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Conservation Digest

DEPARTMENT OF GAME, FISH & PARKS





South Dakota Conservation Digest

DEPARTMENT OF GAME, FISH & PARKS

Volume 80, Number 2

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- | 4 Fishing with “Minnows”
by Chelsey Pasbrig
- | 8 Outdoor Pursuit for Shed Antlers
by Adam Oswald
- | 12 Youth Waterfowl Hunt
by Casey Dowler
- | 16 West Whitlock’s Uncovered Past
by Ryan Persoon
- | 18 I Ran Away to a South Dakota State Park
by Connie Goodfellow
- | 22 A Small Outing Yields Big Memories
by Chris Hull

Features

	Dakota Flora.....	24
	Dakota Naturalist.....	26
	Natural Heritage.....	28
	Park Notes.....	30
	Wildlife Notes.....	31

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Fishing with “Minnows”

By: Chelsey Pasbrig, Aquatic Biologist and
Mike Smith, ANS Coordinator SD GFP

It's Friday evening and after winding down from a long week at work you're ready for a fun filled weekend of fishing. You gather your gear and get ready to head to your favorite fishing spot. But you're not ready just yet; you still need to pick up some bait. You swing into your local bait shop to pick up some “minnows” to lure the perfect catch.

Fishing is a practice that has been around for thousands of years. Although this practice has changed over time from a means of survival towards today's anglers having the wonderful opportunity to fish for recreation; the use of minnows as bait has remained relatively unchanged.

Min-now, [min-oh], Minnow?

(noun) (Merriam-Webster Dictionary)

a : a small cyprinid, killifish, or topminnow

b : any of various small fish that are less than a designated size and are not game fish

Most people are familiar with a few common fish species present in South Dakota such as catfish, crappies, bass, pike and walleye, however, few know that South Dakota is home to more than 100 unique species. Minnows comprise the largest and most diverse family in the state making up 41 of South Dakota's estimated 96 native species.



“Minnow” is often loosely applied to any small fish. However, true minnows are members of the world's largest freshwater fish family, Cyprinidae. Cyprinids or minnows are characterized as having a scaleless head, fins lacking spines, and jaws without teeth.

Fatheads, chubs, and shiners are minnows; however suckers, darters, killifish and topminnow, are not. Darters actually fall into the same family as walleye and perch. Even Merriam-Webster Dictionary's first definition of minnow is misleading as killifish and topminnows are not true minnows but rather members of the killifish family, Fundulidae.

Fishing with Live Bait

The perfect minnow imitation has puzzled innovators for years. Minnow shaped lures are continually being improved; however there's just something about the feel and the action of a real minnow that is often the preferred choice for a successful catch. Most live bait fish come from commercial dealers. However, for a rewarding experience anyone possessing a South Dakota fishing license can catch their own bait in most locations. Just remember when harvesting your own bait that golden shiners, emerald shiners, spottail shiners and gizzard shad cannot be transported away from the water in which they were taken.

The following are a list of bait fish available commercially by licensed bait dealers: fathead minnow, western silvery minnow, plains minnow, golden shiner, creek chub, flathead chub, and white sucker. In addition to the fish listed above, lawful anglers can take emerald shiner, spottail shiner and gizzard shad to be used non-commercially as bait.

Bait Minnows

Fathead minnow (*Pimephales promelas*)

Sometimes sold as crappie minnows, fatheads are the most commonly sold bait fish. Fatheads come in two color variations: black (female-pale and male-breeding) and the popular rosy-red mutant.



Rosy Red Fathead

Breeding Male Fathead

Female Fathead

Photos © Matt Wagner

Western silvery minnow (*Hybognathus argyritis*)

Plains minnow (*Hybognathus placitus*)

Western silvery minnow and plains minnow look similar and are difficult to tell apart, however, western silvery minnow has larger eyes and scales. Both these minnows work well with numerous game fish.



Western silvery minnow
Photo © Dave Ostendorf

Plains minnow
Photo © Richard Stasiak

Golden shiner (*Notemigonus crysoleucas*)

The second most common species commercially farmed as bait fish are golden shiners. Deep bodied and golden in color, the lateral line dips down in the middle. Golden shiners make great bass bait.



Photos © Matt Wagner

Emerald shiner (*Notropis atherinoides*)

Long and slender, emeralds have large eyes and a large mouth. These shiners work well for numerous game fish.



Photos © Matt Wagner

Spottail shiner (*Notropis hudsonius*)

Spottail shiners have a distinctive spot at the base of the tail and make great walleye bait.

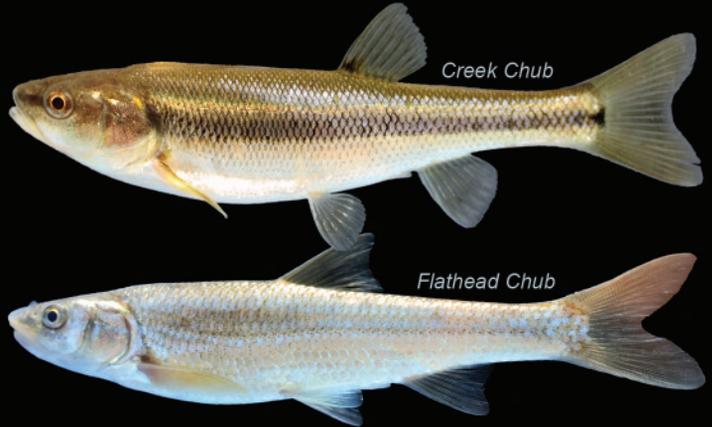


Creek chub (*Semotilus atromaculatus*)

Flathead chub (*Platygobio gracilis*)

Flatheads have a broad flattened wedge shaped head while creek chubs have dark spots at the base of their dorsal and caudal (tail) fin.

Creek chubs can grow up to a foot long however, chubs in the 3- to 6- inch range are ideal for walleye, catfish and pike.



Other Bait Fish

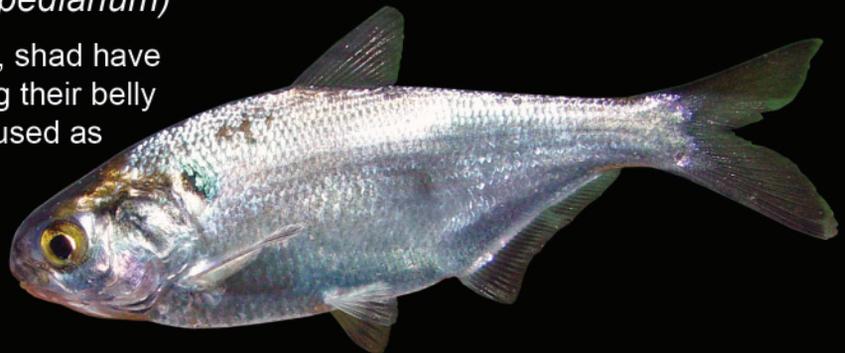
White sucker (*Catostomus commersonii*)

Also known as sucker minnows, and as their name implies, suckers feed mostly by sucking up bottom materials with their fleshy "lips". Suckers are great pike and muskie bait.



Gizzard shad (*Dorosoma cepedianum*)

Sometimes referred to as "saw-bellies", shad have sharp scales that come to a point giving their belly a saw-like edge. Shad are commonly used as catfish bait.



DANGERS of Bait Bucket Introductions!

Fisheries biologists across the country are facing an epidemic of non-native species introductions. Intentional or accidental introductions of these species, collectively called aquatic nuisance species (ANS) can severely disrupt aquatic communities.

With improvements in the technology of livewell and bait containers, the chances of relocating species over greater distances have dramatically increased. The transport of ANS, especially in river systems is particularly troublesome as river flow can lead to the rapid spread of these non-native species.

Silver and bighead carp (commonly referred to as Asian carp), zebra mussels, rusty crayfish, curlyleaf pondweed, Eurasian water milfoil and numerous fish diseases are among the multitude of organisms threatening ecosystems and native fish across the country. Regulations designed to limit the spread of ANS have been established in South Dakota, however they will likely have limited success without increased awareness and support from anglers and other water users.



Silver carp
Photo © Dave Ostendorf



Gizzard shad
Photo © Konrad Schmidt

See the close similarity that juvenile silver carp have to other bait fish especially gizzard shad.

