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*South Dakota.*  
**Conservation Digest**

DEPARTMENT OF GAME, FISH & PARKS





# South Dakota Conservation Digest

DEPARTMENT OF GAME, FISH & PARKS

Volume 79, Number 4

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- | 4 Lake Francis Case Paddlefish  
*by Jason Sorensen*
- | 8 NGO Partnerships  
*by SD GFP STaff*
- | 12 GFP Brings Trout to the Classroom  
*by Chuck Schlueter and Maggie Lindsey*
- | 14 Outdoor Health - *Physical Fitness For The Long Haul*  
*by Chuck Schlueter*
- | 16 Marinas & Resorts In The State Parks  
*by Sean Blanchette*
- | 18 Recovering From The Flood  
*by Ryan Raynor*
- | 22 Attention Goose Hunters  
*Early Goose Hunting Opportunities*

Features

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

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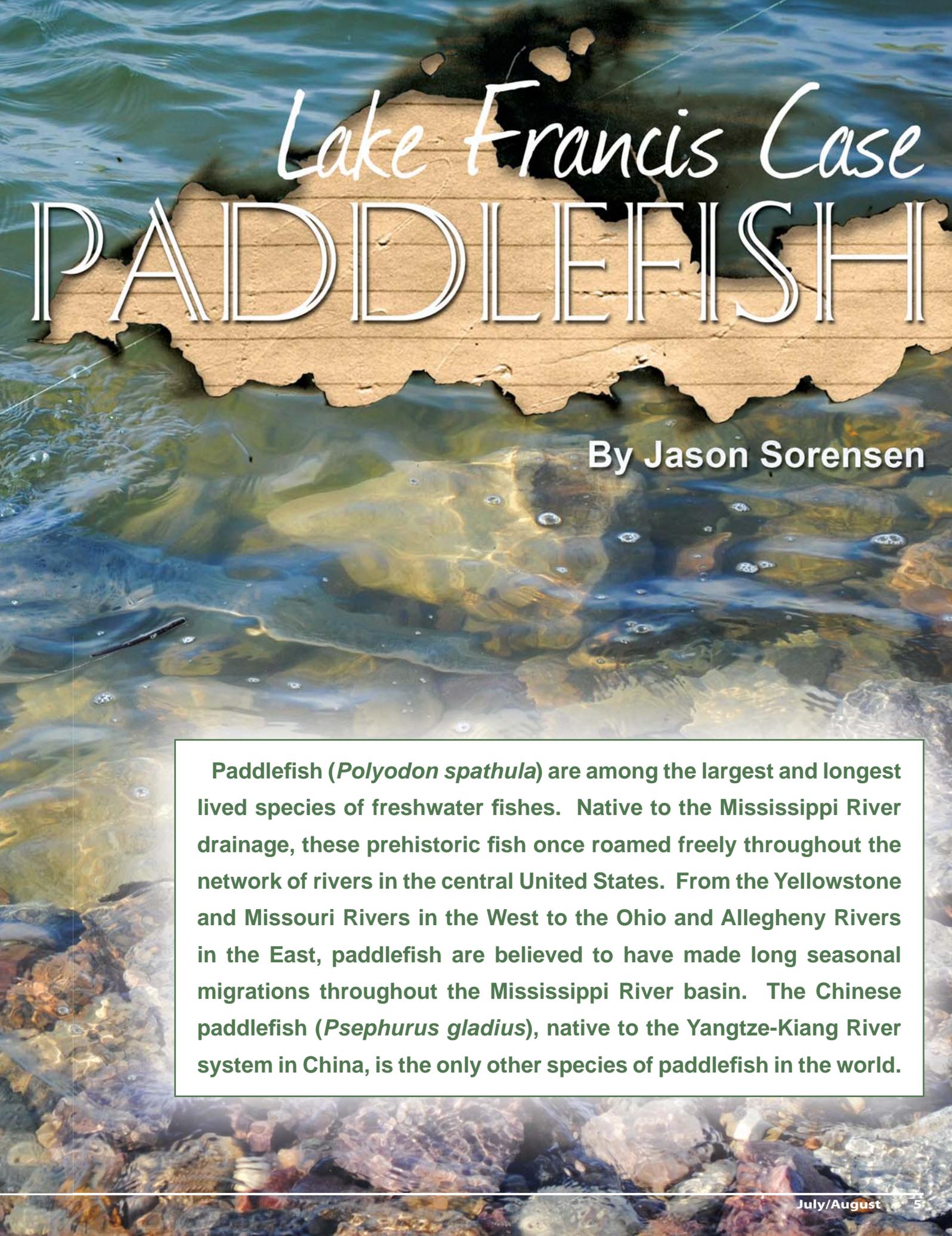
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# Lake Francis Case PADDLEFISH

By Jason Sorensen

Paddlefish (*Polyodon spathula*) are among the largest and longest lived species of freshwater fishes. Native to the Mississippi River drainage, these prehistoric fish once roamed freely throughout the network of rivers in the central United States. From the Yellowstone and Missouri Rivers in the West to the Ohio and Allegheny Rivers in the East, paddlefish are believed to have made long seasonal migrations throughout the Mississippi River basin. The Chinese paddlefish (*Psephurus gladius*), native to the Yangtze-Kiang River system in China, is the only other species of paddlefish in the world.

The unusual body shape of paddlefish amazed early European explorers. Different from most fish species, paddlefish can best be distinguished by their very large mouths and a paddle-shaped snout that is about one third their body length. Paddlefish are bluish-gray in color but appear dark when viewed from above and similar to many freshwater fishes, are white on bottom. Paddlefish lack scales and have smooth skin similar to catfish, which leads to their nickname, the spoonbill catfish.

Paddlefish feed primarily on zooplankton (microscopic “bugs”) by swimming with their mouths open and filtering zooplankton out of the water with their gill rakers. Since paddlefish do not feed on bait fish and invertebrates, conventional fishing methods prove useless to anglers pursuing paddlefish. Anglers typically snag for paddlefish using heavy duty equipment and heavy fishing lines. Traditionally, large bait-cast reels capable of holding large amounts of heavy monofilament line were preferred. These reels were typically seated on short, stout rods.

As fishing equipment evolved, spinning reels became larger and fishing rods longer and stronger. Newer, braided fishing line became stronger and thinner in diameter. Currently, most anglers prefer these longer rods and larger spinning reels that allow them to make longer casts and larger swipes through the water while snagging. A treble hook is normally tied in-line with a one to five ounce sinker one to three feet below the hook. Anglers in South Dakota are restricted to a hook size of 2/0 or smaller to prevent serious injury to snagged paddlefish. These smaller hooks do not penetrate deep enough to damage internal organs and allow for release of snagged fish. Anglers cast these rigs from shore

or boat and rip the hook through the water column by reeling up slack line and giving the rod a long, steady pull. While hooking into a paddlefish is very thrilling, most snaggers would agree that the sport is quite challenging physically.

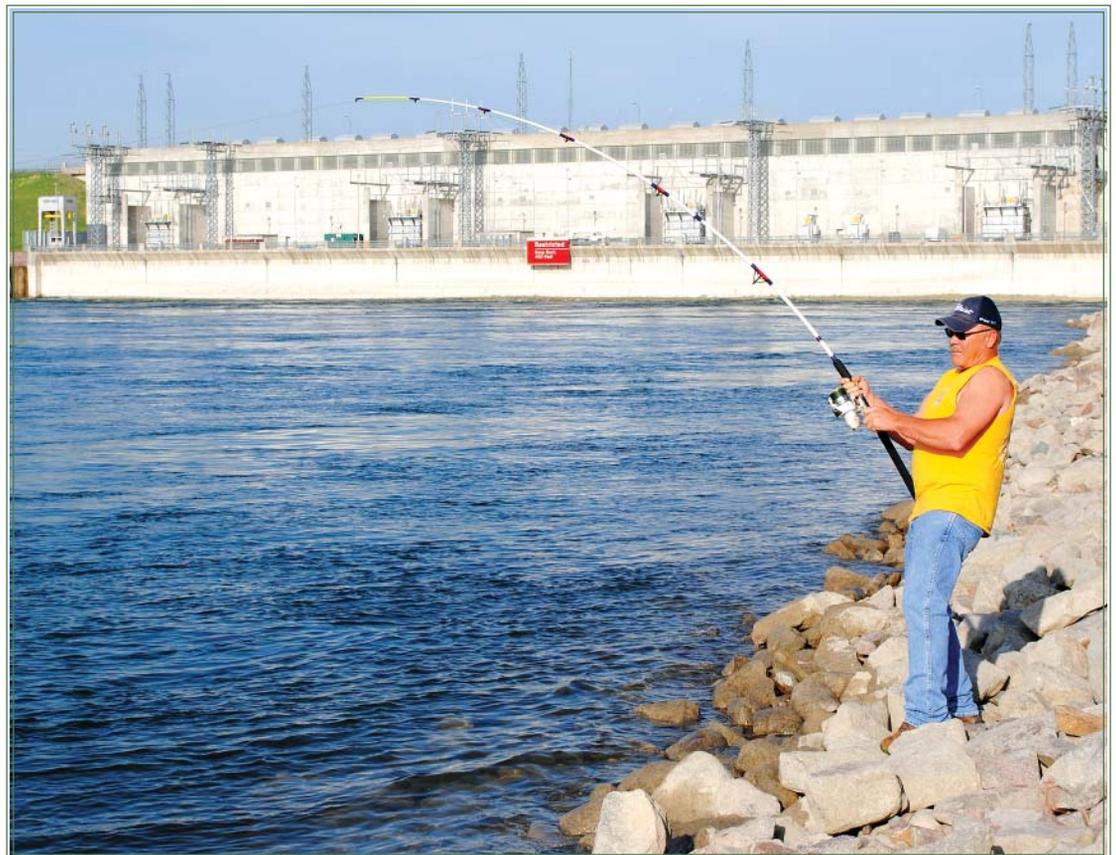
Passage of the 1944 Flood Control Act, also known as the Pick-Sloan Act,

**Paddlefish are truly an amazing fish and snagging for them is a unique experience every angler should attempt.**

authorized the United States Army Corps of Engineers to construct mainstream Missouri River dams. These dams were massive barriers that prohibited paddlefish from making long migrations up and down the river. After impoundment, tailrace snag fisheries quickly developed as

anglers discovered concentrations of paddlefish below these dams and took advantage of the opportunity. While these dams proved helpful in concentrating fish, they also altered temperature and flow regimes which hindered paddlefish reproduction. Decreased production combined with angler harvest led to declining paddlefish stocks in Missouri River reservoirs. In an effort to maintain a source of paddlefish eggs, Game, Fish and Parks in cooperation with the United States Fish and Wildlife Service initiated an artificial propagation program. Paddlefish were spawned, reared in a hatchery environment and released into Missouri River reservoirs. While the main objective of the program was to maintain a source of brood fish for future use, secondary objectives included initiating a sport fishery if and when it was felt the population could support it.

