



While sitting on the edge of a clear pool just off the Snake River in Cherry County, I photographed these two western grebes who happened to surface simultaneously from a dive.
Photo by Bill Hager.

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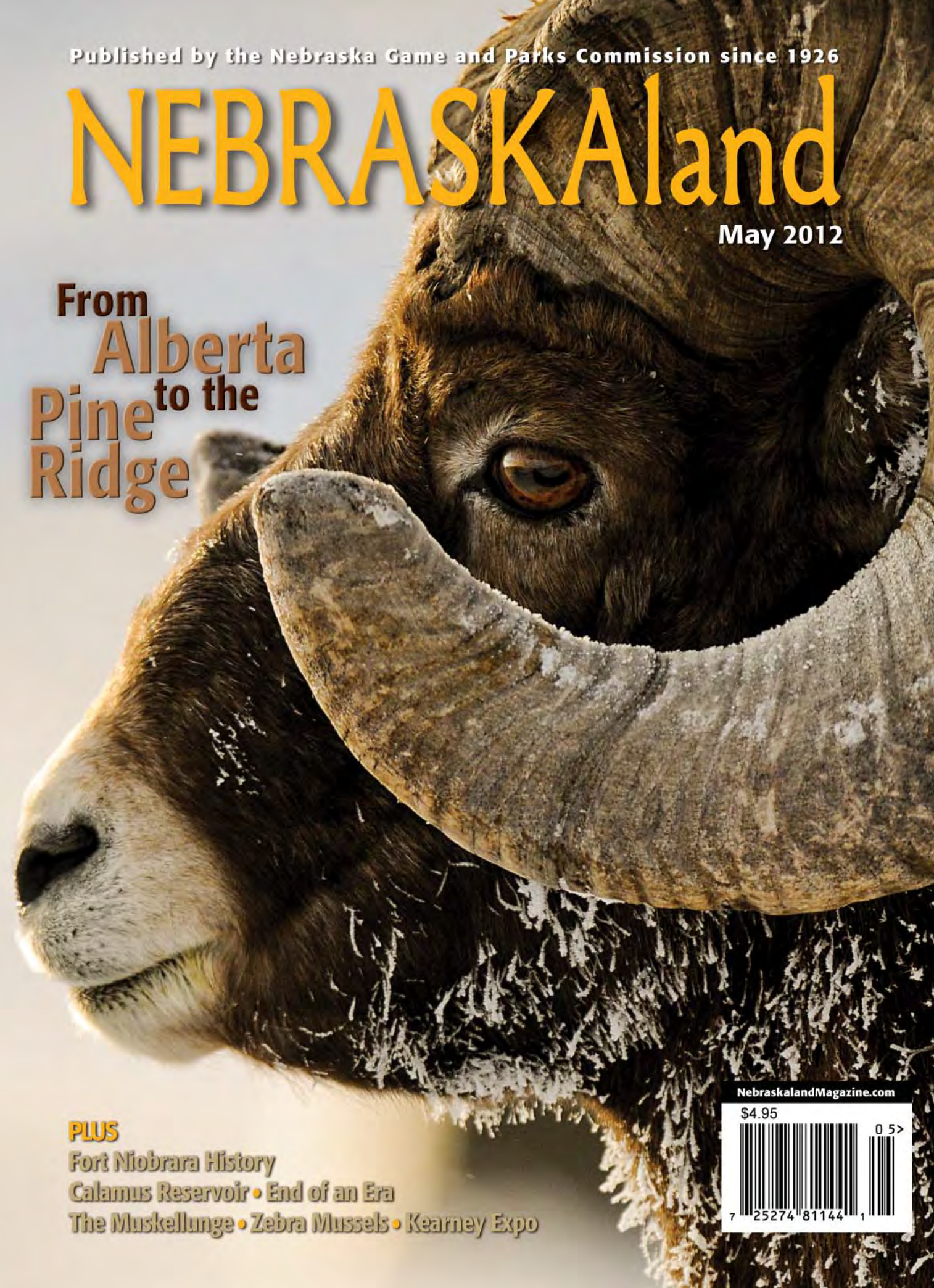
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NEBRASKAland

May 2012

From
Alberta
to the
Pine Ridge



PLUS

Fort Niobrara History

Calamus Reservoir • End of an Era

The Muskellunge • Zebra Mussels • Kearney Expo

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NEBRASKAland

Volume 90, Number 4, May 2012

FEATURES

12 From Alberta to the Pine Ridge

A long, involved trip to Alberta earlier this year resulted in 40 Canadian bighorn sheep being released in western Nebraska. TEXT AND PHOTOS BY ERIC FOWLER

20 Fort Niobrara - From Indian Wars to Wildlife Refuge

By the mid-1880s, only four military forts remain in service in Nebraska – and Fort Niobrara was one of them. Today, with its population of elk, deer, bison and other wildlife, this 19,122-acre historical destination has become one of the state's premier wildlife refuges. BY TOM BUECKER

26 Calamus Calling

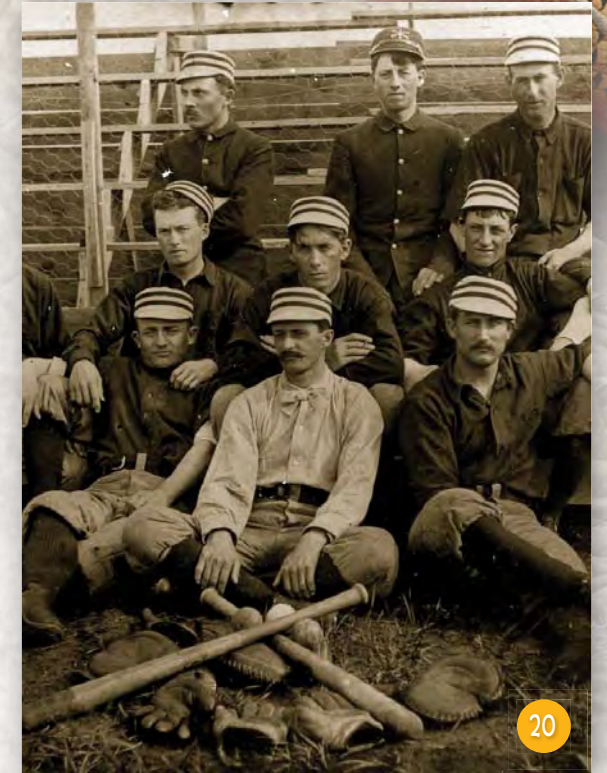
This recreation area northwest of Burwell is a destination hotspot for boaters, anglers and campers. It is no wonder, considering the views both on and near Calamus Reservoir. TEXT AND PHOTOS BY ERIC FOWLER

30 The Amack Years

After almost two and half decades, Rex Amack steps down as director of the Nebraska Game and Parks Commission. BY PAT ENGELHARD

38 The State of the Muskie Address

The muskellunge, one of Nebraska's most intriguing fish, offers a trophy unlike any other. BY JEFF KURRUS



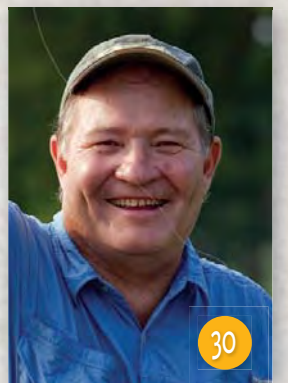
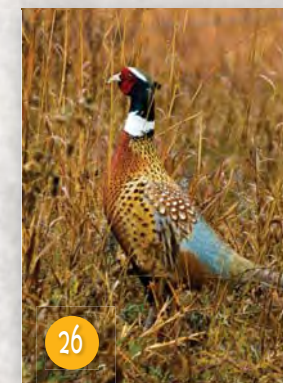
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Cover: His hair and horns coated with hoarfrost, a bighorn ram roams a reclaimed coal mine in Alberta, Canada, on a foggy morning. See story on page 12. Photo by Eric Fowler.

Opposite: On a late-May morning in Lancaster County, a Canada goose gosling yawns while its mother sleeps on one foot. It took the photographer 30 minutes to ease close enough to get this photo without disturbing the family of geese. Photo by Justin Reed.

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Montana Shed Dog

I enjoy your magazine very much. I particularly enjoyed the article in the March 2012 issue of *NEBRASKAland* entitled “Shed Hunting Dogs.” I have attached a few photographs of my shed hunting dog and her antler collection. She is a three-year-old black Chesapeake. Her name is Django and I am very proud of her. She hunts and



retrieves sheds while I fish and look for mushrooms.

John Inkret
Deer Lodge, Montana

Conservation Reminder

I enjoyed Lindsay Roger’s article on Nebraska’s Wildlife Conservation Fund (Jan/Feb 2012 *NEBRASKAland*) and kept it in my bills folder to remind me to make my donation. I hope that others are so moved and that efforts such as those spotlighted in the article continue to receive funding.

Jeanne Miller
Bennington, Nebraska

Battle in Nature

Mr. Carroll,

While taking a midmorning walk along the banks of the Platte River in Merrick County last summer, just south of my home in Central City, I came across this battle in nature as a garter snake had a hold of a young bullfrog.

After taking this shot, the foes parted ways ... one leaving still hungry, the other leaving very fortunate.

I enjoy photography very much and this is my first time submitting a photograph to *NEBRASKAland Magazine* for your consideration. I hope you enjoy it.

Jeff Carlson
Central City, Nebraska

NEBRASKAland Visitor Letters

We want to thank all 55 readers that sent e-mails and letters for last issue’s visitor, a tiger moth that was on page 44 (see page 11 for the winner, rules and this issue’s hint). Here are some of the responses we received:

Dear *NEBRASKAland Magazine*,

I found our tiger moth checking out the flowers on the “Edible Wild Plants of the Prairie” book on page 44.

Thanks for another fine copy of *NEBRASKAland Magazine*, I really enjoy reading and learning about Nebraska and our kingdom of plants, insects, mammals, birds, fishes and all that nature has to offer. We are very lucky we have so much here. You guys do a great job of letting us readers in on a wonderful world.

Chris Faltys
Tekamah, Nebraska

We have been getting *NEBRASKAland Magazine* for many years and thoroughly enjoy reading it from cover to cover.

I finally found the “Visitor” on page 44 in the upper right hand corner, perched on the “Edible Wild Plants of the Prairie.”

Janell Anderson
Neligh, Nebraska

This month’s visitor to Nebraska in *NEBRASKAland Magazine* is on page 44 in the upper right hand corner and is a tiger moth!

I have hunted, and fished in Nebraska for about 75 of my 82 years! Back in the 40s, and 50s the upland game hunting was fabulous in east-central, and eastern Nebraska, while the fishing was only good in the Platte and Elkhorn rivers. The lake impoundments were just getting started. The habitat for fishing has improved greatly since then, but the habitat for upland game has basically gone to pot in these areas, due to the drastic change in agriculture, mostly from irrigation.

I have enjoyed each and every hour that I have been able to spend both fishing and hunting in this great state, and I have been a long-time subscriber to *NEBRASKAland*!

Ronald S. Denker
Fremont, Nebraska

On page 44 of the April issue of *NEBRASKAland Magazine* is a virgo tiger moth enjoying the nectar of the flowers in the upper right corner.

Hmmm, tiger salamanders and tiger moths in the same issue? Great reading, as usual.

Dave Fuller
Lincoln, Nebraska

The moth in last month’s issue is a type of tiger moth, several species of which are found throughout Nebraska. While moths are often thought of as dull and dark, the tiger moth is actually very beautiful. They get their common name from their bright, tiger-like black, orange and cream coloring, a defense mechanism which indicates to predators that the moth is not tasty. The virgin tiger moth, Grammia virgo, is common in the state, with a wingspan of 2 to 2¾ inches in length. The front wings are cream with black markings, and the underwings are orange to pinkish, with black spots. The caterpillars are black, covered in stiff hairs and overwinter nestled into plant debris or under logs and rocks for protection. In the spring, the caterpillars resume feeding before pupating and emerging as adults. The adults are often found June through September. Watch for them around your porch lights at night.



Special thanks to Julie Van Meter, State Entomologist, Nebraska Department of Agriculture. Visitor image by Chris Helzer.

www.bugguide.net is a good site for identification

Send your comments to:
Doug Carroll, Editor
NEBRASKAland Magazine
P.O. Box 30370
Lincoln, NE 68503
or e-mail Doug.Carroll@Nebraska.gov
Please include your postal address and telephone number.
Letters may be condensed and edited for clarity. Photographs are welcome and will be returned.

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COMMISSION OFFICES

Headquarters/Southeast District Office
2200 N. 33rd Street Lincoln, NE 68503
Phone (402) 471-0641

Northeast District Office
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Phone (402) 370-3374

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Junior Duck Stamp Winner

Emily Tolliver's painting of a green-winged teal was awarded best of show at this year's Nebraska Federal Junior Duck Stamp Contest, which is open to K-12th grade students and divided into four different age groups.

An 18-year-old student at McCook High School, Tolliver's artwork was selected from more than 600 entries received from all across the state. Her acrylic painting was sent on to the National Junior Duck Stamp Competition, where the winner received \$5,000. The winning artwork



from the national competition will be used to make the 2012-2013 Junior Duck Stamp. Proceeds from the sale of these stamps, which cost \$5, support conservation education.

Outdoor Skills Camps

Nebraska 4-H camps, in partnership with the Nebraska Game and Parks Commission, offer unique camp experiences for youth every summer. Each camp focuses on outdoor skill development, with youth receiving one-on-one instruction from trained professionals.

