupt stops and rapid foot-stomping. Males erect their pinnae (ear-like feathers) and inflate their orange neck air-sacs. With wings drooped and tails spread open, they produce a resonant booming sound.

For sharp-tailed grouse, the display is an elaborate combination of calls, rapid foot-stomping, clicking of the tail and charges with wings drooped and tail erect. To witness these displays, place a pop-up blind near the edge of a lek. Scout for areas on a rise with short grass, and ask around. Landowners usually know where birds go from year to year and can lead you to areas to set up blinds.

Additionally, several public areas have wooden-box blinds available for viewing birds. ■

Free public areas that offer blinds include: The Crescent Lake National Wildlife Refuge near Ellsworth, by reservation, (308) 762-4893; Bessey Ranger District of the Nebraska National Forest near Halsey, first-come-first-served blinds, (308) 533-2257; Valentine National Wildlife Refuge near Valentine, by reservation, (402) 376-3789 or (402) 376-1889.

Viewing From a Blind

- Always view birds from a blind whenever possible, and set up blinds well before sunrise to avoid scaring the birds.
- If viewing from a vehicle, also arrive well before sunrise, do not drive on the lek, keep a good distance from the lek, turn engine and lights off and be still.
- View birds close up with binoculars and spotting scopes, and use telephoto lenses on cameras. Do not approach the birds.
- Be prepared to stay in a blind until the birds leave the area, which could be several hours.
- Silence electronics before entering the blind or leave them at home. If photographing the birds, do not use a flash.
- Leave pets at home.
- Always gain permission before viewing birds on private property. Never trespass.
- Wear warm clothing, footwear and layers. Spring weather can be unpredictable and extremely cold. Quiet outdoor wear is preferred so movements don't disturb the birds.
- Wear dark clothing. Bright colors may disrupt the birds.
- Limit liquid intake as there are no bathrooms available in most viewing blinds.
- Tread lightly on lek areas and respect boundaries. Most leks are near potential nesting areas so follow trails when possible.
- Small children may not be able to sit still and quietly for two to three hours.
- Predators may visit viewing areas; do not try and warn the birds but let nature take its course.

Paid viewing blinds include: Prairie Chicken Dance Tours near McCook, (308) 345-1200, prairiechickendancetours.com; The Sandhills Motel and Glidden Canoe Rental near Mullen, (308) 546-2206 or (888) 278-6167, sandhillsmotel.com; Calamus Outfitters near Burwell, calamusoutfitters.com; and Big Blue Ranch and Lodge near Burchard, bigblueranch.com.

PHOTO BY JULIE GEISER

Saving Wildlife and Wild Places



The Nebraska Wildlife Conservation Fund works to connect people and nature through education, research and habitat restoration. Learn about the fund, the projects it supports and how you can help at...

NebraskaWildlifeFund.org

Look for the Peregrine Falcon image on your Nebraska tax return.



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.

March 3
Hiking Marathon Challenge
Ponca State Park (SP), Ponca

March 3, 10, 17
Beginner Muzzleloader Class
Wildcat Hills Shooting Sports Complex, Gering

March 4
Nature's Engineers Educator Workshop
Pioneers Park Nature Center, Lincoln

March 4, 11, 18
Beginner Archery Class
Wildcat Hills Shooting Sports Complex, Gering

March 5
Shootout at Salt Creek
Nebraska Game and Parks Outdoor Education Center, Lincoln

March 6
Learn to Hunt Spring Turkey Workshop
Game and Parks Southwest District Office, North Platte

March 7
Ladies' Handgun Skill Training Club
Nebraska Game and Parks Outdoor Education Center, Lincoln

March 19
Clear Shot Firearms Concealed Carry Class
Nebraska Game and Parks Outdoor Education Center, Lincoln

March 21
Learn to Hunt Spring Turkey Workshop
Lincoln Park Fire Station, Hastings

March 25
National Archery in the Schools Program State Tournament
Speedway Sporting Village, Lincoln

March 25
Spring Turkey Hunting
Archery spring turkey hunting season opens

March 28
Learn to Hunt Spring Turkey Workshop
Nebraska Game and Parks Outdoor Education Center, Lincoln

March 31
Muskrat and Beaver
Trapping seasons close for muskrat and beaver

Native Plants of the Midwest

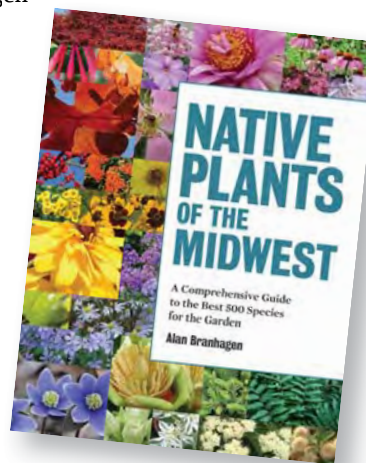
By Mike Groenewold,
Park Horticulturist

Native Plants of the Midwest, A Comprehensive Guide to the Best 500 Species for the Garden by Alan Branahagen is an enjoyable and informative book suitable for everyone from casual gardeners to professional landscapers who live in the nation's midsection. Mr. Branahagen describes his book very well in his own introduction: "This book aims to inspire readers to plant native plants while learning how and where to grow them successfully. I also aim to explain why it is important to utilize native plants in a landscape wherever possible."

Mr. Branahagen utilizes the first 70 pages to review the essential steps to develop a sustainable, functional and pleasing garden. Then he devotes the remainder of his book to profiling the attributes and character of 500 native plants; in most cases he even explains how to grow them. Throughout the book he also devotes an ample and appropriate amount of time promoting the important role that plants play in supporting the web of life, including both man and wildlife, in our Midwest landscapes. As an example, many of his plant profiles highlight a list of pollinator species the plant supports for both nectar and shelter.

The book is not only informative. Mr. Branahagen's photography is excellent to even stunning at times, qualifying it in the category of a "coffee table" book. It is a valuable and interesting resource.

Available from Timber Press books at timberpress.com. ■



Bird Shifters

By Lindsay Rogers, Wildlife Education Specialist

When we think of migrating birds, we often think of the long-distance migrants such as the cliff swallow that heads to South America. Or the gray catbird which travels to the Gulf Coast and Central America. Then there is the Arctic tern (not found in Nebraska) which migrates from its breeding grounds in the Arctic to its wintering grounds off Antarctica, traveling a whopping 25,000 miles each way.

According to the American Birding Association, 993 birds

have been recorded in North America, and over half of them migrate in some fashion. But not all bird migration is the same. There are, of course, the long-distance migrants. But there are numerous short-distance migrants as well – those species that migrate from higher summer altitudes to lower winter altitudes.

And there are the medium-distance migrants, too – those species that venture just south of their breeding range for the winter. I like to call these migrants the "shifters." For example, a dark-eyed junco that spends its summer in North Dakota might migrate to Nebraska for the winter. Or, an American robin found in Nebraska during the summer might migrate to

Oklahoma for the winter. Other shifters include blue jays, eastern and western meadowlarks, common grackles and American goldfinches.

You may notice that some species listed here are found in Nebraska year-round, but because birds are migrating, the individuals you see over the course of a year may change. Blue jays you observe during the summer months may be

different blue jays seen during spring and fall migration, and even other individuals may be visiting your feeder during the winter. Starting in late February, Nebraska sees an influx of migrating birds – both long-distance and medium-distance – heading back to Nebraska. Take a pause from cleaning last fall's leaves from the yard and sweeping winter's muck out of your garage to go on a birdwatching adventure. Nebraska's spring migration never disappoints. ■



ARCTIC TERN



DARK-EYED JUNCO



BLUE JAY

NEBRASKAland Visitor



Last issue's winner of the Visitor drawing was Valerie Randall of Gretna, Nebraska, who found the **evergreen bagworm** on page 3.

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: This issue's visitor is not on page 5, 15, 17, 23, 57, or 62.

The **bagworm** moth, (*Theridopteryx ephermaeformis*) is a Nebraska native that feeds on the foliage of a wide variety of deciduous and evergreen plants. Evergreens, including junipers, are particularly susceptible to defoliation, and heavy infestations may cause plant death. Bagworms overwinter in the egg stage, in bags created the previous summer by female moths. Caterpillars emerge in mid-May and June, and begin to feed, constructing a new bag of silk and foliage over their bodies. This bag protects the caterpillar and is up to 2" in length at maturity. Adult male moths emerge in late summer, and often their pupal case is visible sticking out of the bottom of their bag. Female bagworm moths lack wings and do not leave their bags. After mating, the female lays several hundred eggs inside her bag and dies. The bag will protect the eggs until caterpillars emerge the next spring.

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



The Spirit of Nebraska

By Jeff Kurrus

Painter Todd A. Williams celebrates Nebraska's sesquicentennial by creating paintings featuring the state's 93 counties.





Artist Todd A. Williams is a storyteller. He has been one since the age of 7, when he first started sharing his art with his friends. It was a passion that he followed into college, into a career as a professional artist for Hallmark, and into his current job as a full-time artist. His collections, all done in oil and focusing on Italy, the Rocky Mountains and Americana, invite the viewer to wonder about these characters and scenes.

In his latest collection, the Legacy of Nebraska, the narrative is about us – our lives and our history – across every one of the state’s 93 counties. Williams, originally from Central City, began the project in 2012.

