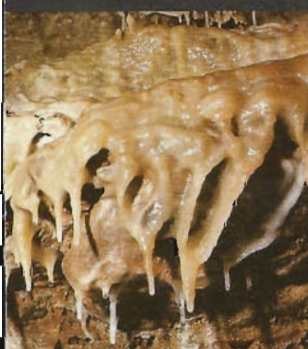
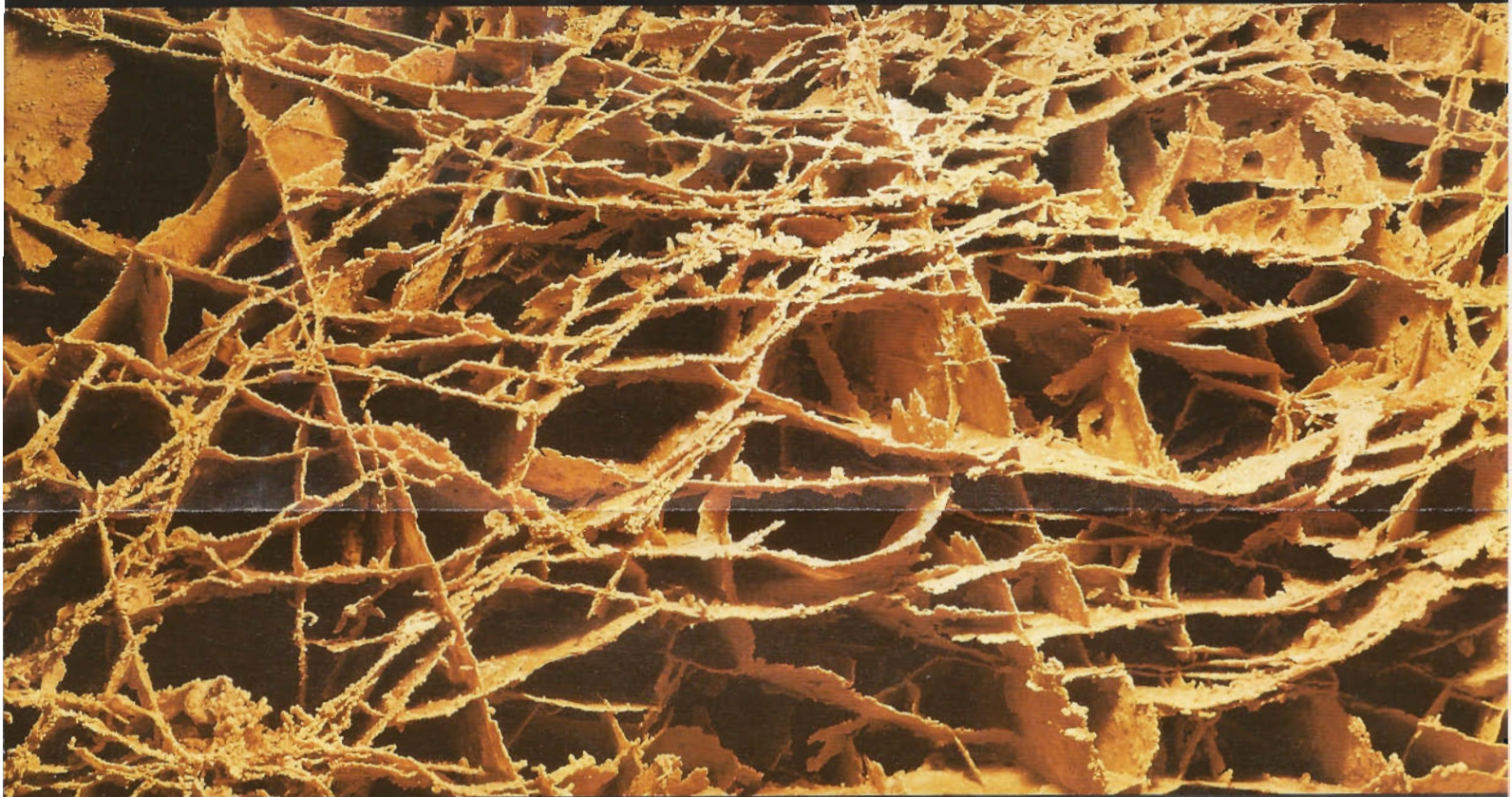


# Wind Cave

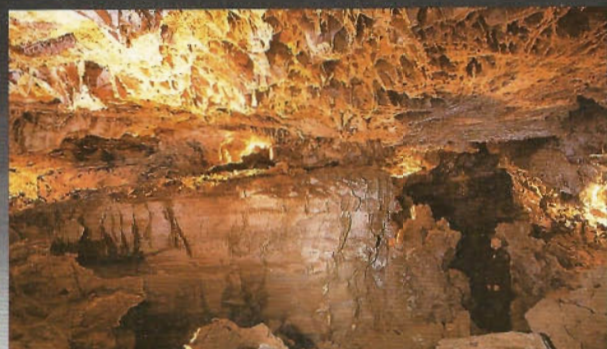
National Park Service  
U.S. Department of the Interior



National Park  
South Dakota



Flowstone and stalactites



Elks Room, with boxwork on ceiling



Popcorn



Frostwork

"... we made our way down the stair-way against the very strong wind and then began our descent proper, into the wonderful, indescribably wonderful cave—down, down into the very 'bowels of the earth.'"