The **Outdoor Skills** camps will build skills in the areas of hunting, trapping, fishing, canoeing, camping, archery and shooting sports. Two sessions are offered: June 11-14 at the State 4-H Camp in Halsey; and July 8-13 at the Eastern Nebraska 4-H Center near Gretna.

The **Shooting Skills** camp that will be held June 25-29 at the South Central Nebraska 4-H Center on Harlan County Reservoir is for youth

interested in practicing, improving and excelling in the shooting sports realm. Campers will receive instruction in the areas of muzzleloading, bow and arrow, shotgun, .22 rifle, air rifle, BB gun, hunting skills and environmental awareness. Campers will also receive their Hunter Safety Education certificate.

Lastly, the **Aquatic Skills** camp that will be held June 25-28 is for older youth that are interested in getting in the water. Campers will learn to water ski, operate personal watercraft, ride on wakeboards and cruise in kayaks on Calamus Reservoir. Campers will also earn Basic Boating Safety Certification while camping at the reservoir.

For more information on these and other camps, visit 4h.unl.edu/camp or contact Lindsay Shearer at (402) 472-2846.

Upcoming Events

Here is a list of upcoming outdoor events across Nebraska. For more information about these and other events, visit the calendar page at www.OutdoorNebraska.org.

May 3-5 Cornhusker Trapshoot

All 6th through 12th grade students are invited to the largest school trapshoot in the world. For more information or to register, visit www.cornhusker-trap.com.

May 5 Take Pride in America Day

Volunteers can go out to Branched Oak State Recreation Area and help paint, repair, pick up trash and do other work to clean up the park from 9 a.m. to 3:30 p.m. Lunch will be provided. Call (402) 783-3400 for more information.

May 12 Kearney Family Outdoor Discovery Program

This family event is geared for all ages and will be held from 9 a.m. to 4 p.m. at Fort Kearny State Recreation Area. The event is free, but a park permit is required to enter the grounds.

May 19 Free Park/Free Fish Day

Fish anywhere in the state and visit any Nebraska state park, state historical park or state recreation area for FREE. No park entry or fishing permit required! See page 51 for listing of events at certain parks.

May 19 Chadron Adventure Race

Racers typically locate checkpoints along the route via running/hiking, mountain biking, kayaking and orienteering. For more info go to www.angrycowadventures.com or contact Donna Ritzen at (308) 432-6297 or dritzen@csc.edu.

May 19 Lake Minatare Walleye Tournament

Call (308) 631-2103 for more information.



Outdoor Message Plates

Lynn Hooton of Omaha was born in Minden and lived in Elm Creek, Ravenna and Kearney growing up. He remembers being able to walk across the Platte River and not get wet in the 1930s. He started hunting with his dad, who would occasionally take the afternoon off to take Lynn pheasant hunting. Now 82 and living in Omaha, he still enjoys spring turkey hunting.

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) of it to Eric.Fowler@Nebraska.gov, along with your name, hometown and a brief description of the interests expressed on your license plate.



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The 1:00 PM Turkey

Jeff Kurrus

I'm fond of short hunting and fishing trips. Fifteen minutes, an hour, half-a-day – success is only measured by the amount of time you set aside to get in the field. And turkey hunting is one of the most pleasurable activities to do during the midday because it's probably one of the best times to hunt. When hens begin to separate from toms to lay eggs, insecure toms become very brave and boisterous. Over the lunch hour is a great time to catch a big tom alone. Actually, I've killed more gobblers in the middle of the day than I have off the roost. Plus, I don't have to wake up early. For more information on the spring turkey season, which ends May 31, visit OutdoorNebraska.org.

The Great Park Pursuit

The Great Park Pursuit (GPP) is celebrating its fifth year of existence this summer and hopes to attract more participants than ever. Last year 3,368 participants on 765 teams took part in the program.

A partnership between the Nebraska Game and Parks Commission and the Nebraska Recreation and Park Association, the goal of GPP is to promote active lifestyles while increasing awareness of the nature-rich outdoor recreation opportunities that are available throughout Nebraska. This is done by encouraging participants to visit up to 20 GPP sites located across Nebraska between May 1 and September 17, 2012 and follow clues that will lead them to a GPP post where they can use a pencil or similar tool to make an impression of the post to prove they were there.

Participation in the contest is free – participants only need to pay for postage when mailing in the impressions they collected and for entry into some of the park sites. Anybody can take part, and teams can be made up of individuals, families, friends or any other group. Prizes are awarded per household or group. Registration is limited to one group per household, and individuals can only be part of one team.

Nature impressions can be mailed in at any time, but all entries must be postmarked by September 19, 2012. Photocopies will not be accepted. Prizes and entry into drawings are based on the number of tracings collected – your team is entered into all of the drawings up to the number of impressions submitted.

Three grand prize outdoor recreation packages, with a retail value of \$1,000 each, will be drawn from all eligible entries. The grand prize winners will get their choice of a camping, kayaking or fishing package.

For more information, to register or to see a list of the prizes that are available, visit negpp.org. If you have any questions or would like to request a hardcopy registration form, e-mail info@negpp.org.

Great News for Gardeners and other Plant Geeks

Mike Groenewold, Park Horticulturist

A new plant hardiness zone map released by the U.S. Department of Agriculture (USDA) will not only be of interest to gardeners, but anyone planting trees, shrubs or other ornamental plants. Since 1920, the USDA has published a Plant Hardiness Map that divides the country into 13 plant zones reflecting an average of minimum winter temperatures for a given location over the last 30 years. Zone 13 on the plant zone map reflects the warmest region, indicating a warmer winter temperature limit of survival, while Zone 1 reflects the coldest region, indicating a colder winter temperature limit of survival. The USDA rating system was recently updated with data measured at weather stations during the 30-year period, 1976-2005.

Previously, the southern half of the state was in Zone 5 and the northern half was in Zone 4. Only a few counties in the northern Panhandle are in Zone 4 on the new map, or put another way, 90 percent of the state is now in Zone 5. Whether you agree or not, the new hardiness zone map does reflect a global warming trend, but more importantly to the gardener, this information means planting marginally hardy plants like peaches and apricots is less risky in most of Nebraska. An ornamental tree favored by many gardeners is the magnolia tree. Nurserymen have often considered one magnolia species, *Magnolia acuminata*, worth trying on protected sites in southeastern Nebraska. Armed with new USDA hardiness zone ratings, residents of central Nebraska may want to try planting this beautiful species. No doubt, many gardeners and landscapers will have their own list of favorite but marginally hardy plants that now may be worth planting.

Even though the USDA rating system gives gardeners and landscapers a predictable temperature range for plants that might survive in each zone, don't always accept the information as gospel. Remember the USDA system is based on **average** minimum temperatures and not on the **extreme** minimum temperatures that can occur in each zone. You may find this information along with the USDA zone recommendation on plant labels that you purchase at your local nursery or garden center. So don't overlook all of this valuable information for your locale when predicting whether the plants you select will survive many years.

Many variables, such as extended drought prior to arrival of winter weather, will influence how well a plant withstands **extreme** winter conditions, so visiting with respected plant experts may help you make a wise decision. And speaking of wise decisions, please don't overlook the possibility that your favorite plant is potentially invasive – land managers already have a long list of noxious and invasive plants to battle, so please don't plant a species that could one day overwhelm a local ecosystem.

Visit the interactive map at www.plantmaps.com/usda_hardiness_zone_map.php. Click on your location in the map and load your plant hardiness zone.



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Family Fishing Events for 2012

DATE	DAY	TIME	CITY	LAKE	ACTIVITY
May 1	Tuesday	5-8 PM	Scottsbluff	Terry's Pit	PF, BF, TF, CL, FOA
12	Saturday	9 AM-4 PM	Kearney	Fort Kearny State Park	Family Outdoor Discovery Day
30	Wednesday	6-8 PM	Papillion	Halleck Park	PF, BF, TF, CL, FOA
31	Thursday	6-8 PM	Lincoln	Holmes	PF, BF, CL, FOA
June 2	Saturday	10:30-1 PM	Kearney	Yanney Park	Heritage Day
5	Tuesday	6-8 PM	Norfolk	Skyview	PF, BF, CL, FOA
6	Wednesday	6-8 PM	Columbus	Pawnee Park East	PF, BF, CL, FOA
9	Saturday	4-8:30 PM	Lincoln	Holmes	Waterfest
12	Tuesday	6-8 PM	Fremont	Johnson	PF, BF, CL, FOA
13	Wednesday	6-8 PM	Omaha	Youngman	PF, BF, CF, CL
19	Tuesday	6-8 PM	Papillion	Walnut Creek	PF, BF, CF, CL
20	Wednesday	6-8 PM	Lincoln	Bowling	PF, BF, CF, CL
23	Saturday	8 AM-1 PM	Lincoln/Emerald	Pawnee	Carp-O-Rama
26	Tuesday	6-8 PM	North Platte	Iron Horse	PF, BF, CF, CL
27	Wednesday	6-8 PM	Grand Island	Mormon Island 1	PF, BF, CF, CL, FOA
28	Thursday	6-8 PM	Kearney	Cottonmill	PF, BF, CF, CL
July 9	Monday	6-8	Lincoln	Holmes	FF
12	Thursday	6-8 PM	Papillion	Halleck Park	PF, BF, CF, CL, FF, FOA
14	Saturday	8 AM-1 PM	North Platte	Maloney	Carp-O-Rama
17	Tuesday	6-8 PM	Norfolk	Skyview	FF, CF, CL, FOA
18	Wednesday	6-8 PM	Columbus	Pawnee Park East	FF, CF, CL, FOA
24	Tuesday	6-8 PM	Omaha	Benson	FF
25	Wednesday	6-8 PM	Lincoln	Bowling	FF, CK, DOC
August 7	Tuesday	6-8 PM	Lincoln	Bowling	Added date. Nightout.
8	Wednesday	6-8 PM	North Platte	Iron Horse	FF
9	Thursday	6-8 PM	Grand Island	Mormon Island 1	FF, CK, DOC
10-11	Friday-Sat.		Kearney	Fort Kearny State Park	Family Fish and Camp
15	Wednesday	6-8 PM	Papillion	Halleck Park	CK, DOC
16	Thursday	6-8 PM	Lincoln	Holmes	CK, DOC
October 20	Saturday	1-3 PM	Lincoln	Bowling	TF
21	Sunday	1-3 PM	Papillion	Halleck Park	TF

Key to event activities: Panfish Fishing – PF, Bass Fishing – BF, Catfish Fishing – CF, Trout Fishing – TF, Fly Fishing – FF, Fishing Cleaning – CL, Fish Cooking – CK, Family Outdoor Activities – FOA, Dutch Oven Cooking – DOC. For more information, visit OutdoorNebraska.org.

Send Us Your Trail Cam Photos!



Robert Janssen of Crookston sent us this photo of two deer sparring near a feeder he has set up on his land. Deer of both sexes often fight to establish dominance in a herd.

Please submit your trail camera photos by e-mail to: nebtrailcam@gmail.com. Also include any information that will help explain your photo.

New Restaurant Now Open at E.T. Mahoney SP

A new wood-fire grill restaurant is now open in the Peter Kiewit Lodge at Eugene T. Mahoney State Park and already has proven to be a great success.

The Mahoney Grill and Wildlife Lounge, operated by Jeff and Emily Parker, is open seven days a week and serves continental breakfast, lunch and dinner. Diners will enjoy a lodge feeling while taking in a view of the Platte River and listening to light jazz music. The menu will include everything from sandwiches to steaks and walleye to pork chops.

The Parkers, who own Parker's Smokehouse with locations in Ashland, Nebraska City and Lincoln, are running the restaurant as a concession and pay the Commission a percentage of its receipts.

A park entry permit is required for each vehicle entering the park. Parks Bucks will not be valid at the Mahoney Grill.

Turtle and Frog Weekends

The Aksarben Aquarium will host a turtle and frog display the first weekend of each month this summer. Beginning May 5th and 6th, educators from the Nebraska Game and Parks Commission will show and discuss Nebraska's common frogs and turtles. The public is invited to see and touch these animals while learning how they survive in the wild.

These events will run from noon to 4 p.m. the first Saturday and Sunday of May, June, July and August. The Aquarium is located at Schramm Park State Recreation Area south of Gretna. For more information call (402) 332-3901.

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NEBRASKAland Visitor Winner and Hint



Last issue's winner of the Visitor drawing was Rich Ray of Hastings, Nebraska, who found the tiger moth on page 44. 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 bug found in Nebraska that just happened to find its way onto one of the pages.

We will then gather the correct entries and draw one to win a NEBRASKAland Magazine 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, 7, or 44.

From Alberta to the Pine Ridge

Bighorn Sheep Relocation a Success

Text and photos by Eric Fowler



With the rugged Canadian Rockies behind them, bighorn sheep feed on alfalfa used to bait them into a trap site on a reclaimed coal mine near Hinton, Alberta, in February.

Jim Voeller admits he's had a fascination with bighorn sheep for most of his life. He's hunted them in five states and two Canadian provinces, but he's just as happy simply watching them.

"They're my favorite animal," Voeller said. "It's pretty cool to get up in the morning and look up on the mountain and see them critters."

He no longer has to travel to the mountains to see bighorns – now he can simply go for a hike and look for 39 of them roaming the rugged, rocky buttes on his Sowbelly Ranch in the Pine

Ridge northeast of Harrison. By June, there will be even more after the ewes lamb.