Paddlefish stocking in Lake Francis Case occurred sporadically from the early 1970’s through the early 1990’s. Beginning in the early 1990’s this stocking became an annual occurrence. As a result, paddlefish numbers



in Lake Francis Case increased over the past 20 plus years indicating good survival of stocked fish. Evidence of natural paddlefish production has not been documented on Lake Francis Case in recent history. Recent research conducted jointly by Game, Fish and Parks and South Dakota State University looked at the potential impacts of sport harvest on the Lake Francis Case paddlefish population and aided in bringing paddlefish snagging back to the reservoir.

In May of 2012 the first snagging season since 1988 occurred on Lake Francis Case. The season lasted the entire month of May and was open to South Dakota residents. Snagging permits were issued by lottery drawing, similar to how South Dakota's deer or elk tags are distributed. Game, Fish and Parks issued 350 permits and the Lower Brule and Crow Creek Sioux Tribes each issued 25 permits for a total of 400 permits. A lot of excitement and expectations surrounded the season. Game, Fish and Parks received over 2,000 applications for the 350 available permits. Many anglers believed that the current state record of 120 pounds 12 ounces caught below Ft. Randall Dam in 1979 was in jeopardy. It is no secret the Lake Francis Case paddlefish population includes some very large fish that could top that mark, but finding one in a reservoir of that size proved to be a daunting task. After 31 days of effort, the old record still stands.

Many anglers appreciated the opportunity to snag for paddlefish in a lake that had been off limits to snagging for over 20 years and enjoyed catching larger fish than what is commonly available in South Dakota's other paddlefish snag fishery below Gavins Point Dam. The fast paced action experienced in the Gavins Point fishery, where anglers can snag numerous fish per day, led some anglers to think fishing was slow on Lake Francis Case. Anglers snagged an average of 0.3 paddlefish per hour of snagging,

which essentially means it took an average of about 3 hours to snag a fish. While that can't compete with higher catch rates experienced below Gavins Point Dam, paddlefish caught on Lake Francis Case were larger in size and proved to be more of a challenge for snaggers. The largest fish reported during the season tipped the scales at 98 pounds. While not a record breaker, nobody will argue the fact that it is truly a large fish. Harvested paddlefish averaged 44 pounds with female fish averaging a little more than males, 53 pounds and 34 pounds, respectively. Snaggers fished an average of 2.8 days and 4 hours per day during the 2012 Lake Francis Case season.

For those anglers lucky enough to successfully tag a paddlefish, the firm white flesh provides great table fare. Preparation can be done in a variety of ways from the traditional breaded and fried to boiled like lobster or

grilled. Any way you prepare it, it is delicious with the seasoning or dip of your choice.

Future plans call for paddlefish stocking in Lake Francis Case to continue. The Lake Francis Case snagging season will continue as well. Paddlefish are a long lived species and angler harvest can have profound effects on a population. Over the next few years, Game, Fish and Parks biologists will monitor the effects of harvest on the Lake Francis Case population. A slow conservative approach will ensure continuation of this unique opportunity.

South Dakota's waters offer a variety of exciting opportunities for anglers of all ages. Paddlefish are truly an amazing fish and snagging for them is a unique experience every angler should attempt.

*Jason Sorensen is a Fisheries Biologist for SD Game, Fish and Parks.*





# NGO PARTNERSHIPS

The mission and objective of the South Dakota Game Fish and Parks Department is “is to perpetuate, conserve, manage, protect, and enhance South Dakota’s wildlife resources, parks, and outdoor recreational opportunities for the use, benefit, and enjoyment of the people of this state and its visitors, and to give the highest priority to the welfare of this state’s wildlife and parks, and their environment, in planning and decisions.”

That is a big job. One that needs more than just the 300 and some odd full time employees of SD GFP. To help with this mission, the SDGFP relies on volunteers and active sportsmen and outdoor enthusiasts for not only time and effort, but money and expertise as well.

Many South Dakotans belong to groups such as Pheasants Forever, Delta Waterfowl, The Rocky Mountain Elk Foundation or countless other conservation/outdoor groups. It is a way to support our passions in a social, fun and productive way. Did you know these groups, known as non-governmental organizations (NGO’s) also play a pivotal role in research and assistance with SDGFP?

*Dacotah Chapter of the Safari Club International, Midwest Chapter of the Wild Sheep Foundation, and others are involved in an ongoing study to answer unknowns about the Elk Mountain bighorn sheep population and to improve the management of this sub-herd.*



**By SD GF&P Staff**

## WILDLIFE RESEARCH

An invaluable contribution of non-governmental organizations (NGO's) is their technical and financial involvement in conducting wildlife research. Findings from scientific-based research provides wildlife managers with factual information that can be applied to the management of wildlife habitat, hunting season recommendations, species recovery, effects of land use changes, etc. While it would be impossible to list all of the research projects and the respective NGO's involvement, the following is a summarization of a handful of current and past research projects.

**Custer State Park Elk Study:** In an effort to learn more about survival rates and cause-specific of elk calf recruitment, the Rocky Mountain Elk Foundation has provided monetary contributions to purchase radio collars to monitor adult cow elk and elk calves. Information obtained from this study will improve accuracy of elk population estimates and management implications for future season recommendations.

### Elk Mountain Bighorn Sheep

**Study:** This study was initiated to answer unknowns about the bighorn sheep population at Elk Mountain and to improve upon the management of this sub-herd. SDGFP, Wyoming Game and Fish, South Dakota State University, and numerous NGO's (Dacotah Chapter of the Safari Club International, Midwest Chapter of the Wild Sheep Foundation, and others) are involved at various technical and funding levels.

### South Dakota Breeding Bird Atlas 2:

SDGFP contracted with the Rocky Mountain Bird Observatory to utilize their expertise in conducting an intensive, statewide survey to document the current distribution of all breeding birds species, assess changes in distributions from twenty years ago, identify habitat associations and requirements, and to produce a final report and interactive website with species distribution maps available to the public.

### Grassland Habitat Loss Study:

Partnering with wildlife researchers from Ducks Unlimited, Inc., SDGFP conducted a study to estimate rates of conversion of native grassland to cropland and use this information to develop predictive models that can help direct conservation efforts in areas most susceptible to conversion and to predict how this habitat conversion will change the distribution of grassland obligate species.

It is important to note that cooperating landowners allow access to their property to facilitate many wildlife research and survey projects.

Local or "grassroots" involvement by the members of NGO's is the secret to their success. Without the endless hours of volunteer work at various levels by membership, NGO's would not be able to function or meet their mission statements. SD Game, Fish & Parks looks forward to fostering and building upon these strong relationships to ensure South Dakotans, our visitors, and future generations experience the vast array of landscapes and natural resources we enjoy today.



## FISHERIES RESOURCES

NGO's aren't just imperative in the management and research of our four legged and winged critters...Our finned friends get a hand from them as well.

The passion that anglers have for the fisheries resources of this state is staggering. The aquatics staff of Game, Fish and Parks is fortunate to work with a variety of these anglers through sportsman's groups. These organizations play a major role in improving the angling resources throughout South Dakota. From fish habitat and angler access to teaching people how to build fly fishing rods, these groups are always there to lend a hand.

Groups like Walleyes Unlimited, NE SD Walleye Club, Black Hills Anglers, High Plains Wildlife Club, Black Hills FlyFishers and the 29/90 Sportsman's Club have become an integral partner for GFP. Their love for angling and the resources of South Dakota lead them to contribute their time, expertise and money through cooperative projects.

Fish habitat improvement projects can be costly and time consuming. With the support of sportsman's clubs, GFP can often make project dollars go farther and get more accomplished. Habitat projects can vary in scope from adding Christmas trees for fish habitat to large scale habitat improvements such as the Pactola Basin Habitat Project that is scheduled to begin soon with financial backing from the Black Hills FlyFishers. These projects and many in between would not be possible without the efforts of South Dakota sportsmen and women.

Helping improve access to our aquatic resources is another major contribution by these groups. Fishing piers and boat dock projects are numerous and often geared towards kids and handicapped individuals. For example, the South Dakota Walleyes Unlimited chapters have contributed to dock projects at Chamberlains

American Creek Lake Access. They've also built boat docks for Curlew, New Wall, and Waggoner Lakes, built a floating fishing pier for a kid's fishing pond near Phillip, constructed the Al Knapp Memorial Fishing pier on Wall Lake and a fishing pier in Chamberlain on Lake Francis Case, are currently involved with the construction of a new fishing pier on Lake Poinsett and are working on a boat dock for Deerfield Reservoir.