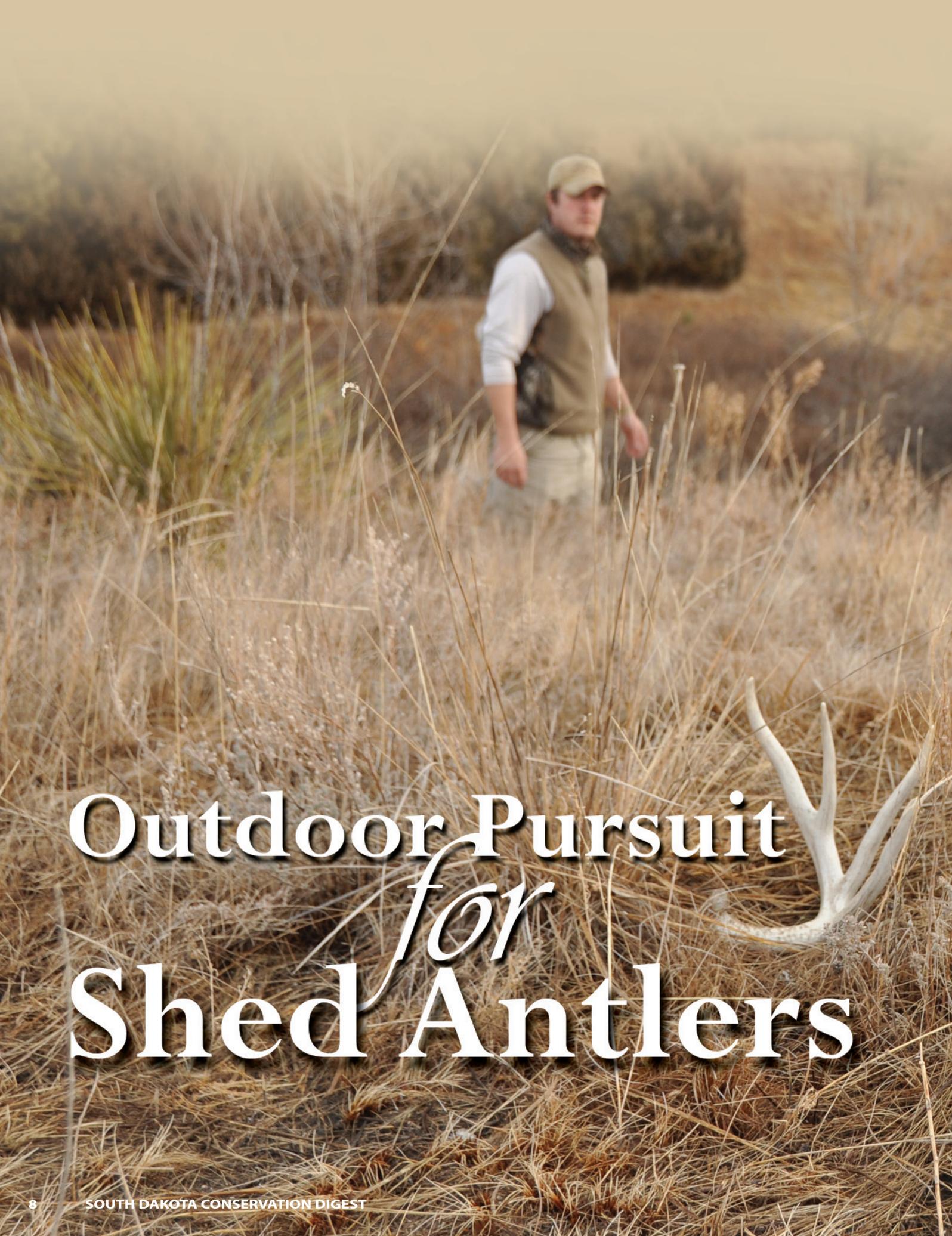
STOP Nonnative Species Introductions!

- Dumping unused bait back into South Dakota waters is illegal! Dispose of unused bait in the trash.
- Drain all water from livewells, bilges and other compartments before leaving an access site.
- Never transport fish from one water body to another.
- Clean and remove all visible plants and mud before leaving an access site.
- Pressure wash your boat and trailer with hot (140oF) water.
- Let your boat and equipment dry thoroughly if you cannot properly clean it.



WATERS CLOSED TO TAKING OF BAIT

All creeks, streams or rivers, permanent or temporary in the shaded areas are closed to the taking of baitfish by the use of seines, nets and traps. Legal baitfish may be taken in these waters by hook and line methods.



Outdoor Pursuit *for* Shed Antlers

As the sun began to rise over the eastern horizon, I watched a herd of deer finish up their early morning breakfast. When they headed off towards the distant creek bottom to bed up for the day, I started counting; 1, 2... I quit at 55 but there was easily over 100 deer feeding from this wheat field in western South Dakota. They had been there most of the winter, filling up their stomachs before heading off to nap. Today was different though, only 3 antlers were visible. Last week more than a dozen bucks were feeding in this field and the week before even more.

BINGO – this is what I had been waiting for. I'd been watching this field along with several others for over a month in anticipation of those antlers detaching from the pedicles and falling to the ground.

“Shed hunting” does not refer to the storage facility in your back yard, it refers to those one-of-a-kind antlers found on the ground after they have been “shed” off the deer’s head. They drop these antlers every year, and with each new season, a growing number of antler fanatics hit the woods in search of these sheds.

WHY?

To the deer, antlers can be a crown of sorts to show their dominance and aid in attracting does during the breeding season. Many hunters see them as a prize, a bonus in addition to the meat they are putting in the

freezer. They have also been used since ancient times as tools, weapons, medicine and even toys. In modern days, these antlers are used mostly in craftwork, furniture and the growing world of antler collecting.

Walking in itself is great exercise, but walking through snow or mud and sometimes up steep slopes in pursuit of shed antlers will get your heart rate climbing. But, possibly the most important reason to shed hunt, is simply to get outdoors. With winter on its way out, and the fair weather of spring approaching, use shed antlers as your motive to get outdoors and walk.

If you are a big-game hunter, this time of year is one of the best to scout for next fall. Utilize these walks to find patterns in deer and deer behavior so you don't have to be as intrusive on the area before or during the deer season. Many of the trails that deer travel in the spring will still be in use months later. Most of the scrapes, left over from the previous rut, are still visible and



Article and Photographs by Adam Oswald,
SD GFP Information Officer

placing a tree stand nearby will greatly help your odds in the fall. Also, knowing how many bucks are in the area, and which ones survived the winter will improve your chances of harvesting a mature buck next season.

My fascination with deer antlers began when I was too young to hunt, but still looked forward to seeing my dad's deer after he returned from his annual hunting voyage to Harding County. I have always been in awe of how unique each tine can be, no matter the size... and for me, January through March is nothing other than SHED season.

WHEN?

Every year, more and more antler fanatics walk countless miles in search of these shed antlers. The sport is growing in popularity, so much that some states have enacted shed antler seasons, so the deer or elk are not pushed out of their wintering grounds during that time of year when they need to preserve their energy.

In South Dakota, we do not have a season, so you can begin searching for sheds whenever you would like, but waiting until most of the antlers have dropped will greatly help your success. Deer and elk lose their antlers in the

winter or spring, with elk tending to lose them a little later. The best time of year to begin your search for deer sheds in South Dakota is mid-February, however, antlers have been found as early as December. In the early part of the season, focus on food sources, staying out of the bedding areas to assure that you don't push bucks out of those areas before they shed.

In March, begin looking in the river bottoms, creek corridors and any heavy cover you can find. By the end of March, most antlers have dropped with the exception of a few mule deer and elk. Shed season, for me, ends sometime around the first week of April so that I am not disturbing someone participating in the spring turkey hunting season.



Food sources are one of the best places to find shed antlers since deer spend a great deal of time feeding during the winter and early spring.

WHERE?

While it's true that there is more competition for shed antlers, gaining permission to search for sheds on private ground is still fairly easy to do. It is illegal to shed hunt on SD GFP-owned and leased lands, so finding private landowners willing to let you look is key. Often, once a landowner realizes what "shed hunting" is, they don't have a problem granting permission. Some landowners are eager to let you look as the antlers on the ground have a tendency to act like spike strips to tractor and pickup tires. This is not to say that everyone will be willing to let you on their land, but if you knock on enough doors you will find some great places to look.

Once you gain permission, look anywhere and everywhere that you see evidence of deer activity. In the winter, deer eat and sleep and that is about it. So naturally, I spend most of my time looking in food sources, bedding areas and the trails that lead between the two.

Scouting plays a crucial role in the search for antlers, find the areas where the deer have been herded and come back a little later to look... sometimes going back several times to find the late droppers or ones you missed earlier.



Try searching for parts of antlers rather than the entire antler itself. Many times antlers will get covered by grass, leaves and snow leaving just the antler tips visible.



TOP: Finding well used trails during the winter is a great scouting tool, re-visit these sites after the snow has melted and the sheds have dropped. Pay particular attention to fence-line crossings as antlers may get bumped loose when deer cross.

RIGHT: Shed antler hunting is a great way to get the entire family outdoors. Children, spouses and relatives, even those that aren't interested in hunting can enjoy a day in the woods searching for these otherwise-lost treasures.



WHAT TO DO WITH THEM?

As mentioned earlier, antlers can be used in craftwork, furniture and the growing world of antler collecting among other things. If you like to tinker with crafts and woodworking, try your hand at making antler lamps or baskets. Gun racks, coat racks, wine racks, knife handles, wall decoration – the ideas are endless, and they make great presents!

Because of their appeal to the craft trade, there is a market for selling shed antlers, a quick search for “shed antler” on eBay results in thousands of active listings, depending on the time of year. Antlers are generally graded by size and color(condition), the market fluctuates often but average antlers will bring around \$5-7/lb. Unique or big antlers are sold separately for a wide range of prices.

Antlers can be displayed as decoration or as a prize, much like a trophy deer mount. There are a few companies producing “shed antler display systems” in which the antler can be hung securely on the wall. Antlers can also give a room a “country cabin” look when placed on a shelf or mantle.