In 2005 he started a series of paintings in Vienna and Prague, eventually finishing more than 50, some of which were completed on-location and in the studio. He repeated this method in 2007 in Italy, modeling his work after the impressionistic and figurative work of John Singer Sargent, a turn-of-the-century American painter known for his portrait work. He completed many works on-site, then painted others once he returned to the U.S. off



Previous Pages: “Reaping the Harvest” – Keith County
Oil, 32 by 48 inches.

Opposite Page: Todd A. Williams painting on location at Chimney Rock National Historic Site.

Above: “End of Day” – Pierce County
Oil, 12 by 16 inches.

Left: “Sandhill Cranes” – Buffalo County
Oil, 24 by 30 inches.



Above: "James Moore, *Pony Express Rider*" – Cheyenne County
Oil, 12 by 16 inches.

Opposite Page: "Early Harvest" – Thurston County, Honoring Inshata Theumba (Bright Eyes)
Oil, 30 by 20 inches.

of sketches, memories and photos.

Then, in 2012, Williams decided that he wanted to use this same method in his own state. "I wanted to do a variety of periods and subjects to celebrate Nebraska's 150 years," Williams said. "I wanted to capture the spirit of Nebraska."

Starting with his home county of Merrick, and setting up a temporary studio in the former boyhood home of writer and photographer Wright Morris, he dove into the project that will debut at the Nebraska State Historical Museum in Lincoln on March 1, 2017. "This was exciting for me artistically instead of being locked in to one type of painting," he said.

To accomplish this goal, Williams met with Mike Smith, then-director of the Nebraska State





Historical Society, and shared the vision of his project. "Because of some of the really fascinating events that have happened in our state – like the Oregon Trail and the Pony Express – I really wanted the historical society's involvement."

Williams would then meet with representatives from individual counties, including the local historical society and sponsors, and discuss the subjects that they thought represented their county best. "We would narrow the subjects down to about three choices," Williams said. "From there I'd look at the subject from an artistic perspective while also wanting diversity as a whole. I didn't just want historical landmarks – I wanted variety, which is why people are also featured."

One of these people was an American Indian girl in honor of Nebraska Hall of Famer Susette La Flesche, a writer and artist of the Omaha tribe born in 1847 whose father was a French fur trader and whose American Indian name, Inshata Theumba, meant "Bright Eyes." Other people-related paintings focused on Mari Sandoz in Sheridan County and of attendees coming to hear Theodore Roosevelt speak when he visited Dodge County in 1912.

Additional works, such as the Pawnee County painting "Rock Island Station," were based off of a historical photo while others, like the aptly titled "Familiar Scene" revealing a train pulling into a town, are nostalgic of many Nebraska counties across the state.

American bison are featured in Keya Paha



Top: "Familiar Scene" – Merrick County
Oil, 15 by 30 inches.

Bottom left: "Niobrara State Park" – Knox County
Oil, 9 by 12 inches.

Left: "Laura" – Sarpy County
Oil, 18 by 24 inches.



Top: "Lewis and Clark Expedition-1804" – Otoe County
Oil, 15 by 30 inches.

Above left: "William Frederick (Buffalo Bill) Cody" – Lincoln County
Oil, 20 by 16 inches.

Above right: "Mitchell Pass-Oregon Trail" – Scotts Bluff County
Oil, 20 by 30 inches.

Opposite: "Swanson Lake" – Hitchcock County
Oil, 12 by 16 inches.



Williams's show, the **Legacy of Nebraska**, will feature around 125 paintings spanning each of Nebraska's 93 counties. Opening March 1, 2017, in Lincoln, the exhibition will travel to nine museums across the state in 2017. More information is available at toddwilliamsfineart.com and ne150.org. A portion of proceeds from the show will be donated to the Nebraska 150.

For more information on Williams's work, including dates on upcoming workshops, visit toddwilliamsfineart.com.



County, as are sandhill cranes in Buffalo County. His Chimney Rock painting representing Morrill County was reminiscent of a time when settlers spoke about seeing this iconic landmark for the first time and felt like they had made it to the West.

Yet there remains a personal touch to Williams's work as well. "My two interests are shooting pool and art," Williams said with a grin. "I fell in love with an old photo of the Lexington Hotel in Dawson County," the result being a romanticized version of this place and time.

This theme repeats itself throughout Williams's work, work that he might not have ever accomplished if not for a high school art teacher named David Jorgensen. "I feel like I've been given a lot by my instructors, like Jorgensen, who inspired me to go to college for art. At the time, when others were like 'How are you going to make a living being an artist?' Jorgensen saw something in me and told me I needed to pursue this. And now I just want to inspire the next generation of artists in Nebraska." ■



Time Well Spent

What to do in March

By Renae Blum

Spring is finally here! Check out these suggestions for ideas on how to make the most of this new season. For a complete list of upcoming events across the state or for more information on any of the activities listed here, visit Calendar.OutdoorNebraska.gov. ■



PADDLEFISH PHOTO BY KEN BOUC

Archery Paddlefish Applications March 1-14

The Nebraska Game and Parks Commission will be accepting applications for archery paddlefish permits March 1-14. You can apply online at the Game and Parks website at OutdoorNebraska.org or by mail. Permits will be issued through a random drawing based on preference points earned. See the 2017 Fishing Guide for more information.

National Archery in the Schools State Tournament March 25

Speedway Sporting Village in Lincoln

National Archery in the Schools is an in-school curriculum covering target archery for students in grades 4-12. More than 250 Nebraska schools have NASP as part of their physical education curriculum and tens of thousands of students participate each year. The annual state tournament is Nebraska's largest archery event. Join us on the 25th to see these talented students compete.



NASP STATE TOURNAMENT PHOTO BY JENNY NGUYEN



SANDHILL CRANES ON THE PLATTE RIVER AT MARTIN'S REACH WMA PHOTO BY ERIC FOWLER

Spring Birding Various dates and locations

Birding opportunities are plentiful in Nebraska this month. Start your viewing of the sandhill crane spring migration at Fort Kearny State Historical Park and Fort Kearny State Recreation Area, and join us for birdwatching tours at Ponca State Park all month long during the Marsh Madness celebration.

Boater Safety Courses Various dates and locations

Boating season is approaching – it's a good time to prepare. If you were born after Dec. 31, 1985, you are required to complete a boating safety course to operate a motorboat or personal watercraft in Nebraska. Visit boatsafenebraska.org for class listings.



JET SKIS AT LAKE MCCONAUGHY PHOTO BY ERIC FOWLER



PHOTO BY KIMBERLY SHARPLES

Nebraska's Birthday March 1

Events Held Statewide

Nebraska reaches a major milestone on March 1 – it turns 150. Celebrate by visiting the "Bridges: Sharing our Past to Enrich the Future" photography exhibit at the Great Plains Art Museum in Lincoln now through March 25. The exhibit links history, generations and cultures through stunning images of each of Nebraska's 93 counties. The photographs were selected by a juried panel and will continue to be displayed at various locations across the state through Jan. 7, 2018, in a traveling exhibit.

Other sesquicentennial events in March include live theater, art exhibits, lectures, youth programs, and even an indoor equestrian world championship. Details are at ne150.org.



Bryophytes

ancient and mysterious plants

By Gerry Steinauer, Botanist,
Nebraska Game and Parks Commission

Bryophytes were the first land plants. Evolved from green algae, they have occupied the Earth for over 400 million years. Also known as non-vascular plants, the bryophytes include mosses, hornworts and liverworts, and there are an estimated 17,000 to 20,000 species worldwide. Though most grow in moist temperate and tropical climates, some species are adapted to extreme environments, such as parched deserts and frozen tundras.

Until recently, botanists were a bit mystified by Nebraska's bryophyte flora. There had been few surveys for these small, inconspicuous and hard-to-identify plants, and exactly which species grew in our state and their distribution and habitats were poorly understood. This is changing, however, as over the last decade a few dedicated

botanists have been on a mission to better understand our ancient and mysterious bryophytes.

The Search for Bryophytes

Dave Sutherland is among the handful of Nebraskans who can identify bryophytes to the species level. A retired professor of biology and herbarium curator at the University of Nebraska at Omaha, Sutherland's interest in mosses, hornworts and liverworts was stirred



DAVE SUTHERLAND



Spore capsules of the toothed plagiomnium moss (*Plagiomnium cuspidatum*). The cap has fallen from the capsule on the right and the spore mass is about to emerge through the peristome (ring of teeth) which disperses the passing spores.



The graceful chain moss (*Leskea gracilescens*), some of its leafy stems with stalked spore capsules, grows on a log at Glacier Creek Preserve near Omaha.

PHOTOS ON THIS PAGE BY CRAIG ROTERMUND



Mosses and liverworts cloak streamside rocks in a springbranch canyon on The Nature Conservancy's Niobrara Valley Preserve in Brown County.

PHOTO BY GERRY STEINAUER

The Ancient Bryophytes

One of the bryophytes' primitive characteristics is their lack of vascular tissues for transporting water, sugar and nutrients. By comparison, the more modern vascular plants, such as ferns and flowering plants, have phloem and xylem as transport tissues, which allow for larger and upright growth. Bryophytes also lack true roots, and instead have short, root-like anchoring structures called rhizoids that aid in attachment to rocks, trees and other surfaces. Lacking roots, bryophytes must absorb water and nutrients through their leaves or thalli (defined below), explaining their preference for moist environments. Another ancient characteristic: mosses, hornworts and liverworts reproduce by spores rather than seeds and lack flowers.

