



Passages

Wildlife in Wind Cave National Park

Wind Cave National Park is a small national park comprised of a mere 28,295 acres. Small as it may be, there is a remarkable variety of wildlife here and being able to watch these animals in their natural habitats is an amazing experience. Because of the diverse wildlife in the park, one of the more common questions asked is “where are the animals?” The answer to that simple question can sometimes be very complicated.

All creatures depend on a particular habitat, and once you understand their needs, it becomes easier to find specific animals. Most of the park’s habitat is prairie; however, not all prairies are the same. Wind Cave National Park is located in an area called an ecotone. This is a place where two or more ecosystems meet.



Big Bluestem

Here the eastern tall-grass prairie meets the western short-grass prairie. It is also where the mountains meet the plains. So we find a diverse mixture of habitats. Within the park are ponderosa pine forests, riparian woodlands, and a mixed-grass prairie combined with other distinct plant communities.

These diverse communities create perfect homes for birds and wonderful places for us to see a variety of them. If you are from the south, you might enjoy seeing a bird common to northern habitats such as the black-backed woodpecker. If you are from the east, the western meadowlark, Townsend’s solitaire, or western tanager might catch your attention. Or if you are from the west, the eastern bluebird or ovenbird may be an unusual sight.



Meadowlark

The larger mammals of the park are not quite as selective as birds, and they use most of the park as their home. Bison, or buffalo, are grass eaters. They prefer open spaces, but they also like to get out of the heat during the summer months and can be found on the edges of the forests where they rest and use trees to rub the itchy winter fur from their bodies.

One special treat for a bison is fresh green grass. Tender green grass is common where a fire has recently burned and on prairie dog towns. That means a good place to look for bison is near the park headquarters and campground where the fire management crew burned 617 acres last fall.

Prairie dog towns are great places to view wildlife. Bison use these habitats not only for food, but sometimes they use the grass-free, dusty areas of the town too. These make wonderful places to roll in the dust to get rid of insects and enjoy a dust bath!

Prairie dog towns are not hard to find. Prairie dogs prefer flat open ground where grass grows and where they can see approaching predators so they can retreat to their burrows. Flat open areas are also great places to build roads; therefore, it is easy to see prairie dog towns along almost any of the park’s roadways. These small



Prairie dog



Bison on prairie

rodents have many predators, including coyotes, bobcats, badgers, predatory birds, and black-footed ferrets! That means if you are looking for predatory animals, prairie dog towns are great places find them or signs left behind by them.

Wind Cave National Park is home to the swiftest North American land mammal - the pronghorn antelope. These astonishing creatures can easily run 40 miles per hour. They also have excellent eyesight, because of this the best place for this animal is the prairie where they can see and outrun their predators. The prairie near the south entrance to the park headquarters and along park road NPS 5 has open areas that are home to small herds of pronghorn.



Pronghorn antelope

One of the most difficult animals in the park to see is elk. The park is home to between 450 to 900 elk, but finding them can be quite a challenge. Many of these animals are hunted when they are outside of the park so they not only are hard to see, they are also hiding from us. Generally elk are most active in the early morning or late evening. They tend to stay in the wooded areas of the park and come onto the grasslands to graze in the twilight hours. A good place to look for them is along the park’s less traveled gravel roads NPS 5 and 6 (see map on page 3). Another option is evenings or mornings in areas where the grasslands meet the forest such as the prairie dog town near the Rankin Ridge fire tower. Another easy, fun way to see elk is to leave your car and go for a hike. The Boland Ridge Trail travels through great habitat for elk.



Elk are difficult to see in the park

Success in viewing wildlife can be a challenge, but a little knowledge about the park’s diverse habitats makes that experience possible. Drive the park roads or hike the ridges, ravines, or trails that weave through the park. As you explore, look for the array of animals but also notice the assortment of habitats that support life in this remarkable national park.

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**In Case of Emergency
Dial 911**

Welcome from the Superintendent



Welcome to Wind Cave National Park. We hope you enjoy your stay while learning about one of the country’s oldest national parks. As you’ll read on pages 4 and 5 of this newspaper, change is a major component of nature and of our lives. To successfully manage change, you need to plan for it.

Wind Cave National Park is embarking on a planning process that will govern management actions for the next 15 to 20 years. Called a General Management Plan, or GMP, this process provides the public an opportunity to be involved in park planning and to discuss issues and concerns facing your park. GMPs typically address emerging issues, changing park conditions, or new mandates. To learn more about this process, and to become involved, please visit <http://park-planning.nps.gov/wica>.

We look forward to your participation in shaping the future of Wind Cave National Park.

Travel Safe,

Vidal Davila
Superintendent

Simple Rules for Safety and to Protect Park Resources

Protecting the Park

Park resources are for everyone to enjoy. **Do not disturb or remove plants, wildlife, antlers, bones, rocks, or any other natural or cultural feature.** They are protected by federal law. These resources are all part of the park's ecosystem and are important to the park's history and to the survival of other animals and plants. Please leave these objects undisturbed so the next visitor can enjoy them.



Weapons

As of February 22, 2010, a new federal law allows people who can legally possess firearms under federal, South Dakota, and local laws to possess firearms while visiting Wind Cave National Park. However, **hunting and/or the use of firearms is still prohibited.** It is the visitor's responsibility to under-

stand and comply with all applicable state, local, and federal firearms laws. **Federal law prohibits firearms in certain facilities in this park;** these places are posted with signs at public entrances. If you have questions, please contact the park at 605-745-4600.

Wildlife

Animals in the park are wild and unpredictable. Do not approach or attempt to feed them. Feeding animals cause them to become dependent on handouts and they may fail to survive the winter. Animals that are fed are attracted to highways where they can be struck by vehicles.

Be aware that rattlesnakes are sometimes found in prairie dog towns and other areas of the park. Bison also frequent prairie dog towns. They can run 35 miles per hour and may weigh a ton! Stay a

safe distance from all wildlife - at least 100 yards from bison and elk.

Pets

To protect your pet and park wildlife remember: pets are prohibited in the backcountry and on most hiking trails. Pets are permitted on the Elk Mountain Nature Trail at the campground and on the Prairie Vista Nature Trail near the picnic area. Be sure to clean up after your pet. Pets may not be left unattended and must be on a leash at all times. Be aware that ticks are common in high grass. They may affect your pet and you.