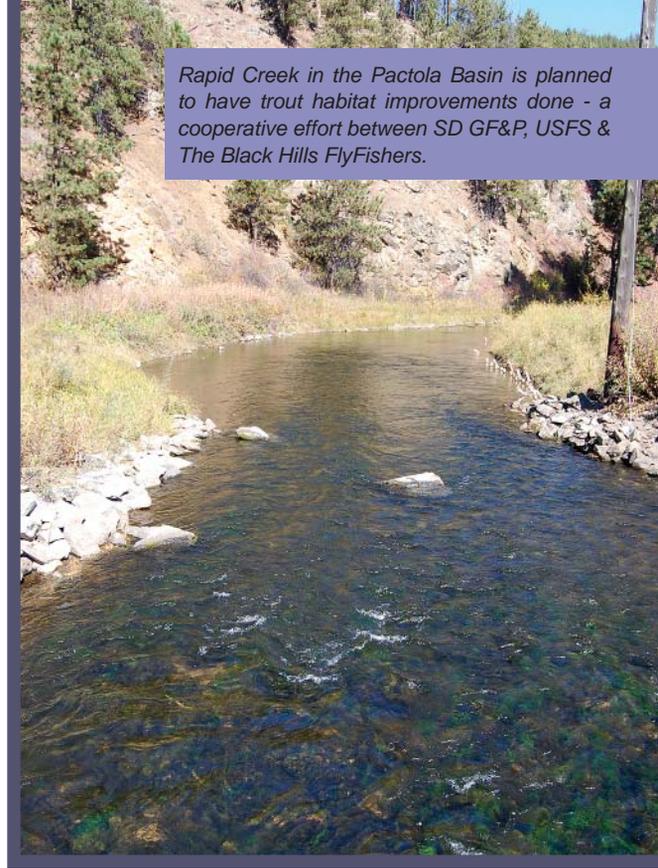
The Black Hills Anglers puts out and pulls in fishing piers at Sheridan Lake and Pactola, providing excellent and much needed fishing access to these popular waters.

The High Plains Anglers built a fish cleaning station and a boat ramp for persons with limited mobility at Belle Fourche Reservoir.

Getting kids interested in fishing is another common theme with many of these sportsman's groups. The Black Hills Anglers and Walleyes Unlimited chapters help put on kids fishing events throughout the year while the Black Hills FlyFishers teach fly tying, casting and rod building classes. Many other sportsmen's groups contribute countless hours to kids fishing events also.

If there's a need when it comes to

*Rapid Creek in the Pactola Basin is planned to have trout habitat improvements done - a cooperative effort between SD GF&P, USFS & The Black Hills FlyFishers.*



aquatic resources, there's usually an angling group close by ready to lend their services. Without their support, the overall quality of our aquatic resources and access to them would decline.

The moral of the story? Get involved in these, or other NGO groups. Active conservation groups are the cornerstone of GFP's mission.

The partnerships between SDGFP and these groups (and others like it) are vitally important to the future of all our outdoor resources.



*The Al Knapp Memorial Fishing pier on Wall Lake was built by SD Walleyes Unlimited.*

# GFP Brings Trout to the Classroom

By Chuck Schlueter & Maggie Lindsey

Through the years, one of the Game, Fish and Parks Department's primary objectives has been to encourage kids to get out fishing. Now GFP is bringing fish to the kids in their school classroom.

During this past school year four different learning centers across South Dakota took part in Trout in the Classroom as part of their education curriculum.

Trout in the Classroom is a national education program that features bringing trout eggs to a learning center where trout are raised to fingerling size. The program features a variety of lesson plans centered on the aquarium. They are able to monitor water quality within the tank, learn about stream habitat, gain an understanding of the importance of water resources, foster a conservation ethic, and understand life cycles and ecosystems.

In South Dakota, the four schools involved this past year were the Black Hills Academy at Canyon Hills Center, Rapid City Academy, Pierre Jefferson 3rd Grade, and Stanley County in Fort Pierre.

GFP provided aquariums and equipment for each of the schools, and brought rainbow trout eggs to each school from the state fish hatcheries at Cleghorn in Rapid City and McNenny near Spearfish.

"It was both fun and rewarding to watch Trout in the Classroom evolve from an idea to reality over the past couple of years," GFP Education Services Coordinator Maggie Lindsey said. "We have worked through concerns on the part of schools and our own staff, through equipment issues and other logistical problems, and in every case the result has been a wonderful education tool."



Lindsey said her initial approach to schools was met with skepticism about the program, but when presented with the support from GFP with equipment and trout eggs, and the lesson plans that go with the national program, she was soon able to secure a couple of interested schools in the first year with the program. This past year that expanded to the four schools.

"I hope to expand the program over the next couple of years and I have a few more schools interested," Lindsey said. "I find that the publicity that has accompanied our program and the good word-of-mouth that teachers are sharing is opening doors for Trout in the Classroom."

Daniel Henry is Middle Level Educator at the Black Hills Academy at Canyon Hills Center. He said he recognized in Trout in the Classroom a hands-on education program that would attract and hold the interest of students.

"Many of our children have had issues with their behaviors, emotions and self control," Henry said. "Children learn most efficiently, and recall best, when the activities presented in the classroom are hands-on and engaging. The opportunity to raise rainbow trout in the classroom was akin to winning the lottery for lots of these children. The corner of the room where we keep the fish tank quickly became sacred, and children began to ask to watch the fish when they finished their studies."

Jeff Laughlin of Black Hills Academy seconded those observations.

“By bringing the natural world into the classroom the kids witnessed miraculous events that they may have never seen otherwise. Most kids were amazed as they observed their eggs turn to living things and thrive.”

In Pierre, Amber Stout experienced messy hands, giggles and many thought-provoking questions with her Jefferson Elementary third grade class.

“The Trout in the Classroom project was a perfect unit to help students understand the life cycle, adaptations, habitat, and environmental factors relating to fish,” Stout said. “Students were actively engaged in the entire process from witnessing the trout eggs hatch, to monitoring pH levels of the water.”

Stout had her class locate a fish’s organs, explain the function of each, and write about the characteristic features of fish. Students read books, completed descriptive writing activities, played predator/prey games, and designed art projects. Stout incorporated math and environmental science lessons, such as the conservation of lakes and streams.

“The best part,” Stout says, “Often times the students didn’t realize they were learning because they were having so much fun.”

Trout in the Classroom was in its second year at the Rapid City Academy science class, where instructor Brenda Murphey found that even fatal breakdowns can create learning for students.

“We did have a setback when the (aquarium) tank suffered an ammonia spike which killed over half the fish,” Murphey said. “But we learned a valuable lesson with closed environmental systems, and our studies of biogeochemical cycles were bumped up several notches when students related this spike with the cycling of nitrogen in the tank. The lesson, and our ‘post-trout’ conversations will be carried over into next year’s experience and conditions will continue to improve.”

The highlight of the Trout in the Classroom program has been the re-

## TO DO:

- raise trout from eggs to fingerlings
- monitor tank water quality
- engage in stream habitat study
- appreciate water resources
- foster a conservation ethic
- understand ecosystem connectivity

lease of fish from their aquarium setting into a body of water, essentially turning the now fingerling-sized trout back to nature.

“Oh my gosh, there is a lot of energy and excitement on the day of a fish release,” GFP’s Lindsey said. “The kids are thrilled to see their hard work pay off as the little trout are turned loose. We have been blessed to have our hatchery staff on hand for most of these events, and their expertise has added immeasurably to the kid’s knowledge of how fish are raised, stocked, their life cycle in the water, and the importance of our state’s water resources to both fish and humans.”

Students become attached to their wards during the time they care for

them in the classroom. But Jeff Laughlin said students were able to make connections on how their actions affected life all around them.

“They were even kind of reluctant to let them go at the end because they feared that they were too small to defend themselves,” Laughlin said. “It is my personal opinion that the most important thing that happened was the connection that developed between the students and the trout, and the better appreciation of the challenge of life in nature.”

Schools interested in exploring the Trout in the Classroom program as part of their curriculum may contact Maggie Lindsey at 605-223-7667 or e-mail [Maggie.Lindsey@state.sd.us](mailto:Maggie.Lindsey@state.sd.us).





# Physical Fitness

(and not so long)

## for the Long Haul

PRE-SEASON ACTIVITY LEADS TO MORE ACTIVE, PRODUCTIVE, AND FUN HUNTING...

Can you hear it? The beat-beat-beating of the tell-tale heart... only this is not the one pounding inside the head of Poe's madman.

This one is beating in my chest and telling me in loud and very certain terms that I am grossly out of shape. Who knew several months of sitting behind a desk could have that affect!

Now I'm out on a late September day, ranging quite a ways from my truck and in search of a grouse. What should be a nice walk has been disrupted by a need to pause for heavy breathing after lumbering up a gully, and now looking a long ways back the way I came. Once again, poor planning has left me in a lurch.

The aches and pains many of us experience on opening weekend, and the struggle to cover the miles on foot, is not a rite of passage into a hunting season. It is a sign that we have let our health and fitness slip to the point where we are detracting from the fun of the few weeks we have for our hunt.

Don't waste a minute of your precious hunting season recouping from the exertion of being out of shape. Better to spend time before the season to improve your physical fitness for the hunt. Better still to make this a year-round part of your routine.

If you need a reason to stay fit and healthy, what better than a goal to maximize your enjoyment of our great outdoors. Here are a few very simple ideas for starting your path to fitness.

Not only do you need a reason to commit to a healthy lifestyle, the pro-

cess also needs to be fun.

My first suggestion, work with your personal physician to determine your physical needs and the approach you should take to obtain them. If there are health or medication issues, those need to be taken into account as you chart your fitness course.

Start slow. "No pain, no gain," you say. HA, I say.

Pain is an indicator that you have overdone it and there is stress to muscles and joints. This can lead to physical problems, and may be just as damaging to your attitude and willingness to continue with your fitness program. It is better to work slowly and build into a long-term routine.