Mosses, similar to vascular plants, have stems and leaves, though the former are short and the latter but one-cell thick. Able to reproduce vegetatively, most mosses grow in clumps or mats of compacted individual plants. During the warmth of summer, delicate, long-stalked spore capsules rise above the leaves. Each capsule can contain millions of microscopic spores that, when released, become waifs in the wind traveling great distances.

Hornworts are strange plants in that they lack stems and leaves, and have a main body consisting of a green, flat structure called a thallus. Unique among plants, they have but a single large, algal-like chloroplast in each thallus cell which is responsible for photosynthesis. Arising from the thalli are their namesake, horn-shaped spore capsules.

Liverworts come in two forms. Some, similar to hornworts, are thalloid, but most are leafy and appear as flattened moss. The leafy forms are distinguished from mosses by not having well differentiated stems and leaves, and the latter lack the thickened central midrib of moss leaves. Liverwort spore capsules are of various forms. In the genus *Riccia*, for example, the capsules are imbedded in the thalli: in other genera, they are stalked. The name "liverwort" is derived from the liver shape of some thalloid types. ■

while he was a botany student at the University of Washington. During his long career at UNO, however, his expertise was in grasses, and in 2007 he coauthored *The Flora of Nebraska* (vascular plants). Ten years ago, when Sutherland retired, spare time allowed him to rekindle his interest in non-vascular plants.

Over the last decade, Sutherland along with Rob Harms, a former UNO graduate student in biology, have taken numerous weekend excursions throughout the state collecting bryophytes. Of late, Nebraska botanists Bob Kaul, recently retired from the University of Nebraska-Lincoln, and Steve Rolfmeier of Chadron State College, have also taken a keen interest in bryophytes. The foursome's goal is to document which bryophyte species grow in Nebraska, their distribution, habitats and abundance and to eventually publish a flora of Nebraska's non-vascular plants with a species key, range maps and some illustrations. To date, they have verified about 220 bryophyte species for Nebraska. The majority are mosses.

Few botanists had previously studied Nebraska's non-vascular flora. In the 1940s, Walter Kiener, a Swiss-born biologist with the Nebraska State Game, Forestation, and Parks Commission, undertook the first extensive surveys for Nebraska bryophytes. Over his career, Kiener was a prolific collector of not only bryophytes, but also vascular plants and lichens. The moss *Splachnobryum kieneri* was named in his honor. In the late 1970s and early 1980s, then UNL botany student Steve Churchill collected bryophytes in the central Niobrara River valley in Brown, Keya Paha and Cherry counties and elsewhere in the state and first catalogued our state's non-vascular flora. Churchill went on to become a renowned bryologist and is presently working in the rainforests of Bolivia.

The central Niobrara valley, with its many cool, spring-fed side canyons, is also among Sutherland's and Harms's favorite collecting sites. In the steep canyons, below a sheltering canopy of paper birch and basswood, continually damp streamside rocks and tree trunks are cloaked in mossy greenness. Over 40 species of uncommon northern mosses and liverworts grow in the valley's unique microclimate. Most are likely Ice Age relicts, stranded here about 12,000 years ago as the post-glacial climate warmed and the glaciers retreated northward.

Closer to their homes in Omaha, Sutherland and Harms also frequent Schramm Park State Recreation Area on the Platte River bluffs in Sarpy County, as its oak woods and calcareous rock outcrops are prime moss habitat. Here, they recently discovered Hedwig's fringleaf



This Dakota sandstone boulder in shaded oak woods in Jefferson County is habitat for several rock-loving moss species.

moss (*Hedwigia ciliata*) growing on the roof of an old restroom. This was only the second collection of the species in Nebraska. "Because their spores are wind-blown, bryophytes can show up in unexpected places or have wide distributions," said Sutherland. "Many of our moss species, for example, are also found in Europe and Asia."

This past summer, the Nebraska Game and Parks Commission assisted the bryophyte project by hiring botanist Bob Steinauer to collect mosses in western Nebraska habitats including North Platte River alkaline meadows, Sandhills fens and seeps and Panhandle escarpments. He found the highest moss diversity at Carter Canyon in the western Wildcat Hills and on the Warbonnet Ranch in the western Pine Ridge. Both are cool, high-elevation sites for Nebraska and have varied moss habitats including wet canyon bottoms, rock outcrops and pine and deciduous woods. Several hundred specimens were collected during the survey, among them the rare (for Nebraska) wiry fern moss (*Abietinella abietina*), slender candlesnuffer moss (*Encalypta procera*), rolled-leaf pigtail moss (*Hypnum revolutum*) and hook-beak tufa-moss (*Hymenostylium recurvirostrum*). The specimens were deposited at the UNO, UNL and CSC herbariums.

"For botanists, collecting bryophytes is the easy part, but some species are a real struggle to identify," said Sutherland. "You need a good compound microscope and a really good set of eyes." To identify most species one must distinguish minute features with complex names, such as the peristome, calyptra and perichaetial leaves, and tediously work through technical keys. It is not a job for the untrained.

Although Sutherland and his cohorts found several new



The umbrella liverwort (*Marchantia polymorpha*) grows streamside on the Niobrara Valley Preserve. The flat green structures are thalli, while the palm tree-shaped structures are archegoniophores which contain the eggs.

moss species for the state during their recent surveys, perhaps more important is what they did not find. "In the 1940s, Kiener collected 10 species of liverworts in the genus *Riccia* growing on wet shorelines in Nebraska, but we have found only three species," said Sutherland. "*Riccia frostii* he described as common throughout the state. We have looked, but cannot find it. Maybe we are looking in the wrong places, but my guess is that our aquatic systems are changing. Perhaps agricultural chemicals have caused the *Riccias* to vanish." Many bryophyte species are sensitive to water and air pollution and, like a canary in the coal mine, their disappearance may be a warning that all is not well with our environment. ■



A put-and-take rainbow trout was caught with a woolly bugger fly at Two Rivers State Recreation Area near Yutan.

TROUT ON THE FLY AT TWO RIVERS

Story and photos by Jeff Kurrus

There is a migration each March in eastern Nebraska. Hundreds of anglers flock to Two Rivers State Recreation Area to fish. And for good reason.

It started with a photograph. While shooting the trout fishing opener at Two Rivers State Recreation Area near Yutan last spring, I introduced myself to Dr. Pete Jessen, a dentist from Omaha, who had just caught a nice put-and-take rainbow from the lake. As my camera focused on the fish, my eyes became directed toward the fly in the fish's mouth. He told me this fly was a woolly bugger, the same fly that was written about by Ryan Sparks in our January/February 2017 issue, where Sparks noted: "The woolly bugger has probably caught more fish species than any other fly in existence." After remembering my time with Jessen near the lakeside months before, I was already convinced this might be true.

I continued to watch Jessen and a legion of other fly anglers cast from the east side of Lake No. 5, but it wasn't until I watched Jessen fish his woolly bugger



pulling drag from my reel. By the time I had landed it, I had instantly cured my ice-fishing blues. Three fish later and I was back on the phone with dad. He bought himself a number of woolly buggers of various colors, and we returned to the east side of Lake No. 5 with the rest of the fly anglers the following Saturday, two permits in my hand.

beneath the surface that I began fishing beneath the surface for any significant amount of time myself.

I had watched him cast, then slowly strip line back to him as he waited for his line to dart left or right. Then he'd set the hook. He was catching fish so fast that he frequently took breaks, not wanting to finish his four-fish permit any earlier than he needed to, even if he was permitted two more of these daily \$6 permits on site if he so desired.

Right after photographing the opener, I called my dad, told him what I thought we should try and picked up a couple of woolly buggers from Scheels in Omaha. They were less than a couple of bucks apiece. My son, Eli, and I were at the lake the next morning. Within a few casts into the open water, the first fish slammed into my fly,

Once again, the fish were there. A day later, we had two more friends come with us after sharing how much fun we had had. Because neither of them had any fly fishing equipment of their own, we loaned them a



Top: Scott Marr of Omaha catches a rainbow trout while fly fishing at Two Rivers State Recreation Area's Lake No. 5.

Right: Eighty-two-year-old Riley Marr of Omaha nets a trout he caught on the fly at Two Rivers.



Pete Jessen holds a nice rainbow trout he caught while fly fishing at Two Rivers State Recreation Area.



PHOTO BY LARRY KUJURUS

Trout fishing at Two Rivers State Recreation Area is a cabin fever cure when it opens each March. Three four-fish permits are available per day on site for \$6 apiece.

pair of \$20 fly-fishing combos that worked just fine for someone looking to see if fly fishing might interest him.

Now both friends have bought their own rod and reel combos. It's nearly impossible not to after an initiation of Two Rivers

trout. They're aggressive, hard-fighting fish that can be caught on any number of baits and lures. Yet I prefer trout on the fly.

This month, I'll be back at Two Rivers. It's already become my rite of passage in the spring along with viewing the sandhill crane

migration. I long for the day when even more of my friends and I are spread across the entire east side of the lake. Until that day, however, I'll be more than happy to share the lakeside with folks I've never met. Who knows? I may just learn something that will change my life. ■

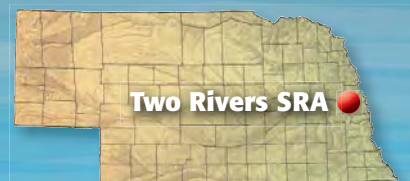
Fishing at Two Rivers



Two Rivers SRA's ever-popular trout lake (Lake No. 5) normally opens to pay fishing on the second Saturday of March and remains open until July 1. Those with physical disabilities can enjoy the trout lake, too, as a wheelchair-accessible fishing pier is located at the south end of the lake. The restrooms located near the lake are also wheelchair-accessible.