Do not leave your pets in your vehicle while visiting the cave or for any length of time. The temperatures inside a vehicle can become extreme, putting your pet in grave danger. Kennel space is available in Hot Springs or Custer. Pets may not be left unattended outside of a vehicle, even if they are leashed.

Traveling in the Park

All vehicles (including bicycles) must remain on roadways that are open to the public. Off-road driving or bicycle riding is prohibited.

Slow down and enjoy the view!

When driving park roads, **obey all speed limits.** They are strictly enforced to protect you and the wildlife. In the last twenty years over eighty bison have been struck and killed by motor vehicles in the park. You can help protect the wildlife; obey all posted speed limits and watch out for animals on the road - they may appear suddenly. Keep your seatbelt fastened.



Drive safely, watch for animals on the road

Planning Your Visit

Visitor Center

The Wind Cave Visitor Center is a great place to start your park visit. The visitor center is open from 8:00 a.m. to 4:30 p.m. daily, with extended hours during the summer. The visitor center is closed on Thanksgiving, Christmas and New Year's Day. All cave tours begin at the visitor center and are offered daily throughout the year when the visitor center is open. For more information see page 7.

Exhibits, maps, book sales, backcountry permits, information about cave tours and ranger programs, lost-and-found services, and Federal Recreational Lands Passes are available here.

Ranger Programs

When visiting the park, plan to attend a ranger-led program. While cave tours are offered all year long, additional programs are presented in the summer. For more information about ranger programs and cave tours see page 6.



Campground

The Elk Mountain Campground is located one mile north of the visitor center. Parts of the campground may be closed temporarily throughout the summer due to several construction projects. We apologize for any inconvenience this may cause. Occupancy of campsites is on a first-come, first-served basis; generally the campground does not fill. Each site accommodates up to eight people and two vehicles. Two sites are available for campers with disabilities.

The fee for camping is \$12 per night, per site. In the off-season when facilities are limited, the fee is \$6 per night. Holders of the Federal Recreational Lands Senior or Access pass pay half price. Group camping is available by reservation. Call the park at 605-745-4600 for group camping reservations.

The campground has restrooms with cold water and flush toilets but no showers, electrical hook-ups, or dump stations. Firewood is available for campers. During the summer months, park rangers present campfire programs at the amphitheater.

Backcountry Camping

Wind Cave National Park's backcountry offers visitors an excellent opportunity to experience and enjoy the abundant resources of the park. Backcountry camping is permitted in the northwestern part of the park. Several habitats and a variety of plants and animals can be found in this area.

Backcountry campers must have a permit. Permits are free and can be obtained at the visitor center or at either of the Centennial Trailheads. For your safety and for the protection of park resources, follow all regulations during your stay. Leave no trace of your visit by packing out what you pack in. **Pets are not permitted in the backcountry.**

Trash and Recycling

Trash receptacles are available at the visitor center, the picnic area, and the Elk Mountain Campground. Recycling facilities are also available at these areas. The park recycles glass, aluminum cans, steel cans, and plastic containers with PETE 1 or HDPE 2 markings. Please rinse recyclables before placing them in containers.

Hiking Safely

When hiking park trails (see next page), **make sure to carry plenty of water** as daytime temperatures in the summer can exceed 100°F (38°C). Water is not readily available along the trails. Any water found in the backcountry should be treated or boiled before drinking.

Flies, mosquitoes, and wood ticks can be found in the wetter areas of the park. Be watchful for prairie rattlesnakes in prairie dog towns and near cliffs and rocky areas. Rattlesnakes will not usually strike unless provoked.



Bicycling

Bicycling is limited to established park roads that are open to the public. **Bicycling off road, on trails, or in the backcountry is prohibited.** When bicycling, be aware that animals roam freely through the park. Keep a safe distance from bison and all wild animals. Highway U.S. 385 has wider shoulders for bicyclists than S.D. 87 where the road is winding and narrow. Bicyclists should take precautions when on this road. Traveling the park's back roads, NPS 5 and 6, provides a great opportunity to see the prairie area of the park.

Horseback Riding

Horseback riding is a wonderful way to experience the park's backcountry. **All horse and pack animal use requires a free permit** which may be obtained at the visitor center. Almost all of the park is

open to riding; however, **riding is prohibited directly on any hiking trail, near water sources, on roadways, and in the campground and picnic areas.**

Picnicking

The park's picnic area is located ¼ mile north of the visitor center and is open year-round. The picnic area contains tables and fire grates. Drinking water is available in the summer months.

Restrooms

Restrooms are available year-round at the visitor center, picnic area, and the Elk Mountain Campground.

Weather

Summer in the southern Black Hills brings warm daytime temperatures with cool evenings. Thunderstorms are common in June and July and occasionally in August. These thunderstorms can be dangerous with large hail and severe lightning.