Walk instead of drive. If you drive, park in the back of the parking lot. Walk up the stairs rather than take the elevator. Take up your own yard and garden work, including mowing and raking (or shoveling in the winter) instead of hiring someone. Wash and wax your car.

You can dream up additional simple changes to your daily routine that will start you down the path to an aerobic workout – exercises that will increase your heart rate and strengthen your heart. You can advance your aerobic

workout, and your heart rate, through more brisk walking, more stair climbing, jogging, bicycling, and swimming.

Again, choose activities you enjoy. For optimal health, your goal should be to exercise a minimum of 150 minutes per week at a moderate to vigorous-intensity, spread throughout the week. If needed, you can divide this into three 10 minute sessions, five days per week as you become stronger and can exercise for longer sessions. Stretching is essential, not just to prepare your muscles and joints for the exercise but also to improve your body's flexibility (very handy for shooting skills). Exercise at your own pace, and when you are ready to finish slow down gradually and end with more stretching.

As you gain momentum, begin to vary your workouts with both aerobic and strength exercise. Strength training is a necessary component of overall health and fitness. You will benefit greatly from a couple of sessions of weight, or resistance, training each week. Start light and work up. Lighter weights with more repetitions helps build endurance more than a few repetitions of heavy weights, but heavier weights will build new muscle. Work until your muscles

are tired, but do not overdo it.

Have I mentioned yet that one of the keys to a successful pre-season workout routine is to make it fun?

If you are near a state park area, consider using that for your aerobic walks. Not only will you benefit from the scenery, you will also be able to take advantage of maintained walking trails with varying terrain. Enjoy the solace, or take along a workout teammate (wife, hunting partner, dog). Companionship, each encouraging the other, can help ensure your dedication to your long-term fitness program.

Finally, when discussing the benefits of weight lifting we are not talking about carrying around the extra pounds you are packing. Being overweight adds stress to your heart and joints. Make a slow, steady weight loss a part of your fitness routine. If you eat a lot of high calorie food, you will need to work a lot. Cut down on your calorie intake and there will be fewer calories you need to burn to lose weight. Your heart and your joints will thank you.

Regular exercise, even moderate activity, has a wealth of benefits for you:

- Exercise burns energy, which reduces weight and fat
- It doesn't have to be complicated; whether you prefer quiet time alone or companionship, make it fun
- Exercise can help you cope with stress and feel relaxed
- Regular physical activity can lower your risk of stroke and improve overall health

Exercise improves our endurance. We can cover more country during the hunting season with less worry about our bodies breaking down. Instead of exhaustion, we will find ourselves more relaxed, alert and making better decisions while afield.

Listen to the pounding of your tell-tale heart. Today is the right time to start your fitness routine to maximize your enjoyment of the upcoming and many future hunting seasons.

# S.D. Department of Health

## Physical Activity Recommendations

The South Dakota Department of Health recommends 150 minutes of physical activity at a moderate to vigorous-intensity spread throughout the week to enhance overall health. For more information on the federal Physical Activity Guidelines, go to [www.health.gov/paguidelines](http://www.health.gov/paguidelines).

### REGULAR PHYSICAL ACTIVITY

- Improves strength and endurance
- Helps build and maintain healthy bones, muscles, and joints
- Helps control weight, develop lean muscle, and reduce body fat
- Reduces anxiety and stress, and increases self-esteem
- May improve blood pressure and cholesterol levels
- In addition, people say they like physical activity because it is fun, they do it with friends, and it helps them learn skills, stay in shape, and look and feel better

### STRETCHING TIPS

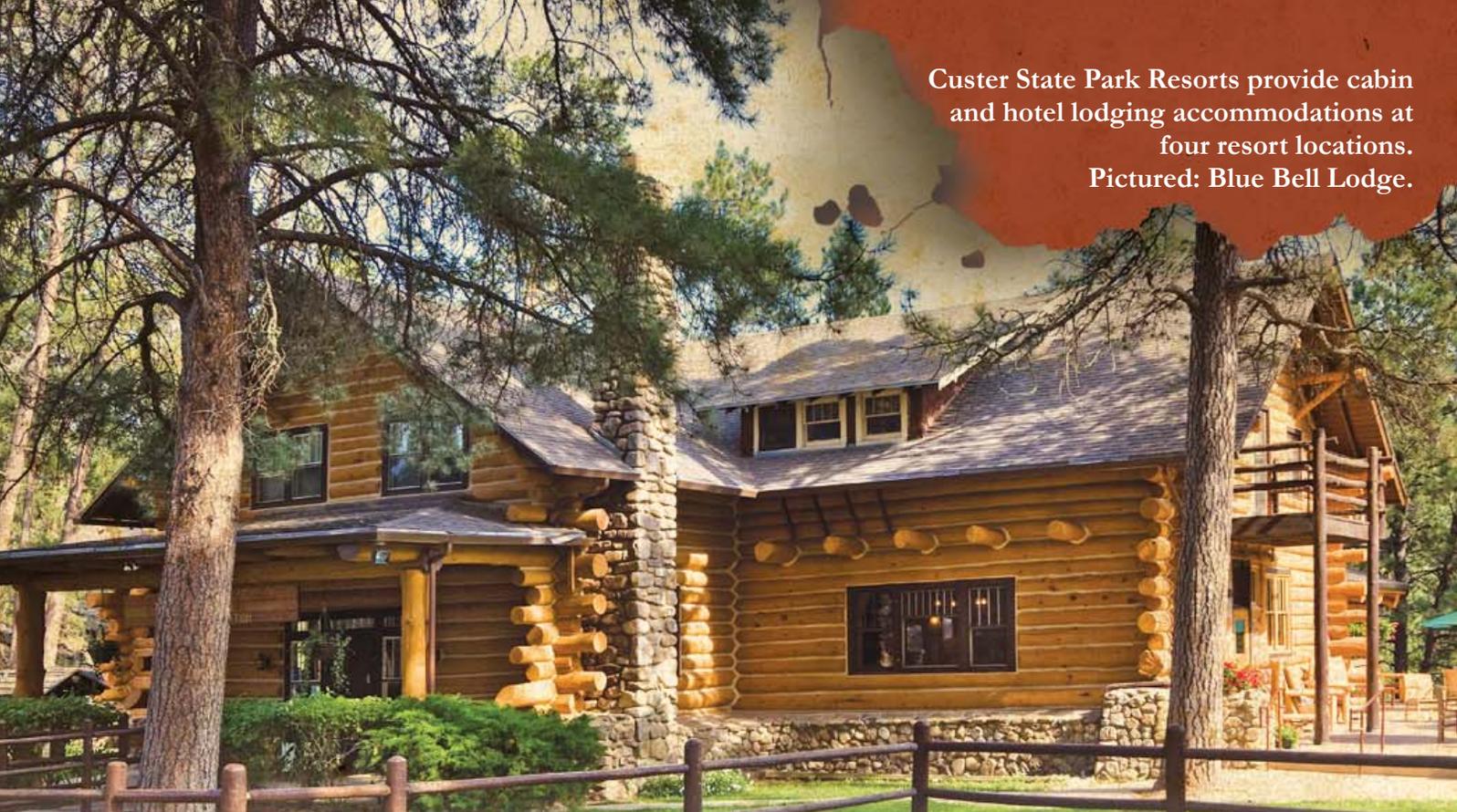
- Always stretch within your limits
- Relax while you stretch
- Stretch with a steady pressure and hold the stretch for 20-30 seconds
- Never bounce while stretching
- Stretching should not be painful; if you feel pain you are over-stretching
- Breathe while you stretch
- When you have finished your physical activity, stretch again while your muscles are warm to decrease muscle soreness

### MAKE PHYSICAL ACTIVITY FUN

- Park your car farther away from your office, the store and other stops
- Take the stairs when possible instead of the elevator
- Think of one of your favorite places outdoors and take a walk there
- Go for a walk with a friend you have not had time with in awhile
- To increase the intensity of your walking, add more arm movements
- Devote a portion of your break time each day to being active
- If getting outside is difficult, jump rope without a rope while watching the evening news
- If time is a problem, try shorter periods of exercise like three times a day for 10 minutes

### AVOID INJURIES

- Listen to your body and rest when needed
- Use appropriate equipment and clothing for your activity
- Stretch, start at an easy pace, and work to a higher level
- Drink plenty of water before and during your activity
- Wear proper footwear
- If you feel tightness, strain or pain stop and let the injured area rest



Custer State Park Resorts provide cabin and hotel lodging accommodations at four resort locations. Pictured: Blue Bell Lodge.

# Marinas & Resorts in the State Parks

Several state park areas have resort and concession areas located in the park. All are privately operated through a lease agreement with the Division of Parks and Recreation. They offer a variety of accommodations and services to help round-out your stay, such as lodging, marinas, food and beverage, fuel and retail sales. Be sure to stop by during your next visit to experience all they have to offer.

*By Sean Blanchette,  
Concessions Manager for SD  
Division of Parks & Recreation*

## **CUSTER STATE PARK RESORTS**

**888-875-0001**

**[www.CusterResorts.com](http://www.CusterResorts.com)**

The state's largest concession operation, Custer State Park Resorts provide cabin and hotel lodging accommodations at four resort locations – Blue Bell, Legion Lake, Sylvan Lake and the State Game Lodge. All four resorts provide restaurant service ranging from casual to fine dining. There are several retail locations in the park offering convenience store items, some grocery as well as merchandise and gift shops. Other services in the park include: guided Jeep rides, horseback trail rides and recreation equipment rental. The resorts traditionally open up in early May and operate until late September.

## ANGOSTORA RESORT

605-745-6665

[www.HotSprings-SD.com](http://www.HotSprings-SD.com)

Near Hot Springs, Angostura Resort offers two- and three- bedroom cabins, seasonal boat slips at three locations on the reservoir, a floating convenience store with on-the-water fuel sales, beachside food and beverage service and two seasonal trailer areas.