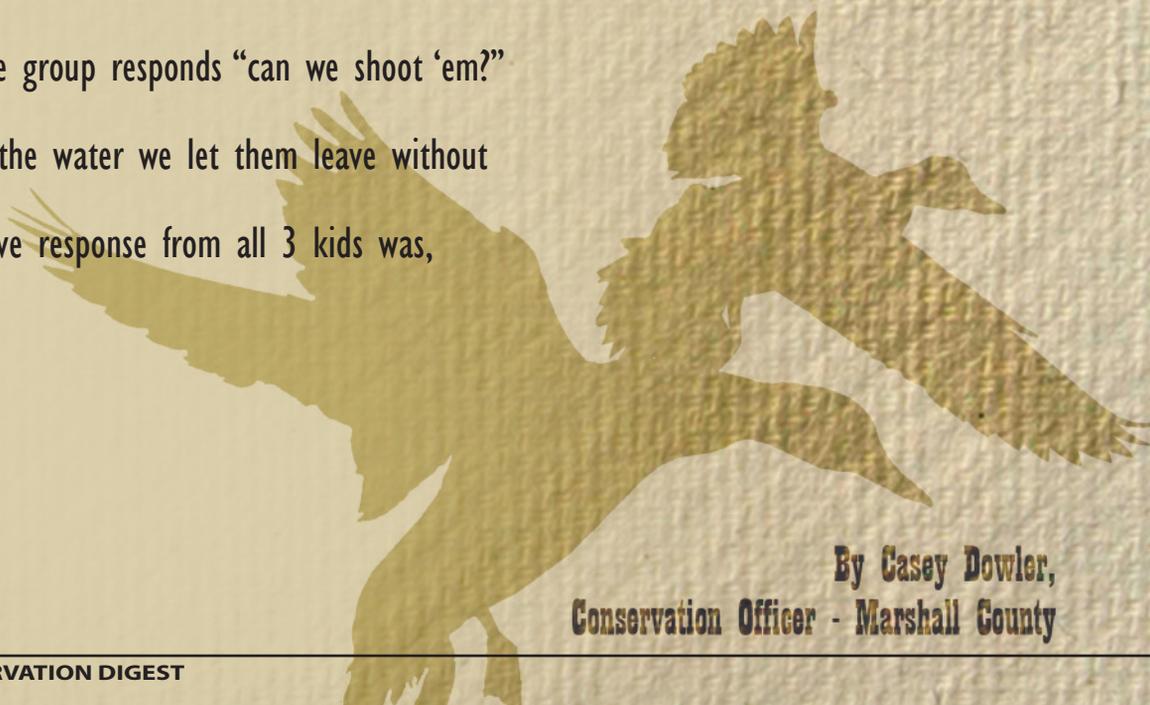
Personally, I don't do it for money... in all my years of shed antler hunting, I have only sold antlers once – and that was just to clear room for more! The largest antler I have ever found was given back to the landowner to display in his house. Some of the other large or unusual antlers are on display, but most of the antlers I find end up in boxes in my garage. For me, it's not about what I do with them, but more about the outdoor experience I had while looking for them that draws me back to this sport year after year. The feeling I get the first time I see a shed antler laying on the ground is comparable to finding a hidden object in a painting, only much more... and it is why - while I sit in my office and write this article - I am actually dreaming about being outside, walking up on the next antler.

YOUTH WATERFOWL

HUNT

Eyes widen in anticipation as the ducks twist and turn through the trees on the edge of the slough. The ducks land 15 yards from the edge of the makeshift blind we made early that morning. As the ducks swim in front of us, their feathers glisten in the morning light. At this moment it is not about shooting the ducks, it is about experiencing that special moment when all thoughts of homework and video games disappear; it's just us and the ducks. I quietly ask the kids what kinds of ducks are on the water. One kid in the group responds "can we shoot 'em?" As the ducks flush from the water we let them leave without firing a shot. The collective response from all 3 kids was, "That was awesome!!!"

I agreed.



By Casey Dowler,
Conservation Officer - Marshall County



The first Marshall County youth waterfowl hunt was held September 21-22, 2012 at Hickman Dam GPA. It was a collective effort by SD GFP staff, US Fish and Wildlife Service and volunteer residents of Marshall County. Friday evening was a 3 hour camp to help the 12 youth prepare for the following morning's hunt. The kids went through 4 stations focused on different aspects of waterfowl hunting to prepare them for the morning.

The first station was duck identification and this allowed the hunters to learn ducks on the fly and in their hands. There were "ducks on a stick" available for the kids to touch and to get a close up look at ducks common to South Dakota. Along with identifying ducks this station taught the kids about the different feeding habits and differences between dabbling and diving ducks and the harvest limit for each duck. This would be very important information for next morning's hunt.

The second station was shooting and the kids really enjoyed shooting clay pigeons to sharpen their shooting skills. Marshall County has a very active 4-H shooting sports program and many of the kids at camp are involved in that program. It showed, there were some very impressive shooters in the group! This station also focused on safety and proper handling of firearms in the field while hunting.

The third station was decoy set up for both water and field hunting. The kids sat in layout blinds while listening to GFP staff explain how to set up decoys to hunt mallards and Canada geese in a field. GFP staff talked about how waterfowl approach decoys in a field and safety for hunters and dogs while in the field hunting. To learn about hunting ducks over the water, a duck boat was placed on the edge of Hickman Lake. Kids were able to get in the duck boat while a GFP staff member talked about different ways to set decoys in the water and the safety aspects involved in hunting

from a boat or standing on the edge of a slough.

The fourth station was duck and goose calling. To make sure each kid was able to participate and learn all the kids received a duck and goose call from South Dakota Game, Fish and Parks. The kids were taught how to properly use the calls to get the attention of and influence ducks and geese. As camp wrapped up, the kids did a group calling session inside the Marshall County Sportsman's Clubhouse.



The duck calling was loud and kind of resembled ducks, but when they started goose calling, it was very good and really sounded like a flock of very talkative geese.

At the end of Friday's camp, the kids were paired up with adult mentors who would take them out hunting Saturday morning. The adults helped the kids make up a list of things to bring along the next day including proper clothing and gear for the morning hunt. The kids had a lot of questions and their

excitement about the upcoming hunt could not be hidden.

As I was driving to the slough Saturday morning with my group, we talked about the scouting trip I made to this slough a week prior and how important scouting is to a good hunt. "Only a half mile and we are there boys," I said as we turned off the gravel road and into a pasture. After we parked the trucks I had all the kids meet behind the truck and I introduced them to the dog we would hunt with that day. I explained to them how important it is to have a well trained dog to retrieve your birds and find crippled waterfowl. We then got all the gear out of the truck and assigned decoys, guns, chairs and other gear to be carried the 200 yards to the edge of the slough. The kids began asking questions, "How many ducks will we shoot?", "How much farther is it?" and "What time is breakfast?"

I answered all of their questions that I could in the short walk. As the kids arrived at the edge of the slough their questions began to subside as they listened to the ducks quack and leave the slough. "Will they come back?" they asked. I replied, "I hope so."

The drought had left a 5 yard mud ring around the shrinking slough. As we walked to the eastern side of the slough the mud latched onto one of the kid's boots so we stopped and retrieved his boot and got it back on his foot. Luckily, he didn't get wet and we continued on our trek. After we found the spot we would hunt from that morning, we sat our stuff down and began to pick up dead branches and logs to make the blind.

The decoys were set and the spinning wing decoy was on, as light began to fill the sky the birds started to arrive. The ducks really put on a show for us that morning. The morning flight was filled with flocks of 5-20 wood ducks with the occasional mallard and teal mixed in. Each kid sat eagerly anticipating the chance to harvest a duck. The kids took turns shooting at the flocks of birds and with coaching

from me and the other mentor; we helped the kids pick out the ducks they wanted to harvest.

Of the three kids hunting that morning, two of them had never harvested a duck prior to that day. So the first duck they harvested was very special and we made sure it was memorable with high fives and having the youth work the dog and taking their first bird from the dog.

It was a little after nine and the flight of ducks had slowed down; I asked the kids if they were hungry. There was a resounding “yes!” from the group. As we packed up the gear and took pictures of the kids with their ducks, I thought to myself what a great morning we had. We made our way back to the truck, loaded the gear and headed to the clubhouse at Hickman Dam GPA. As we turned out of the pasture and onto the gravel road, I looked in the rear view mirror and noticed 2 of the kids asleep and the third was fading fast.

The Marshall County Sportsman Club graciously prepared a pancake, eggs and sausage breakfast for the kids and adults that participated in the hunt. The kids swapped hunting stories and filled their bellies with the good food.