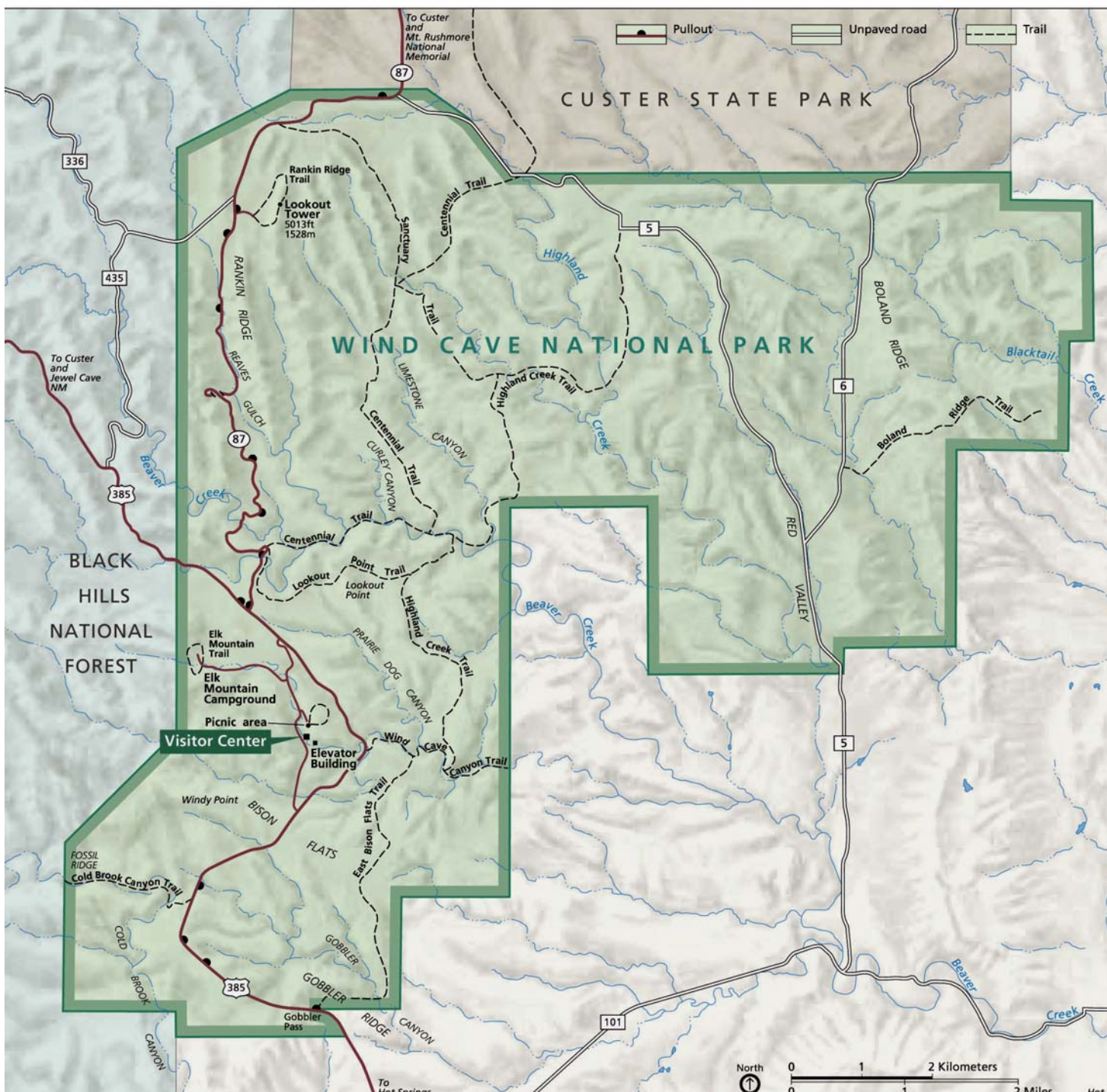
Slow-moving storms can dump large amounts of rain over a small area. The steep canyons, rock cliffs, and small creeks of the Black Hills are prone to flash flooding. Be cautious when camping near a creek bed even if it is dry. Move uphill if flooding starts.

Area Services

The park has limited food and beverage vending services in the visitor center. There are no lodging, gasoline, grocery, or restaurant services in the park. These are available in the nearby towns of Hot Springs (15 minutes south) and Custer (25 minutes north). For information regarding services in Hot Springs, call 800-325-6991. For Custer, call 800-992-9818.

Lodging, gasoline, and some grocery services are located in Custer State Park bordering Wind Cave National Park to the north.

Hiking



HIKING IN THE PARK

Wind Cave National Park includes 28,295 acres of prairie grasslands and ponderosa pine forest. The park is a fascinating combination of ecosystems where eastern habitats meet western ones. They support a diverse assortment of life. Hiking any of the 30 miles of trails can help visitors better understand the park. You may even want to leave the trails and travel cross-country along the ridges, through the canyons, or across the rolling prairie. A topographic map is recommended and can be purchased at the visitor center.

CENTENNIAL TRAIL

An excellent example of the diversity of the park can be seen by hiking Wind Cave's six-mile section of the Centennial Trail. This trail crosses the prairie, climbs the forested ridges, and explores the wetter, riparian habitat of Beaver Creek. The 111-mile Centennial Trail meanders from Wind Cave National Park north through the Black Hills.

NATURE TRAILS

There are three nature trails in the park. The Rankin Ridge Nature Trail leads to the highest point in the park where the views are spectacular. The Elk Mountain Nature Trail explores an ecotone, or meeting zone, where the grassland and forest converge. The Prairie Vista Nature Trail starts at the visitor center and explores the prairie grasslands. Informational signs are available on the trails or booklets are available for purchase at the trailheads. Each trail is about one mile in length.

Hiking Trails

	One-way Length	Difficulty	Description
Cold Brook Canyon Trail	1.4 miles (2.3 km)	Moderately Strenuous	The trail begins south of the visitor center on the west side of U.S. Highway 385. This trail traverses a small prairie dog town, the edge of a prescribed fire, and through Cold Brook Canyon to the park boundary fence. The open prairie is a good place to see prairie falcons.
Wind Cave Canyon Trail	1.8 miles (2.9 km)	Easy	This former road follows Wind Cave Canyon to the park boundary fence. Wind Cave Canyon is one of the best places for bird watching. Limestone cliffs provide good nesting areas for cliff swallows, canyon wrens, and great horned owls. Standing dead trees serve as homes for red-headed and Lewis's woodpeckers.
East Bison Flats Trail	3.7 miles (6 km)	Moderately Strenuous	Hike one-half mile down the Wind Cave Canyon Trail to pick up the East Bison Flats Trail. This trail leads hikers across the rolling hills of the prairie. From this trail you may see panoramic views of Wind Cave National Park, Buffalo Gap, and the Black Hills.
Lookout Point Trail	2.2 miles (3.5 km)	Moderately Strenuous	This trail follows the rolling hills of the prairie, traverses Lookout Point, and ends at Beaver Creek. Take a side trip up Lookout Point to see the results of the 1999 wildfire. This trail can also be combined with part of the Highland Creek Trail, and the Centennial Trail, to create a 4.5-mile loop that begins and ends at the Centennial Trailhead.
Sanctuary Trail	3.6 miles (5.8 km)	Moderately Strenuous	The trail begins about one mile north of the Rankin Ridge fire tower road. This trail follows the rolling hills of the prairie, crosses a large prairie dog town, and ends at the Highland Creek Trail. View the Rankin Ridge fire tower at the intersection of the Centennial Trail. This trail provided a fire break for the 2000 wildfire of 1,135 acres.
Centennial Trail	6 miles (9.7 km)	Moderately Strenuous	The southern access to the trail is on the east side of S.D. Highway 87. The northern access is on NPS 5, 1.4 miles east of its junction with S.D. Highway 87. This trail is part of a 111-mile trail through the Black Hills. The trail leads hikers across prairies, through forested areas, and along Beaver Creek. The trail is marked with posts and trees bearing the Centennial Trail logo.
Highland Creek Trail	8.6 miles (13.8 km)	Strenuous	The southern trailhead is along the Wind Cave Canyon Trail one mile east of U.S. Highway 385. The northern trailhead is on NPS 5, 2.8 miles east of S.D. Highway 87. This trail is the longest and the most diverse in the park. The trail traverses mixed-grass prairies, ponderosa pine forests, and riparian habitats of Highland Creek, Beaver Creek, and Wind Cave Canyon.
Boland Ridge Trail	2.6 miles (4.2 km)	Strenuous	The trail begins one mile north of the junction of NPS 5 and NPS 6. This trail climbs to panoramic views of Wind Cave National Park, the Black Hills, Red Valley, and Battle Mountain. Elk are often seen from this trail.