Voeller's new four-legged tenants arrived from Canada in February, the result of an effort by the Nebraska Game and Parks Commission to return bighorns to their native range, the fifth such effort in 30 years. The bighorns are now more than 1,300 miles from their former home at the foot of the Canadian Rocky Mountains, but near as anyone can tell, they are happy with their new digs, staying, for the most part, right where they were released. That's no surprise, as the area has everything they need: steep terrain, open vistas

and plenty of food. "It's prime sheep habitat," said Todd Nordeen, district wildlife manager in the Commission's Alliance office and head of the state's bighorn program.

Choosing the release site was a only a small part of an effort that began two years ago and navigated about as many miles of red tape as those traveled on highway by the crew of 17 Commission staff and two U.S. Department of Agriculture veterinarians that traveled to Alberta and brought the sheep home.

Alberta has a long history of sending bighorn sheep south, providing more than 600 sheep for restoration efforts in

nine states since 1922. However, the discovery of mad cow disease there in 2003 "threw the brakes on cattle, sheep and goats coming into the U.S.," said Bruce Trindle, a wildlife disease specialist with the Commission. While the border had been reopened to some livestock since then, it had not been opened to live sheep more than 12 months old, which appeared to close the door on transporting wild bighorns to the U.S. from Alberta.

Opening that door began with a casual conversation between Nebraska biologists and Albertan members of the Wild Sheep Foundation at the conservation group's annual convention in 2010. Nebraska was looking for another source of sheep to continue its restoration efforts, while an unhunted bighorn herd in Alberta had reached the carrying capacity of the reclaimed coal mine they occupied near Hinton. The parties left the table vowing to find a way to get sheep to Nebraska.

Trindle and representatives from other western states met with a USDA official in early 2011 to make the case that bighorn sheep are different than domestic sheep. The official agreed and granted an exemption as long as certain conditions were met. From there, Trindle literally had to get a permit in order to even apply for some of the 17 permits that were required from 11 different state and federal agencies in the U.S. and Canada.

While there was no history of brucellosis in the Alberta bighorn herd, USDA officials still required the sheep be tested for it. Those tests, however, take days, if not weeks, to complete, and holding wild sheep for that long was not possible. The solution was to fit each animal with a tracking collar so they could be recaptured in the unlikely event a test would come back positive. Nebraska had no qualms with that requirement, considering a tracking study of the animals was planned anyway. So with tentative approval, plans were made. Luckily, the permit that officially allowed the effort finally arrived the week the trip began.

So, on February 2, four pickups pulling stock trailers, as well as a pickup and SUV carrying supplies, left Fort Robinson State Park headed for Canada. Three trailers would have been enough to hold the 42 sheep biologists hoped to bring home, but when your intended cargo is that important, you bring a spare in case something breaks along the way.

Canada

After two long days on the road, the trapping crew finally got a chance to see some classic bighorn sheep habitat and plenty of sheep on a side trip to Jasper National Park, whose rocky peaks reach 12,500 feet, 9,000 feet above the expansive valleys in the park. It was sheep from this park and the government land that lay between it and the coal mines to the east that provided the seed stock for the effort.

Since the first of three open-pit, steelmaking coal mines began operating in the area in 1969, required reclamation efforts have focused on creating habitat for wildlife, including elk, deer and bighorns. “This site has been designed for bighorn sheep,” said Beth MacCallum, a consultant hired to assist in the operation who has spent years studying sheep populations at the mine. “They paid attention to leaving some of the pit walls that are an artifact of mining to serve as escape terrain for the sheep, and we plant quality forage for the sheep adjacent to the escape terrain. It’s a real simple model of bighorn sheep habitat.”

Once heavily timbered and unsuitable for bighorns, the bighorns quickly took a liking to the reclaimed mines. Not only was there plenty of food, human activity at the mine kept away most of the area’s native predators: mountain lions, wolves and grizzly bears. With little to worry about and plenty to eat, sheep on the reclaimed mine grow as big as they do anywhere, both in body and horn size.

The latter draws hunters to the region, which is well known for producing trophy sheep, including the current world record, and where special permits command up to \$150,000 at auction. “There’s hunting off the mine site but the sheep have to venture off it, and they’re quite aware of it, that there are hunters around them, so they tend to not do that,” said Kirby Smith, a retired wildlife biologist for the area who now works as a private consultant and facilitated the netting operation.

While limited ewe hunting used to be allowed on the reclaimed mine, it currently is not. With the population,

now estimated at approximately 950 animals and pushing the carrying capacity of the land, trapping and relocating some of the mine’s sheep is the best means of keeping the population in check and healthy. Since 1985, 368 of the area’s bighorns have been relocated to help with restoration efforts in the United States and Canada, including the latest batch sent to Nebraska. Of those, 234 were sent to the U.S. between 1989 and 2001. Since then, only 26 sheep had been trapped at the mine, all of which were moved to other locations in Alberta. With the province’s entire sheep habitat now occupied and more sheep still needing to be removed from the mine area, several other states eagerly watched Nebraska’s operation.

“We’ve kind of opened the doors for other transplants to continue,” said Nordeen. “They’ve asked for all information, protocols, permits ... everything we had to do to make this happen. We’ll hand it all off to them. It’ll make their life a heckuva lot easier.”

While there was a cost to the relocation effort – \$90,000 in direct expenses, including travel costs, staff time and permitting and consultant fees – the sheep came free. In North America, where wildlife is considered a public resource, wildlife management and restoration programs like this are typically a matter of give and take, although the take is optional and often no strings are attached. This operation was no exception. Alberta had already received payment from the U.S. in the form of bison, elk, swift fox, sage grouse and other species needed for its restoration efforts, and was happy to share its surplus.



Bighorns react as a 60-foot-square net is dropped on them by triggering blasting caps tied to ropes suspending it.

Hunting Bighorns

Like previous efforts, the relocation of bighorns from Alberta to Nebraska was funded by proceeds from the sale of lottery or auction of bighorn hunting permits. Since 1998, 17 permits have been issued – 11 thorough a lottery open only to Nebraska residents and six sold at auction – raising \$910,000 for the program.

Compared to elk or other big game animals, there are very few bighorn sheep permits available in North America, and they are very difficult to draw. Nebraska permits command a premium at auction because of the trophy quality of the rams, which all have scored, at least unofficially, 170 on the Boone & Crocket Club’s scoring system, which measures horn length, mass and symmetry. Several have scored 180, earning a spot in the club’s all-time record book. A German sportsman paid a record \$117,500 for the 2011 auction permit, \$30,000 more than the previous high. He was rewarded with a ram that scored 182½, the second largest ever taken in the state.

The quality of rams and uniqueness of the opportunity is also why 1,762 Nebraskans paid \$20 for the chance at the 2011 lottery permit, which

comes with four nights lodging and meals at Fort Robinson, as well as guiding. Tyson Ritz’s name was drawn from that lot even though he didn’t apply for the permit – his mom was responsible for throwing his name in the hat.

But it was Ritz who had trouble sleeping the night before his December hunt began and eating the morning of. He didn’t arrive at Fort Robinson in time to do some scouting the prior evening, but the technicians who track the sheep had done plenty for him and showed him photos of the two rams they suggested he target. Both were aged veterans, the type of ram biologists want hunters to harvest because they might not make it through another winter.

Ritz decided if he had the opportunity, he would target the ram with heavily broomed horns. When that ram couldn’t be found the following morning, he wondered if he should attempt to harvest the other, which sported a distinctive chip on the front of his horns. “My stomach’s churning,” he said.

He decided to pass and soon spotted his original quarry. After two rifle shots ended his hunt, Ritz was elated, yet still shaking. “I’m going to

Disneyland,” he joked with his friend, Tanner Paap, who made the trip west with him. “I don’t even know what to tell you. It’s crazy. I can’t believe it.”

Ritz’s 13-year-old ram scored 180½, fourth largest in Nebraska’s bighorn hunting history. Commission wildlife managers aren’t sure when someone will have a chance to harvest a sheep bigger than either taken this year. Losses to pasteurized pneumonia in recent years have left herds in both the Pine Ridge and Wildcat Hills short on mature rams. For that reason, no permits were authorized for 2012.

Nordeen said another recreational aspect of the bighorn sheep program is considered when making those decisions: wildlife viewing. “People like to see these big rams, too, so our management is being steered towards having some older age rams out there for people to both see and hunt,” Nordeen said.

Tyson Ritz of Waverly poses with the ram he harvested December 10 near Crawford. Ritz won the permit in a lottery open only to Nebraska residents.



Bighorn Habitat Study

A recent study by Chadron State College (CSG) graduate student Rana Tucker helped Nebraska Game and Parks Commission biologists select the Sowbelly Canyon area to release bighorn sheep relocated from Alberta.

Tucker's study identified potential habitat using a model based on one that CSC applied science professor Teressa Zimmerman developed while studying bighorn sheep in Badlands National Park in South Dakota. What that Geographic Information Systems-based process found was nearly 300 square miles of suitable habitat in the Pine Ridge and Wildcat Hills, all of it centered around the steep terrain bighorns require as escape cover. It also identified another 200 miles of potential sheep habitat in western Nebraska, including the rough hills on the edge of the North Platte River between Wyoming and Lisco, and the Niobrara River Valley and its tributaries between Rushville and Johnstown.

Tucker then gathered location data from radio-collared ewes in both the Pine Ridge and Wildcat Hills from 2007 to 2009 to see if the sheep were actually using habitat identified by the model. In the Wildcat Hills, sheep were almost always found in or near the identified habitat. In the Pine Ridge, the radio collared bighorns strayed from what the computer found to be suitable habitat about 28 percent of the time, often times moving from steeper terrain to crop fields.

"There are lots of documents that show sheep don't like trees," Tucker said. "They like to have more visibility so they can see predators coming."

"There are a lot more trees and heavier canopy closure in the Pine Ridge. That might explain why sheep there are moving around more."

Biologists will use the findings as a starting point when planning future releases, but must still visit potential sites to ensure they have little tree cover and confirm the quality of the escape cover.

Had a 30,000-acre wildfire not burned through the Sowbelly Canyon area in July 2006, it would not have been selected, said Todd Nordeen, bighorn sheep program manager with the Commission. Prior to the Thayer fire, it was too heavily timbered for the liking of bighorns.

While work has yet to begin on the next bighorn sheep relocation effort, there likely will be one. Tucker's model, ground surveys and landowner participation will help determine where it will occur. The availability of sheep, whether they come from outside Nebraska or are moved within the state, will likely determine when.

"It's the same story in both countries with the 19th century exploitation of wildlife, where we decimated many populations and lost the buffalo off the prairie and the passenger pigeon entirely," said MacCallum. "It's a similar story of slow recovery and the emergence of wildlife management."

"There is cooperation and the need as well, because we've gotten animals from the states, too."

Trapping

Trapping the sheep was not nearly as difficult as some of the crew from Nebraska thought it might be. In the dead of winter, the grasses on the mine site aren't nearly as palatable as the baled alfalfa that had been spread on the trap sites for several days before the crew arrived. "They are quite eager to come and get a free lunch, as we all are," said Smith.

When the crew started setting up nets on their second day in Canada, about 90 bighorns were coming up the road from the other direction. People there do not pose a danger to the sheep, so they simply stood and watched the work until it was done and a new round of alfalfa was set out for them. "It's easy to forget these are still wild animals," said MacCallum.

Mike Remund, a Commission biologist from Tecumseh, wasn't sure to expect when he volunteered for the trip. "This is way cooler than I thought it was going to be," he said after being that close to bighorns.

Nets are set up on two sites the day before a trapping operation is to occur, removed and then quickly reset on the target date. If left up, they might be damaged by high winds or scare the sheep while flapping in it. Using two sites gives crews the option of trapping at one or both places to get the desired number of sheep, and also for insurance: "On one of our captures a number of years ago, we had everything ready, we had our bait site picked out and the capture crew radioed down and said. 'The wolves are chasing our sheep around up here. We can't use this site,'" MacCallum said. "So that's why we always set up at least two sites. You never really know what happens on capture day."

Smith has been involved in trapping at the mine ever since it began there. The method dates back further than that. A 60-foot-square net is suspended from four corner posts and one center post. When the desired number of sheep are feeding under the net, blasting caps taped to the ropes holding up the net and hard wired to a battery are ignited simultaneously, "cutting" the rope and dropping the net on the unsuspecting sheep.

Once again, sheep met the crew at the site on trapping day. When the net was ready, it wasn't long before about 60 sheep were under it and the detonator triggered.

At that point, the Commission trapping crew, contractors, Alberta Ministry of Sustainable Resource Development and other Canadian officials, and a cadre of about 40 volunteers left the cover of stock trailers parked nearby and rushed in to untangle the sheep. It's not hard to find volunteers to help with these operations, said Smith. People will drive hundreds of miles to



Commission wildlife biologists Mike Remund of Tecumseh and Lance Hastings of North Platte place an ear tag on an ewe.

help, not because they are needed, but because they want to. "We've even had the whole class from a college in southern Alberta about 300 miles away come up just for the opportunity to handle wild sheep," Smith said. "We've had to turn away people because it's just that popular."

The first priority of the crew was to restrain the sheep that were caught in the "dog pile" under the net, working to keep them from thrashing and kicking other sheep while not getting kicked themselves.

"When they were first in the net, it looked like a rodeo," said Russ Mort, a Commission conservation officer from Nebraska City. "They kicked like crazy. They wanted to get out."

One by one, the sheep were restrained, pulled from under the net, hobbled and blindfolded. Once blindfolded, the sheep remained relatively calm.