## LEWIS & CLARK MARINA, LEWIS & CLARK RESORT

Marina: 605-665-3111

Resort: 605-665-2680

[www.LewisAndClarkPark.com](http://www.LewisAndClarkPark.com)

Located near Yankton within Lewis and Clark Recreation Area, these two concessions are operated individually under separate concession agreements. The marina provides seasonal boat slip rental, convenience store, boat rentals and on-the-water fuel sales. The marina also operates the restaurant within the concession area at Lewis and Clark. Lewis and Clark Resort offers many motel-type rooms as well as two- and three-bedroom cabin rentals and a swimming pool. The Resort recently added a group lodge capable of hosting meetings and events and sleeping up to 24 people.

## SPRING CREEK RESORT & DEEP WATER MARINA

605-224-8336

[www.SpringCreekVenture.com](http://www.SpringCreekVenture.com)

Located 15 miles north of Pierre, Spring Creek Resort offers cabin and motel type lodging, restaurant and lounge, bait shop and convenience store. The marina includes 48 seasonal boat slips with water and electrical service as well as courtesy slips and on-the-water fuel.

## OAHE MARINA & RESORT

605-223-2627

[www.oahemarina.com](http://www.oahemarina.com)

Located five miles north of Pierre just below Oahe Dam, Oahe Marina and Resort provides restaurant service, cabin rentals, convenience store and bait shop, fuel sales, boat slip rentals and courtesy docks. The facilities were recently remodeled following the Missouri River flood of 2011.

## DOCK 44

605-337-3005

[www.Dock44.com](http://www.Dock44.com)

Dock 44 is located at Snake Creek Recreation Area on Lake Francis Case approximately 14 miles west of Platte. Services offered at Dock 44 are marina with seasonal boat slips and mooring balls, cabin lodging, restaurant, convenience store and bait shop.

## ROY LAKE RESORT

605-448-5498

[www.RoyLakeResort.com](http://www.RoyLakeResort.com)

Roy Lake Resort is tucked away in the west end of Roy Lake State Park. Two- and three bedroom cabins are available for rent as are lodge-type units. They feature bait, groceries, a sandwich shop and boat rentals.

## BRIDGE CITY MARINA

605-845-9129

Bridge City Marina is located at Indian Creek Recreation Area two miles east of Mobridge. The marina offers seasonal and daily boat slip rentals, courtesy dock, boat rentals and fuel sales. Cabin and motel type lodging accommodations are also available as well as a bait shop and convenience store.

## FORT RANDALL MARINA

605-487-7272

The marina is located in North Point Recreation Area just above Fort Randall Dam on Lake Francis Case. Seasonal and courtesy boat slips are available along with a small convenience store and fuel sales.



*The Lewis & Clark Marina provides boat slip rental, convenience store, boat rentals and on-the-water fuel sales.*

*Spring Creek Resort offers cabin and motel type lodging, restaurant and lounge, bait shop and convenience store.*

# RECOVERING FROM THE FLOOD

*Recovering*



## Pierre-area parks one year after the 2011 Missouri River Flood

The Pierre-area parks, admired for their waterfront campsites and picturesque views of the river, found themselves at ground zero during the historic 2011 Missouri River flood. Thanks to a favorable spring and the work of staff and volunteers, one year later the Pierre-area parks have re-opened and are well on the road to recovery.

The 2011 Missouri River flood damaged homes, businesses and recreation facilities all along the river. Of the state parks, the hardest hit were Farm Island and Oahe Downstream Recreation Areas near Pierre. Most of the summer, water gushed out of the Oahe Dam release gates at 150,000 cubic feet per second, cutting into banks and eroding shorelines. The swollen river crept into lower-lying areas of the parks, covering campsites and surrounding park buildings and trees with water for nearly three months.

## AFTERMATH OF THE FLOOD

When the water receded, it left scars in the parks that still exist. You can easily make out the waterline on trees and buildings. The once healthy, vibrant cedar and juniper trees are completely brown, or slowly turning to that color, if they haven't already been removed. Over 800 trees have been cut down in the two parks since the flood waters started to recede last fall. If you have recently visited these areas you know that number will continue to increase and you can certainly notice the difference.

Park roads, boat ramps and trails were heavily impacted. Asphalt and trail beds were washed away. For example, holes that could swallow a midsize car greeted you upon your first step onto the Farm Island Nature Area's trail. The force of the rushing water along the stilling basin caused a massive amount of shoreline erosion, especially at Oahe Downstream's Campground 3, where it obliterated 12 shoreline campsites and forced the removal of camping cabins along the water. The really sad part is that once you lose land along the shoreline, there is no returning it back to its previous state. Crews have been working to do what they can by rip rapping several areas to help stabilize the effects of erosion.

## ONE YEAR LATER

A year after the start of the flood, the 2012 camping season looks promising for the two parks. Many campsites and facilities were open in early spring, and nearly all sites in even the hardest-hit areas were available by Memorial Day weekend, nearly three weeks ahead of the predicted timeline.

"We've made great progress in terms of recovering from the flood," said State Parks and Recreation Director Doug Hofer. "The mild winter and spring benefited us greatly, and crews worked hard to get the parks up and running as soon as possible. After last summer with little camping opportunities in the Pierre area, we knew lots of folks were anxious to get out and enjoy the outdoors."

Memorial Day 2012 displayed a much different scene than one year ago, when the parks were canceling reservations and evacuating campers. At Farm Island and Oahe Downstream this year, you could once again see campers driving through the park and kids running around without a care in the world - if they weren't already out fishing or walking the family pet. Groups were sitting over that missed campfire once again, enjoying the pleasures of a nice weekend with family and friends.

It was a scene we weren't sure would happen, at least not so soon. Before the campgrounds could reopen, staff needed to replace electrical pedestals, clean and



Vehicle sized holes were found in multiple locations on the popular Farm Island Nature Area trail system. The first step for repairing these trails was bringing enough material in to fill these holes, allowing access for service vehicles and contractor crews.

By Ryan Raynor, Farm Island District Park Manager

repaint facilities, get sewer systems back online, remove the dead trees and other debris, move cabins to their original or new locations, repair park roads, and allow time for grass to re-establish. As work progressed ahead of schedule, the opening date for the full park was set for June 15. That date itself seemed like wishful thinking, but then the parks opened their doors even earlier - just in time for Memorial Day weekend.

One major undertaking took place earlier in April, when over 2,500 trees were planted in the two parks. This was only accomplished through an overwhelming volunteer effort by members of the Lions Club, traveling across South Dakota, to work with park staff. The result is hundreds of

tree tubes and shelterbelts replanted full of various tree species.

The Lewis and Clark Trail project, which reestablished the trail running along the banks of the Missouri from Farm Island into Pierre, was completed at the end of June along with the resurfacing project on the Farm Island Nature Area.

Improvements to all of the areas affected by the flood will continue through the summer and into the following year, as full recovery will take quite a while. While most areas and facilities will be open this summer, many will not be in the same condition as they were before the flood. Visitors will see the effects in eroded shorelines, accumulated sand dunes, patchy grass, damaged trails and fewer trees.

*Trees in Oahe Downstream Recreation Area toppled over from lack of substantial root support in the super saturated soils. Some trees look to have survived the flood but the years to come will tell the story of their success or failure.*



*Many of the parks still bare the evidence of 2011 historic flood. Water lines are clearly visible on many of the trees in the park.*



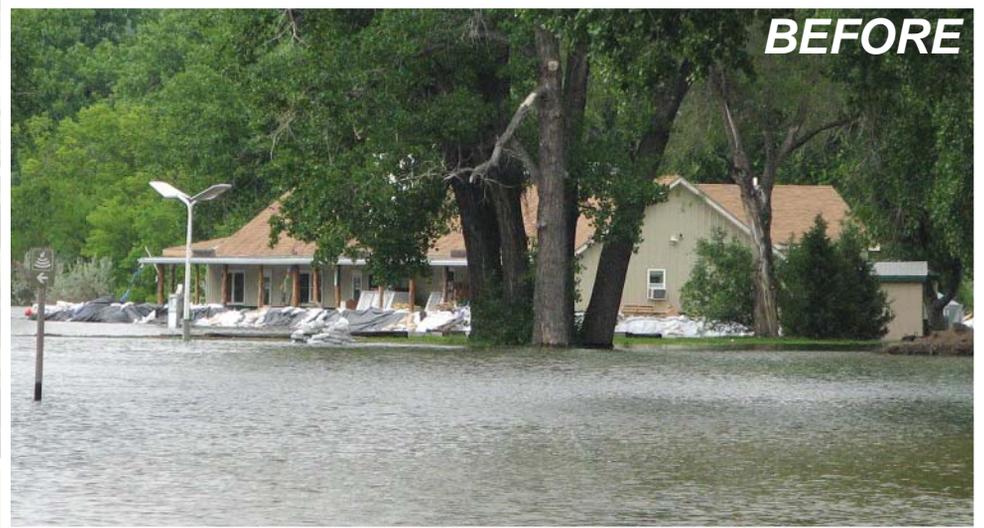
*Many of the amenities at Farm Island have been cleaned, repaired and/or replaced. Some light work, such as staining, still need to be completed.*

“The aftermath of the flood will be felt in these parks for some time to come,” Hofer said. “We appreciate visitors’ understanding as we work to make things right again. There is much to do to restore the parks to their former condition, but we’re focusing first on the major projects to get them in useable condition for the summer.”

At this time, you still need a boat to access nearby LaFramboise Island, located on the southwest side of the city of Pierre. The causeway leading to the island extends far enough into the main channel to feel the full force of the flowing river, which destroyed the roadway completely. While we wait anxiously for the causeway to be



The group lodge at Oahe Downstream received flood damage in the basement. Comfort stations in Campground 2 were immersed in 3 to 4 inches of flood waters. When the flood waters receded, the work of repairing the monumental damage began. In many cases park buildings had to be gutted and new structural, electrical and plumbing materials put into place.



rebuilt, completion scheduled for early fall, it is a good example of the work still ahead.