Change - Nature's Constant

Great Balls of Fire

There is nothing so constant in the natural world as change! The forces of nature constantly influence the plants, animals, and landscape in Wind Cave National Park. Some of the changes are dramatic; others are subtle. But change is a constant that park staff must be aware of in managing park resources.

Fire is one of nature's more dramatic forces. It has many uses in the ecological scheme of things. Fire is the great cleaner of our wild lands. It helps remove dead litter from different habitats. It keeps forests from encroaching onto the prairie. It helps control some non-native plants from dominating those native species that are more fire resistant. It contributes to providing a more diverse plant base that is the food source for a diverse population of wildlife.

Fire has always been an integral part of America's wild places. Fire scientists have determined historically the prairie lands at Wind Cave National Park burned on a three to five year cycle while the forests burn on a 10 to 12 year cycle. Fires support the thriving prairie ecosystem by keeping trees from becoming too numerous. Other factors such as annual precipitation interact with fire frequency to maintain prairies as grasslands.

Prairie grasses benefit from fire in many ways. Decomposition is very slow in an arid environment. Fire breaks down accumulated dead plant fibers (thatch) and releases stored nutrients increasing soil fertility. Reducing thatch allows sunlight to reach growing plants. Fire reduces

competition, increases diversity, and helps maintain a mosaic of plant communities across the landscape.

Last fall the park's fire management team burned 617 acres of prairie and forest near the park headquarters and campground. This prescribed fire was designed to reduce the fuel load near highly visited areas of the park and to open the forest canopy for shrubs, flowers, and grasses to grow in the understory. These plants are important to the survival of many of the park's mammals and birds.

Another indirect effect of fire is its influence on the amount of water that seeps into the cave. Fire helps reduce the number of trees above the cave. Ponderosa pine trees use between 100 and 150 gallons of water on a warm summer day! This reduces the amount of water reaching the cave. Decreasing the number of trees over the cave allows more water to seep through the soil to underground passageways creating the formations we enjoy seeing.

While a very dramatic cause of change, fire is a highly effective tool that can be used to manage for natural balance and health of ecosystems at Wind Cave National Park.



A Summer Night on the Prairie



Elk Mountain Campground Prescribed Burn

Exploring the Night

The night sky was exploding and I could not hike out of the valley fast enough to get a better view of the show. Finally I reached the top of a hill where the prairie yielded a view of its connection to the aurora borealis. Northern lights were dancing in rhythm with waving prairie grasses.

I watched in awe as yellow-green ribbons of light burst into hues of orange and red. The show continued for some time then slowly faded to the north. I watched the remnants of dancing light but slowly lights from a nearby city overcame them. Every few minutes I could see the aurora trying to escape the pollution of the city, but each time it failed. "Pollution?" you might ask. Yes, pollution. Light from a city that spills into the night sky is a form of pollution called "skyglow".

The night sky is an important part of a Wind Cave National Park experience. As a Class 1 sky there is little light or air pollution disrupting our view. Here as day fades into night, stars and planets shimmer to life. The Milky Way sweeps a path across the sky. The night sky is a part of a wilderness experience; it is a time to sit back and peer into the endless unknown.

But that darkness is changing. It is estimated that about two-thirds of the people in the United States cannot see the Milky Way from their home. World-wide, perhaps 1 out of 5 people live in a place where lights are too bright for people to identify it. Even sadder, astronomers found that 99% of the US and European population live in areas considered to be light polluted!

An awareness of light pollution is growing. The Environmental Protection Agency, International Dark-Sky Association, and the National Parks and Conservation Association are leading efforts to help raise awareness and eliminate lights that block the nighttime wilderness.

Night is a time of astonishing activity. Owls soar silently through the sky and bats hunt insects, eating them by the thousands. Coyotes can be heard howling in harmony and the bison roar during their mid-summer mating season.

Darkness is part of nature's clock. Changes in light and dark trigger hormonal changes in wildlife. For example, elk notice daylight fading earlier into dark in the autumn triggering their mating season. The challenging bugle of a bull elk echoing through the hills presents a haunting sound of the wilderness.

All living things benefit from natural darkness. The night sky is everyone's heritage, but light pollution is eroding the unspoiled view of the stars. It is the type of pollution that can be fixed. The starry night that our ancestors enjoyed can be restored for everybody once again.

Simple ways to protect and enjoy the night:

Enjoy the night – ultimately, we protect only what we love and cherish.

Shield your lights – existing lights can be adjusted to point downward or fitted with simple shrouds.

Use light only when you need it – motion sensors can turn lights on and off as needed. This costs less money, improves security, and reduces light pollution.

Stargaze – learn about the night sky. Look through telescopes with your local science center, astronomy club, or park ranger.

Go for a moonlit hike – the full moon provides ample light to see in most places. Let your eyes fully adjust. Be safe. A full moon hike will be a memorable experience.

Awaken your nocturnal senses – find a comfortable spot and look around. Allow your eyes 20 minutes to adjust. You may be surprised how well you can see by starlight.

Watch nocturnal wildlife – many animals are most active at night. Look for owls, bats, deer, or fireflies.

Talk to your neighbors – share your appreciation of the night.

Encourage family, friends, and community leaders to make the night a better place for our communities and nearby parks.

Be inspired – the night sky has been an inspiration for myth, literature, art, and scientific discovery. Find your own way to connect with the night. Revel in its beauty and wonder!