Regulations governing the trout lake, including fees and fish allowed per tag, are posted on the area. A valid Nebraska fishing permit is required in addition to the trout tag.

For more information on fishing opportunities here and at parks across the state, visit the interactive public fishing areas map at Outdoornebraska.org. This map provides detailed information on available species, regulations, public boat ramps, fish cleaning stations and handicapped-accessible boat ramps and docks, among other features in reservoirs, lakes, streams, and rivers statewide. ■



Two Rivers State Recreation Area is located one mile south of Venice off Highway 92 west of Omaha.

The State of Nebraska's Birds

By Joel G. Jorgensen, Nongame Bird Program Manager, Nebraska Game and Parks Commission

Nebraska's birdlife is changing. This is not a revelation nor is it news. Nebraska's birdlife has been and is defined by change. When the first European explorers reached what is now Nebraska they encountered an array of species that included Carolina parakeets and passenger pigeons.

A sighting of either species in Nebraska seems exotic and fantasy, since both have been extinct for about a century. Side-by-side with continual change, there is also constancy. Those early explorers also encountered Canada geese, American white pelicans, and other species we commonly see in Nebraska today. The song of the western meadowlark that greeted the earliest settlers still fills the soundscape across much of the state on spring mornings.

Nebraska's landscapes have undergone dramatic change since settlement by European Americans in the 1800s. As humans changed habitats in Nebraska, birds responded. For some species, the changes result in habitat opportunities which spur increases in numbers and an expansion in range. For other species, the changes result in habitat loss, a decline in numbers and a loss in range. Still other species take the changes in stride and adapt to the new habitats. Nebraska's official state bird list currently boasts 461 bird species, and with so many species'

populations going up, down and sideways, it is difficult to know how our birds are faring.

The North American Bird Conservation Initiative annually releases a report titled "The State of the Birds," which provides a broad perspective of how birds are doing on a continent-wide scale. Generally, the reports paint a troubling picture about the status of our birds. There are conservation challenges that threaten bird populations in North America and around the world. However, national trends may not always match those on a state level. Thus, with all this constancy and change, the time seems right to review the "state of our birds" in Nebraska.

The Breeding Bird Survey (BBS) may be the most useful dataset that provides trend information about Nebraska's breeding birds. The BBS is a volunteer-based effort whereby birders conduct road-based surveys. It is coordinated by the U.S. Geological Survey and it began in 1966. Of the 139 relatively common breeding species for which the USGS provides population size trend estimates based on BBS data (1966-2013), 53 percent have shown increases, 33 percent have shown declines, and 13 percent have remained relatively stable.

These results indicate the majority of Nebraska's bird species are doing



WESTERN MEADOWLARK BY JUSTIN HAAG

reasonably well. However, the decline of a third of Nebraska's common breeding birds indicates that there are major conservation challenges in Nebraska.

Increasing Species

As previously noted, population increases and range expansions by some species can be readily attributed to environmental changes made by humans. Since settlement by Europeans, riparian woodlands expanded along Nebraska's river valleys largely because fire and flooding has been suppressed. A number of eastern species followed the westward expansion of these woodlands. Red-bellied woodpeckers, great crested flycatchers, white-breasted nuthatches, and northern cardinals were all once restricted to eastern Nebraska but moved west as habitat became available and continue to push their limits. These species now occur nearly statewide, especially along major rivers such as the Platte and Republican.

Other species are increasing in numbers in Nebraska for a variety of reasons. Rock pigeons, Eurasian collared-doves and European starlings are introduced, non-native species that have become part of our avifauna. The collared-dove arrived in our state as recently as 1997, and since then no other species has increased in numbers or expanded its ranges as rapidly. In many areas, particularly small towns in



EURASIAN COLLARED-DOVE BY JUSTIN HAAG

central and western Nebraska, it is the most numerous resident bird species.

Changes in habitat have allowed formerly absent species to expand their ranges into Nebraska. Great-tailed grackles moved north to the United States from Mexico. Cattle egrets traveled from Africa to South America on their own and then moved north to Nebraska. House finches spread from native populations in the west and also from introduced populations from the east; they consolidated their range in eastern Nebraska in the early 1990s and now occur statewide. Populations of other birds, such as wild turkeys and Canada geese, have come back strong thanks to conservation and reintroduction efforts after being decimated by unregulated hunting following Euroamerican settlement.

Other species have benefited from human-created nesting sites. Cliff swallows were once restricted to building their nests on rocky cliff faces. Now these birds nest in large numbers on the many concrete bridges and culverts that span the state's rivers and streams. Eastern bluebirds and tree swallows benefit from nest boxes placed across the state by individuals and organizations such as Bluebirds Across Nebraska. Cooper's hawks seem to be thriving in the open woodlands of residential neighborhoods where some people concentrate their preferred prey source – small birds – at feeder stations.

While increases in some species are easy to understand, there are a few that are not easily explained. White-faced ibises were once rare in Nebraska and the Great Plains,

but since the mid-20th century, their numbers increased markedly and their range expanded. During this same time other wetland birds declined due to habitat loss. If that wasn't strange enough, the similar-looking glossy ibis is also rapidly increasing in North America and Nebraska. This colonist from the Old World was restricted to the southeastern United States prior to the 1980s. Nebraska recorded its first glossy ibis in 1999, and they began



CLIFF SWALLOW BY JOEL JORGENSEN

breeding in Nebraska in 2015 (Clay County). It is not entirely clear why these two species are now increasing so dramatically.

A handful of other increasing species are not included in the BBS analysis because they are not numerous enough to be detected in sufficient numbers. The bald eagle is an example. Prior to 1990, Nebraska hosted no nesting pairs; in 2016, 159 active bald eagle nests were counted. Trumpeter swans are slowly increasing in the Sandhills. Pileated woodpeckers have infiltrated the largest woodland tracts in southeastern Nebraska after being absent for most of the 20th century. Ospreys and sandhill cranes have recently started nesting in the state. Species slowly moving into the state from the south are likely capitalizing on habitat changes directly made by humans as well as those brought about by a warming climate; these species include Mississippi kite, white-winged dove, lesser goldfinch, and blue-gray gnatcatcher.



TRUMPETER SWANS BY ERIC FOWLER

Declining Species

Generally, grassland birds, and in particular those requiring large unbroken tracts of prairie, show the biggest population declines. Brewer's sparrow, short-eared owl, loggerhead shrike, eastern meadowlark, long-billed curlew, grasshopper sparrow, and lark bunting are all grassland dependent

species experiencing notable long-term declines. Land use changes have reduced the expansive prairies that once dominated the state; ongoing changes are continuing to reduce and fragment the remaining prairie tracts. The absence of fire has allowed eastern red cedar and other woody plants to invade many of the remaining grasslands, which makes the habitat unsuitable for



WHITE-FACED IBISES BY JULIE GEISER

NORTHERN CARDINAL BY JOEL JORGENSEN





SANDHILL CRANES BY ERIC FOWLER

prairie specialists.

Particularly worrying is the fact that Nebraska represents the core breeding range for many grassland species experiencing population declines. Even though dickcissels, western meadowlarks and lark buntings remain common in Nebraska, their overall numbers are shrinking. Other prairie species with relatively small breeding ranges are known to be undergoing substantial declines. Two small sparrow-like species, McCown's and chestnut-collared longspurs, have declined by more than 80 percent across their ranges, which include small portions of western Nebraska, over the last 40 years.

Similar to grassland species, wetland

species are also suffering notable declines. Among this group are black terns, northern pintails, marsh wrens, eared grebes, American avocets, and even the common American coot ("mudhen"). Wetlands in certain regions of the state, such as the Sandhills, remain relatively intact and provide excellent nesting habitat, but the quantity and quality of wetlands in other regions in Nebraska, such as the Rainwater Basin, and outside of the state, such as the Prairie Pothole region of the Dakotas, have been reduced by factors associated with surrounding land use. As wetland quantity and quality decline, so do the populations of many of the birds who rely on these important habitats.

Habitat loss is usually the most important cause of bird species decline, but it is not the only one. In the early 2000s, a novel disease was big news as it first arrived in the United States and spread across the continent. West Nile virus was potentially lethal to humans and affected many birds; some species were especially susceptible to West Nile virus. Raptors, black-capped chickadees, and especially corvids (jays, crows, and magpies) were hit the hardest by West Nile virus. Very likely, West Nile virus hurt black-billed magpie populations in the state more than any other species. While black-capped chickadee populations and others seem to be recovering from West Nile virus, magpies continue to decline. It is possible that magpies, which once were found over all but far eastern Nebraska, could disappear from the

state in the not-too-distant future.

Interestingly, two introduced species that once increased rapidly and quickly became abundant statewide are among the declining species. Ring-necked pheasants have declined in numbers along with native grassland birds. House sparrows, which compete with native songbirds and are considered a pest species, have experienced big population declines in Nebraska and across their range in recent years. House sparrows build their nests on human structures, and the fact that there are fewer farms and farm buildings across the state may be one



BLACK-BILLED MAGPIE BY ROCKY HOFFMANN

explanation for their decline. However, there is compelling evidence showing house finches, a species mentioned in the previous section, may be out-competing house sparrows and causing their decline.