After breakfast, we took pictures of the kids with their ducks. It was a successful hunt for all the youth harvesting at least one duck. Overall 32 ducks were harvested and 7 kids captured the prize of their first duck that morning. After pictures a quick demonstration was given to the kids on how to clean a duck. The parent picked up the kids, the adults cleaned up after breakfast and everyone headed home. About 3 hours later my phone began to ring with parents asking if I had time to take their kid on a Sunday morning hunt. Both parents that called said that their kids would not stop talking about their hunt and how fun it was. My

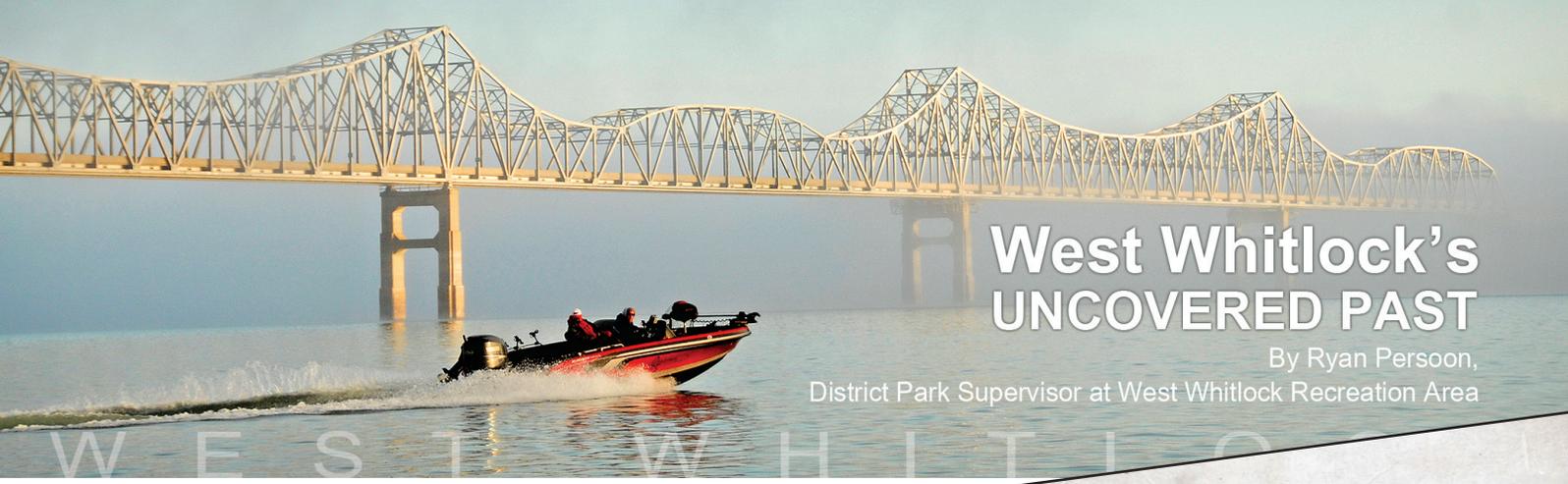


answer was “of course!” and we had another great morning in the field.

Youth hunting is an adventure for kids as well as adults. To ensure a fun and successful hunt, preparation should not be overlooked. The more one can prepare for a hunt the better the experience will be for the youth

and everyone else involved. Not all hunts will go the way you anticipate. It is not about how many ducks you harvest, it is about the memories you make and the time spent with your friends and families enjoying the great outdoors.





West Whitlock's UNCOVERED PAST

By Ryan Persoon,
District Park Supervisor at West Whitlock Recreation Area

It's said that to really know someone, you have to understand where they came from. The same can be said of a place. It's easy to see that West Whitlock Recreation Area near Gettysburg is rich with outdoor recreational opportunities, but to really enjoy it, you need to learn how the area came to be and what history it holds.



Even for history hunters, finding information about the past is usually easy. Modern technology helps put just about anything you want to know at your fingertips. However, not all information is a keystroke away. For the most interesting stories, the ones not necessarily told in history books, you have to immerse yourself in the area, visit with residents and explore local museums. After living in the area for several years, I've heard my share of stories and variations of each. I've decided to share just a few of my favorites with you here.

Population center: The Arikara, or Ree, Native American tribe thrived for hundreds of years in their earthen-lodge villages. The Ree villages,

both big and small, ran north and south along the Old Missouri River bottomland. In ancient times, the Ricara Nation was very large; comprised of at least 32 populous villages. The Arikara farmed the land along the upper Missouri River, growing crops such as corn, beans, squash, sunflowers and tobacco. In 1883, the apparent center of the old Arikara culture was discovered just west of the present day West Whitlock Recreation Area. A replica earthen lodge is on display at the park to commemorate the history of the Arikara culture and people that once inhabited the area.

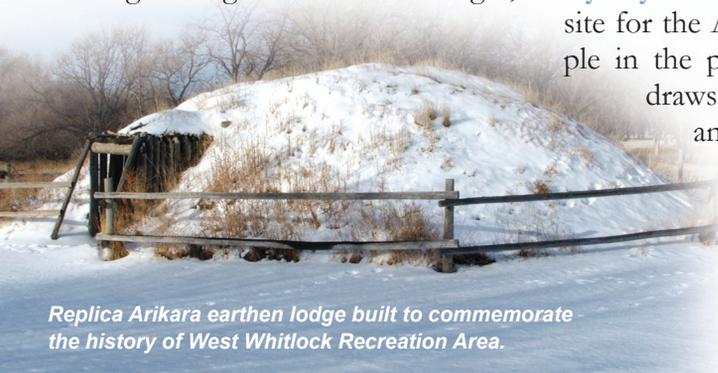
By any other name: A popular campsite for the Arikara and Mandan people in the past, West Whitlock now draws modern-day campers and anglers to its shores. When the area became a park, it was named for Mrs. J. F. Whitlock, whose pioneering family once owned the land. At one time, there was a



Medicine Rock has had many visitors throughout the years, due outdoor exposure and wear, this 40 ton rock was moved into the Dakota Sunset Museum in Gettysburg. Photos © Dakota Sunset Museum

small settlement near the area called Mrs. Whitlock's Crossing where a ferry moved livestock and people across the river.

Explorers: The Lewis and Clark Expedition halted for dinner at an abandoned Arikara village in this area on October 6, 1804. They described the village as consisting of about 80 octagon-shaped lodges, neatly covered with earth, placed as close to each other as possible, with a log picket enclosure surrounding all of them. The skin canoes, mats, buckets and articles of furniture found in the lodges led the explorers to believe that it had been



Replica Arikara earthen lodge built to commemorate the history of West Whitlock Recreation Area.

hastily abandoned that spring. Each lodge, made of cottonwood logs, willow branches and grass, could house up to 20 people.

Medicine Rock: The Medicine Rock was a landmark in its day near the mouth of the Little Cheyenne River near Whitlock Bay. The 40-ton rock was a flat piece of limestone about 10 feet long and six feet across. Sioux legend held that a wise man, inspired by the Great Spirit, engraved six footprints and a hand on the stone to remind Sioux people that they were in the care of the Great Spirit. The Sioux looked upon the stone as somewhat of an oracle: when the proper prayers were offered, it would help bring good health, direct them to the best hunting grounds, or lead them to victory. Women went there to offer prayers for children's safety. Many generations of Native Americans worshiped near this sacred rock.

Several explorers and fur traders, including Lewis and Clark, the Verendrye brothers and the Atkinson-O'Fallon Peace Treaty expedition, visited near the site. In 1873, Mrs. Custer visited the site.

The Medicine Rock was preserved from the flooding of Lake Oahe and relocated to Gettysburg near the present day Medicine Rock Cafe in 1954. The imprints upon the rock began to disappear from exposure to the elements and wear from tourists, so in 1989 an addition on the Dakota Sunset Museum in Gettysburg was built where the rock, again moved, is still displayed inside today.

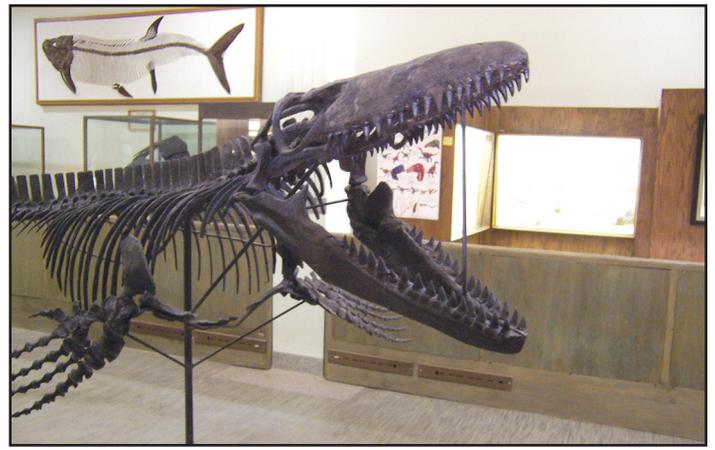
Louie Badger Hiking Trail: Charles "Louie" Badger's dedication in caring for the trees at West Whitlock Recreation Area helped promote the shade, beauty and wildlife cover visitors enjoy here today. In 1962, before the rising waters of the Missouri River had formed the bay, the U.S. Army Corps

of Engineers planted 90 acres of trees in this grassy hilltop. Badger's interest in the area prompted him to dedicate himself to care for the newly planted trees during their first important years. A farmer by trade and a fisherman at heart, Badger and his wife, Veva, retired to the Whitlock Bay area.

They later opened a bait shop where they rented boats and passed along advice to fishermen. In recognition of Badger's tree nurturing efforts, a governor's proclamation designated June 22, 1986, as Louis Badger Day in South Dakota. The park also honored Badger's passion for the area by naming a two-mile hiking trail in his name. The mowed trail weaves through tree belts and grasslands offering hikers an opportunity to view an interesting variety of plant and wildlife species as well as spectacular views of Lake Oahe and the Highway 212 Bridge that spans the Missouri River.

Mosasaur Discovery: In 1989, a couple of local fishermen discovered the skeletal remains of what looked to be an ancient reptile. The partially exposed remains were brownish in color and embedded in the shale along the shore of Whitlock Bay. Shortly after the initial discovery, a team of nine paleontologists from the South Dakota School of Mines and Technology unearthed the skeletal remains of a 78-million-year-old Mosasaur.