By becoming aware, we can protect one of our greatest natural resources — the night sky. It is important to us as a culture, it is critical to the science of astronomy, and it saves energy and money.

Experiencing the prairie while surrounded by the inky blackness of the night interrupted only by the glow of the northern lights, a distant lightning storm, or the quick flash of a shooting star, is a tie to our past. It gives us insight into the moods of the world around us. It is part of what is special about this national park. Enjoy it!



Coyote, an active night hunter

Changing Environments

Change is a powerful force and one of the more serious changes facing park managers is global climate change. It has caused park managers to peer into an uncertain future to determine how to protect our parks while change is occurring.

Scientific research has determined that in the last 100 years, the Earth's surface temperatures have risen an average 1.33°F (0.74°C). More than 20% of this change has occurred since 1996, with the last 10 years ranking as the warmest decade on record.

This same research shows the Great Plains is warming dramatically. The average annual temperature in the continental United States increased about 1 °F. Yet in the Dakotas and surrounding areas temperature increases have approached 5.5 °F. Climate models indicate that temperatures are likely to continue to rise.

These models suggest that winters and springs may become warmer and patterns of precipitation may change. Summer rainfall is likely to be less frequent and more intense. More intense downpours may increase the chances of flooding and soil erosion. Winter precipitation may also change, more coming in the form of rain rather than snow. Annual snow packs may be smaller changing stream flow patterns.

Ecologists and conservation biologists wonder how these changes will affect the plants and animals of the area. Scientists have already linked the slight warming of night-time temperatures in the last 20 years to the decline of blue grama grass in the short-grass prairies. Breeding range, winter distribution, and the timing of migration for many bird species will change and could contribute to a decline in some populations.

The loss of small watering holes is another concern. Variations in precipitation could result in a decline in the quantity and quality of these temporary habitats. This can have serious impacts on bird populations and numerous other creatures that depend on aquatic habitats.

An increase in temperature can also create problems related to insects and disease. A longer growing season may mean that more generations of pests can attack vegetation, while shorter and warmer winters will allow



more pests to survive. If vegetation has been stressed by drought or fire, it is also more susceptible to disease and infestation. Without bitter cold winters, insects like pine beetle will increase in number and damage to pine trees will increase.

With spring arriving earlier and winters being shorter, insects such as mosquitoes will hatch earlier and may take longer to die off. Changes in the coordination between life cycles of predators and prey will have a major affect on many species such as birds and insects, butterflies and flowers, even predatory birds and their prey.

With global climate change, troublesome invasive plants may expand their ranges as native plants fail to adapt. Many of these invaders were previously limited by lower temperatures and drier conditions. Hence, weedy opportunists like leafy spurge, horehound, Canada thistle, or brome grasses may become more abundant, while native plants and the animals associated with them may be displaced.

The prairie as we know it today may not exist in 100 years. Plant and animal species will respond to new conditions and try to adapt and survive. This landscape we call prairie may evolve into a different system.

Whatever the results, one constant we can count on in nature is change. Life has endured the earth's changes with remarkable flexibility for eons. Only time will tell what the future holds for the mixed grass prairie of Wind Cave National Park. Take the opportunity to explore the park's prairie ecosystem, become acquainted with its diversity, appreciate its beauty and its struggle to survive.



Alien Plant Invasion

Visitors to the prairie of Wind Cave National Park encounter a unique mix of plant life, from tall waving grasses to a colorful profusion of wildflowers. This colorful, seemingly endless sea of grass is a diverse ecosystem. The plants here have adapted to the prairie environment and provide habitat for an equally diverse population of wildlife.

Diversity is important to the prairie; it is a key factor in the prairie's ability to respond to adversity and helps protect it from biological disasters. During dry years, short grasses thrive; in wet years, tall grasses dominate. Some grasses grow in warm seasons, others in cool seasons. When insects or diseases strike, some plants suffer - others survive. This helps insure that there will be a prairie and a food source for animals.

Yet lurking among these native plants are aliens who do not belong. These are not invaders from another planet but plant species from other parts of our very own earth. They are bringing change to Wind Cave's colorful prairie. Because they have few natural predators in their new homes, these invasive species can grow uncontrollably. They can easily out-compete native plants for water, sunlight, and nutrients.

When this happens, populations of native plants are reduced and animals that depend on them struggle for survival. Sometimes aliens take over, creating monocultures where once dozens of native plant species once thrived.

Park biologists are constantly working to reduce alien plants and sustain native plant communities. Some methods you may see being used to restrict these invasives include mowing, hand pulling, prescribed fire, planting native species in disturbed areas, and in a few cases, using herbicides.

National Parks are small islands in a landscape of private and other public lands – and invasive plants don't recognize boundary fences. Keeping these plants in check in native habitats is everyone's job. Many of our invasive species originated from non-native plantings in gardens. Consciously managing non-native plants in home environments can help control them in larger landscapes. One way to help is by using native species in your gardens and landscaping. Another way is to report infestations you find on public lands to appropriate staff.



Sharing the Joy of Nature

One of the more subtle changes in our society today is how removed many of our children are from the natural world. Educators and outdoor enthusiasts have noted that our society no longer encourages children to experience nature. This is a concern because many educators believe connections with natural spaces stimulate our imagination and creativity. These are places where we find a sense of peace and renewal. Richard Louv, author of *Last Child in the Woods*, noted that many children are missing "places of initiation" where they first sense with awe and wonder the largeness of the world seen and unseen.

Rachel Carson explained it well – "Those who contemplate the beauty of the earth find reserves of strength that will endure as long as life lasts." Carson and others, Henry David Thoreau, John Muir, Ansel Adams, spent hours exploring and learning about the earth. These experiences shaped their lives and, in turn, the lives of countless others.

Exploring national parks provides an opportunity to explore our natural worlds and to share those experiences with our children. At Wind Cave National Park, cave tours provide a great way to experience and learn about the underground. The adventure of going into an unfamiliar, mysterious world is a extraordinary experience to share with your children. Families can go beyond the normal tour and participate in a more adventuresome one such as the Candlelight Tour (for youngsters 8 or older) or, for young adults 16 and older, the Wild Cave Tour.

You can also investigate nature by hiking with a ranger or hiking a self-guided nature trail. Exploring any of the park's 30 miles of hiking trails or simply taking off across the prairie or over the ridges provides a great opportunity to discover the area's native plants and animals.