Freeing the sheep took about an hour. Lambs were released immediately, as they could not be fitted with radio collars. So were mature rams, which can be hard for wranglers to handle and even harder for Albertans to let go.

Commission staff and the USDA vets then began processing the sheep that would be heading to Nebraska. Blood, hair, fecal and other samples were taken for disease and DNA testing, and ear tags and tracking collars were attached before the sheep were loaded into trailers.

Mort and Cambridge biologist Chad Taylor drew the latter task as their one job for the day, carrying the sheep (ewes weighed an average of 160 pounds) from the exam area to

the trailer, lifting them through the door and having it shut behind them while they removed the hobbles and blindfolds. Mort, who had worked cattle on his family's southeastern Nebraska farm while growing up, questioned his job the first time the door was slammed behind him and he realized "these things have horns."

Mort, Taylor and other staff and Canadian volunteers learned quickly to watch each other's backs in the trailer, insuring a sheep didn't butt the person taking off blinders and hobbles when they weren't looking, which they occasionally tried to do.

"Most of them just stood there and looked at you, but we always had that grouchy one in every bunch ... you never knew what he or she was going to do," Mort said.

While they got kicked a few times, Mort said it was well worth it. "I can take a kicking if those are kicking me," he said.

Windows had been covered in all of the trailers to keep them dark and the sheep calm. When the crew arrived in Canada and saw the forecast for unseasonably warm weather, however, they feared the sheep would be too hot and modified the coverings and even installed fans to add circulation if necessary. The added light in the trailers appeared to have no effect on the sheep. The warmer than normal weather, however, proved troublesome. The stress of being captured, combined with the warm weather, caused the some of the sheep's body temperatures to rise. Staff took temperatures of each animal regularly. Those with elevated



Spectators and Commission biologists watch as the last of 40 bighorn sheep scramble from the trailers and into their new home in the Pine Ridge near Harrison on February 9.

readings were covered with snow or doused with rubbing alcohol to cool them, and several were simply released when readings became too high. Still, the stress was more than some animals could handle.

“Unfortunately we had some casualties, but that occasionally happens in this business,” said Todd Nordeen. “It’s also very unfortunate that we lost them from this state altogether almost 100 years ago. We’ve got to do what we can to bring them back, but in doing that there are going to be occasional losses just because of the difficulty of handling wildlife.”

Off to Nebraska

About three hours after the net dropped, the last of the sheep were loaded into trailers and on their way to Nebraska. Were it not for two logistical issues, the crew would have driven straight through to the release site. But first they had to pass through U.S. Customs at the border and the USDA Veterinary Services inspection office just across it. The latter would be closed long before they could get there, requiring an overnight stop near the border. Once across the border the following morning, a process that took three hours, they were still too far out to reach the release site in time to release the sheep during daylight hours, a requirement for the safety of the animals, so another night was spent in Wyoming.

Each night and morning, the crew used buckets, funnels and tubing to pour water into tubs inside the trailers. It was a tedious task, but each trailer latch was affixed with an official seal that could not be removed until the sheep reached their destination, so going in was not an option. Before the trailers were sealed, they were stocked with alfalfa for the animals to eat.

There was quite a crowd waiting when the sheep pulled up to the first release site on Sowbelly Road. The onlookers fanned out behind the first two trailers, watching a few sheep run into their new home as each door was opened. The workers and welcoming committee then moved to the second site along Pants Butte Road, about a mile to the south as the crow flies and three miles as a truck drives, opened the doors to a second set of trailers, and watched it all unfold again. The last of the 35 ewes and five rams scrambled through a saddle in a rocky ridge and out of sight. Just like that, the work for the Commission trapping crew was done, except for those who still had up to a 500-mile drive ahead of them to get back to eastern Nebraska.

Based on what was learned from the three most recent releases, the sheep should remain in the Sowbelly Canyon area. Transplanted ewes typically don’t move far from a release site, but there have been exceptions: When sheep were released at Hubbard’s Gap in the Wildcat Hills in 2007, Nordeen said a small band of ewes and lambs ended up 28 miles away from the release before returning. The core

of that herd remains near the release site, but small bands are also spread out across about 25 miles of Wildcat Hills.

The sheep released on Bighorn WMA between Crawford and Chadron in 2005, now known as the Barrel Butte herd, scattered soon after the release, with some heading south and others heading as far east as Chadron State Park, where they remain. Only a few remain near the release site. Nordeen believes the area might have been more heavily timbered than the sheep prefer.

Still, Nordeen expects sheep from the new Sowbelly herd and the Fort Robinson herd to cross paths in the near future. Only 13 miles separate the edge of the Fort Rob herd’s core range from the new herd. Rams from Fort Robinson have ranged that far west in the past – Voeller photographed a full-curl ram in front of his home 15 years ago – but haven’t stayed. The next time they do so, they’ll find ewes and only young rams to compete with, giving them a much greater reason to stay.

“Especially during the rut, young to middle-age class rams, they move out or are kicked out of the herd by more dominant males,” Nordeen said. “They’re moving around looking for other ewes that they might be able to mate with.”

The movement could go the other way, too. One Alberta ram already wandered four miles east before returning. That movement is small potatoes compared to a ram that has been touring a 40-mile-wide swath of the Pine Ridge, covering more than 100 miles in the process, during the past five months. Biologists were able to “watch” as the ram, fitted with a GPS tracking collar, left his home with the Barrel Butte herd and headed east, nearly to Hay Springs before reversing course and heading as far west as Fort Robinson. He appeared to be headed back home, but spent most of March at Crow Butte southeast of Crawford.

In the short term, the Sowbelly herd is sure to grow. Averaging past release, about three-fourths of the relocated ewes are expected to have lambs this spring, which would bring the population to 65. Some ewes may disperse to secluded locations to have their lambs, as they do in other herds, but most will return by summer’s end.

“I hope they stay there and really hope they lamb out,” said Voeller. “They used to be there many, many years ago. I’m just glad to see them back.”

Voeller said he was also pleased Commission biologists asked area landowners their opinion of the reintroduction before doing it. Even though he may not ever have the chance to hunt the animal on his ranch, “I really was pretty excited when they even mentioned it.”

“I was telling a guy the other day there are very few places you can go, especially in Nebraska, where you can see mule deer, white-tailed deer, elk, antelope, turkeys, grouse and bighorn sheep.”

Now, there is one more. ■

Disease a Threat to Bighorns

Bighorn sheep roamed the most rugged parts of Nebraska, including the Pine Ridge, Wildcat Hills and Niobrara River Valley, until they were wiped out by disease, habitat loss and sustenance hunting by early in the 20th century. Today, disease continues to plague them and slow restoration efforts.

The 39 bighorn sheep brought from Canada to the Pine Ridge brings the state’s total population to about 300 animals. It could be much higher if not for outbreaks of pasteurilla pneumonia, a disease that is the scourge of wild sheep populations throughout North America. “It’s knocked the heck out of every one of our herds,” said Todd Nordeen. “That’s been our number one issue.”

Nebraska’s effort to restore bighorns to their native range began in January 1981 when six sheep captured in South Dakota’s Custer State Park were released into a 500-acre enclosure at Fort Robinson State Park near Crawford. During the next 12 months, six more sheep were added to the enclosure – four more from South Dakota and two from the Denver Zoo. From there, the herd grew and in 1988, biologists let 21 sheep out of the pen. In 1993, they took it down, setting the remaining 23 sheep free.

In 2001, 22 sheep captured in Colorado were released at Cedar Canyon Wildlife Management Area (WMA) southwest of Gering. Bighorns have been brought to Nebraska from Montana twice – in 2005, 49 were released at Bighorn WMA, located east of Crawford, and 51 were released in the Hubbard’s Gap area south of McGrew in 2007.

Since first appearing in 2004, the disease cut numbers in most herds to roughly half of their peak. At Fort Robinson, where two outbreaks have occurred, the population dipped to as few as 40 animals from a high of 140. A second disease of concern, epizootic hemorrhagic disease (EHD), commonly referred to as blue tongue, has also caused mortality in some herds.

While pasteurilla pneumonia is fairly common in domestic livestock, it is also easily treated. That is not the case with wild, free-ranging sheep. “There’s a lot of research going on right now. They’re searching hard for a vaccine that they may be able to deliver either at time of capture or through possibly baiting that would get them over the hump,” Nordeen said. The bacteria that cause the disease can persist in the environment.

The bighorns brought in from Alberta have been far removed from domestic livestock and the associated diseases. Whether that will prove to be beneficial or not if they are exposed to the disease is not known, Nordeen said. The new genetics the Alberta sheep bring to Nebraska, however, should help the Pine Ridge herd. “Genetically, if your populations are small, you get what they call a genetic bottleneck,” Nordeen said. “That can actually lead to problems with disease or related health issues because you’re not getting that survival of the fittest anymore.”

Fort Niobrara



NEBRASKA STATE HISTORICAL SOCIETY RG231PH13

From Indian Wars to Wildlife Refuge

By Tom Buecker

The United States Army built twelve posts in Nebraska during the 19th century. While most protected transportation routes, several were guardian posts built near Indian agencies or reservations. Best known for serving this role is Fort Robinson, which guarded the Red Cloud



By the mid-1880s, only four military forts remained in service in Nebraska: Niobrara, Omaha, Robinson and Sidney, all located on railroad lines.

Agency and later the Pine Ridge Reservation. Less known, but equally important, was Fort Niobrara, the guardian of the Rosebud Sioux. Both Robinson and Niobrara were survivor posts, established during the Indian War period and occupied by troops into the 20th century.

In the years immediately following their defeat in the 1876-77 Sioux War, northern Plains tribes were largely confined to reservations. While the Cheyenne were moved south to Indian Territory, the Lakota Sioux were settled on the Great Sioux Reservation – the western half of South Dakota. Army strategy evolved to one of surrounding the reservation with military posts. Between 1877 and 1880, eight large posts were built in Sioux country, while existing nearby forts were improved and enlarged. Building forts around the reservation placed the army in a better position for military actions against warring bands than theretofore available. Warriors knew the soldiers would always be around.

In 1878, the agency for Spotted Tail's Brule Sioux was moved west from a Missouri River site to a new location on Rosebud Creek, 15 miles north of the Nebraska border. The new Rosebud Agency became the home for some 4,000 Brules. Although the Brule generally had peaceful relations with the whites, there was no guarantee that

would always be the case. The army command, headed by department commander General George Crook and Philip Sheridan as division commanding general, favored a post to be established south of Rosebud to give "greater security to settlers ..." and "protect the interests of cattle ranches in that section whose herds are already of immense size." Additionally, by the late-1870s the continued construction of the Fremont, Elkhorn and Missouri Valley Railroad (FE&MVR) toward north-central Nebraska guaranteed even more settlement.

In the early summer of 1879, Crook selected a site for the post on the Niobrara River, 120 miles west of its mouth. The new fort was to be built on a high plateau south of the Niobrara and named for the adjoining river. With timber and springs nearby, the site was well-watered and close to wood for construction and fuel. After the post was sited, Congress appropriated \$50,000 for its construction. To ensure control of the land immediately around the post, a nine-section military reservation was declared in December 1879. Later 45 sections were added to provide a wood and timber reserve, increasing the total reservation size to almost 35,000 acres.

With the land and funding secured, construction work could begin. On April 22, 1880, Companies B, C and F of

Fort Niobrara around 1905: Field staff, band, and two battalions of the 25th Infantry on parade ground.

the 5th Cavalry from Fort D.A. Russell in Wyoming, and Company B of the 9th Infantry from Sidney Barracks, under command of Major John J. Upham, arrived to form the first garrison. The battalion traveled by Union Pacific Railroad from Cheyenne to Grand Island, then marched 190 miles north to the Niobrara River.

The site for the post was plotted and construction began. Limestone for foundations was quarried and a steam-powered sawmill was set up to cut timber into dimensional lumber. However, similar to other army construction projects on the northern plains, adobe was to be the primary construction material, and the soldier workforce molded tens of thousands of mud bricks. During that first summer, the department quartermaster hired civilian carpenters and laborers to aid the soldiers building the post.

The initial construction of the post did not come without cost. While assisting in quarrying operations, two soldiers were tamping in a charge when it exploded, "mangling both men horribly." And it did not take long for grievances and quarrels associated with soldier life to surface at the new post. In July, one soldier struck another in the head with

a carpenter’s mallet, causing severe injury. That same month a drunken soldier refused to fall out for afternoon stable call and fatally shot his sergeant.

The fort’s plan called for an east-west orientated parade ground, bordered by quarters housing four companies. On the north side, adobe barracks with 40-by-120 foot dormitories and 30-by-70 foot kitchen and mess hall wings housed the cavalry companies. Because infantry companies had fewer men, their barrack was smaller in size. Across from the parade ground, adobe duplex quarters were built for company officers. The east side was bound by a single quarters for the commanding officer and a brick, L-shaped headquarters building. The west end of the parade was left open for future expansion. To the north and west were storehouses, the guard house, barracks and three frame cavalry stables. Water from a spring east of the building area was pumped to a water tower that was connected by piping to all quarters and the post hospital.

Although none of the quarters were completely finished, the troops abandoned their tents and eagerly moved in on November 24, 1880. With construction work done, the daily routine at Fort Niobrara was the same as that at other army posts of the era, consisting of daily fatigue work, drill, guard mount, guard duty and additional construction work whenever required. The soldiers rose at reveille, performed stable duty, cleaned barracks areas, hauled refuse (and manure), prepared for Sunday morning inspections, cut wood and harvested ice in winter months. With both cavalry and infantry units stationed at the post, men performed mounted and dismounted drills on a daily basis. During target season, the rifle range south of the post was a busy place. The local settlers saw the fort and garrison as a symbol of the power of the United States government, providing a sense of stability and security in the region.