The notion of halting and reversing declines of some species seems daunting; particularly for those grassland and wetland species where

there is no one easily-implementable solution to overcome the loss of habitat. Outlawing unregulated shooting of birds in the early 1900s and banning DDT in 1972 after its use caused bald eagles, peregrine falcons and ospreys populations to decline were effective in reversing declines in those species. Restoring and enhancing habitats on the scale needed to bring back populations of some declining species is a big challenge, particularly considering the increasing demands on our resources. Also sobering are data showing that downward trends have accelerated in recent years for nearly half of the declining species.

Migrants and Wintering Species

Only about half of the bird species that occur in Nebraska breed here. Most of the other species are transients passing through as they migrate between breeding and wintering areas, while the rest may only spend the winter in Nebraska. Migratory habitat was once considered secondary in importance to breeding habitat by conservation managers, but increasingly, we are recognizing that quality stopover habitat for a migratory bird is of tremendous importance.

Migration is a dangerous, energy-demanding business so access to safe migratory stopover habitat with an abundance of food is critically important. A bird that is unable to refuel may not be able to continue its migration. It may arrive in breeding areas in poor physical condition or not at all, and may not breed successfully. If this scenario plays out with increased frequency, a migratory bird's population will likely decline.

Nebraska landscapes and ecosystems are nationally and internationally renowned for their importance to migrating birds, particularly in spring. The spectacle of the sandhill crane migration in the central Platte River valley is an example. The Platte River and the wetlands of the Rainwater Basin are vitally important in supporting mid-continental populations of waterfowl, shorebirds and the critically-endangered whooping crane. But there are other lesser-known



Full Life Cycle Conservation and Southern Wings Program

Migratory birds present a conservation challenge because they use specific habitat over large geographic areas. Because of this, conservation efforts must consider the full life and annual cycles of birds to be effective. Most of our bird species, including those that breed here, only spend a part of their year in Nebraska. For example, satellite telemetry showed that female long-billed curlews may spend as few as 8-12 weeks on their nesting grounds in the Nebraska Sandhills. The rest of the year, curlews, as well as many other birds, are elsewhere, including areas well south of the United States. This means that even if birds have everything they need to be successful during their time in Nebraska, populations may still be vulnerable to declines because they may experience stressors elsewhere. Thus, focusing solely on the needs of migratory birds in Nebraska may not lead to conservation success.

The Nebraska Game and Parks Commission supports and has been involved with an innovative program called Southern Wings, coordinated by the Association of Fish

and Wildlife Agencies, since 2012. Nebraska, along with several nearby states, has provided seed money to support fledgling conservation efforts in the El Tokio Priority Grassland Area in Nuevo Leon, Mexico. The project works with several ejidos – areas



of communal agricultural land – to implement best management practices on the landscape, restore degraded lands and monitor the impacts on target species that includes the long-billed curlew, mountain plover and burrowing owl. To date more than 110,000 acres of grasslands have been restored or conserved. The project has already improved grasslands habitat that is paying dividends for our shared birds and the people that depend on the land for their livelihood and is a model for future conservation efforts. ■



SHORTEARED OWL BY BOB GREER



BUFF-BREASTED SANDPIPER BY JON FARRAR

species that rely on these stopover habitats in Nebraska.

One of these species is the buff-breasted sandpiper, a shorebird that spends the winter in southern South America and breeds in the North American Arctic. Nearly the entire population of “buffies” stop over for a few days in the eastern portion of the Rainwater Basin during the middle of May. Woodland migrants include a diversity of warblers, vireos, orioles, buntings and flycatchers that winter in the Neotropics and nest in temperate and northern boreal forests. Grassland migrants include Sprague’s pipit and Baird’s sparrow, two rapidly declining species that nest in vast prairie regions of the northern Great Plains and winter in the southern United States and Mexico.

Threatened and Endangered Species

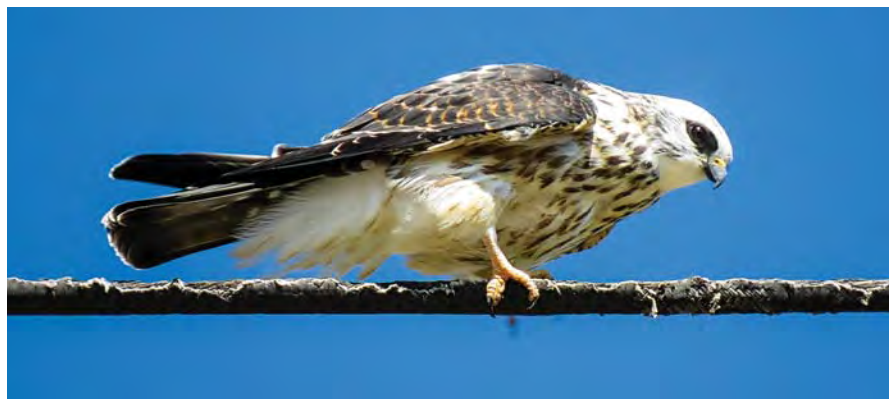
Five state and/or federally threatened or endangered bird species are known to occur in Nebraska. Whooping cranes, piping plovers, least terns, and red knots are all on the federal and state endangered species lists and mountain plovers are on the state list.

Whooping cranes, with a population of just over 300 birds, are only found in Nebraska during spring and fall migration, times that are especially dangerous for a species that is critically endangered. Red knots are migratory shorebirds that rarely stop in our state, so their status as a threatened species has limited implications for Nebraska.

Piping plovers and least terns breed

across Nebraska and occupy habitats of sparsely vegetated sand adjacent to water in and along our major river systems. Historically, these birds were found on mid-stream river sandbars in the Missouri and Platte rivers and their tributaries. Today, human-created environments, such as reservoirs, aggregate mines and lakeshore housing developments, support most of our breeding populations of both species. Piping plover numbers in the state have generally remained stable during the past few decades.

Least terns are being considered for removal from the federal list because their numbers along the lower reaches of the Mississippi River, where a majority of the population resides, are greater than previously thought. The mountain plover is a shorebird that inhabits dry shortgrass prairies and generally avoids water. Almost all mountain plovers in Nebraska now nest in fallow agricultural fields in the western part of the state because these areas mimic naturally disturbed areas that the birds prefer, but a nest placed in an agricultural field is at-risk of being incidentally destroyed. As with piping plovers and least terns, the fact that mountain plovers are now nesting in human-dominated environments presents challenges and opportunities for conservation practitioners [see page 53 sidebar].



MISSISSIPPI KITE BY JOEL JORGENSEN

Conservation Efforts

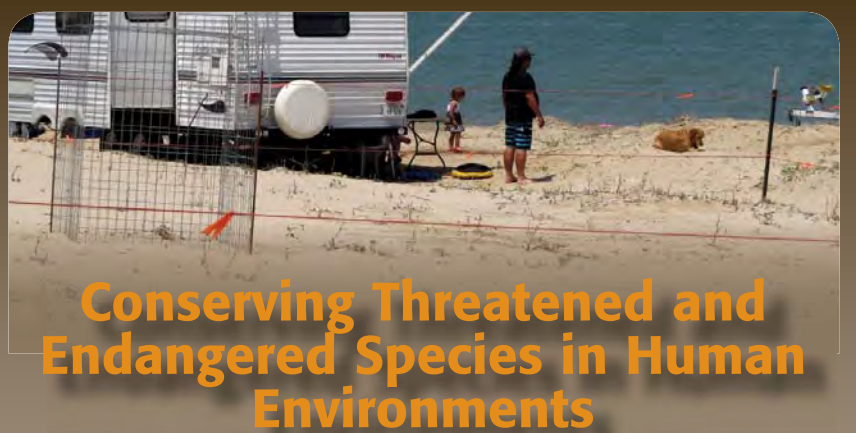
It would be remiss to discuss the state of Nebraska’s birds without acknowledging the commitment of state and federal agencies, non-governmental organizations, and landowners to work in partnership for the benefit of our birds and wildlife. Notable among these partnerships are statewide efforts to return fire to the prairie landscape to reduce the scourge of eastern red cedar invasion and to promote the health of prairies and grasslands. The Berggren Plan is intended to increase ring-necked pheasant numbers, and efforts to restore native grassland species as well.

In the Rainwater Basin, Platte River valley, Eastern Saline Wetlands, Sandhills and elsewhere, people are working in innovative ways to restore and enhance wetlands in a manner that is compatible with birds, wildlife and agricultural production. Collectively, these conservation efforts are having positive impacts on the landscape and are striving to achieve the goals of the Nebraska Natural Legacy Project, which is our state’s blueprint for wildlife conservation and is focused on species that are in greatest need of conservation.

Outlook

Change is a constant for Nebraska’s birdlife, as it has been since before settlement and will be forever. Emerging trends make some future changes in our bird populations predictable, but without question, some future changes will be unexpected. Observing how birds respond and adapt to the perpetual cycle of change is what makes birds a never ending source of wonder and intrigue. Despite the changes there are constants; much of our birdlife is similar to what Lewis and Clark and other early explorers and settlers experienced.