National parks are special places protected for us and future generations to enjoy. We can do that from the comfort of our cars, but the added pleasure of exploring the woods and prairie on foot with our children will leave us and them with lasting memories. Enjoy the park and share those experiences with others.



Program Information

Become a Junior Ranger!

The Junior Ranger Program is an exciting opportunity for children and their families to learn about the park. Becoming a Junior Ranger helps youngsters understand the park's ecosystems, the cave, and the animals. It also helps them learn how they can help protect all parts of our environment. Free Junior Ranger booklets are available at the bookstore. There are activities for children up to age 12.

On Wednesdays and Saturdays during the summer season, a Junior Ranger Hike will be presented at

9:00 a.m. Topics for this hike will vary. The program will be geared for children and their caregivers.

As in the past, thanks to the generous support of **Kodak**, park rangers will be taking photographs of the accomplishments of our Junior Rangers. These youngsters will then be able to share their pictures and adventures with families and friends.

Children of all ages can become Junior Rangers at home by logging on to www.nps.gov/webrangers.

New Lights for the Cave

To see the cave well you need lights, and since the first light system was installed in 1931, Wind Cave has had several systems. Many lessons were learned from these, including how difficult it is to maintain an electrical system within a cave. The last time the light system was upgraded was in 1979. That system is reaching the end of its serviceable life and is no longer consistent with professional standards.

By mid-summer, engineers expect to complete work along the Fairgrounds and Garden of Eden Cave Tour Routes. The Natural Entrance Cave Tour should be finished late April 2010. Some evidence of the lighting project will be seen on all of the tour routes.

Each time a new light system is installed, managers have to consider how to illuminate the cave while protecting it. This new light system can help in several ways. It primarily uses LED and compact fluorescent bulbs, cutting the park's use of power considerably. The lights also protect the fragile features of the cave because these bulbs produce less heat and light energy.

Water plays an important part in the development of cave crystals, reducing the heat will allow the water to remain so crystals can grow. The new lights also help limit algae growth in the cave because of the reduced heat and light energy.

Cave Tours

Cave Tour Information

All cave tours are ranger-guided and leave from the visitor center. The cave temperature is 53°F (11°C) year round. A jacket or sweater is recommended. Shoes are required. Sandals are not recommended.

Tickets are sold at the visitor center. ***Tickets must be purchased at least five minutes before tour times.***



Cave Boxwork

Natural Entrance Tour 1¼ hours, ½ mile

This tour includes a visit to the only known natural entrance of Wind Cave giving visitors the opportunity to see how the cave got its name. Participants enter the cave through a man-made entrance



and journey through the middle level of the cave. Wind Cave's famous boxwork is abundant throughout this trip. Most of the 300 stairs along this route are down. This tour is moderately strenuous and exits the cave by elevator.

Garden of Eden Tour 1 hour, ¼ mile

This tour is the least strenuous with only 150 stairs. It is a wonderful sample of Wind Cave. Small amounts of all of the beautiful cave formations – boxwork, popcorn, and flowstone – are seen along the trail. The tour is for people with limited time or abilities. This tour enters and exits the cave by elevator.

Fairgrounds Tour 1½ hours, ½ mile

This tour explores both the upper and middle levels of Wind Cave. Boxwork is abundant along the trail in the middle level of the cave. In the upper level, the trail winds through large rooms and into areas where popcorn and frostwork can be seen. This is the most strenuous walking tour. The tour enters and exits the cave by elevator. There are 450 stairs along the route with one flight of 90 steps up.

Surface Activities



Prairie Hike

Take a hike with a ranger! Explore the park's varied habitats with this two-hour summer activity. The daily hike begins at 9:00 a.m. at the visitor center before the group drives to a nearby trailhead. Bring drinking water and wear hiking boots or sturdy shoes. Check at the visitor center for details.

Evening Hike

Explore the happenings on a prairie dog town at night and possibly see an endangered species - the black-footed ferret! These evening hikes begin at the Elk Mountain Campground Amphitheater before driving to a nearby site. Bring a flashlight and wear hiking boots. Check at the visitor center for details.

Campfire Program

Become better acquainted with park resources by attending an evening campfire program. These talks are presented during the summer at the Elk Mountain Campground Amphitheater. Topics may include wildlife, plants, geology, cave exploration, park management, or history. The programs last about 45 minutes.

Discovery Activity

Daily, during the summer, ranger talks or demonstrations take place at the visitor center. These programs explain some facet of the park. Topics may include local wildlife, plants, geology, area history, or cave surveying. Check at the visitor center for meeting place and topic.



Evening Campfire Program

Wild Cave Tour 4 hours, ½ mile

Explore the cave away from the developed trails. On this tour visitors will be introduced to the basics of safe caving.

Wear old clothes and gloves, as much of the trip will include crawling. Long pants, long sleeved shirts, and sturdy, lace-up boots or shoes with non-slip soles are required. No sandal of any kind is permitted on this tour. The park provides hard hats, lights, and kneepads.

Please do not bring jewelry, watches, or other valuables on the tour. Clothing worn on the Jewel Cave Wild Cave Tour is not permitted in Wind Cave since this clothing could be covered with manganese, which could stain the cave.

This tour is limited to 10 people and the minimum age is 16. We require a signed parental consent form for participants 16 and 17 years old.

Reservations are required.

Reservations are accepted beginning one month before the tour. Please call the park at 605-745-4600 for more information.

Candlelight Tour 2 hours, 1 mile

Experience the cave by candlelight. This tour takes place in a less developed, unlighted part of the cave. Each participant will carry a candle bucket. Shoes with non-slip soles are required. No sandals of any kind are permitted. This tour is limited to 10 people and the minimum age is 8. This strenuous tour covers 1 mile of rugged trail. ***Reservations are strongly recommended.*** Reservations are accepted beginning one month before the tour. Please call the park at 605-745-4600 for more information.

Tours For Visitors With Special Needs

The visitor center and the cave are accessible to people with limited mobility. Please call to make special arrangements or ask at the information desk for a special tour. Limited areas of the cave are accessible to wheelchairs. The fee for the tour is \$5.00 for adults and half price for Senior or Access pass holders.