Field service brought a change from the monotony of the daily routine. During the early years, troop detachments escorted supply trains from FE&MVRR railheads advancing westward across northern Nebraska. Escorts also accompanied shipments of supplies and beef herds to the Rosebud Agency. In general, soldiers from the fort provided law and order and helped keep the peace in the region. They patrolled along the reservation to prevent rustling of Indian-owned cattle and the trespass on Indian lands by cattle owned by whites. Desertion was a constant problem for the frontier army, and details were sent out to pursue and arrest them. In May 1881, a detachment under the command of Lieutenant Samuel A. Cherry, 5th Cavalry, was dispatched to find road agents that shot an agency herder. While in pursuit of the outlaws, Lt. Cherry was shot and killed by a deranged soldier from his patrol. Two years later, newly formed Cherry County was named in his honor.



Guard mount at Fort Niobrara, Troop K, First Cavalry, winter 1899.



Off-duty enlisted men pose for a sham execution below Fort Falls.

NATIONAL ARCHIVES

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Because of the peaceful nature of the Rosebud Indians, sending troops out to pursue hostiles or troublemakers was virtually unheard of. With a lack of field service, the soldiers were sent out on practice marches to prepare themselves for any eventuality. On such “marches of instruction,” they trained in outpost and picket duty, skirmishing, and the making and breaking of camp. On a May 1884 march, the men of Companies C and F, 4th Infantry, covered 154 miles during a ten-day outing.

During the decade of the 1880s, the expanding network of railroad lines brought consolidation to the army in the west. In the fall of 1882,

the FE&MVRR reached Thatcher station six miles south of Fort Niobrara. With rapid transit of men and supplies possible, the army began stationing its forces at larger posts located along railroad routes. Conversely, smaller, more isolated posts farther from railroads were abandoned. By the mid-1880s, only four military forts remained in service in Nebraska: Niobrara, Omaha, Robinson and Sidney, all located on railroad lines.

The town of Valentine came into existence four miles west of the post in 1883. Valentine became a “post town,” with its economic well-being largely dependent on large numbers of soldiers at the fort. The town provided goods and services for the army, and locals benefited from contracts for dairy produce, hay and other material goods.

The mid-1880s brought larger garrisons. By 1885, Fort Niobrara had adequate quarters for five companies – three of cavalry and two infantry – averaging a total strength of 275 enlisted men and officers. That summer the three

companies of the 5th Cavalry were replaced by three of the 9th Cavalry, one of the army’s two black cavalry regiments. The following year, five companies, the regimental headquarters and the band of the 8th Infantry moved in. While units of both regiments served at Fort Robinson and Fort Niobrara, regimental headquarters for the 9th was at Robinson and headquarters for the 8th Infantry was located at Fort Niobrara.

With the arrival of the new regiments, total garrison strength began to crowd 500 soldiers, plus their dependents and civilian employees. In 1885 and 1886, major expansion took place with the increased troop level. Three new adobe company barracks and three sets of adobe officers’ quarters were built, with three additional frame cavalry stables and several other support buildings. At that point Fort Niobrara was the largest military post in Nebraska, and one of the three or four largest in the northern Plains states. Subsequent construction saw three frame duplex officers’ quarters,

additions to the post hospital, a row of quarters for non-commissioned officers, new quartermaster and commissary complex and, just below the post, a new, more substantial bridge across the Niobrara.

The late-1880s brought drought, ration shortages and loss of Dakota reservation lands, leading to destitution and hopelessness for the Lakota Sioux. In desperation, many turned to the Ghost Dance, a new religion that predicted the end of the whites and the return of the buffalo, deceased relatives and friends. Fears of growing militancy and outbreak by some Brule and Oglala adherents led to the call for army protection. In November 1890, troops were rushed to the Sioux agencies to provide security and restore order. Among other deployments, Troops A and G of the 9th Cavalry and three companies of the 8th Infantry left Fort Niobrara on November 19 and marched to the Rosebud Agency, where they remained on guard.

After the tragic Wounded Knee massacre in late-December 1890, the ghost dancers returned to their agencies and the Pine Ridge campaign wound down. Fort Niobrara troops had participated in the largest military operation between the Civil War and Spanish-American War. Later that winter, the 9th Cavalry units at Niobrara were replaced by six troops of the 6th Cavalry. One of the junior lieutenants with the 6th became one of the most prominent generals in U.S. Army history, John J. Pershing, who went on to command the American Expeditionary Force in World War I. Troops at Fort Niobrara settled back into the regular daily routine, but still kept an eye on the reservation.

April 1898 brought the short war with Spain. Several days prior to the declaration of war, the entire U.S. Army (all 25,000 men) was mobilized for overseas service. On April 17, headquarters and eight companies of the 12th Infantry left Niobrara for the war. After victory over Spain came the Philippine Insurrection, and regular army regiments did not return stateside. For the next three years Fort Niobrara was manned by a single company, numbering around 100 men. Valentine, the same as other post towns, lamented the loss of large garrisons.

The first word of the possible abandonment of Fort Niobrara came in 1901. With peace long secured on the northern plains, there was no need to retain a garrison on the Niobrara River in Nebraska. Additionally, by that time most of the 70-some buildings and structures at the post needed replacement. But in 1902, units were returning from the Philippines and needed stateside housing. To help provide for this need, the post was continued. In the summer of 1902 two battalions of the 25th Infantry, numbering more than 800 men, marched in.

For the first time, Fort Niobrara was manned entirely by black soldiers. This was in the time of the segregated army, when certain regiments were composed solely of black enlisted men. The 9th Cavalry was one of two black cavalry regiments, the 25th was one of two black infantry regiments. During the garrison of the 25th, race relations between the soldiers and local

white residents were good. After four years of “the even tenor of garrison life,” the end came for Fort Niobrara – the army general staff wanted to further consolidate the army at large, modern posts, lessening the need for the older, deteriorating stations of the Indian wars. To the regret of the Valentine community, the 25th Infantry marched out on the evening of July 23, 1906. A small caretaker detachment remained on until October 22 to close out the post.

As a troop station, Fort Niobrara passed into history. But other uses were found for the old post. A portion of the sprawling military

reservation was retained by the army for a remount station, where a small number of quartermaster officers and civilian employees purchased horses for the mounted services. Although most of the buildings were surplused and removed by 1907, several had been retained for quartermaster uses.

In 1907 it was brought to the attention of the National Association of Audubon Societies that the 35,000-acre reservation would make an excellent bird refuge for prairie chicken and sharp-tailed grouse. Early in 1908, conservation-minded President Theodore Roosevelt ordered the halt to all shooting, trapping, or catching of any birdlife and small game such as fox, squirrels, rabbits or any wild animals on the Fort Niobrara Military Reservation.

In 1911, the war department abandoned the Fort Niobrara reservation. The next year, 13,500 acres of former military land were set aside under the jurisdiction of the Department of Agriculture as a refuge and breeding ground for native birds; and the refuge purpose was expanded to include bison and elk. Early in 1912, J. W. Gilbert, owner of a private game park in Friend, Nebraska, offered his buffalo and elk to the federal government. After the refuge was increased to include the main post area and a big-game fence built to enclose a 213-acre pasture, the government accepted Gilbert’s animals and the Fort Niobrara Game Preserve was in operation.

Additional land was secured in subsequent years, bringing

the refuge up to its present 19,122-acre size. In 1936, six Texas longhorn cattle arrived from the Wichita Mountains Wildlife Refuge in Oklahoma. Although not native plains wildlife, longhorns were closely associated with the Old West, and at the time were rapidly dwindling in number. During the Depression years, Civilian Conservation Corps camps were maintained on the refuge and carried out extensive developments and improvements for operational and visitor convenience. Also in the early-1930s, a feeble effort was made to preserve the last of several adobe fort buildings still standing. The only structure remaining today from 26 years of military occupation is half of a hay shed built in the 1890s.

Although the longhorns were moved to Fort Robinson in 2000, bison, elk and other wildlife flourish on the old fort site. Today, Fort Niobrara fulfills an important part in wildlife conservation. Its present role, however, is a far cry from its service during the long struggle for control of the northern plains. ■

Tom Buecker was curator at the Fort Robinson Museum for 26 years. Prior to that he spent eight years at the Neligh Mill State Historical Site. He now lives in Lincoln and works at the Nebraska History Museum. He has written historical pieces for NEBRASKALand Magazine since 1979.



The vastness of the Nebraska Sandhills is evident in this view of Fort Niobrara from the east, ca. 1895.



Elk graze on the empty parade ground in the early years of the game refuge.



Calamus Calls

Photos and text by Eric Fowler

Twenty-five years ago, the campgrounds opened for business at a brand new state recreation area: Calamus Reservoir. Every summer since, the state's fourth largest reservoir, with 5,200 surface acres and 31 miles of shoreline, has been a top draw for campers, boaters and anglers, who can find solitude among the opportunities and amenities the lake offers. This Bureau of Reclamation project holds back the crystal-clear, spring-fed waters of the Calamus River, which flows lazily from the Sandhills surrounding the lake. The stored water provides a summer supply for 32,000 irrigated acres of cropland and also feeds the state's largest fish hatchery, located below Virginia Smith Dam and operated by the Nebraska Game and Parks Commission.



Opposite: Windsurfers from across the midwest travel to Calamus Reservoir, including Eugene Melechson of Omaha. Above: Nestled in the Sandhills on the reservoir's south shore, Nunda Shoal Campground is one of two areas where visitors can park their RV.



The water is also home to walleyes, the top draw among anglers visiting the reservoir. It is also the top wiper lake in the state, among the best for white bass and channel catfish, and lately has begun paying dividends for the recent additions of yellow perch and muskellunge.

Campers have 122 surfaced pads to choose from in two modern campgrounds and 55 tent spots in two other sites. Visitors can find plenty of places to grab a bite to eat, a bucket of bait or other supplies at businesses around the lake or in nearby Burwell.

The lake and 7,000 acres of public land surrounding it are also home to a variety of wildlife for wildlife watchers and hunters to enjoy. ■



Above: Megan Johnson of Burwell photographs a flock of American white pelicans, a common visitor to the reservoir, from her kayak.

Right: During the April walleye spawn, anglers drag crankbaits behind long rods on a mile-long walk down the face of Virginia Smith Dam, something made possible when the surface was reinforced by soil cement rather than rock rip rap.

Opposite: Gary, Ginny and Payton Stratton of Lincoln cook breakfast in the Valley View Flat campground on the north side of the reservoir.





The Amack Years

By Pat Engelhard

After almost two and half decades, Rex Amack steps down as director of the Nebraska Game and Parks Commission.

Rex Amack walked out his office door as director of the Nebraska Game and Parks Commission for the last time April 20 after steering the agency for 24 years –twice as long as his predecessor and longer than any other director in the Commission’s history.

The Red Cloud native began his career with the Commission as a college intern in 1967. Graduating from the University of Nebraska-Lincoln with a Bachelor of Arts degree, Amack was offered full-time employment with the agency in 1968 by then-Commission Director Mel Steen. That would mark the beginning of a decades long career. In a recent interview, Dale Johnson, host of “Lincoln Live” on KFOR radio, asked Amack if he recalled his professional plans at the time of his graduation.

“I had a pretty strong focus on communications and I liked newspapers,” Amack said. “I liked using words and communicating with people. The part that interested me most was broadcasting.”

During his early years with the Commission, however, most of Amack’s work was writing – communicating with the public, promoting Nebraska as a state readymade for outdoor recreation and explaining Commission activities to its constituents. He did, eventually, get his crack at broadcasting. In collaboration

with Nebraska Educational Television Network, Amack helped develop and host the Commission’s “Outdoor Nebraska” television program which ran until 2002, and helped produce the Commission’s weekly radio program.

In the mid-70s, Amack was promoted to head of the Information and Education Division, under then-Director Willard Barbee, which significantly broadened the nature and scope of Amack’s work for the Commission. In addition to his previous assignments he now oversaw production of *NEBRASKALand Magazine* and an ever-increasing number of Commission publications. He made establishing youth education programs a priority and developed the “Know Nebraska Tours” that introduced Nebraskans to outdoor recreation opportunities across the state. Amack had also begun doing government relations work at the State Legislature to promote and improve management of the state’s wildlife and park system. It was during this time that he met Eugene T. Mahoney, a state senator from Omaha who had strong interests in outdoor recreation. That association would eventually have an enormous influence on Amack’s professional future.

Taking Up the Reins

In 1975, Mahoney was tapped to replace Barbee as director, and a year

Rex Amack poses with Becker, his German shorthair, after a hunt.



PHOTO BY JEFF KURRUS

The popular wave pool at Eugene T. Mahoney State Park is one of dozens of park improvements that Amack helped oversee during his tenure as director.

later he promoted Amack to Assistant Director for Administration. When Mahoney retired 13 years later, a well-prepared Amack was selected by the Commission's board of directors to replace him.

"Director Mahoney was a very good administrator and mentor," said Amack. "He made sure that we got a big bang for our dollar, that we didn't spend money unwisely, and he

showed us how to always focus on having a really effective and efficient workforce."

One thing that Mahoney wasn't able to teach Amack, however, was the way technology would affect how the Commission accomplished its mission.