As the human population grows and we demand more from our natural resources, some of our birds will become increasingly at-risk and could possibly become extirpated from our state or even become extinct. Whether legal protections, conservation efforts and human innovation can find a future balance whereby we preserve the full complement of our avian natural heritage remains to be determined. ■



Managing and protecting threatened or endangered species can be challenging when those animals occur in habitats that are also used by humans. Legally-protected species occupying private lands or that occur in close proximity to people can create a burden or liability for landowners and others. Least terns and piping plovers nest and raise their young at aggregate mines, lakeshore housing developments, and on the beaches of one of Nebraska’s most popular recreation destinations, Lake McConaughy. Successfully protecting these birds, their eggs, and young depends on avoiding conflicts and on working cooperatively with stakeholders rather than merely focusing on the birds’ biology. At aggregate mines and lakeshore housing developments in eastern Nebraska, this has meant cooperation between companies, developers and regulatory agencies through the Tern and Plover Conservation Partnership. At Lake McConaughy this has meant adjusting how human-bird conflicts are addressed in the face of an increasing number of visitors coming to the lake.

In Nebraska’s southwestern

panhandle, an effort to work cooperatively with landowners is being implemented to protect the state threatened mountain plover. In this landscape, mountain plovers nest in



fallow agriculture fields, and their eggs are at-risk of destruction from tillage intended to control weeds. The Bird Conservancy of the Rockies successfully leads an effort where they work cooperatively with 80 farmers, and together they locate and mark nests before tillage operations begin so that farmers can avoid destroying nests. Since 2002, the partnership has found and marked over 900 mountain plover nests in agricultural fields.

Cooperating with, rather than obstructing people is proving to be the foundation of conservation success in these habitats. ■



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Let the Sun Shine In

Look to the skies to keep yourself grounded.

By Roger Welsch

I once mentioned in passing to a large class at the University of Nebraska-Lincoln that I took special pleasure driving west on Vine Street that morning because I saw the sun coming up directly behind me, straight down the middle line, and was reminded that it was March 20, the spring equinox. I expected nods and maybe some "Oh yeah! That's right!" from the class but instead got a puzzled silence. Maybe it was the earlier hour of the class. I tried again: "Equinox? Anyone?" Nothing. The upshot of the following discussion was that few in the class had noticed in their lifetimes, let alone that spring, that the sun does not rise (or for that matter set) at the same place on the horizon every day. But a few times a year it does – the equinoxes when day and night hours are the same, and the winter and summer solstices when the sun's sweeps on the horizon are at their extreme. These children of the New Age had simply never noticed.

Well, I do. I joke that if I don't keep the skies well regulated and following their prescribed schedules, who will? Actually, it's the other way around: I like to note the cosmic passages in their regularity so that I can keep my own life well grounded. Observing such near eternal landmarks (skymarks?) remind me that whatever my own agenda (change furnace filters spring and fall, remember Linda's birthday and our anniversary, service the car when the odometer is only a thousand miles or so past where the sticker on the windshield says I should have done it, that sort of thing), my concerns are trivial compared to the grander workings of the universe, from Orion's march across the winter sky to the cycles of the moon and sun. Or even the slightly smaller but equally remarkable and apparently eternal workings closer to our eyes and lives – the first burring of the cranes, nightlong honkings of geese headed north, or returning south, the sudden awareness that the big maple at our front door is suddenly abuzz with tens of thousands of bees going at their annual spring work, the morning I wake up and step into the yard to hear ... nothing, and the rather sad knowledge that by some secret signal the birds have all decided in what is an apparent unanimous vote it's time to head south and leave the strange two-leggeds bound to Earth to hear only crow calls for a few months.

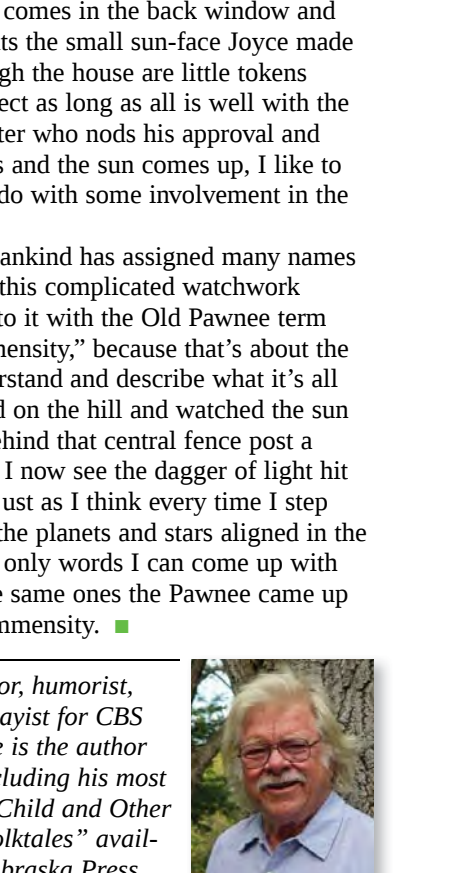
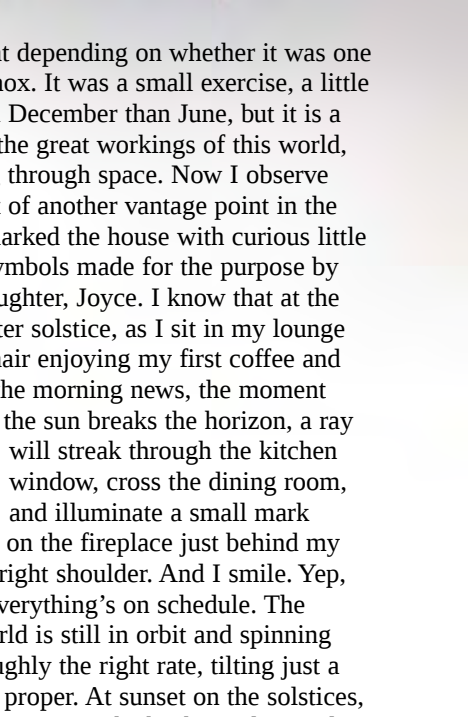
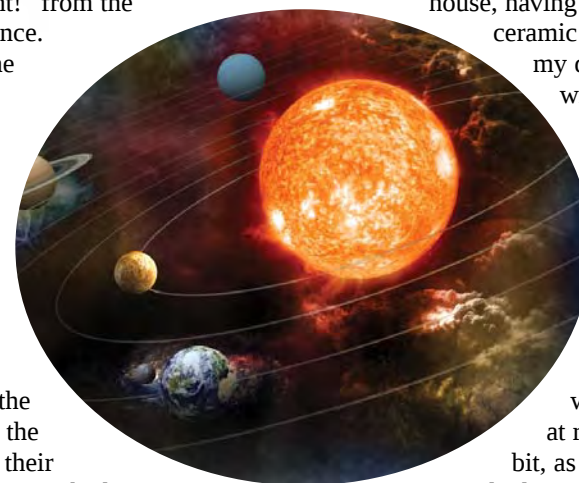
I used to have three stakes set up in the hills above our house, so arranged that if I stood at dawn at one of them I would see the sun rise up directly behind another, main post

some hundred yards distant depending on whether it was one of the solstices or an equinox. It was a small exercise, a little tougher getting up there in December than June, but it is a good time to contemplate the great workings of this world, this tiny blue ball whirling through space. Now I observe the same from the comfort of another vantage point in the house, having marked the house with curious little ceramic symbols made for the purpose by my daughter, Joyce. I know that at the winter solstice, as I sit in my lounge chair enjoying my first coffee and the morning news, the moment the sun breaks the horizon, a ray will streak through the kitchen window, cross the dining room, and illuminate a small mark on the fireplace just behind my right shoulder. And I smile. Yep, everything's on schedule. The world is still in orbit and spinning at roughly the right rate, tilting just a bit, as is proper. At sunset on the solstices, Sol's last ray comes in the back window and

for just a moment lights the small sun-face Joyce made for the east wall. All through the house are little tokens reminding me what to expect as long as all is well with the universe, and like the rooster who nods his approval and satisfaction when he crows and the sun comes up, I like to think I have something to do with some involvement in the Grand Mechanism.

Over the millennia mankind has assigned many names to the Grand Regulator of this complicated watchwork but I have chosen to refer to it with the Old Pawnee term "Tawadahat" or "This Immensity," because that's about the limit to my ability to understand and describe what it's all about. Just as when I stood on the hill and watched the sun come up yet once again behind that central fence post a football field away, just as I now see the dagger of light hit that spot on the fireplace, just as I think every time I step into the backyard and see the planets and stars aligned in the brilliant Nebraska sky, the only words I can come up with to describe my awe are the same ones the Pawnee came up with centuries ago: This Immensity. ■

Roger Welsch is an author, humorist, folklorist and a former essayist for CBS News Sunday Morning. He is the author of more than 40 books, including his most recent "Why I'm an Only Child and Other Slightly Naughty Plains Folktales" available from University of Nebraska Press.



Parks Upgrades

Improvements will be seen throughout the state park system.

By Margot DesRocher

Soon, if not already, vacationers throughout Nebraska and the rest of the country will make a trip to one (or more) of Nebraska's 77 state parks and recreation areas. Here are a few upgrades that will welcome these travelers.

- At Ponca State Park the 57-year-old pool was replaced with a zero depth entry pool, splash pad and new restrooms and showers.

- A duplex-style lodge that combines historical features with modern amenities, designed to replicate a series of officer's quarters, was constructed at Fort Robinson State Park in 2015.

- Durable pre-fabricated concrete restrooms and shower houses were installed between 2014 and 2016 to replace older facilities.