Mosasaur were air-breathing, scaly-skinned, flesh-eating, long-bodied alligator-like creatures with a



Fishermen discovered the skeletal remains of a 78-million-year-old Mosasaur in 1989.

Photo © Museum of Geology, South Dakota School of Mines & Technology - Rapid City, SD

ruthless reputation. They were known as the "Rulers of the Ancient Seas" and could grow up to 45 feet in length. From the body construction, it appears that the Mosasaur was a sub-surface feeder, pursuing fish in much the same manner as seals do today. The Whitlock Bay Mosasaur had a skull that measured 3.5 by 2 feet, but the body was too incomplete to get an accurate length. The head is larger than a Mosasaur skeleton that is on display in The Museum of Geology in Rapid City. That skeleton, which was discovered near Ft. Randall, measures nearly 30 feet in length.

From ancient settlements to pre-historic creatures, the West Whitlock area has a rich past. Come enjoy West Whitlock for all the recreational opportunities, but be sure to visit the community and ask about its history. There are a lot more stories to learn – see what you can uncover.



Whether you like fishing, enjoy camping or learning about history, the West Whitlock Recreation Area has much to offer.

Mature trees provide a shaded canopy over a wooden bridge and hiking trail at Newton Hills State Park.





I Ran Away TO A SOUTH DAKOTA STATE PARK

By Connie Goodfellow, Regional Secretary at Oakwood Lakes State Park

I don't think much of it anymore - it's so much a part of who I am. But I always get a reaction. This is how it is for me when I share with people my love of tent camping by myself, a 42-year-old married mother of three.

Sometimes I feel the need to be alone and explore new surroundings. I am fortunate to have the opportunity to do this since my husband and three boys understand my longings and allow me the time to escape for a while, or as I jokingly say, "run away."

My favorite escapes are to our beautiful and scenic South Dakota state parks. Living in eastern South Dakota, I take full advantage of our local state park, Oakwood Lakes. With miles of well-groomed trails and numerous camping sites, it's a great place to get away. On this particular weekend though, I decided to head south to another favorite haunt, Newton Hills State Park. But before I do, I decided to check out Blood Run.

Blood Run was at this point designated a nature area. Plans are in place to develop it into one of the newest state parks in South Dakota in 50 years. The hiking trail begins bordering a thick grove of old Bur Oak trees and I found myself moving quickly in anticipation of being among them. I was not disappointed. The trail takes the explorer down and through a densely populated stand of Oaks along with other hardwood trees.



Photo © Connie Goodfellow

Abundant wildlife and the history found at Blood Run Nature Area drew the author to walk its beautiful landscape. The river was a useful resource for the Oneota Culture.

The area has a strong history as a Native American settlement and a high significance to the Oneota Native American culture. I can understand why they chose this place for their home. The beauty of the landscape drew me in, too, and I walked the path in solemnity. It may sound corny, but I wished for a pair of moccasins to soften my footfalls so I didn't scare away any wildlife that may be ahead of me. With the sound of my footsteps so prominent to me, I was delighted when I surprised two deer feeding in the valley beside the trail. As I finished my hike, I was glad I walked the Blood Run trail in its beginning



Photo © Connie Goodfellow

The author rests while biking the George S. Mickelson Trail in the Black Hills. Exploring the local trails is one of her favorite activities.

stages and am excited to see this area secured as a place to be protected and enjoyed by the public.

My next destination was one I only make once a year, so I treasure the time. As I drove there, I put to conscious thought what is always in the back of my mind when I enjoy the state parks in South Dakota: my love for trees. Don't get me wrong - I also appreciate the wide-open spaces our state provides. During mid-summer, I took a trip to Pierre and while on my way, came upon golden fields of lightly windblown wheat as far as I could see. My eyes feasted on that sight and it remains a very visible picture in my mind.

But I really love to be surrounded by trees; dense, green, thriving trees. I love the woody scent, and the sound of the wind as it gently moves through them. How they provide for the animals and vegetation growing underneath; how they shelter that vegetation and allow it to grow healthy and delicate. As we see the price of field crops increasing, it makes me sad to see the trees and shelterbelts being ripped out to make room for more planting. This is a sign of the times.

With these thoughts in mind, I have an even greater appreciation that, for a change of scenery, I only have to drive to a South Dakota state park to enjoy these giant monuments of South Dakota's oldest living history. As stated on a sign I read while walking the Woodland Trail at Newton Hills State Park, Bur Oaks can live to be 300 years old. Impressive!

My routine is always the same whenever I camp. I first unload my vehicle, and set up my tent. Then I explore the area on my bike. I stopped at a camp where a couple was sitting next to a series of white piping perches holding two beautiful large parrots and five other exotic birds found only in the jungle. It turns out this couple puts on programs in the state parks showcasing their birds. They are very friendly and visited with me about their pets even though the program ended hours ago. Programs like this are always interesting and informative and vary from park to park. A schedule of park events, from stargazing to Dutch oven cooking, can be found on the GFP website.

I continued on, my real goal to hit the hiking trails, so I returned back to my campsite and got my backpack filled with necessities for hiking. Newton Hills State



With the right tent, set-up for one person is easy and allows you to connect with nature.

Photo © SD Tourism | travelsd.com

Park offers many miles of trails including separate horse trails. The paths are well marked and easy to follow. The beauty of this place is so unspoiled and peaceful. A photograph could never relate how the sounds and scents and views of this place delight my senses. Everything is so green and lush!

After hiking the woodland trail twice (once wasn't enough), I returned to my camp in time to clean up and start the fire to cook supper. I prepare most of my food at home and wrap it in aluminum foil so all I have to do is cook it over the open flame. Although sitting around the campfire in the evening is always enjoyable, on this particular night, a light rain started to fall as the sun set, so I put my chair in my tent and enjoyed my book while listening to the sound of the gentle rain on my canopy. There was nothing else to do. May I say that again: there was nothing else to do! How lovely!

I always sleep well in a tent. Of course, I need the comfort of my air mattress to aid me in that. Snuggling up in my sleeping bag to ward off the chill of the night while listening to the rain fall helped me sleep like a baby. I woke to the sound of the birds singing and the smell of fresh, clean air that always comes after a rain. After a quick breakfast, and with a little more exploring on my bike after cleaning up, I took down my tent, packed up my gear and headed home.

ed. How dare my cell phone have the audacity to ring that obnoxious tone when I am so tuned into the gentle and natural sounds surrounding me? I turned it off.

In conclusion, my weekend was a success. Sunday afternoon found me back at home, relaxed and refreshed and anxious to hear what my family had been up to. I am ready for another week. The spring season is approaching; the leaves and flowers will soon return, and a warm breeze will blow - the perfect elements for getaway weekend for a runaway like me.

Wild grapes can be found growing along the interpretive trail at Newton Hills State Park. Photos allow you to document your trips and share the experience with others.



Photo © Connie Goodfellow

A "Small" Outing Yields **BIG** Memories!





A ringing phone can be an ominous thing.

“Chris, this is Maggie. I need some help next week with a kids outing. It’s ice fishing, right up your alley.”

Ice fishing is right up my alley. So is taking kids into the great outdoors. She had me hooked already.

Maggie Lindsey runs our educational programs for GFP. She does things like aquatic education, fishing classes, Trout in the School Program, Becoming an Outdoorswoman, Youth Conservation Camp, the list really is endless. Maggie has more energy than the Big Stone Power Plant. She has the most fun of anyone at work. She bites off a lot more than she can chew at times. This may have been one of these times.

“It will be two groups of about 25 kids each from the Stanley County (Ft. Pierre) Gold Program,” Maggie said.

This was all fluff information. It could have been 400 kids from Kenya. It was ice fishing and kids. I was in.



...BY THE NUMBERS

7 ... number of GFP Volunteers

20 ... dollars worth of bait donated by Dakotamart

51 ... kids from Stanley County Gold Program

150 ... holes drilled to fish out of

10 ... kids caught their first fish

28 ... kids caught their first fish through the ice

1,000 ... wax worms used

A TON ... of memories made



Dakota Flora

Equisetum

by Dave Ode, GFP Botanist

At least three generations of my family have, as children, played a game with horsetails, or as botanists call them “Equisetums.” Actually, the species with whirled branches are called horsetails and the species without branches are called scouring-rushes. They all have jointed, photosynthetic stems that grow from deep rhizomes. My mother remembers picking these jointed rushes, probably somewhere along Splitrock Creek where she grew up, pulling them apart and putting them back together like a puzzle. I did the same as a child and so did my children. It’s a simple trick to discover and any child given the time and opportunity will figure it out. Another common name for scouring-rush is “puzzle grass.”

Equisetums are the sole surviving members of an ancient group of plants with ancestors going back to the Paleozoic era about 400 million years ago, before there were flowering plants and before there were dinosaurs. One of the most notable periods of the Paleozoic is the Carboniferous, named after the massive amounts of carbon in the form of coal that were laid down by forested swamps and estuaries while what is now North America straddled the equator, before continental drift moved the continent northward into temperate latitudes. Many ancient Equisetums (fossils from the Class *Equisetopsida*) and their relatives the Calamites or giant horsetails lived in these equatorial swamp forests and grew to the size of bamboo and palm trees. Some of their fellow Carboniferous creatures included scores of different sharks, giant dragonflies, primitive amphibians, and an-

cient shellfish like horseshoe crabs. The oldest species attributable to the genus *Equisetum* dates to at least 150 million years ago, and there are more fossil species of *Equisetum* than there are living species. Worldwide, it now appears that there are just fifteen living species of *Equisetum* with eleven of them occurring in North America and nine of them in South Dakota.