Cave Frostwork and popcorn

Ranger Programs

Cave Tour Fees

Tickets must be purchased at least five minutes before tour time

	Garden of Eden Cave Tour	Natural Entrance Cave Tour	Fairgrounds Cave Tour	Candlelight Cave Tour	Wild Cave Tour
Adult 17 & Older	\$7.00	\$9.00	\$9.00	\$9.00	\$23.00
Youth age 6 - 16	\$3.50	\$4.50	\$4.50	*\$4.50	**Not Permitted
Infants and Toddlers age 0 - 5	Free	Free	Free	Not Permitted	Not Permitted
Senior/ Access Pass cardholders only	\$3.50	\$4.50	\$4.50	\$4.50	\$11.50

* Minimum age for Candlelight Tour is 8

** Minimum age for Wild Cave Tour is 16. The fee is \$23.00



Cave Tour Safety and Information



All tours are ranger-guided and leave from the visitor center. Tickets are sold on a first-come, first-served basis except for the Candlelight and Wild Cave tours (see Reservations below). During peak summer visitation, long waits for tours may be encountered. To avoid waits, the best time to visit the cave is during the early hours of the day. During the summer, weekends are good times to visit; Tuesdays and Wednesdays are the busiest days. Reservations for school and organized groups are available (see Reservations.)

Wind Cave is 53°F (11°C) throughout the year so a sweater or jacket are recommended. Shoes are required on all tours. Cave trails are dimly lighted and trail surfaces may be uneven, wet, and slippery. Do not wear sandals. Ceilings along the tour route are low, requiring some bending. There are no restrooms in the cave. No eating, drinking, chewing tobacco or gum is allowed in the cave.

Photography is permitted, but no tripods. Pets are not allowed in the cave. Do not leave your pets in your vehicle while visiting the cave. See Page 2 for more information about pets in the park.

Cave tours are moderately strenuous. Persons with claustrophobia, heart or respiratory conditions, or other physical limitations should reconsider. A tour is available, by request, for visitors with special needs. Call 605-745-4600 or ask at the information desk.

Reservations

Tickets for most cave tours are sold on a first-come, first-served basis; however, reservations are accepted for schools or large groups. Reservations are strongly recommended for the more strenuous Candlelight Tour and required for the Wild Cave (spelunking) Tour. Reservations are accepted beginning one month before the tour. Please call 605-745-4600 for reservations.

For the protection of the cave, do not touch or remove rocks or formations and do not step off the trail.

Program Schedule



April 10 – April 24, 2010

Visitor Center: 8:00 a.m. – 5:00 p.m.
Garden of Eden Tour: 9:30, 11:30, 1:30, and 3:30

April 25 – May 28, 2010

Visitor Center: 8:00 a.m. – 6:00 p.m.
Cave Tour: 9:00, 10:30, 11:30, 1:30, 2:30, and 4:30

May 29 – May 31, 2010, Memorial Day Weekend

Visitor Center: 8:00 a.m. – 6:00 p.m.
Garden of Eden Tour*(if the route is available): 10:00, 12:00, 2:00, and 4:00
Natural Entrance Tour: 8:40, 9:20, 10:30, 11:00, 11:30, 12:30, 1:00, 1:30, 2:30, 3:00, 3:30, 4:30, and 5:00
Campfire Program: 8:30 p.m., Saturday and Sunday

June 1 – June 9, 2010

Visitor Center: 8:00 a.m. – 6:00 p.m.
Garden of Eden Tour*(if the route is available): 12:30, 1:30, 2:30, and 3:30
Natural Entrance Tour: 9:00, 10:00, 11:00, 12:00, 1:00, 2:00, 3:00, 4:00, and 5:00

June 10 – August 14, 2010

Visitor Center: 8:00 a.m. – 7:00 p.m.
Garden of Eden Tour*(if the route is available): 10:40, 12:40, 2:40, and 4:40
Natural Entrance Tour: 8:40, 9:00, 10:00, 11:00, 12:00, 1:00, 2:00, 3:00, 4:00, 5:00, 5:30, and 6:00
Fairgrounds Tour*(if the route is available): 9:30, 10:20, 11:40, 12:20, 1:40, 2:20, 3:40, and 4:20
Candlelight Tour: 10:30 a.m. and 1:30 p.m.
Wild Cave Tour: 1:00 p.m.
Ranger-led Hike: 9:00 a.m.
Campfire Program: 9:00 p.m.

August 15 – September 6, 2010

Visitor Center: 8:00 a.m. – 6:00 p.m.
Garden of Eden Tour*(if the route is available): 10:30, 1:40 and 3:40
Natural Entrance Tour: 9:00, 10:00, 11:00, 12:00, 1:00, 2:00, 3:00, 4:00, and 5:00
Fairgrounds Tour*(if the route is available): 9:30, 11:20, 1:20, and 3:20
Candlelight Tour: 1:30 p.m.
Wild Cave Tour: 1:00 p.m. **Weekends Only** August 15, 22, 23, 28, 29, and September 4 and 5
Campfire Program: 8:00 p.m.

September 7 – September 25, 2010

Visitor Center: 8:00 a.m. – 6:00 p.m.
Natural Entrance Tour: 9:00, 10:30, 11:30, 12:30, 1:30, 2:30, 3:30, and 4:30
Evening Program: 7:00 p.m. Tuesday, Thursday, and Saturday

September 26 – October 16, 2010

Visitor Center: 8:00 a.m. – 5:00 p.m.
Natural Entrance Tour: 9:30, 11:30, 1:30, and 3:30

October 17, 2010 – Early April, 2011

Visitor Center: 8:00 a.m. – 4:30 p.m. daily except Thanksgiving, Christmas, and New Year's Day
Garden of Eden Cave Tour: 10:00, 1:00, and 3:00

Tour schedules are subject to change. Please call 605-745-4600 to confirm tour times. Programs are subject to cancellation during severe weather.