"When I became director, we had one memory typewriter and we really thought we had it going on," Amack recalls. Under Amack's direction,

however, the Commission embraced the new age of technology, taking full advantage of it to better serve the public and make the agency more efficient. A prime example of this is the Commission's web site: When it was launched in 1994, it was the first state government site of its kind, and today hunters, anglers, campers, wildlife enthusiasts – anyone who enjoys outdoor recreation – can use it to find a wide array of resources and information. Staff blogs provide information of immediate interest, and social media applications allow the public to communicate with staff in real time through Facebook, Twitter and a YouTube channel.

"People plan their vacations on the web site," Amack said. "You can go to the state parks site and look at videos of the parks, and you can look up game species and wildlife. It's a fabulous resource and who would have dreamed of that in 1988 (when he became director)?"

Amack has overseen a variety of other technological advancements as well, including the introduction of the Geographic Information System (GIS) tools that have proven instrumental in improving the management of facilities, enhancing communication and real-time tracking and viewing of trails, waterways and habitat reporting across the state.

One of the biggest changes has been in permits sales: Back when Amack became director, hunters and anglers had to mail in permit applications or travel to their nearest permit vendor or Commission office to purchase a permit – most permits can now be purchased and printed off a home computer as the person walks out the door. Today the majority of permits issued are via the Internet, which is not only a convenience for the permit buyer, but a significant cost savings for the Commission. The revenue savings are invested into stocking fish or improving wildlife habitat.

Build it and They Will Come

During his tenure, Mahoney's main focus was creating one of the best state park systems in the nation

by upgrading existing facilities and building new and better ones. He was also a master at soliciting enormous, private financial support to accomplish his vision. In just a few short years, he had started improving and building parks at dozens of locations, but many of those projects were still under construction when he retired. The responsibility of finishing them fell on Amack's shoulders.

"When Gene retired," Amack recalled, "I think we had four or five buildings at (E.T. Mahoney SP), and it was the largest capitol development project the Commission has ever undertaken." The park was formally dedicated three years into Amack's first term as director.

Completing E.T. Mahoney State Park, while the largest kettle boiling on the stove, was only one of many parkland improvement projects Amack was overseeing. During his early years as director, construction was still underway at the new Niobrara

State Park, as was development of Ashfall State Historic Park in cooperation with the State Historical Society; Smith Falls State Park on the Niobrara River was established; the Commission assumed responsibility for the development of the Cowboy Trail along the abandoned Chicago & Northwestern rail line across northern Nebraska; recreational facilities were built at Lewis and Clark State Recreation Area; and a new visitor center at Lake McConaughy was completed, among numerous other projects.

Ponca State Park is a good example of the changes that occurred during Amack's administration. Long a sleepy little park nestled on the Missouri River bluffs, it has been transformed into one of the state's most popular destinations while still retaining the park's emphasis on back-to-nature, low-tech, outdoor experiences. Recognizing that many people are drawn to outdoor experiences but also

want the comforts of home, initial improvements included modern mini-lodge cabins with full kitchens, two bathrooms, air-conditioning, heat, cable T.V., wireless internet, covered patio decks and grills. Modern recreational vehicle facilities are also available, but tucked away so as not to diminish the natural landscape. And for those who still prefer to rough it, beautiful primitive campsites remain at the park.

Ponca State Park is also the home of the annual Missouri River Outdoor Expo, which attracts thousands of people each fall during its three-day educational event. The outdoor education program at Ponca continues to expand, as does the park – 1,600 acres of river-bottom land has been acquired since 2000, creating what park superintendent Jeff Fields calls "a 2,200-acre outdoor classroom."

The hands-on educational opportunities in cultural and natural history, conservation, stewardship and outdoor skills at the park illustrate new



PHOTO BY ERIC FOWLER

Once simply a sleepy little park nestled on the Missouri River bluffs in northeastern Nebraska, Ponca State Park has become a jewel in the Nebraska State Park system while keeping its emphasis on back-to-nature, low-tech outdoor experiences.



PHOTOS THIS PAGE AND OPPOSITE BOTTOM BY ERIC FOWLER

The state-of-the-art Calamus Fish Hatchery opened in 1991, doubling the capacity of hatchery production in the state.

and critical direction under Amack's administration – more emphasis on reconnecting Nebraskans, particularly young people, with outdoor recreation.

A Bigger Big-Game State

Just as state park development has been a priority during Amack's tenure, so too has been improving opportunities for hunters, anglers and wildlife viewers. Two of the bigger wildlife stories to take place during his years as director were the return of two species native to the state but extirpated before 1900 – bighorn sheep and elk.

Bighorn sheep reintroduction efforts first began in 1981 and have been ongoing ever since (see "From Alberta to Nebraska" starting on page 12).

After starting out with six sheep in a 500-acre enclosure at Fort Robinson State Park, today an estimated 300 sheep again roam free across their ancestral ground in western Nebraska.

Unlike the bighorns, elk returned

to their native haunts in Nebraska on their own, first reappearing in the Pine Ridge in the 1970s, and continuing to expand in numbers and range ever since. Today they are found not only in the Pine Ridge, but in the Wildcat Hills, along the Niobrara, North Platte and Platte rivers and elsewhere in smaller numbers. Their population in Nebraska has increased so much, in fact, that the first modern day Nebraska elk season was held in 1986 and has become a yearly event.

For most hunters, though, the dramatic increase in deer and turkey numbers over the past 20 years is of more interest. The year Amack became commission director, a total of 67,451 deer and 16,984 turkey permits were issued. Last year, twice as many deer permits and almost three times as many turkey permits were sold. This was due in large part because the time and landscape was ripe for it to happen, but Amack played an integral role by working with Commission biologists and the Board of Commissioners to manage those dramatic increases – to maximize hunting and wildlife

viewing opportunities while keeping game animal populations compatible with agriculture and other concerns. The increase in the abundance and distribution of Canada geese in the state has been similarly notable.

Pheasant and quail populations, on the other hand, have been harder to manage as agricultural uses of the land have become more intensive. When the \$1 Upland Game Bird Stamp was replaced with the \$7.50 Habitat Stamp in 1977, the thinking was that the Commission needed to buy land and operate it as wildlife management areas, but Amack and others soon began to realize that their resources could be stretched a lot further by leasing land and partnering with others to get shared goals accomplished. "Public lands managed for pheasants and other wildlife represented only a small percentage of the total landscape," said Amack.

One of the many such partnerships that Amack helped foster began in 1997, when the Commission partnered with Pheasants Forever to start the Conservation Reserve Program –

Management Access Program (CRP-MAP), which pays private landowners to open their CRP fields to walk-in hunting and to disk and interseed legumes into a portion of their land to increase food and cover for pheasants. The Commission expanded that effort in 2002 in a partnership with Pheasants Forever and the Nebraska office of the United States Department of Agriculture by launching the Focus on Pheasants initiative, concentrating on regions of the state where the potential for increasing pheasant numbers by working with private landowners seemed most promising. And in 2009, the new Open Fields and Waters Program started, paying landowners to open private acres to public walk-in hunting and fishing access.

More Fish and Fishing Waters

On the angling side of the ledger, it is impossible to look back at Amack's time as director and not wonder if the biggest thing that happened was the construction of Calamus State Fish Hatchery northwest of Burwell. That, perhaps, is only true if quantified as the biggest thing to happen in one place. This state-of-the-art hatchery was dedicated in September 1991 at a cost of \$8.6 million and produces both cool-water species such as walleye and trout, as well as warm-water species like yellow perch and northern pike. Its capacity to produce fish is astounding, measured in tens of thousands of fish of different species annually.

Fish raised at Calamus and other Commission hatcheries across the state are often used in another program of particular interest to Amack: the Urban Fisheries Program that started in 1999 with the goal of improving recreational fishing in and around Nebraska cities and providing more opportunities for urban residents, particularly youth and families, to go fishing. As with many wildlife management programs that Amack encouraged collaboration on, this one partners with other groups sharing the same interest, such as city parks and recreation departments, schools, civic groups and other organizations, to make every dollar go further.



PHOTO BY DOUG STEINKE

The state's fishing programs encourage anglers of all ages to pick up a rod and reel.

The Aquatic Habitat Program was another border-to-border Commission program launched under Amack's guidance. Passed by the Nebraska Legislature in 1996, the program requires anglers to purchase a \$7.50 Aquatic Habitat Stamp, and the funds raised by the stamp are used to leverage federal and other funding sources for projects that enhance fishing opportunities; such as renovations to remove undesirable rough fish, excavation or dredging to remove silt, and construction of breakwaters to protect shorelines from erosion and create fish-spawning shoals. The program is now in its second phase and puts increased

emphasis in providing angler access to lakes, ponds and streams.

Fish hatcheries and programs to encourage people to pick up a rod





PHOTO BY ERIC FOWLER

Dakota Pitts and his father, Mike, were all smiles after Dakota shot his first deer.

and reel are high profile efforts, but just as important is maintaining the quality and quantity of water in the state's streams and lakes. The Commission made two landmark steps to do that while Amack was director: In 1989, the state's first instream appropriation was granted to the Commission to protect trout populations in Long Pine Creek in north-central Nebraska; and in 1992 a second instream appropriation was granted on portions of the Platte River. Instream appropriations do not affect existing water rights but put the Commission next in line to claim enough water be left in the stream to protect fish and other indigenous wildlife.

Youth Are the Future

A common thread that is evident in looking at the many programs and projects Amack has shepherded during his time with the Commission is his desire to get Nebraskans to discover, or rediscover, the joy of outdoor recreation, whether it be hunting, fishing, camping or wildlife viewing – getting people outdoors and providing what they need for it to be

a good experience, one they will want to do again. Not surprisingly, much of this effort has been directed at young people – their buy-in is paramount for the continuation of solid conservation practices in our state.

Over the course of his administration, one outdoor education program after another was born or expanded and improved. When Amack retired, the list of outdoor education programs offered by the Commission was long – Nebraska Outdoor University, Project Wild, Master Naturalist, Outdoor Discovery Program, the Youth fishing Program, Aquatic Education Program, National Archery in the Schools Program, mentored deer hunts for young hunters, Becoming an Outdoors-Woman, Becoming an Outdoors-Family, Beyond BOW and the Outdoor Skills After School Program.

The culmination of Amack's vision, perhaps, is the Commission's 20-year plan for hunter and angler Recruitment, Development and Retention (RDR). The program is statewide, heftily funded and will provide workshops, seminars and informal training for Nebraskans across the state. Its goals are to recruit the young and old that

have never hunted or fished, bring back those who once did but for some reason quit, retain existing hunters and anglers, and maintain the public's support for hunting and fishing.

Two of the more high-profile RDR efforts that Amack oversaw were the creation of the \$6 youth turkey and deer permits, which have been lauded for greatly increasing the number of young hunters in the field since first offered in 2010; and the 2011 opening of a multipurpose shooting range at Platte River State Park. The Roger G. Sykes Outdoor Heritage Education Complex includes an archery range with a shooting tower, a 50-yard small-bore shooting range and an indoor 10-meter pellet gun range. The complex will soon include a shotgun range as well.

A Leader in Wildlife Conservation

Amack's influence and effect on outdoor recreation and conservation has not been limited to just Nebraska – it extends far beyond the state's borders and will be missed both here

“Rex helped me understand the complexity of the agency. We could not have advanced the agency goals without his political expertise and knowledge.”

and across the nation. He has served two terms as president of the Midwest Association of Fish and Wildlife Agencies, one term as president of the Western Association of Fish and Wildlife Agencies, and one term as president of the national Association of Fish and Wildlife Agencies (AFWA) organization. Ron Regan, the current Executive Director of AFWA, recalls interacting with Amack as both a peer and in leadership capacities: “When it came to reaching the goals and objectives of AFWA during his tenure as president of the organization, Amack was all business. He got things done.”

Amack's successor will have big boots to fill according to Nebraska State Senator Danielle Conrad, one of Amack's comrades in the trenches of conservation initiatives in the legislative chambers. “Rex's long and busy tenure at Game and Parks has taken him to every corner of every county in Nebraska,” she said. “He has friends and contacts in each and every one of those counties.”

Conrad observed that Amack understands, in the midst of Nebraska's geographically and politically diverse state, that shared values provide fertile, common ground for discussions and consensus through any issue. “Rex always did an amazing job of accommodating different perspectives on diverse and difficult issues to make sure everyone understood the impact of all the conservation elements, so that a consensus or compromise could be forged.”

Looking Back

As much as technology and society has changed during his watch, Amack has always labored to keep some things the same. One of them has been hiring and keeping employees who love their jobs and do them well. “We do not have a huge turnover of people,” Amack said of the Commission. “I had an opportunity to be the agency's director for a long time and I think

every year I got better at it. I think the same is true of the Commission's other employees, who are results-oriented professionals that work hard to meet the Commission's mission of stewardship of the state's fish, wildlife, park and outdoor recreation resources.”

Amack said he was also grateful and indebted to the members of the Board of Commissioners he worked with over the years that so generously gave their trust, support and friendship during his tenure.

Commissioner Mick Jensen recalls many times when Amack's expertise was critical to the Commission's goals. “Rex helped me understand the complexity of the agency. We could not have advanced the agency goals without Rex's political expertise and background knowledge. He has been absolutely unselfish with his time and talent. He has always remained very approachable.”

“I am so grateful for the opportunity afforded me by the Commission to serve the citizens of this wonderful state,” said Amack. “It's hard to

imagine a more rewarding and meaningful career. After nearly 45 years of service to the Commission, it is time to give another their opportunity of a lifetime.”