The most common Equisetums

The name “horsetail” applies to the branching species of Equisetums whose stems resemble a horses tail, like this Equisetum pratense.

© Biopix J.C. Schou



Equisetums have hollow, jointed stems that can be pulled apart and put back together like a puzzle.

© Shutterstock

in South Dakota are field horsetail (*E. arvense*), smooth scouring-rush (*E. laevigatum*), and common scouring-rush (*E. hyemale*). Of these three, field horsetail is the only one with branches on its vegetative stems. Its spore-bearing stems are non-branching and brownish in color. The two scouring-rushes have green, photosynthetic, unbranched stems. Among other small morphological differences, the stems of smooth scouring-rush are annual and die back to the ground each year, while those of common scouring-rush are evergreen, persisting through the winter and lasting perhaps two or three years.

The Black Hills have four additional Equisetums: variegated scouring-rush (*E. variegatum*), dwarf scouring-rush (*E. scirpoides*), meadow horsetail (*E. pratense*) and wood horsetail (*E. sylvaticum*). The latter two also occur in northeastern-most South Dakota along with two additional species: water horsetail (*E. fluviatile*) and marsh horsetail (*E. palustre*).

Before there were brillo pads, before there was sand-paper, there was scouring-rush. As the name implies, scouring-rushes particularly *Equisetum hyemale* were historically used in the washing and scouring of pots and pans. In more recent times, scouring-rush is used like a very fine sandpaper, most commonly for scraping and polishing the reeds of woodwind instruments like clarinets and saxophones. The reeds for these woodwind instruments are made from a tall, hollow-stemmed grass, called the giant reed (*Arundo donax*), and by sanding or scraping away portions of the reed you can fine-tune the vibrations and tonal quality of each reed. This can be accomplished by using sandpaper or a knife, but apparently the abrasive surface of scouring-rush is ideally suited for this purpose. Pieces of *Equisetum hyemale* stems are commonly sold for

this purpose under commercial names like “Dutch rush” or “reed rush.”

The abrasiveness of scouring-rush comes from silica deposits (like tiny particles of glass) on the epidermis or outer layer of its stems. Silicon is not traditionally thought of as an essential nutrient for plants, however Equisetums will not produce fertile spores unless they maintain a certain minimum concentration of silicon. The typical silica content of Equisetums ranges from a few percent to twenty-five percent of dry weight. This high silica content helps the plant by discouraging insect and mammalian herbivores from eating the plants. Grasses employ a similar strategy. Although grass silica concentration rarely exceeds five percent, insects like grasshoppers have a much harder time digesting grass tissue high in silica, thus avoid eating those grasses. High silica content also increases the wear on the teeth of mammalian herbivores and has played a big role in the coevolution of grassland herbivores like horses and the grasses that they eat (horses whose teeth wore down too quickly died). Considering that Equisetums are far older than grasses, their high silica content might well have protected them from herbivorous dinosaurs.

Few herbivores eat our modern Equisetums by choice. However, field horsetail often grows in hay meadows where it may be harvested in hay or may be grazed by livestock left too long without alternative forage. Horses, in particular, can be poisoned if field horsetail constitutes more than one-fifth of their hay. Other species of Equisetums have also been documented as poisoning sheep and cattle when they consume large amounts of the plant material.

Equisetums reproduce both asexu-



Common scouring-rush (*Equisetum hyemale*) often grows abundantly in sandy, floodplain forests.

© D.J. Ode

ally from rhizomes and sexually from spores produced in terminal cone-like structures called strobili. The spores are exceedingly small, may float long distances on wind or water, but are often quite short-lived being viable for only a matter of days. When a spore lands on suitably moist soil, it germinates and grows into a small coin-sized green pad with hair-like rhizoids that penetrate down into the soil. Depending upon the environment, this gametophyte plant may develop into a male or female or bisexual individual. A bisexual gametophyte will produce both an archegonial structure that in turn produces an egg, and an antheridial structure that produces multiflagellate sperm. The sperm typically swim through a film of water on the surface of the gametophyte to the archegonia where a sperm cell fertilizes the egg. The resulting zygote grows into the sporophyte plant that we recognize as a horsetail or scouring-rush.

Horsetails have lived on this planet longer than most of us can imagine and our modern Equisetums are well adapted to many environments. Their deep rhizomes are famous for surviving even after being buried by volcanic ash following the eruptions of Mt. St. Helens in Washington and Mt. Katmai in Alaska. Their silica impregnated stems protect them from herbivores, help reduce water loss, and apparently even protect them from certain fungal diseases. You might call them the ultimate survivors.



The Black Hills - A Prehistoric Wonder

Thousands of people make the Black Hills their home, and millions more visit each year to experience the grandeur of the area. For hikers, hunters, bird watchers and a wide variety of other outdoor enthusiasts, it is paradise.

Not many can deny the allure of the Black Hills, which leads one to wonder – how did this unique place come to be?

The answer lies deep in Earth's history.

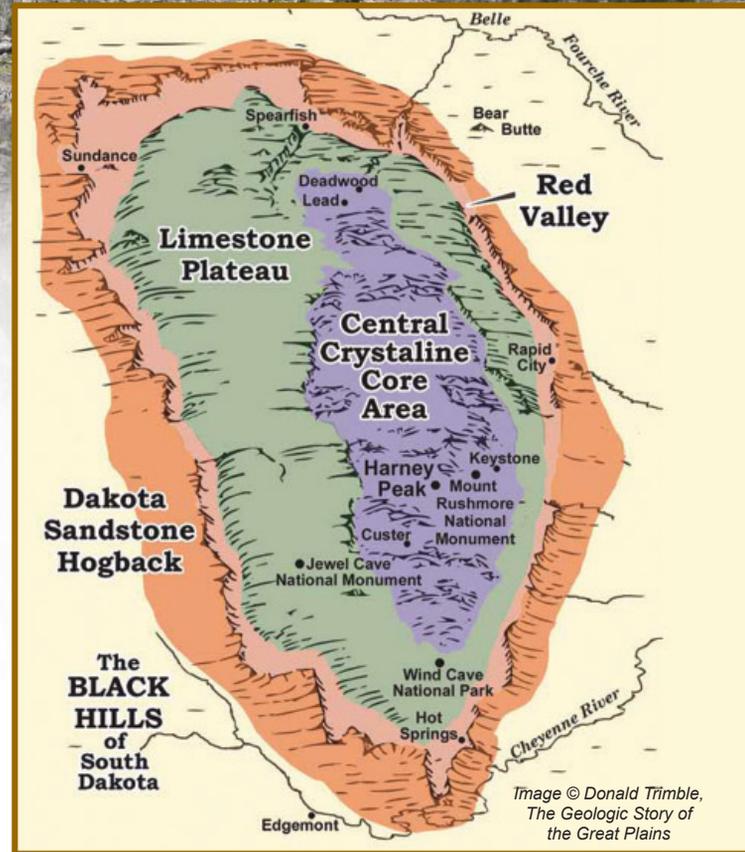
Around 520 million years ago, sea levels rose and covered much of the continents, including western South Dakota. In succeeding geologic periods, the vast ocean covering this area advanced and retreated numerous times before leaving behind several thousand feet of sediment in the Black Hills. As time passed, forces of nature removed portions of the remaining deposits. Erosion carried most, including the remains of life forms that had died out, east before settling in the

Badlands where some of the world's greatest fossil beds of prehistoric invertebrate and vertebrate animals can be found.

Many of the sedimentary rocks that we see today formed when sand, mud and clay were compacted together under extreme pressure to form sandstone and shale. The Dakota Sandstone Hogback Ridge, which is the outermost part of the Black Hills, is a prime example of this process. You might find petrified wood here.

Immediately encircling the inside of this ridge are the rusty colored bluffs of the Red Valley, often referred to as “the racetrack” because of its continuity. Soil composition here is derived from the breaking down of shale and sandstone by weathering, while the deep red color originates from high amounts of oxidized iron.

Other rock such as limestone was created as tiny shells made of calcite formed by one-celled creatures living in ancient seas accumulated on



the ocean floor. Eventually the layers cemented together and ultimately produced the Limestone Plateau and many of the massive layers seen in canyon walls. Eventually ground water would seep into the joints to create the caverns of Jewel and Wind Caves.

Sloping rock formations that are the Black Hills seem to rise up out of nowhere. But where did these towering cliffs come from?

Approximately 65 million years ago the Black Hills started to rise as part of the development of the easternmost Rocky Mountain system. The North American tectonic plate started to shift and collided along its western margin with the Farallon plate, causing one plate to slip under the other. This generated buckling movements and produced cracks deep within the Earth's crust. Hot molten rock slowly seeped into subterranean crevices caused by the uplift, then cooled and hardened underground before reaching the Earth's surface. This unique process crystallizes magma underneath the Earth rather than allowing it to flow out as liquid lava. The result is rock such as granite, consisting of the minerals quartz, mica and feldspar.