*** The Fairgrounds or Garden of Eden Tours may be cancelled due to the installation of the new cave lighting system. Other tour routes will be substituted at these times.**

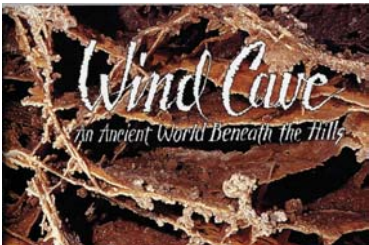
**IN CASE OF AN EMERGENCY
Dial 911
or contact any park ranger or call the
visitor center at 605-745-4600.**



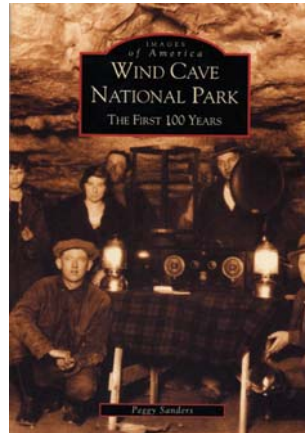
The Black Hills Parks & Forests Association

The Black Hills Parks & Forests Association sells books, maps, and other park related publications in visitor centers at Wind Cave National Park, Jewel Cave National Monument, Custer State Park, Buffalo Gap National Grassland, and Black Hills National Forest. The association publishes books and materials about these areas. Cooperating associations are non-profit, tax exempt organizations authorized by Congress to promote educational and scientific activities within national parks. All profits from association sales support the educational, interpretive, and research activities of these agencies.

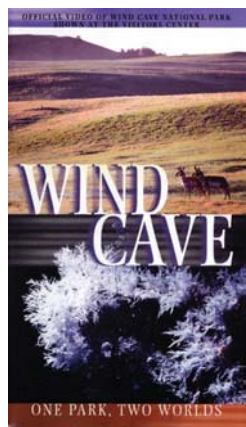
Many different types of publications are available in the bookstores including books specific to Wind Cave National Park and others about local natural and human history. These publications, maps, and items are available at the bookstore, by mail order, or from the association web site, www.blackhillsparks.org, fax: 605-745-7021, or email bhpf@blackhillsparks.org. Membership in the Black Hills Parks and Forests Association supports the organization and entitles members to a 15% discount on all purchases. The membership is \$29.95 per year. For more information call 605-745-7020.



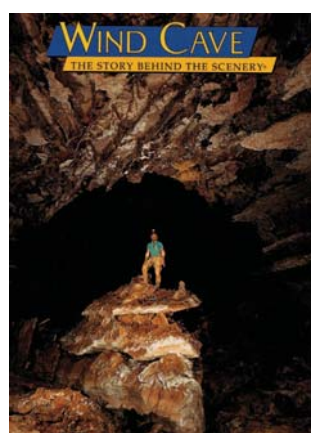
Wind Cave: An Ancient World Beneath the Hills - In this wonderful, easy-to-read book, Art Palmer explains the geology of Wind Cave, how it is related to the Black Hills, and how the boxwork formed. The charts and graphs help make the topic easily understood by people unfamiliar with geology. The pictures of the unusual Wind Cave boxwork alone make this book well worth the investment. **\$8.95**



Wind Cave National Park: the First 100 Years
In 1903, Wind Cave National Park became the eighth national park in the nation and the first created to protect a cave. Peggy Sanders encapsulates the park's 100 year history in over 200 vintage images. Travel through time with the early cave and animal management teams, through the Great Depression, and into the present with a collection of classic pictures and stories. **\$19.99**



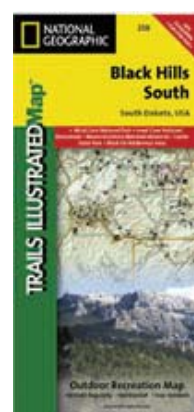
Wind Cave: One Park, Two Worlds - takes viewers on a journey into two vastly different landscapes of uncompromising beauty - the prairie and the cave. This 20-minute movie tells the dramatic stories of Wind Cave National Park's natural and human history, including the story of Alvin MacDonald - the first explorer of this subterranean world and the story of the bison - the symbol of the Great Plains. Through breathtaking photography this video captures the spirit, mystery, and beauty of one of America's oldest National Parks. **\$19.95**



Wind Cave, The Story Behind the Scenery - If you are interested in learning more about the ecosystems, wildlife, and history of Wind Cave National Park, this book by Ron Terry is an excellent choice. It contains outstanding photographs and information about the cave and its unusual boxwork formation. This book goes beyond the cave, including photos and insights about the park's incredible prairie. This book is part of a series that explores the natural, geological, and cultural history of the national parks. **\$9.95**



Take a 360 degree Tour of Wind Cave National Park. This CD has over seventy immersive and interactive panoramic views of Wind Cave National Park and Jewel Cave National Monument. Share the views of the cave or the prairie that you enjoyed on your visit or explore the wilderness of the cave through pictures. The CDs play on your Mac or PC computers allowing you to see maps, photographs, and a 3D model of the cave. The 3D program provides views of the underground or surface world of both parks. **\$34.95**



Trails Illustrated Map, Black Hills South - If you are interested in hiking, this is the trail map to have. This tear-proof, waterproof map details the Southern Black Hills from Mount Rushmore to the Cheyenne River. Wind Cave National Park, Custer State Park, Jewel Cave National Monument, Mount Rushmore National Memorial, the Southern Black Hills National Forest, and the Centennial and Mickelson Trails are included. The map is part of a series of National Geographic Trails Illustrated Maps. There is also a Black Hills North map detailing the northern half of the Black Hills National Forest. **\$11.95**

<p>Name _____</p> <p>Address _____</p> <p>Phone _____</p>	<p>Mail to: Black Hills Parks & Forests Association 26611 U.S. Hwy 385 Hot Springs, SD 57747</p> <p>Fax to: 605-745-7021</p> <p><input type="checkbox"/> I have enclosed my check payable to: Black Hills Parks & Forests Assn.</p> <p><input type="checkbox"/> I would like to charge the order to my: <input type="checkbox"/> Visa <input type="checkbox"/> Discover <input type="checkbox"/> Mastercard <input type="checkbox"/> Am. Exp.</p> <p># _____</p> <p>Signature _____</p> <p style="text-align: right; font-size: small;">Postage and Handling Charges (Valid in U.S. only)</p> <table style="width: 100%; font-size: x-small;"> <tr> <td>Up to \$3.00</td> <td>\$3.00</td> <td>\$3.01 to \$10.00</td> <td>\$4.00</td> </tr> <tr> <td>\$10.01 to \$25.00</td> <td>\$5.50</td> <td>over \$25.00</td> <td>call for information</td> </tr> <tr> <td></td> <td></td> <td>Mail tube (cave maps)</td> <td>\$4.50</td> </tr> </table>	Up to \$3.00	\$3.00	\$3.01 to \$10.00	\$4.00	\$10.01 to \$25.00	\$5.50	over \$25.00	call for information			Mail tube (cave maps)	\$4.50																		
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