- Electrical upgrades were installed

at Lake Ogallala, Lake Maloney, Calamus, Lake Minatare, Medicine Creek, Merritt Reservoir and Swanson state recreation areas and at Niobrara State Park.

- Angler access improvements were put in place at Jenny Newman Lake at Platte River State Park.

- Road improvements, including resurfacing of parks roads and new surfacing at the equestrian camping area and the road to the boat ramp, were completed at Indian Cave State Park.

- At Sandy Channel State Recreation Area, rock-surface camping pads were installed, along with new grills and picnic tables in conjunction with lake and boat access improvements.

- Upgrades were made at Dead Timber State Recreation Area,

including new grills and picnic tables, and vault toilets were installed and the picnic shelter was repainted.

- The Wildcat Hills Outdoor Shooting Complex was created, which includes a rimfire range, archery range, air rifle range and a trap/skeet range.

- At Chadron State Park, the audio visual system and lighting at the group meeting facility were upgraded with the installation of new audio visual equipment and acoustic treatment.

These upgrades were made possible by a combination of legislative appropriations, park revenue, aquatic habitat funds, donations and other funding sources. ■

To see a complete list of upgrades and their funding sources, visit Outdoornebraska.org/parksprojects.



Visitors play at the newly opened Ponca State Park Aquatic Center in Dixon County.

PHOTO BY JENNY NGUYEN

from NEBRASKAland's Trail Tales magazine for kids

junior journal

interesting notes for readers of all ages

by Lindsay Rogers and Donna Schimonitz

Wildlife in the Nebraska State Capitol

By Roxanne Smith, Tourism Supervisor, Office of the Nebraska Capitol Commission

Nebraska's Capitol was designed to house the state government and also tell stories about Nebraska. Hartley Burr Alexander, a University of Nebraska professor, was asked to tell Nebraska's story, with the themes of these stories being nature, people and government. Artist Hildreth Meiere was asked to create mosaics, or pictures, made with little pieces of tile, in the floors and ceilings of the Capitol to tell Nebraska's stories.

The story of nature and animal life in Nebraska begins in the rotunda

floor. Some of the animals in the floor mosaics lived in the inland sea that covered Nebraska hundreds of millions of years ago. These animals include crinoids, a trilobite, an ammonite, and a plesiosaur. In addition to the sea creatures, there are early insects, amphibians and dinosaurs in the floor mosaics. Other prehistoric animals pictured in the rotunda floor are land mammals, rhinoceros, three-toed horses and mammoths.

The theme of the Vestibule, or main entrance room of the Capitol, is "Gifts of Nature." In the ceiling mosaics, agricultural crops and domestic animals are shown. Around the outside of the ceiling, wild animals of Nebraska are pictured. The wild animals featured in the mosaics in the Vestibule ceiling include the grizzly bear, field mouse, badger, hawk, opossum, white-tailed deer, skunk, fox, duck, mink, pronghorn, brown squirrel, otter, prairie dog, jack rabbit, owl, elk, ground squirrel, coyote, buffalo, beaver, cougar, bald eagle, wolf, bobcat and raccoon.

The East Legislative Chamber (Warner Chamber) has pictures of

historic Native American life in Nebraska. Native people believed animals had special powers. In the colorful carved doors of the chamber, a native man and woman are shown standing on animals whose special power they wanted. The woman with a baby on her back stands on a turtle because turtles lay many eggs and the women wanted to have many babies to help the tribe grow big and strong. The man stands on an otter a symbol of good medicine, or good fortune, which helped the hunters find bison and food for the tribe.

Inside the chamber, the ceiling mosaics feature animals along with the daily activities of the tribe. These animals symbolize four elements of nature: soil, water, magic/fire, and air.

As you can see, there truly is a wild side to the Nebraska state capitol. On your next trip to Lincoln, come take a look! 🐾



Wolf - In Vestibule

NATURE CALENDAR

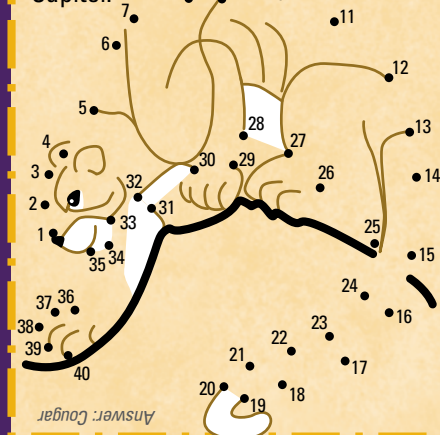
- Mourning cloak butterflies can be seen flying around on warm days: Early March
- Wild turkey courtship: Mid-March through April
- Mountain short-horned lizards emerge from hibernation: Late April to early May
- Oak trees produce catkins: Late March through late April



Mourning cloak photo by Getty Images

Draw With Dots

Follow the dots in numeric order to identify the animal artwork found in the vestibule of the Nebraska State Capitol.



Answer: Cougar

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Turkeys of a Different Feather

Unique trophies in our turkey populations.

By Justin Haag

One of Nebraska's greatest wildlife management success stories is that of the wild turkey. Although wild turkeys became absent from the state's landscape by 1915, reintroductions of birds beginning midway through that century have resulted in booming populations throughout the state. Nebraska now boasts birds with characteristics of three different subspecies, and the many hybrids, that were released – Merriam's, Rio Grande and Eastern. Now, even within flocks of those birds a specimen will occasionally stand out.

While photographing turkeys throughout the Panhandle, I've been fortunate on several occasions to stumble upon a gray or white turkey mixed among the flocks. The birds, which may be mistaken as domestics or albinos to casual observers, are most likely the result of genetics, say turkey experts.

Because of recessive genes and mutations, as many as four unique color variations from common plumage may be found in the wild – the smoke-phase or smoky-gray, erythritic or red phase, melanistic or black phase, and albinos.

Of those color variations, smoke-phase turkeys, which are predominately gray or white, are the most common and especially stand out when among a group of dark-feathered birds. The appearance of smoke-phase, technically known as leucistic, turkeys differ, but most have variation of light and dark within their feathers just as normal looking wild turkeys do.

Is it possible that some "Butterballs" are running with the wild crowd?

Interbreeding between wild and domestic birds may occur on occasion, but the great majority of the birds derive from wild turkeys, said Jeff Lusk, the Nebraska Game and Parks Commission's upland game program manager. One estimate says one percent of any given wild turkey population will be smoke-phase, but the percentage is certain to be higher or lower depending on a flock's genetics. A group of about 90 birds that I photographed last winter had three smoke-phase birds.

Hunters often harvest birds with these unique colorations if the opportunity arises, and Lusk said they shouldn't feel guilty for doing so. It should be noted, however, that the great majority of smoke-phase turkeys are hens so are only game during the fall season.

"While these birds may be rare, they aren't like an endangered species," he said. "The recessive genes that create these colorations are not considered to be favorable to the bird's or the flock's survival."

While all of my photos of smoke-phase turkeys have been found in northwestern Nebraska, I know they exist in other parts of the state.

After putting out a call for smoke-phase wild



turkey photos on the "Afield and Afloat" blog of the NEBRASKAland website, I received submissions from as far east as Lincoln. While it was fascinating to see the smoke-phase photos, the most striking of the bunch was an erythritic bird harvested in the Pine Ridge near Chadron. The color variations of those birds are remarkable. Lusk also was impressed by a jet-black turkey harvested in Custer County in spring 2016 by an Oklahoma hunter.

With spring turkey season approaching, hunters will be enjoying the pursuit of Nebraska's gobblers, regardless of their plumage. With skill and a little genetic happenstance, some of the birds approaching their blinds could be among the smoky-gray, red, black or white variety. ■



Smoke-phase, or smoky-gray, wild turkeys (top photo), run with a flock on a wheat field near Whitney in Dawes County. This erythritic bird (bottom photo) was harvested in the Pine Ridge near Chadron.



◀ This picture was taken in October 1941 on the Gunder Qualset Ranch on Beaver Creek, west of District 18 school house near Petersburg, Nebraska.

Standing next to the car (left to right) is my uncle Omer Qualset and my brothers Bob and Billy Hamilton, ready to head out for a hunt.

As I remember, we liked to hunt the local Sandhills blowout ponds for early ducks before they froze over. On a blustery day with lots of ducks in the area many hunters would be scattered throughout the hills on these ponds. Those hunters would keep the ducks moving from pond to pond so hunting could be good for several hours. Uncle Omer prided himself on getting two ducks with one shot. Memories of those days of our youth will linger forever.

– W. C. Bill Hamilton, Ankeny, Iowa

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Salt Creek Tiger Beetle

Final recovery plan for endangered insect includes timeline and price tag.

By Eric Fowler

The final plan to guide the recovery of the endangered Salt Creek tiger beetle was approved by the U.S. Fish and Wildlife Service in January. The plan formalizes the recovery strategy and puts a \$30 million estimated cost on the work that, if completed, experts believe would remove the small, predatory insect from the endangered species list in 30 years.

One of the rarest insects in the North America, numbering about 300 adults last summer, the Salt Creek tiger beetle is currently only found along a four-mile stretch of Little Salt Creek north of Lincoln. It makes its home in the equally rare saline wetlands. Once covering 20,000 acres in Lancaster and Saunders counties, these wetlands, barren salt flats, and the springs that fed them led to the development of a salt processing industry which spawned the settlement of Lincoln. After more than a century of agricultural and urban development and stream modifications, just roughly 35 to 40 acres remains that is capable of supporting the Salt Creek tiger beetle.