This period of igneous activity created features such as Bear Butte and Devils Tower, but not the granite seen in Harney Peak, Cathedral Spires and Mount Rushmore. That happened an incredible 1.7 billion years ago during an earlier period of magmatic development. The older granite was rooted in an ancient mountain chain that formed – and was eroded flat – long before the first of the Cambrian seas reached the region. The Central Area or Core is the oldest geological part of the Black Hills and is mainly comprised of granite peaks; this is where you will find the Needles, with their stunning rocky features and serrated appearance.

If you imagine a map view of the

Black Hills as forming a bull's-eye pattern, the layout would look comparable to that of a circular racetrack. The most weather resistant rocks would be located in the middle, with Harney Peak being the highest point east of the Rocky Mountains in North America at 7,242 feet. Alternatively, you have softer layers of rock like limestone and shale successively arranged in concentric rings, forming an outline around the core of the region.

Visualize a dome pushing up through the center of a layer cake. If you were to represent erosion by shearing off the top layers horizontally, you would be left with something that demonstrates the topography of the Black Hills. The dome would symbolize the granite spires and other durable rocks, while the outermost layers surrounding it would represent rocks from the youngest time eras that are more easily eroded away. So if you were to walk from the outermost edge to the center, you'd be walking backward in geological time.

It is no wonder the Black Hills has

earned the nickname “Island in the Plains.”

It might be more fitting to call this area the Black Mountains, since this is technically a mountain range. But, the original name given was kept because of the historical and cultural significance of what it was called by Native Americans when they first encountered this magnificent landscape. The rolling prairies and dark cover of ponderosa pine and Black Hills spruce that adorn the rocky cliffs prompted the Lakota Sioux to name it “Paha Sapa,” meaning Hills of Black.

The distinctive way the various layers of rock and sediment were formed has allowed a wide range of ecosystems to thrive, thereby supporting a variety of wildlife and creating an abundance of biodiversity.

So if you enjoy nature and the outdoors, do yourself a favor and immerse yourself in the wonder of this ancient place. No matter your preference in outdoor pursuits, you don't want to miss what the Black Hills has to offer. 🐾



Photo © Jenny Rose



Natural Heritage

Birds of a BRIGHTLY-COLORED FEATHER

By Silka L. F. Kempema, SD GFP Wildlife Biologist

Have you ever been amazed at how colorful birds can be? Birds are one of the few taxa that display such a diversity of colors and patterns. But why would any wild animal want to be eye-popping red, dazzling blue or covered in a crazy combination of contrasting colors? Birds use their colors to communicate with other birds and animals as if to say “I want you to see me” or “I don’t want you to see me”. These colorful conversations have helped birds to survive from day to day, reproduce, and in the long-run, maintain their species.

What gives a bird its color? Genetics determines the overall colors and patterns of a species but it is the collection of individual feathers that paints a wonderful avian picture. Feather color is the result of pigmentation or feather structure. There are three main groups of pigments: melanins, carotenoids, and porphyrins. Each pigment is responsible for different group colors. The presence, dominance or amount of any of these pigments will determine what light is reflected and the color you will see.

Birds often use bright reds, yellows, and oranges produced by carotenoid pigments to attract a mate. Carotenoid-based colors are produced by plants and birds obtain these pigments through their diet. Diet quality and the overall health of an individual will influence carotenoid-based feather color. A bird in better condition will have brighter colors and will hopefully be a better mate. A tiny example

of carotenoid-based colors and their use in breeding is the Golden-crowned Kinglet. The crown color of the male kinglet is determined by the type and concentrations of carotenoid pigments.

During the breeding season the male will flare its carotenoid-colored crown to attract a mate. The amount of carotenoid sources available in the environment at certain times of the year will influence feather color. Red color patches of the American Redstart depend on the amount of carotenoid-containing food that is available at the location at which they molted.

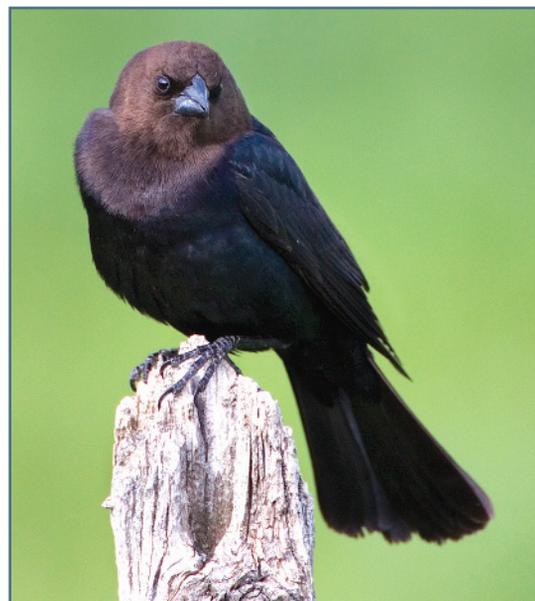
The most common colors found in birds are produced by melanin pigments: black, brown, grey, chestnut red, brownish yellow and buffy. Similar to carotenoids, melanins are also influenced by the diet. The amount of amino acids ingested will influence the amount and kind of melanin formed. More melanin produces darker colors. All dark birds such as grackles and other blackbirds have large amounts of melanin-pigmented feathers. The dark brown hood of the Brown-headed Cowbird is melanin-based. The buffy, cinnamon-colored underside of adult barn swallows is the result of melanin pigment. Melanin also increases feather strength making darker feathers less likely to wear. Snow Goose, Whooping Crane, and American White Pelican are all white birds with black wingtips.

Porphyrins produce red, brown



and buff colors and are common in owls, gallinaceous birds and pigeons. The only green pigment, turacoverdin, is a porphyrin and found only in fruit-eating birds from Africa called turacos.

Structural colors are the result of the physical properties of a feather. The shapes and spaces of microscopic feather structures interfere with the reflection of light waves; blues, violets and iridescent colors are the result. Blue birds such as the Indigo Bunting, Blue Jay and Mountain Bluebird are blue because their feather structure scatters short wave lengths of



The brown hood of the Brown-headed Cowbird is produced by melanin pigments. Photo © Ken Anderson

Carotenoid-based colors, like the crown of the Golden-crowned Kinglet are often used to attract a mate.

Photo © Doug Backlund

light. This interference, called Tyndall scattering, is also why the sky is blue. Feather structure can interfere with multiple wave lengths of light producing iridescent colors. Hummingbirds and of course the peacock have a structural iridescence.

Feathers are not living structures. Once they are formed, it would seem they should not change color, but they can, and do! The most obvious way to change feather color is to get new feathers. Birds replace their existing feathers with fresh new feathers during a set time of the year or when certain conditions are met. These newly molted feathers can be a different color and are often used for courtship. There are other ways feather color can change. Feather color of the Bald Eagle changes with age or sexual maturity. The white-head and tail are not obtained until an eagle's fourth or fifth year; the year in which it begins to breed. Until this time, an eagle's plumage shows various mottled patterns of dark brown and white. Feather color can change over time due to wear. The European Starling, a very common urban, non-native bird, does not always appear a shiny iridescent black. In the fall, its newly molted feathers are dark with white tips giving the bird a spotted appearance. Over time and by the spring, the white feather tips wear away. When birds preen to maintain feather condition, the oils they use not only help maintain feather condition, but may alter feather color. The white throat and chest of an American White Pelican can turn from white to yellow as a result of preen oil. Birds that live in heavily polluted areas may have a darker hue due to soot and other pollutants in their environment.

Abnormal colors are the result of variations in the amount, distribution

or chemical composition of pigment. Albinism is a genetic condition where an individual bird has no pigment in feather, skin or even eyes. Albinism is rare but has been documented in over 300 species in North America and is especially "common" in black or brown birds. Albinos have reduced survival rates and weaker feathers, bones and eyesight. Leucism (incomplete albinism) is where pigment is missing from the eyes, skin or feathers, but not all three. For example, a bird may have some or all white feathers, but the eyes, bill and legs will still have normal pigment coloration for the species. Too much pigment is called melanism and produces an unusually dark bird. It has been documented in less than 30 bird species and is less common than albinism.

A common genetic-based variation in color is called dichromatism and occurs in Red-tailed Hawks, Eastern Screech Owls and other birds of prey. Species that are widely distributed that live in a variety of environments often have two common color morphs. It is thought to be an adaptation to the variety of environmental conditions within their range and may improve foraging efficiency or survival. Harlan's Hawk (dark morph) and Krider's Red-tailed (light morph) are common names of the two color morphs of the Red-tailed Hawk. The Eastern Screech Owl has a rufous and grey color morph. The gray morph is more common in the Great Plains while the rufous morph is seen more commonly in the eastern portion of the spe-



The white-tipped feathers of European Starlings wear away over the winter and by spring are shiny iridescent black. Photo © Doug Backlund

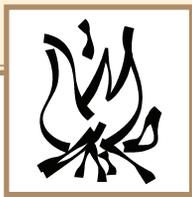
cies' range.