Recalling the blood, sweat and tears some projects required, Amack looks back at them with pride and looks toward the future with anticipation and encouragement for long-time Commission employee Jim Douglas, who has taken over Amack's duties as director.

Amack said the first thing he planned to do after he retired was to plant a tree at his home to stand as a constant reminder to stay involved and contribute when and where he could to wildlife conservation, wild spaces and parklands.

“Growing up on a farm on the banks of the Republican River near Red Cloud, my father taught me that we have a responsibility to care for our land, water, wildlife and all other natural resources for future generations. That was his legacy, and I hope it is mine.” ■



PHOTO BY JEFF KURRUS

The Commission's Outdoor Discovery Programs, including this one held at Platte River State Park, began during Amack's tenure and have been a tremendous success.

The State of the Muskie Address

Nebraska's 50-inch Niche

By Jeff Kurrus

The muskellunge is one of Nebraska's most intriguing yet mysterious fish. Living in only a few waters in our state, the "fish of 10,000 casts" offers a trophy unlike any other.

There were four of them patrolling an open area less than 50 yards wide, with not another fish in sight. All were big, 40-inches plus, looking like dark mounds in the crystal-clear water. Three of us were standing on the pier, amazed at how well we could see them and sure that they could see us. "Go get Jeff," a friend said, indicating a nearby companion whose desire to fish for muskies far exceeded ours.

What an opportunity it seemed to be. Despite dealing with a predator known for its intelligence and ability to discern between reasonable facsimile and actual food, this seemed to be a once-in-a-million chance, but in our minds we all knew how it would go: Jeff would approach, make repeated casts in the water, and we would all later talk about the fight that never occurred, the fish that we could see but couldn't catch. It was an old story, one we were just going to add our own

brief, boring chapter to.

Except that didn't happen. Instead, on Jeff's fourth cast near one of these fish, the musky's head turned ever so slightly toward his lure. "Did you see that?" one of us asked. "Do it again," another commanded. The next cast, the cast, landed behind the fish. As Jeff twitched the nearly 10-inch jerkbait, the fish watched it swim by – then moved in front of it, watching it swim by again. Then again. Then again. The closer the lure came to the pier, the closer the fish swam, paralleling it in the water. Until, less than three feet from the pier, with the lure and fish right beneath us, Jeff made one more twitch.

The fish opened its mouth, with four onlookers staring into water clear enough to bathe in, and inhaled the lure. The fish of 10,000 casts was hooked. None of us had ever seen anything like this happen before or since.

Do Nebraska waters have the capability to grow trophy muskellunge like this one caught in Battle Lake, Minnesota?
Yes, but only if anglers do all they can to protect the muskellunge we already have.

PHOTO BY MATTHEW MARX





Fly-angler Seth Ryler of Montana poses with a Nebraska musky caught on a fly.

I wish I could tell you that scene played out in Nebraska. I wish I could lie and say it was at your local public fishing hole, and that we should expect more and more scenes like this in the coming years.

But I have bad news. Nebraska is not part of the native range of what could be North America's most prized trophy fish. Nor would any musky expert suggest fishing in Nebraska instead of better known musky states, such as Minnesota or Wisconsin. In fact, muskies in Nebraska don't even garner much research effort.

"Muskies are relatively scarce even when you have good populations, as are musky anglers," said Commission fisheries biologist Daryl Bauer, "so much more time is concentrated in Nebraska on waters suited for the large amount of anglers trying to catch other species, including crappies, walleyes and channel catfish."

However, Nebraska does have catchable populations of muskies in multiple waters, and more interest in them than there's ever been. So while Nebraska will never be the nation's number one destination for these toothsome predators, there will be stories every year about trophy muskies being caught here. Which is reason enough to learn more about this intriguing species.

Why Not Nebraska?

The muskellunge is found throughout North America, but is indigenous only to the Great Lakes region and the Mississippi drainages south into Kentucky and Tennessee. Currently there are at least 1,886 muskellunge waters on this continent, with more than 80 percent of those found in Michigan, Minnesota, Ontario, West Virginia and Wisconsin.

Of those, 61 waters in Minnesota, 64 in West Virginia, 92 in Michigan, and 619 in Wisconsin have self-sustaining populations of muskies.

You'll notice Nebraska is not on this list. Like almost half of all waters that contain muskellunge, all of this state's muskies were stocked – Nebraska doesn't have the appropriate habitat to sustain musky populations. While similar to northern pike, musky spawning requirements are not exactly the same. First, they spawn later in warmer,

Musky lures, like this spinnerbait-like contraption, are often very large and require special tackle to use effectively. This lure is pictured in actual size.

deeper waters than northerns do, and second, muskellunge do not spawn in aquatic vegetation like pike do. Instead, they prefer flooded timber with some sort of substrate such as rock or gravel. Lastly, water fluctuations in our irrigation reservoirs thwart the musky's ability to sustain themselves in these reservoirs. All of this means that the small number of water bodies in Nebraska that have muskies do so because the Commission stocks them. That's where the good news begins for Nebraska anglers.

What We Do Right

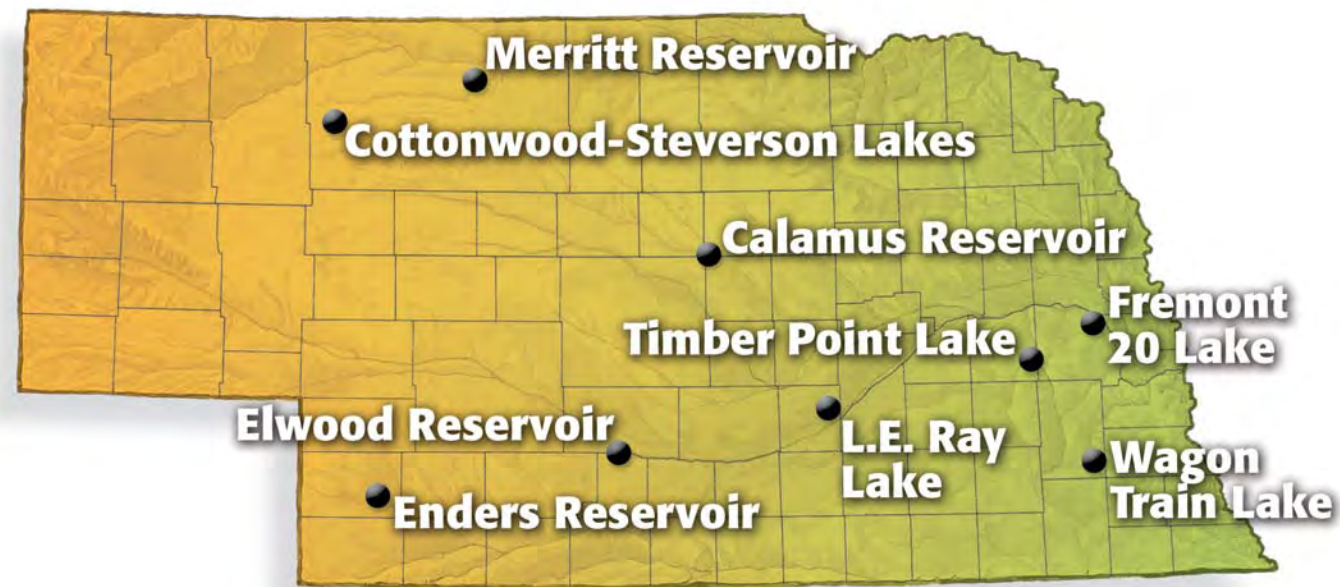
First introduced to Nebraska waters in 1958, specifically Lake Minatare, fisheries biologists

have stocked muskellunge in a variety of ways through the years. As many as 27 of the state's waters have been stocked at least once with muskellunge. In addition, tiger muskies (see sidebar on following page) have also been stocked in multiple waters through the years, a total of 70 standing waters and the Missouri River receiving either muskellunge or hybrid stockings.

Thirteen of the 27 musky stockings have been deemed successful, defined by catchable populations of fish, through the years. Using Master Angler entries (fish > 40 inches or 15 pounds), anglers have caught trophy muskellunge from 6 different water bodies.

Then, in 1998, the Commission began its most effective musky management practice to date – stocking yearlings. Typical stocking protocol calls for fingerlings, however once Nebraska began stocking year-old muskies, biologists liked the results they were seeing from surveys and reports from anglers. The fingerlings are brought as fry from Iowa, and the Commission raises them for almost a year before transferring them to other locations. "They're 12 to 14 inches when we stock them, and it's a very intensive rearing protocol," said Bauer, "It's not like growing trout, which is as easy as making popcorn. Instead, many states used to raise muskies on artificial feed, but they found

Muskie Fishing in Nebraska



Currently there are 9 waters throughout Nebraska that have fishable muskellunge populations. Merritt Reservoir remains the state's most prolific musky fishery, producing every state record fish ever caught. Nebraska's season is year-round and the state's minimum length limit is 40 inches. However, for the future of this put-and-take species, harvest is not recommended. Careful handling, however, is.

the survival of those fish after stocking wasn't the best. The alternative is raising muskies on live food, but it is expensive and can be a logistical nightmare. We've fed suckers, carp, minnows and other small fish to muskies, because if we don't have enough food in there for them, they'll eat each other."

Just the type of predator I like to spend my days searching for,



Both Musky Hunter and Muskie magazines offer tips, tactics, and further researcher on these prized fish.

so I'm happy that the Commission has stocked more than 13,000 muskellunge 12 inches or larger over the past five years. Given their early-life growth rates of more than 10 inches per year, the coming years could be very exciting at a few lakes throughout the state ... maybe.

Much to Learn

Knowing musky biology, waters in Nebraska probably do not have the appropriate spawning habitat, especially in its reservoirs. "But to be honest," said Bauer, "we've never looked." Nor is there any survey information outlining how many musky anglers are in Nebraska, or how many fish are caught on a yearly basis.

In addition, it is not known what the mortality rate after stocking is, or if their role as an additional predator provides positive dividends to a water body. "We know how to start a musky fishery, but past that we don't know much," said Bauer.

"They are a niche fish for us," he added. "They will continue to be a fish in our state, but their status will probably remain where it's at. We just can't raise enough fish to stock a lot of waters with muskies."

And as far as research, muskies, with their small population and seemingly small population of anglers, just don't compare with those other species that garner so much attention. Nebraska has more than 100 fish species in its waters, and there is just not enough manpower to adequately research all of these fish, especially one so seldom seen.

However, one fact remains clear: While not often seen in Nebraska, the musky is often talked about. The mere chance

of catching another big, bad predator in our waters is reason enough to stock them. "It fuels the imagination of anglers, and remains part of fishing's mystique and motivation," said Bauer. I couldn't agree more. ■

The first thing that will happen when this story appears is that readers will contact me, telling me they have caught muskies in other Nebraska waters not seen on this map. Therefore, email me at jeff.kurrrus@nebraska.gov each time you catch a musky, including both a photo and location. This will help the Commission know if there are any other waters in the state containing these top-tier predators.

Huskerland Muskie Hunters

By Eric Tezerak

Huskerland Muskie Hunters, a local non-profit organization, is the 53rd chapter of Muskies Inc. The club seeks to improve the local musky fishery, introduce youth to the sport, and bring anglers together. These goals are accomplished through promoting sound conservation practices such as 'catch and release' and aiding the Nebraska Game and Parks Commission in angler education, muskellunge stocking, ongoing research projects, and rescue and survey programs.

Please join in the efforts to make a healthy, thriving, trophy muskellunge fishery in Nebraska for future generations and ours by going to www.mi53.org or by attending the club's monthly meetings at the Omaha Scheels store on the first Monday of every month at 7:00 PM.

Making of a Musky

The tiger musky, which is thought to not currently reside in any waters in Nebraska, is a muskellunge/northern pike hybrid. This infertile hybrid has characteristics from both parents, with distinct tiger bars on a light background, similar to the color pattern of some muskies. In addition, its fins and tail lobes are rounded like a northern pike's but colored like a musky's. Lastly, the cheek scale and mandible-pore patterns are intermediate between a northern pike's and musky's.

Through the years, 58 waters have been stocked with tiger muskies, with 28 of these stockings deemed successful. In addition, tiger muskies show up in places where they have never been officially stocked, said Bauer. Plus, Master Angler tigers, characterized by the same length and weight restrictions as the muskellunge, have been caught from 26 water bodies.

However, hybrid stocking discontinued in 2003 because it was believed that muskellunge were more tolerant of warmer water than tiger muskies, and that muskies were less susceptible to angler harvest and therefore survive longer and reach a greater size.

This is great news for us, but in some areas, muskellunge are managed as a non-native and/or invasive species. For example, in Maine muskellunge are considered an exotic invasive species that could potentially threaten native fishes, including brook trout.



The **tiger musky** is a hybrid between the northern pike and the muskellunge. The Commission ceased stocking them in 2003.



The **muskellunge** is identified by its vertical patterns. Plus, the muskellunge does not have scales on its gill cover and cheek.



While the **northern pike** does have scales on its gill cover and cheek, it has fewer pores under each side of its lower jaw than the muskellunge.

Nebraska Outdoor Discovery Family Day

Fun for young and old alike will be had May 12 at Fort Kearny State Recreation Area.