Continuing to conserve and restore the wetlands that remain is a key part of the plan, and most of the estimated \$30 million price tag.

“There’s nothing earthshaking in that recovery plan,” said Bob Harms, a USFWS biologist at the agency’s Wood River office overseeing Salt Creek tiger beetle recovery. “We didn’t wait for a recovery plan to start doing recovery on the tiger beetle.

“But it’s not cheap. It’s land acquisition and restoration, and a lot of these places are highly degraded.”

Work to preserve saline wetlands began even before the Salt Creek tiger beetle was added to the state’s endangered species list in 2000. It was federally listed in 2005. Leading the work is the Saline Wetlands Conservation Partnership, formed in 2003 by the Nebraska Game and Parks Commission, Lower Platte South Natural Resources District, City of Lincoln and The Nature Conservancy. Together, the partners have purchased about 1,530 acres from willing sellers. Another 900 acres have been protected from development under conservation easements through the USDA Natural Resources Conservation Service’s Wetland Reserve Program. Combined, this land includes

about 30 percent of the 1,110 acres along Little Salt, Rock, Haines Branch and Oak creeks that the Service in 2014 deemed habitat critical for recovery of the Salt Creek tiger beetle.

Numerous restoration projects have been completed, including one in 2016 at the mouth of Little Salt Creek on the NRD’s Marsh Wren property that peeled the bank away to create a shelf along the creek near a saline seep. Similar work done previously on Shoemaker Marsh north of Lincoln was quickly colonized by tiger beetles.

These creek-side seeps, which offer the moist, saline soils tiger beetles require during their entire life cycle are, with one exception, the only places tiger beetles are currently found. They are, however, a dangerous place for beetles, as spring flooding can easily wash away the underground burrows in which beetles spend most of their two-year life cycle.

Partners hope to do more in the salt flats where the insect historically thrived. This habitat, once mostly barren ground dotted with salt-loving plants like the endangered saltwort, and where water levels varied from year to year and seasonally, is now often too dry, not salty enough or choked by vegetation.

Another project at Marsh Wren, the first of its kind, will address these issues and test the findings of a recent study of saline groundwater by students from the University of Nebraska-Lincoln, another partner in the tiger beetle recovery program. Last year, sediment was removed from two degraded wetlands and a well was installed. Saline water will be pumped into those wetlands starting this summer, a move partners hope will replicate conditions created by saline springs that no longer flow to the surface.

“If you can get that salinity back in the soils, that’s going to take care of some of your vegetative problems, because not all of the plants can handle that type of an environment,” said Tom Malmstrom, Natural Resources Coordinator for the partnership in a joint position funded by the Commission, NRD and City of Lincoln.

The partnership will also begin implementation of the Upper Little Salt Creek Saline Wetlands plan. Based on



An aerial photo of the Arbor Lake Complex, owned by the city of Lincoln, looking south along North 27th Street toward Interstate 80 on the edge of Lincoln, shows the work that has been done to restore saline wetlands to benefit the Salt Creek tiger beetle and other wildlife. It also shows a channelized stretch of Little Salt Creek, at right, that is home to the insect but once held many more.

recent surveys of the condition, vegetative cover, soil properties and hydrology of wetlands on publicly-owned properties in the watershed, the plan will prioritize and guide restoration efforts on those lands.

More suitable habitat is needed to test the success of the captive breeding and rearing program researchers have developed and appear to have mastered in recent years at the Lincoln Children’s Zoo and Henry Doorly Zoo in Omaha. Begun in 2011 with dismal results, they are now able to produce more larvae than they can handle: 1,300 in 2015 and 900 in 2016.

Their goal will be to produce 800 larvae each year, according to Mike Fritz, natural heritage biologist with the Commission. Some will be released in the spring or fall, while others will be reared to adults, which will be released to breed in the wild. This summer, a mark and recapture study will measure survival of adults in the wild, and monitor population response the following year.

To date, captive-reared beetles have only been released to supplement existing populations. Partners know they need to begin releasing them in unoccupied areas that once held beetles to meet the delisting criteria outlined in the final recovery plan. The insect will be downlisted from endangered to threatened when there are three wild populations numbering between 500 and 1,000 individuals

each in three recovery areas. When three additional populations are established, including one in a fourth recovery area, and those wild populations remain stable for 10 years, the species may be delisted.

“We’ve got a long ways to go,” Harms said.

Having the final recovery plan in place should make it easier to obtain funding for habitat acquisition and restoration, including more from the Fish and Wildlife Service, Harms said.

“The Fish and Wildlife Service is supposed to protect these species, but most important is for us to restore the habitat and ecosystems in which these species reside,” Harms said. “That’s the saline wetland system.”

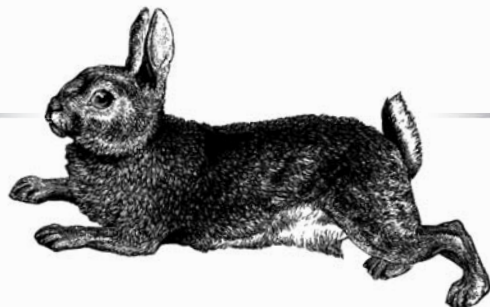
The benefits of the work go far beyond the Salt Creek tiger beetle, Harms said. The streams, wetland and uplands around them provide habitat for other wildlife. And most sites are also open to the public, some for hiking and birdwatching, some for hunting and some for all of these activities. Several sites have primitive nature trails. Two – Arbor Lake and Shoemaker Marsh – often serve as outdoor classrooms for university and other students.

“There are going to be a lot of environmental amenities that people can appreciate and enjoy when this is all over,” Harms said. “There already are. And a lot them came to be because of the Salt Creek tiger beetle.” ■

Rabbit Cacciatore

An Italian hunter-style meal.

By Jenny Nguyen



Chicken cacciatore is the more familiar dish, but did you know that cacciatore means “hunter” in Italian? I’ve been making it with rabbit, and I think it’s finally living up to its name.

Skip the fried rabbit and give this a try. How does fork-tender rabbit slowly simmered in tomato gravy with herbs, wine and mushrooms sound?

Servings: 4

Prep Time: 15 minutes

Cooking Time: 2½ hours

Ingredients:

- 1½ pounds of rabbit
- Kosher salt
- Freshly cracked pepper
- ¼ cup of all-purpose flour
- 3 tablespoons of olive oil, separated
- 1 medium onion, chopped
- 8 ounces of mushrooms, sliced
- 2 large cloves of garlic, minced
- ½ cup of red wine (not sweet)

- 3 cups of diced ripe tomatoes
- 2 sprigs of fresh thyme
- 1 bay leaf
- Reduced-sodium chicken broth, about 2 cups
- 1 tablespoon of capers
- Chopped parsley

1. Preheat oven to 325 degrees F. Cut rabbit into serving-size pieces. Remove thick layers of silver skin from rabbit, but don’t worry about getting it all. Pat dry with paper towels and sprinkle with salt and pepper, to taste.

2. Over medium-high heat, heat 1 tablespoon of olive oil in a large pan with a lid. Lightly dredge seasoned rabbit in flour, shaking off excess. Brown meat on both sides until golden brown. Move rabbit to a plate and set aside.

3. Lower heat to medium. Add onion and a pinch of salt to the pan; add more oil if necessary. Sweat onion for 5 minutes, stirring occasionally, then add mushrooms with a pinch of salt. Brown mushrooms on both sides, about

5-7 minutes. Add garlic, thyme, and bay leaf, and cook for 30 seconds. Do not allow garlic to brown.

4. Pour wine into the pan and allow it to simmer until mostly evaporated. Add diced tomatoes to the pan and then return rabbit to the pan. Pour in enough chicken broth to submerge the rabbit halfway. Cover the pan with aluminum foil and then fit the lid onto the pan as tightly as you can.

5. Bake rabbit cacciatore in a 325-degree oven for about 2 hours or until tender. Check halfway through to make sure there’s still sufficient liquid – if not, add more broth. Thirty minutes before taking dish out of the oven, remove the aluminum foil and replace lid to allow some steam to escape to thicken sauce. Taste cacciatore sauce for seasoning. Garnish with chopped parsley and capers. Serve rabbit pieces over pasta, rice or potatoes. ■

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



PHOTO BY JENNY NGUYEN

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NEBRASKA
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Something...anything

In the January/February issue of *NEBRASKAland Magazine*, Julie Geiser wrote a story entitled “A Year Outdoors” that we knew would spark immediate debate among readers for those outdoor pursuits we failed to include in that article. What I didn’t realize is how quickly I would forget the simplest message of all for the coming months that this piece regarded – get outside and do something. Anything.

I was reminded of this while going through photos from March of 2016. I knew I would come across fishing photos and wasn’t disappointed, immediately uncovering trips for both farm pond crappies and Two Rivers State Recreation Area put-and-take trout, but what I forgot about was my family trip to Fontenelle Forest and their annual Fairy Faire event.

I couldn’t help but laugh at the photos of bright and colorful “fairies” walking through these eastern Nebraska woodlands giving flower petals to children along the way, and the very Blair Witch-like fairy houses that my children, as well as a host of other kids, were making with fallen branches and leaves.

It was one of those perfectly gloomy, yet oh-so-bright, March days that I look forward to every year, where the possibilities remain endless for finding something to do in nature.

Jeff Kurrus
January 30, 2017



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