One of the most rewarding parts of working in state parks is the interaction with park users. We've heard many comments from frequent visitors about the great progress seen in the parks. Those words of encouragement and support from the community mean a lot.

Last summer, the Pierre-area state parks were scrambling to save facilities and fight back floodwaters. Now, campers fill the park, connecting with friends and enjoying the view of the calm Missouri River.

What a difference a year makes.



The concessionaire within Oahe Downstream, the Oahe Marina & Resort, received substantial damage to their facilities. Owner Steve Rounds has since gutted and remodeled his establishment. The resort began serving customers in April 2012, offering an improved facility. The Oahe Marina & Resort offers a restaurant, four cabins, C-store, guide service and rental boat slips.

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# ATTENTION

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## CANADA GOOSE HUNTERS



### CANADA GOOSE POPULATIONS ARE AT AN ALL TIME HIGH!

How can your participation help reduce the Canada Goose  
population and help Sportsmen Against Hungers'  
campaign to feed the hungry?

# WHY HUNT GEESE DURING THE EARLY SEASON?



## ITS ALL IN THE NUMBERS

South Dakota's Canada Goose population is at an all time high. An estimated 270,000 resident Canada Geese call South Dakota home. Because of this, hunters are able to harvest up to 15 birds per day from August 4-26 and September 1-30.

## (re)INTRODUCE THE SPORT

Early goose seasons have warm weather, birds that decoy well and abundant access. This provides a great opportunity to take a new hunter, or help a former waterfowler re-connect with the sport.



## FEED THE HUNGRY

Help feed the hungry with Sportsman Against Hungers' Goose Donation Program. Geese taken from August 4-26 and September 1-30 may be donated to these participating processors:

- Western Meats & Locker - Sioux Falls
- Bob's Meats - Chester
- Dakota Butcher - Clark
- Economy Meat Market - Bath
- Huron Custom Meats - Huron
- J&M Specialty Meats - Harrisburg
- Jorgenson Meat Processing - Waubay
- Lee's Meat & Sausage - Tea
- Ol' Mill Meats - Milbank
- Renner Corner - Renner
- Rob's Locker - Gary
- Shorty's Locker - Mitchell
- Waldner Specialty Meats - Milbank

## GFP's " (re)Introduce The Sport" giveaway!

Game, Fish & Parks would like to see new hunters being introduced into the sport of waterfowl hunting... we encourage you to take a newcomer out with you, and what better way to encourage you than to give away free stuff!

If you take a "goose hunting newcomer" with you, enter our drawing for a chance at several great prizes! We will verify that the new hunter did not possess a South Dakota migratory bird certification during the 2011 season.

Prizes include; Benelli Vinci 3" Shotgun,  
1 dozen full body Dakota Field goose decoys,  
1 dozen Dakota Field shell goose decoys.

To be eligible, send e-mail to: [wildinfo@state.sd.us](mailto:wildinfo@state.sd.us), include:

- 1 - Name, city and phone number of both you and the new hunter.
- 2 - Photo of you and the new hunter in the field.

*\* You may enter your name once for everytime you take a new hunter goose hunting with you during the August Management Take (Aug. 4-26) and the Early Canada Goose season (Sept. 1-30).*

*\* Prizes are subject to change.*





# DakotaFlora

## Milkweeds

by Dave Ode, GFP Botanist

There are entire books written about milkweeds. They have a fascinating history of human use, an amazing pollination mechanism, and are essential to the survival of several insects, not the least of which is the Monarch butterfly.

Prior to the Japanese attack on Pearl Harbor in 1941, most of the stuffing used in life jackets was “kapok,” a buoyant and water-resistant fiber produced in cucumber-like seed pods of the Kapok tree (*Ceiba pentandra*). Ironically, the kapok tree is native to tropical America but commercially grown in Southeast Asia, especially on the island nations of Malaysia, Indonesia and the Philippines. By the spring of 1942 the Japanese had cut off the supply of kapok to the Western Allies and the United States Navy was in desperate need of a substitute. All across the Midwest children were encouraged to collect ripe common milkweed pods, whose downy fluff served as a substitute for kapok, after being processed at a factory in Petoskey, Michigan. Over one million “Mae West” life vests were filled with milkweed fluff and it was estimated that just twenty-six ounces of fluff could

keep a 150 pound sailor afloat in salt water for forty-eight hours.

Flowers of the milkweed are a marvel of specialization. Without all the technical details, milkweed flowers are constructed so that when a bumblebee or flower-fly lands on the flower and begins to forage for pollen and nectar, its legs slip down into slits in the flower. As the insect tries to pull free from the crevice, the leg catches on basically a tiny saddle-bag of pollen (the pollinia). If the insect is able to pull free, the little saddle-bag goes along for the ride and is perfectly positioned for pollinating the next milkweed flower that the insect visits.

Milkweeds take their name from the milk-colored latex contained within tiny vessels that run throughout the plant. While the composition varies between species, this latex contains a diverse mixture of chemicals ranging from rubber compounds to cardiac

glycosides. In sum, these chemicals give the plant a bad taste and, in high enough concentrations, are poisonous to birds and mammals. Monarch butterfly larvae are able to eat milkweed tissue and incorporate the cardiac glycosides, making themselves poisonous to predators. At least five other insects that feed on milkweeds employ a similar strategy to avoid being eaten including the milkweed tiger moth (*Euchaetes egle*), the red milkweed beetle (*Tetraopes tetraophthalmus*), the milkweed leaf beetle (*Labidomera clivicollis*), the small milkweed bug (*Lygaeus kalmii*) and the large milkweed bug (*Oncopeltus fasciatus*).

At least twelve species of milkweeds occur in South Dakota. Common milkweed (*Asclepias syriaca*) is the most widespread and familiar, growing in road ditches, pastures and field edges throughout the state. Smooth milkweed (*A. sullivantii*) looks very simi-



Swamp Milkweed and a Flower Spider.

Photo © Brian Jorg

lar to common milkweed but occurs mostly to our south and east barely ranging into eastern-most South Dakota. Butterfly milkweed (*A. tuberosa*) is a native of the tallgrass prairie and is commonly cultivated. Swamp milkweed (*A. incarnata*), as its name implies, inhabits wetland margins along basins and streams throughout the state. Whirled milkweed (*A. verticillata*) has thin, thread-like leaves as does its smaller cousin, plains milkweed (*A. pumila*). Narrow-leaved milkweed (*A. stenophylla*) has somewhat wider leaves and inhabits sandy or rocky soils of western South Dakota. Green milkweed (*A. viridiflora*) is one of the more common milkweeds of the mixed-grass prairie and has two forms, one with large oval leaves and a second form with narrow lance-shaped leaves. Woolly milkweed (*A. lanuginosa*) has the distinction of being discovered in the Missouri River Breaks of central South Dakota by Thomas Nuttall in 1811. For whatever reason, it has become quite rare in the state. Oval-leaved milkweed (*A. ovalifolia*) occurs in the Black Hills and in eastern South Dakota, while sand milkweed (*A. arenaria*) inhabits the Nebraska sandhills that extend up into southcentral South Dakota. Showy milkweed (*A. speciosa*) occurs statewide and takes its name from its large showy clusters of rose-colored flowers. All of our milkweeds are perennial natives and many of them form rhizomatous colonies. They all flower in mid-summer and virtually every native grassland has one or more species. For more information on the wonders of milkweeds see David Schwartz and Dwight Kuhn's article titled "Underachiever of the Plant World" published in the September 1987 issue of *Audubon* magazine; and Ada and Frank Graham's book *The Milkweed and its World of Animals* published by Doubleday and Company, New York in 1976. 🌿



1. Showy Milkweed
2. Butterfly Milkweed
3. Woolly Milkweed
4. Green Milkweed
5. Oval-leaved Milkweed
6. Common Milkweed ripe pods

All Photos © D.J. Ode



# Dakota Naturalist

## Edward Raventon and the Blood Run Nature Area

by Matt Herbert

"I may call this Bur Oak Lookout," naturalist Edward Raventon said as he gazes down at the winding bends of the Big Sioux River at the Blood Run Nature Area, in early June.

The Blood Run Nature Area, a scenic and historically rich expanse of more than 500 acres of property southeast of Sioux Falls, could potentially be South Dakota's newest state park in nearly 50 years if the legislature approves the pending proposal next year. Raventon has been selected by the Game, Fish and Parks to spearhead the operation and progress of the park.

"It's sensational," Raventon said. "It is second to none if we're talking about energy. It's all alive and well."

The vicinity became a focal gathering place starting about 1300 and grew into a significant trading and cultural center for native peoples, most notably the Omaha, Ioway, Otoe, Ponca and Missouria. Many artifacts have been discovered in both Iowa and South Dakota that reveal a long history of occupation and cultural use dating back over 8,000 years.

"This oak forest amazes me. How intact it is and how old it is... and the

magnificent basswoods, the handful of American elms and the river. The river is a powerful spirit. I can see why the Oneota peoples came here, I know why they loved this place," Raventon said.

Besides the sign at the entrance, an unoccupied house and a couple of barns, the property includes a few picnic tables, a portable toilet, a trash can and the camper that Raventon has called home since early May.

The paths and moist areas of ground are imprinted with tracks of white-tailed deer, turkey and the plethora of smaller mammals that thrive throughout the wooded ravines and grass savannahs.

Along with partaking in the day-to-day operations at Blood Run, Raventon gives guided nature hikes along the nearly 2 miles of groomed trails on Saturday mornings.