Color is one of the primary characteristics we use to describe and define a bird species or differentiate between the sexes of a species, but do we see the same thing a bird sees? The answer is "no". Photoreceptor cells in our eyes called cones help us to see color within the spectrum of reds, greens, and blues. Birds have cone cells too, but they have more of them and an additional type of cone. These differences allow birds to see more color detail and more colors than humans. Birds have the most highly developed vision of all vertebrate species, including humans. Living in the tree tops away from many potential predators may be why some birds are able to model such bright colors. It is also thought that feather colors developed as a response to a bird's enhanced visual capability. Whatever the reason, birds and their brightly-colored feathers are the bright brush strokes that help to illustrate our outdoor world. 🦋



Krider's Red-tailed Hawk

Photo © Doug Backlund



ParkNotes

CABELA'S PARTNERSHIP EXPANDS PROGRAMMING AT CUSTER STATE PARK

Custer State Park and Cabela's of Rapid City have teamed up once again to encourage families to explore South Dakota's great outdoors.

Cabela's donated a canoe and three kayaks, equipped with life jackets and paddles allowing Custer State park to expand programming efforts for the 2013 season.

In 2010, Custer State Park began offering a canoeing program to teach the basics of safe canoeing. The program was an instant hit and the park expanded the program from once a week to three days a week.

"The limiting factor to this program was the number of canoes," said Custer State Park Naturalist, Julie Brazell. "With more canoes, we can accommodate more visitors and allow them to experience the thrill of canoeing."

"Cabela's provides prizes for our annual Open House Fishing derby," said Lance Catron, Custer State Park's coordinator for the annual derby. "Their support has always been very much appreciated, so we were not surprised when they contacted us last summer to see how they could support additional programming efforts."

"It is partnerships like this that helps encourage young and old alike to get outdoors and experience all the attributes offered by our state parks," said Craig Pugsley, Visitor Services Coordinator for Custer State Park. "We look forward to seeing the new canoe and kayaks being used this summer."

Canoeing Basics is offered Tuesdays, Thursdays and Sundays from 1 – 3 p.m. during the summer months. For more information, contact Custer State Park at 605-255-4464.

FORT SISSETON HISTORICAL FESTIVAL FEATURES PERIOD ENTERTAINMENT AND ACTIVITIES

FORT SISSETON, S.D. - Marching infantry, galloping cavalry, American Indian dancers, storytellers, music, family entertainment and more attract thousands of visitors each year to the Fort Sisseton Historical Festival. Activities begin Friday, June 7 and run through Sunday, June 9. This year's event features numerous all-time festival favorites as well as several new programs.

"The Fort Sisseton Historical Festival started over 30 years ago as a way to promote the preservation and restoration of the historic buildings and grounds of the fort," said Katie Ceroll, park manager. "It has now become a celebration of life at a frontier fort and life on the prairie in Dakota Territory."

Colorful characters and unique opportunities are what make the Fort Sisseton Historical Festival such a great event. In addition to military re-enactors, firing displays, rendezvous traders, the Fort boasts activities and events that will cover the gamut of frontier life and settlement on the prairie.

Daily admission into the festival is \$5 per person, age 12 and older. New this year, camping reservations will be taken for the festival allowing campers to pay in advance. Those not making reservations can pay when they arrive. Campsites are \$18 per night. A park entrance license is not required during the festival weekend.

For a full schedule of events and times, visit the S.D. state parks website at www.gfp.sd.gov, or contact Fort Sisseton at 605-448-5474.

Fort Sisseton Historic State Park is located 10 miles SW of Lake City off SD Hwy 10.

FREE ENTRANCE, FREE FISHING MARK S.D. STATE PARKS' OPEN HOUSE WEEKEND

PIERRE, S.D. - To kick off summer, the Department of Game, Fish and Parks is encouraging families to spend the weekend outside during the Parks' Open House Weekend and Free Fishing Weekend May 17-19.

During the annual three-day event, anglers can fish without a license anywhere in the state, and entrance fees are waived for all visitors to South Dakota's state parks and recreation areas. Camping fees still apply. Fishing regulations and limits apply.

Parks will be hosting a variety of Open House Weekend special events across the state.

Custer State Park will also be hosting a number of family activities both Saturday and Sunday, including cookouts, nature hikes, free hayrack rides, a fishing derby, nature programs and demonstrations. A full schedule of events can be found on the state park's website.

State Park camping reservations online at www.campsd.com or by calling 1-800-710-2267.

South Dakota state parks offer a wide variety of outdoor fun, including camping, picnicking and boating. Many parks also offer trails for hiking, mountain biking and horseback riding.

For information on fishing, fishing license and fishing regulations or the South Dakota state park system, visit the GFP website at www.gfp.sd.gov.



SURVEY SHOWS 67 PERCENT SUCCESS RATE FOR BLACK HILLS DEER SEASON

PIERRE, S.D. - Survey reports returned by hunters who took part in the 2012 Black Hills Deer season indicate hunters enjoyed an overall success rate of 67 percent for the season.

“A random sample of hunters received an online survey to complete at the close of the hunting season,” Corey Huxoll, the Game, Fish and Parks Department hunter survey coordinator said. “The information we receive from these hunters is a vital tool in evaluating the past season and planning ahead for the next.”

In 2012 there were 3,580 licenses issued for the Black Hills Deer season - which lasts the entire month of November - and 2,391 deer were harvested.

The breakdown of the harvest showed 2,008 white-tailed bucks were taken, 289 white-tailed doe, 88 mule deer bucks, and 6 mule deer doe.

Survey respondents reported hunting an average of 4.23 days per hunter for a total of 15,144 recreation days for the season. Hunters reported seeing an average of 53 deer, including 10 bucks, during their hunt.

“The number of completed surveys we receive helps ensure the accuracy of our information, and I encourage all who receive a survey to respond,” Huxoll said. “Our survey respondents have found the e-mail format to be a very user-friendly way to provide the information we seek.”

The complete report on the 2012 Black Hills Deer season can be found online at gfp.sd.gov/hunting/harvest

The 2013 Black Hills Deer season will be proposed by the GFP Commission in May and finalized in June.

LAKE TROUT RECORD FALLS

RAPID CITY, S.D. - A state record lake trout was caught from Pactola Reservoir on Jan. 23 by Aaron Jones of Rapid City.

Weighing in at 30 pounds even, the record lake trout surpassed the previous record, held by Steve Matheny, by more than a pound. Jones' lake trout measured an impressive 41 inches long with a 24 1/2 inch girth.

Lake trout are a non-native trout species present in the Black Hills of South Dakota. Stocking records indicate the first lake trout stocking in South Dakota occurred in Belle Fourche Reservoir in 1914 with subsequent stockings in various locations throughout western South Dakota over the next few decades.

Beginning in 1972, lake trout were stocked in Lake Oahe on the Missouri River system on an almost annual basis until 1985. During that time, the first recorded stocking occurred in Pactola Reservoir with stockings in 1977 and 1978 additional stockings in 2003 and 2005.

For a fish to qualify as a state record, the angler must get the fish weighed on a certified scale (available at many local grocery stores), have the species verified by a fisheries biologist or ichthyologist, and fill out a form that can be found at <http://gfp.sd.gov/fishing-boating/state-fish-records-list.aspx>

Aaron Jones' lake trout is 41 inches long, has a 24 1/2 inch girth and weighs 30 pounds. This state record fish was caught on January 23, 2013 from the Pactola Reservoir.

2013 APPLICATION DEADLINES

	RES	NONRES
PRONGHORN		
Archery Antelope	No deadline*	No deadline*
Firearms Antelope	Aug. 9	Aug. 9
DEER		
Special Buck	April 19	April 19
Custer Park Deer	July 19	NA
Muzzleloader	Aug. 30	Aug. 30
Youth Deer	No deadline*	No deadline*
National Wildlife Refuge	Aug. 30	Aug. 30
Black Hills Deer	July 19	July 19
West River Deer	July 19	July 19
East River Deer	Aug. 30	Oct. 11
Archery Deer	No deadline*	No deadline*
ELK		
Black Hills Archery Elk	May 17	NA
CSP Archery Elk	May 17	NA
CSP Firearms Any Elk	May 17	NA
CSP Firearms Antlerless	May 17	NA
Black Hills Firearms Elk	May 17	NA
TURKEY		
Black Hills Spring Turkey	No deadline*	No deadline*
Spring Prairie Turkey	Feb. 15	Feb. 15
CSP Spring Turkey	Feb. 15	NA
Fall Turkey	July 19	July 19
WATERFOWL		
Nonres Early Fall	NA	July 5
Nonres Fall Waterfowl	NA	July 5
Tundra Swan	Aug. 9	Aug. 9
Special Canada Goose	July 5	NA
OTHER		
Mentored Hunts	No deadline*	NA
Archery Paddlefish	May 17	May 17
Paddlefish Snagging	May 17	May 17
LFC Paddlefish	Feb. 15	NA
BH Bighorn Sheep	May 17	NA
Mountain Lion	No deadline*	NA

*Applicants may purchase a license throughout the season by applying to the License Office in Ft. Pierre either online or through the mail. Please allow ample time (7-10 business days) for the license to be processed and mailed to you before you leave for your hunt. These licenses are not sold at any other GF&P office.



Game, Fish & Parks
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Asian carp are rapidly spreading in eastern South Dakota...
do your part by **NOT** transporting live carp from infested waters!



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smartphone, or visit
gfp.sd.gov/agency/video.aspx
to watch a video of these
flying nuisance species on
the James River.