By Julia Plugge, Outdoor Education Specialist

Nebraska provides the ideal environment for people who enjoy the outdoors. Spring to summer, fall to winter, there are a variety of outdoor activities your family can partake in. With vacation season quickly approaching, my own family is already excited about breaking out the tent, and I can already taste the gooey, chocolaty s'mores.

If your family is looking for something fun to do while learning more about the great outdoors, you should check out the Nebraska Outdoor Discovery Family Day that will be held May 12 from 9 a.m. to 4 p.m. at the Fort Kearny State Recreation Area between Minden and Kearney.

Designed to meet the needs of anyone interested in outdoor lifestyles,

regardless of age, gender or experience, the Family Discovery Day will feature a variety of hands-on activities, demonstrations and interactive displays spread across the area's 160 acres and eight lakes.

Some of the water-based offerings include kayaking, bowfishing and fishing, while on dry land other experts will be demonstrating fish cleaning and cooking, predator calling, turkey hunting techniques, outdoor photography, Dutch Oven cooking and waterfowl hunting.

Some of the day's friendly competitions that are sure to engage the entire family include Cabela's Outdoor Challenge, a 3D archery shoot for mothers, and various camping games. (I'm personally excited for the s'mores eating contest!)

Don't miss these other fun opportunities:

- View fish at the touch tank.
- Shoot targets at the shotgun, slingshot and air rifle range.
- Test archery skills.
- Fish from a kayak.
- Roast hot dogs.
- View Nebraska wildlife.
- Create outdoor crafts.
- Register for the half price lifetime youth permit drawing.

This is going to be a fun family event and a great way to kick off Mother's Day weekend. Even the family dog is welcome to attend, although it will have to stay on a leash. The Outdoor Discovery Family Day is free, but a park entry permit is required of all vehicles entering the park.

See you out there! ■



PHOTO BY DOUG CARROLL

The Nebraska Outdoor Discovery Family Day will feature a variety of activities, such as getting up close and personal with a variety of Nebraska fish, reptile and amphibian species.

Invasive Species Threatening Water Use

Controlling zebra mussels and other invasive threats.

By Karie Decker, Invasive Species Project Coordinator

In Nebraska we rely on our water sources for a number of activities – agriculture, recreation and consumption to list a few. Aquatic invasive species such as purple loosestrife, phragmites, Asian carp and others threaten the quality and availability of water for our vast demands. One species that has received a lot of attention in Nebraska recently is the zebra mussel. Zebra mussels (and their close relative, quagga mussels) are often referred to as the most important biological invasion into North America, both for the ecological and economical stress they cause. They can have profound effects on the ecosystems they invade, as they outcompete native species for food and other resources. They are notorious for clogging water supply pipes of power plants, public water supply plants and industrial facilities, which costs millions of dollars to clean up. They can even cause major problems to irrigators by clogging pipes and degrading systems. Zebra and quagga mussels can greatly affect recreation: They attach to and clog boat engines, encrust fishing equipment and foul beaches with sharp-edged shells. The Aquatic Nuisance Species Task Force estimates that the Great Lakes region alone spends more than \$30 million a year on zebra and quagga mussel control.

They're Here

In the fall of 2010, Nebraskans were hit with devastating news ... twice. In September 2010, officials at Offutt Air Force Base Lake indicated that a prior treatment to eradicate zebra mussels there had failed; adult zebra mussels had again been found on their sampling structures. Then in November 2010, the Nebraska Invasive Species Project received a report of zebra mussel at Zorinsky Lake in Omaha. Based on previous research in other states, Zorinsky Lake was drawn down



Zebra mussels, shown for size.

approximately 20 feet to freeze/dry out the invasive species throughout the winter.

Fast Forward

In 2011, the UNL Nebraska Invasive Species Project developed an Aquatic Invasive Species Prevention Program with funding from the Nebraska Environmental Trust and Nebraska Game and Parks Commission. Technicians and staff sampled more than 40 reservoirs from around the state for zebra mussel veligers (larvae).



PHOTOS BY KARIE DECKER

Zebra mussels encase a tennis shoe found in an infested lake.

All samples except Offutt Base Lake tested negative for zebra or quagga mussels, including Zorinsky. That lake is refilling and fish were stocked last fall. The lake officially reopened April 28, and a full recovery is expected.

Clean, Drain and Dry

Boaters and anglers may well run into staff from the Invasive Species Project this summer – new legislation makes it illegal to possess/transport aquatic invasive species such as zebra mussels, and staff members will be providing boat inspections and educational materials on a rotating basis at various reservoirs this summer. Sampling efforts looking for veligers will continue as well.

Aquatic invasive species can hitch a ride to a new water body on boats and any other item used in the water, so the best way to combat them is to Clean, Drain and Dry: 1) Clean off any visible mud, plants, fish or animals; 2) Drain water from boats and equipment; 3) Dry anything that came into contact with water (boats, trailers, equipment, clothing, dogs, etc.). Also, never release plants, fish, or animals into the water, including baitfish. Report invasive species to the Nebraska Invasive Species Project (<http://snr.unl.edu/invasives/boater.htm>). ■

ATTRACTIONS/EVENTS

NATURE'S MOSAIC COMMUNITY DAY— May 30th. 10 a.m. – 3 p.m., Axtell Nebraska. Enjoy a full day of outdoor nature activities and crafts for all ages and ability levels. Nature's Mosaic is completely wheelchair accessible with nature trails, fishing dock, picnic area and restrooms. There is no charge for lunch and the day's events.

BOOKS/PUBLICATIONS/VIDEOS

NEBRASKA WILDFLOWERS. It's baaack ... ! Out of print for 21 years, the second edition of *NEBRASKAland* senior editor Jon Farrar's *Field Guide to Wildflowers of Nebraska and the Great Plains* is now available. This 6 by 9½-inch paperback is a must have for anyone interested in learning more about Nebraska's wildflowers. To order, visit NebraskalandGifts.com or call (800) 742-0056.

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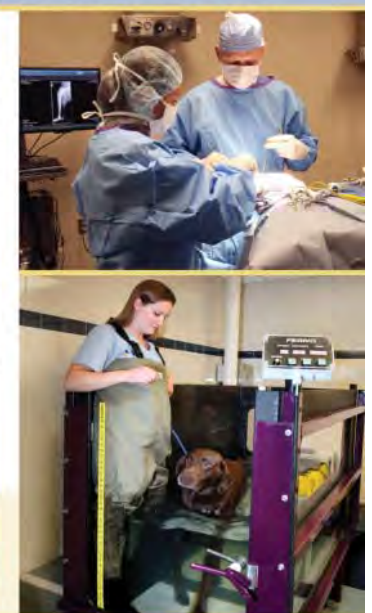


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▲ Thought you might like to make a copy of this picture for your wonderful magazine. Don't know anyone in the picture – my dad sent it to his sister in 1911. The back of the postcard reads: "We got beat 5 to 7 to bad I got 3 hits and home run play Sturt tomorrow going to long pine tonight by by"

– Lois Shaffeer, Oneill, Nebraska



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

Cooking Outdoors

The location of where I cook is part of the mystery.

By Roger Welsch

I have quite reputation as a master outdoor cook. Ask Linda. She'll give you the reasons why I cook outdoors: A few little mistakes in her kitchen, a couple of minor explosions (no casualties), some redecorating that was needed anyway, and I was exiled down to the fire pit at the cabin. I do a lot of cooking there for my pals and they, or at a minimum their dogs, are generally enthusiastic about the magic I create on an open fire. As my buddy Mick says, "You're cooking is great, Rog, but it is best eaten after dark."

Mick is in fact the inspiration for this edition of Page 49. He wrote recently and asked for my recipe for beans and ham. As I told him, it's right there in the name of the dish: beans. And ham. From there on, it's up to what's left over in your fridge or larder. A couple beers (in the pot! In the pot!), an aging onion or two, whatever is left in the bottom of the hot sauce, catsup or barbecue sauce bottles, maybe a splash of vinegar, a few strips of your friend Goober's deer jerky that is so hot that the last time you ate it it left an exit wound ... you get the idea. I explained to Mick that classic cookbooks list ingredients, but not proportions. See? I'm a classical chef!

I have learned the finer details of cooking from experts. No, not some hoity-toity institution like Cordon Bleu, but from the campfires of the best. One of my favorites is what I call Indian Soup, the kind of thing prepared by my tribal family and friends for all sorts of occasions, like powwows, handgames, ceremonials and that kind of thing. I am so fond of it I often fix it here for Linda and me. Okay, for me – Linda insists she won't eat anything she can't identify. Fussy eater, I guess.

Anyway, for Roger's Wannabe Indian Soup, cut up meat. For large gatherings my Pawnee and Omaha friends cut a cow or pig into fist-size pieces. (It used to be my impression that they used a chainsaw or dynamite for this part of the preparation, but I have since learned that an ax works just as well. Hey ... you're cooking for a lot of people with a minimum of time.) Put it into a 30-gallon cauldron or wash boiler. Fill with water. Build a fire. Boil contents of cooking cauldron or boiler for hours, adding inexpensive macaroni, dried corn, rice – whatever you happen to have. Stir with a canoe paddle. When the diners get impatient and start agitating, fish out the meat, ladle out the soup, serve, eat. Delicious.

My recipes tend to be basic (see "primitive"), historical, or even anthropological. And I mean that not in the individual histories of the leftovers I find in the fridge and toss casually into the cast iron pot, but in the general theory of the dish. One of my favorites, for example, is the Pawnee recipe for buffalo liver: Take one buffalo; cut out the liver immediately upon gutting, even before skinning; throw liver on campfire; proceed with dressing out buffalo; in a couple minutes, fish



the liver out of the fire; eat. You can imagine how it worked: liver is one of the first things you encounter upon opening up a buffalo. It is easily obtained, has little fat and no bones. It can't be jerked and dried like the rest of the meat. So ... eat it now. Fire (in my case, grill) ... buffalo liver. There you are. And it is delicious. Far better than any fried liver I've had, and I do love fried liver.

I was once talking with my Lakota brother Red Willow about this and asked what the Lakota recipe was for this same dish. He said, "Same as the Pawnee. But without the fire." I can however understand that this might be a little too "basic" for most modern campsite diners.

I do have some secrets but now, as I approach my, hahahaha, "golden years," I feel the need to share these arcane mysteries so they will not be lost for all eternity. For example, when I cook my famous Afterburner Baked Beans, I sometimes toss a cow magnet into the pot to pick up any spare nails, buckshot, barbed wire or horseshoes that might have found their way into the ingredients. You can never be too safe, I say.

I have published four books about foodways (actually, they are more about eating than cooking, but hey, *eating* is part of cooking), one of which won an award from *Bon Appetit* magazine. (I kid you not!) And I am working on a fifth. You'd think that Linda would therefore defer to me when it comes to cooking. But as she explained the matter to me, "No." That woman has a way with words.

Well, that's just a start. Watch this space for future revelations about my culinary techniques. And in the meanwhile, stand back – I'm about to do some fancy cooking and I don't want anyone to get hurt. ■

Roger Welsch is an author, humorist and folklorist. For years he was a regular guest on CBS's *Sunday Morning with Charles Kuralt*. Welsch resides in Dannebrog, Nebraska, with his wife, Linda. He has appeared in *NEBRASKAland Magazine* since 1977.



ILLUSTRATION BY TIM REIGERT



I speak to schoolchildren throughout Nebraska about photography and the writing process quite often. Each time I do, every single dog photo I show always draws the same response – laughter. There’s something about a dog photo that should constitute its mandatory inclusion in every single photo spread. Visit the Great Wall of China? Show a photo of Fido. Eiffel Tower? Tight closeup of Buddy. And doesn’t even have to be your dog – it can be a random dog that you happen to be standing near, one whose face you may never see again. Regardless of the canine chosen, make sure you get a picture of it. That’s your main task. Because after awhile, no one wants to see another photo of a really, really long wall. A dog with a really, really long tongue would be much more interesting to many viewers.

But this particular photo seen here also brings up another topic that always arises when I’m talking to nine-year-olds. Why nature? Why is it so important? Outside of my canned response that preserving nature is “the right thing to do,” I always come back to this photo for two reasons: One, you see things in nature that you could never see in front of a television or computer screen, so make sure we preserve nature so that, if not for anything else, we have a place where scenes like this can be seen. And two, nature’s characters, whether domestic or not, always have a level of wildness to them unmatched anywhere else. If you ever doubt this notion, take a look at this dog’s eyes. “Domesticated” is the last word that would be used to express his take on life.

Jeff Kurrus
April 3, 2012

Free Fishing and Park Entry Day

Saturday, May 19, 2012

Fish anywhere in the state and visit any Nebraska state park, state historical park or state recreation area for FREE. No park entry or fishing permit required!



As part of **Free Fishing and Park Entry Day**, the Nebraska Game and Parks Commission is offering the **15th Annual Family Fishing Clinic** at these state parks and recreation areas:

- Alexandria State Recreation Area (9:30 am – 2:30 pm)
- Fort Robinson State Park (9:00 am – noon)
- Fremont Lakes State Recreation Area – Lake #3 (9:00 am – noon)
- Louisville State Recreation Area – Lake #1 (9:00 am – noon)
- E.T. Mahoney State Park – Owen Marina (9:00 am – 11:00 am)
- Platte River State Park (9:00 am – noon)
- Ponca State Park (9:00 am – 8:00 pm)
- Two Rivers State Recreation Area – Lake #1 (9:00 am – noon)
- Victoria Springs State Recreation Area (9:00 am – 6:00 pm)

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For information on specific area events, visit

www.OutdoorNebraska.org

or contact the individual area

See You Out There.