Although Raventon is a naturalist, he is also a published freelance writer



**"If you want the kind of experiences I had when I was a kid and experience nature, feel the earth energy, you can do that," Raventon said. "That's what we're cultivating and protecting here at Blood Run."**

and author of three books about some of South Dakota's most valued natural aspects.

Growing up along the Missouri River in Missouri, Raventon developed a keen interest in nature by observing the natural landscapes and becoming familiar with the native plants and animals.

It wasn't until Raventon attended the University of Minnesota, where he majored in literature and geography, that he combined his interests and wrote about the outdoors.

He said that too often the science aspect is emphasized more than the artistic, creative aspects in outdoor careers.

"It's important to understand the science and be able to express and articulate thoughts, ideas and concepts, which is what we're trying to do out here when we're talking about conservation and ecology," Raventon said. "You need to be able to use both sides

of your brain.”

After college, Raventon had an array of different jobs with state and national parks and monuments in the Midwest and West. He also had the opportunity to work with novelist Fredrick Manfred at Blue Mounds State Park in southwestern Minnesota for a summer. In reflecting on his positions with the different state and federal parks he said, “Being outdoors is what I still do best.”

Following his positions with the parks, Raventon wanted a change and became a full-time freelance magazine feature writer and correspondent to the Rapid City Journal.

After a period of time with the paper, he decided that he wanted to have his work expressed in full and decided to write a book. His first, “Island in the Plains: A Black Hills Natural History,” was followed by “A Piece of Paradise: A Story of Custer State Park” and “Buffalo Country: A Northern Plains Narrative.”

The topics of his books came from his own experiences outdoors. One of his inspirations for “Buffalo Country” was when he spent three days at the Terry Bison Ranch in southeast Wyoming on horseback, riding among the bison, animals he greatly admires.

Raventon said one of the biggest challenges for writers is getting published. It’s important, he added, for writers to get published because otherwise they tend to give up and lose interest in their work.

There’s a large misconception, especially among young people, that writers make a lot of money.

“If you want to make a lot of money, for God’s sake, don’t go into writing. Or drama,” Raventon said with a smile and slight chuckle.

He said it doesn’t matter how many times a topic has been written about - it can still be looked at from a different perspective or with different emotions. The best advice, he said is

writing about things that interest you.

“I write books about the topics I’d like to learn more about,” Raventon said. “I have to go out and do my own research and then organize my thoughts. I want to share this. Writing it all down helps me understand it better.”

Raventon said reading is one of the most important components to being a good writer.

“In order to learn how to write well, you really have to learn how to read well,” Raventon said. “Reading and writing go together. You can’t do one well without the other. I learned how to write not so much from my assignments in college, but from reading the best writers out there and figuring out how they did it.”

“With evolving digital technology, the book industry has fallen on hard times,” he said. “However, there is a demand for travel books. People like to read books where they can go and visit for themselves.” His books highlight many natural areas of the state where people can travel and experience on their own.

Raventon said aspiring writers should use their creativity and write what they want, and not worry about what society wants.

“Write what you know, write what you feel,” Raventon said. “By all means it should be fun and satisfying.”

Raventon said his creativity comes from nature because nature is constantly changing and there is never a dull moment. Constant change is what inspires and draws him to the outdoors.

“There are a lot of great places [in South Dakota] still,” he said. “[Blood Run] is spectacular if you go out and pull your antenna all the way out. I used to tell naturalists during training that you should be stopping two or three times along the way, and observing things.”

At Blood Run, Raventon spends a lot of time observing the natural sur-

roundings of the land and scouting potential areas for new trails, benches and signage. The hills are densely covered by a mature oak forest with thick undergrowth. Much of the property is untamed and relatively undisturbed, and part of the property is still under agricultural use.

Aside from the large oaks that are estimated to be a couple of centuries old, there are basswoods, box elders and elm trees. There are some natural prairie patches woven into the forested hills, holding native big blue stem grass and a handful of native plum thickets, which are signs of the natural prairie, said Raventon.

Although the massive natural trees are abundant in the area, there are a variety of invasive species that have spread throughout the property, including buckthorn, brome and canary grass. Raventon hopes the park people will be able to control these invasive species and cultivate a healthy stand of native prairie grasses.

Phil Korfe, a participant in one of the guided tours at Blood Run, said the area’s beauty and diversity is not what he expected. He was also surprised by Raventon’s deep insight and passion for the natural environment.

“He’s incredibly knowledgeable about nature and the species here,” Korfe said. After the hike, he said he’d definitely come back to have a picnic and hike around the unique landscape.

Raventon said he wants Blood Run to be a place for all people to enjoy and be inspired by.

“If you want the kind of experiences I had when I was a kid and experience nature, feel the earth energy, you can do that,” Raventon said. “That’s what we’re cultivating and protecting here at Blood Run.” 

*Matt Herbert is a journalism student at the University of Minnesota. He is currently a Public Relations Intern at The Outdoor Campus East in Sioux Falls.*



## Western & Clark's Grebes

By Casey Mehls



*Although somewhat similar in appearance, the black cap on the Clark's grebe (left) stops above the eye, whereas it extends down below the eye on the Western grebe (right).*

*Photo © Doug Backlund*

With summer well on its way many people are heading out to the rivers and lakes of South Dakota to partake in the many recreational opportunities our state has to offer. While out on the water keep your eyes peeled for these unique birds that enjoy using the same resources. Western and Clark's grebes can be seen in large lakes and reservoirs during their spring migration in May, and in shallow lakes and sloughs during the breeding season from June through August.

From a distance it may be hard to tell the two species apart, but there are a few key characteristics that can help with identification. Both are dark grey to black on their backs with a white underside, but the black cap on the head of the Western grebe extends below their red eye whereas the Clark's grebe ends above the eye. Clark's grebes are also generally lighter in plumage and have an orange-yellow bill compared to the olive green bill of the Western grebe.

The appearance and behavior of Western and Clark's grebes are so similar; they were once thought to be two color phases of the Western Grebe. The Clark's Grebe was later recognized as a separate species in 1985 after biologists observed that the color varieties preferred mating with birds of the same coloration. It was also discovered that each species had unique

advertising calls that possibly helped individuals recognize their own species while choosing a mate.

Except for these slight differences, the behavior and biology of Western and Clark's grebes is more or less identical. Their primary food source is fish, but they will also eat salamanders, crustaceans and insects. They are the only species in the grebe family that have a special mechanism in their neck that allows them to quickly thrust their long beaks forward like a spear to catch prey. Western and Clark's grebes have also been known to swallow their own feathers to give their stomachs a protective lining from sharp fish bones.

Western and Clark's grebes have some of the most complex courtship displays known in birds. Their displays, also known as "ceremonies", typically follow a sequence of steps and are used to interact with other individuals. West-

ern and Clark's grebes often perform the "rushing" ceremony during courtship. With a sudden burst, two or more birds will lunge forward with their upright bodies almost completely out of the water then run rapidly across the surface before making a headfirst dive. While performing this display their wings are held in a unique posture that may help provide lift and stability to keep their bodies above the water. During another courtship ceremony known as the "weed dance", the male and female will collect weeds in their beaks then rise in a vertical posture with almost their entire body out of the water while facing each other and slowly moving forward or spiraling.

Western and Clark's grebes often nest in large colonies along with other grebes, herons, gulls and terns. Nests are anchored to surrounding vegetation and are constructed out of material collected underwater and from nearby plants. Here the female will lay two to four pale bluish eggs that will hatch in about 23 days. During this time the male fiercely protects the nest from mink, raccoons and other predators. After the eggs hatch the young will leave the nest on the backs of their parents where they will spend a major-

ity of their time until they are about 4 weeks old. The parents will often help their young onto their back by extending a leg out behind them to use as a foothold. While one parent carries the chicks the other will find food and bring it back to their young. If alarmed the adult makes a quick warning call before diving under the water while holding the chick tightly pressed under its wings.

Around the turn of the 20th century, Western and Clark's grebes were once killed for their silky white feathers to make coats and hats. Many large breeding colonies were almost wiped out by market hunters during this time. With protection offered by the Migratory Bird Treaty Act populations have since recovered and can now be found breeding throughout

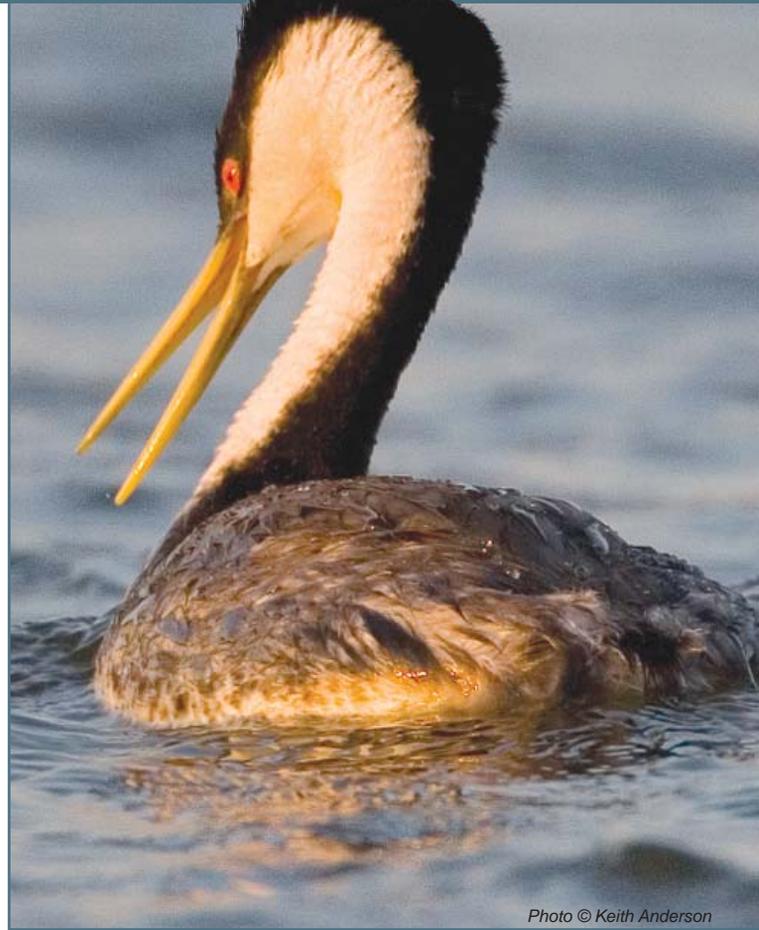


Photo © Keith Anderson

the western United States. There are however, still threats to these species associated with human activity. Pesticide use and drainage of lakes for agriculture has greatly reduced the amount and quality of nesting habitat. Grebes are sometimes accidentally caught with fishing lures or easily become entangled in discarded fishing line. When nesting colonies are disturbed by boats the adults will often leave the nest and eggs unprotected from predators. Young chicks can also become separated and die from exposure when their parents are required to dive to avoid oncoming boats. So remember next time you are out boating or fishing to appreciate and respect these unique birds that call our state's waters home. Help them out by picking up your discarded fishing line and lures and give them plenty of distance to avoid disturbance. 🦋



Western and Clark's grebes' young will spend a majority of their time on the backs of their parents until they are about 4 weeks old.

Photo © Keith Anderson

Casey Mehls is a Wildlife Biologist for SD GF&P.



# ParkNotes

## **CELEBRATE FALL AT NEWTON HILLS STATE PARK'S 13TH ANNUAL CELEBRATION**

CANTON, S.D. – Pumpkin catapulting, carving and seed guessing are just a few of the activities for visitors to Newton Hills State Park for the 13th Annual FestiFall on Saturday, Oct. 6.

The popular FestiFall event, scheduled for 1-5 p.m. CDT, is attended annually by people of all ages. This year features many family activities, including arts and crafts with over 30 vendors, kids' games and music.

As in past years, the pumpkin will take center stage with pumpkin catapulting, pumpkin carving demonstrations and decorated pumpkin contests. Visitors are encouraged to bring their own decorated or carved pumpkins for judging. For those who wish, carved pumpkins may also be used on the Candlelight Walk.

Following the afternoon FestiFall celebration, the Candlelight Walk will lead visitors along 2.2 miles of candle-lit trail through the deep woods of Newton Hills. The trail will be solely lit by candles and carved pumpkins. Walkers will encounter many surprises along the trail, including musicians and colorful characters from the past. Walkers may begin the self-led adventure anytime from 7:15-8:30 p.m.

Throughout the weekend, campers are encouraged to decorate their campsites with fall themes. Hay wagon rides will be available Saturday afternoon to take visitors through the campground to view and judge the decorated campsites.

There is no cost to participate in any of the events; however a park entrance license is required. For additional information, please contact Newton Hills State Park at 605-987-2263 or [NewtonHills@state.sd.us](mailto:NewtonHills@state.sd.us) or visit [www.gfp.sd.gov](http://www.gfp.sd.gov)

## **CUSTER STATE PARK HOSTS ANNUAL BUFFALO ROUNDUP AND ARTS FESTIVAL**

CUSTER, S.D. – A one-of-a-kind western weekend awaits at the annual Custer State Park Buffalo Roundup and Arts Festival Sept. 22 through 24.

The Buffalo Roundup begins at 9:30 a.m. on Monday, Sept. 24, near the corrals along the Wildlife Loop Road. The parking areas open at 6:15 a.m. and close at 9 a.m. For safety reasons, spectators are asked to remain in the viewing areas until all the buffalo are corralled, around noon. The public is then invited to take free shuttles into the corral area where testing, branding and sorting of the buffalo will begin at 1 p.m. in preparation for the Nov. 17 auction. Food and arts and crafts booths will also be available near the corrals on Monday.

"The Buffalo Roundup brings over 14,000 spectators to Custer State Park to see the park's herd of 1,500 buffalo," said Craig Pugsley, Custer State Park visitor services manager. "In addition, the weekend arts festival features lots of entertainment and activities as well as over 100 arts and craft exhibitors, including western and Native American artwork and a number of food vendors."

To alleviate traffic problems, spectators will need to decide upon the viewing/parking area they plan to watch the roundup from prior to Monday morning. Visitors who want to watch from the North viewing area should travel down the Wildlife Loop Road from the State Game Lodge side. Those wishing to view from the South viewing area should travel down the Wildlife Loop Road from the Blue Bell side.

In addition to Monday's Buffalo Roundup, Custer State Park will host a weekend of entertainment, craft and art booths and fun for the entire family at

its annual Arts Festival on Saturday and Sunday, Sept. 22 and 23. Both days start at 8 a.m. with a pancake feed, entertainment kicks off at 8:30 a.m., and the arts and crafts booths will be open from 9 a.m. to 5 p.m. The Arts Festival takes place near the State Game Lodge.

There is no cost to attend the Buffalo Roundup or Arts Festival. A South Dakota state park entrance license is required to enter the park on Saturday and Sunday. A park entrance license is not required on the Monday of the Buffalo Roundup.

To learn more about the roundup and arts festival or to request a brochure, contact Custer State Park at 605-255-4515 or e-mail [CusterStatePark@state.sd.us](mailto:CusterStatePark@state.sd.us). More information can also be found online at [www.custerstatepark.com](http://www.custerstatepark.com).

## **HISTORY COMES TO LIFE AT BEAVER CREEK NATURE AREA**

BRANDON, S.D. - Fiddlers, homestead living, pioneer farming, Civil War soldiering, pioneer crafts and outdoor cooking will greet visitors to Beaver Creek Nature Area near Brandon on Sunday, Sept. 9.

From 1 to 4 p.m. CDT, the park will host the 34th Annual Homesteader Day Harvest Festival. The event attracts thousands of visitors of all ages each year who want a taste of homestead life and pioneer living history.

Beaver Creek Nature Area is located southeast of Brandon, one-half mile west of the intersection of 484th Avenue and 264th Street. For additional information, contact Palisades State Park at 605-594-3824. For additional information on South Dakota State Parks, visit [www.gfp.sd.gov](http://www.gfp.sd.gov) or call 605-773-3391.



## LAKE OAHE FISHING EXCEPTIONAL THIS SUMMER

PIERRE, S.D. - Lake Oahe has a national reputation for some of the finest fishing in the country, but the past several months have been exceptional even by standards set by the popular Missouri River reservoir.

Boat ramps and fish-cleaning stations along the central South Dakota lake have been very busy with anglers enjoying a walleye bite that began last year, continued through record flooding, and is still going strong.

"We currently have a lot of 13- to 16- inch fish in Lake Oahe that were produced since water levels rose at the end of the drought in 2008," said Mark Fincel, senior fisheries biologist for the Game, Fish and Parks Department. "Fish over 20 inches were common in angler catches this spring, but as the water has warmed, the young fish are now dominating the catch."

Fincel said providing answers to angler's questions about how the fishery in Lake Oahe is fairing can be complex.

"The system is very dynamic," he said. "It's not uncommon for Lake Oahe to experience periods of high fish production when water levels continually rise for a few years following a drought. The system is very productive then, as the influx of water brings in a lot of nutrients and flooded vegetation makes great spawning habitat and places to hide for young fish."

The most complex and unknown factor in the environment of Lake Oahe is the fallout from the record flooding of 2011. A lot of smelt were lost from Lake Oahe when they were flushed in heavy downstream flows into Lake Sharpe. GFP biologists have found that

most of the lost smelt were young fish hatched in the spring of 2011.

"We still have some adults left to spawn next year and smelt could bounce back," Fincel said. "Unfortunately, the run in 2012 was one of the smaller ones we have monitored. However, Lake Oahe is very productive right now because of the high water and flows of 2011. There is a lot of food for bait fish and young fish of other species, which all serve as food for walleyes. Those young fish should start to enter walleye diets soon."

GFP staffers have spoken with some anglers who report seeing walleyes that they consider to be skinny, but other anglers think the fish look fine.

Walleye harvest estimates for April through June this year have been the highest recorded, surpassing the harvests in 2001 and 2011."

Fincel summed up fishing conditions on Lake Oahe by noting that the current level of fishing is providing exciting opportunities for anglers of all ages and all experience levels.

## GAME, FISH AND PARKS STUDIES NEW FISH TAGGING TECHNIQUE

Jake Davis, a fisheries biologist with Game, Fish and Parks in Rapid City, is working with staff at McNenny State Fish Hatchery in Spearfish to evaluate a new trout tagging technique using a special fish tag.

Visible Implant Tags are individually numbered tags placed under the clear "skin" areas of fish. This study is comparing how long the tags remain in fish after they are placed in different locations on the fish.

According to Davis, tagging fish is

necessary to collect data so that biologists can effectively manage South Dakota fisheries. Visible Implant Tags are less expensive, less stressful on the fish, and less time-consuming to use compared to other methods which require tag placement in the muscle or bone of the fish.

Specific to this project, Davis and the hatchery staff are evaluating tag placement in either the anal fin or the fatty tissue surrounding the eyes. The study started on June 18, and tag retention will be evaluated every two weeks until the end of August. Rainbow trout from 7-11 inches were implanted with visible implant tags and are being held in the raceways at McNenny.

The data will be used to determine the ideal location for tagging and tag efficiency in relation to fish size. "Determining the best location to obtain the highest tag retention rates is critical when applying these tags to fisheries studies in and around the Black Hills" Davis stated. If visible implant tags prove to be an efficient method of marking fish with individual identification numbers, anglers might be catching fish marked this way in the near future, but they will only see the tags if they carefully examine their catch.

Contacts: Raesha Ray or Michael Barnes (mike.barnes@state.sd.us), McNenny State Fish Hatchery, 19169 Trout Loop, Spearfish (605-642-6920).

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