—An early explorer of Wind Cave, 1890

What tempted the first explorers of Wind Cave to leave behind their safe, familiar world and venture into the dark, unknown, almost lifeless depths of Wind Cave? Was it a search for hidden natural treasures? Curiosity? Was it the thrill of going where no man or woman had gone before?

Records of the earliest excursions into Wind Cave suggest that people entered the cave for all these reasons. Today visitors come to Wind Cave National Park to meander through some of the cave's more than 100 miles of passageways seeking similar experiences.

Don't let the park's name fool you, however. There is much more to Wind Cave National Park than its underground geological wonders. A diverse mix of wildlife, including bison, pronghorn, and prairie dogs, lives in the 28,295 acres of rolling grasslands, pine forests, hills, and ravines that make up its sunlit upper layer. Here you can see a small remnant of the prairie and imagine the scene that greeted westward-bound 19th-century pioneers—not farms and cities, as today, but open plains stretching across the middle of the continent. A piece of that prairie is preserved here in an almost natural state.

The Wind Cave area has been protected since 1903, when it became our seventh oldest national park. Regarded as sacred by American Indians, the cave was not found by settlers until 1881, when two brothers, Jesse and Tom Bingham, heard a loud whistling noise. The sound led them to a

small hole in the ground, the cave's only natural opening. A wind was said to blow with such force out of the hole that it knocked Jesse's hat off. That wind, which gave the cave its name, is created by differences between atmospheric pressures in the cave and outside. This wind can still be noticed at the cave entrance.

It was left to later adventurers like Alvin McDonald to follow that wind and discover the cave's extensive network of passageways containing boxwork, popcorn, and frostwork formations and other delicate, irreplaceable features. Young Alvin and others who explored the cave before 1900 were fascinated by what they found:



Alvin McDonald was not yet 18 when he began exploring Wind Cave in 1890. The diary he kept of the cave's "inside workings" documents this systematic probe, which revealed many passages.

chocolate-colored crystals, formations resembling faces or animals, and chambers that inspired names such as the Garden of Eden and the Dungeon. Reports of these discoveries drew a stream of curious tourists to the cave. Local entrepreneurs, including the McDonald family, blasted open passages and guided tourists through for a fee. Cave specimens were removed and sold. Today the cave's fragile features are protected.

To witness the beginning of the formation of Wind Cave, one of the world's oldest caves, you would have to have been here 320 million years ago. Parts of the limestone that constitute the upper levels of Wind Cave were then being dissolved into cave passageways. As ancient ocean levels fluctuated, these passages were filled with sedi-

ments. Beneath the ocean a thick layer of sediments continued to be deposited above that limestone.

About 60 million years ago, the forces that uplifted the Rocky Mountains also uplifted the modern Black Hills, producing large fractures and cracks in the overlying limestone. Over millions of years, water moving slowly through those cracks dissolved the limestone to produce the complex maze of the cave's passages.

Later erosion changed surface drainage patterns, which caused subsurface water levels to drop, draining the cave passages. As the modern Wind Cave formed, many of these newer passages intersected the older filled cave, revealing the red clay and sandstone sediments from 320 million years ago. A three-dimensional network of passages formed, creating one of the most complex caves in the world.

Also exposed were some of the most prominent features in Wind Cave—the boxwork—thin, honeycomb-shaped structures of calcite that protrude from the walls and ceilings (photos above). Although Wind Cave has few stalactites and stalagmites, many unusual formations and a variety of minerals are found in the cave. The complex geology of the cave, the profusion of boxwork, and the variety of minerals make Wind Cave a world-class cave.

You might wonder if after more than 100 years of exploration there is anything new to discover in Wind Cave. Barometric wind studies estimate that approximately five percent of the total cave has been discovered. In 1891 Alvin McDonald wrote in a diary of his cave trips: "Have given up the idea of finding the end of Wind Cave." The better-equipped cavers of today have not given up. They continue to push farther and farther into the cave's cool, black recesses.

COVER PHOTO OF BOXWORK, GED COOPER, ELKS ROOM AND POPCORN PHOTOS ©TOM BEAN, FLOWSTONE, FROSTWORK, AND ALVIN McDONALD PHOTOS NPS

## A Sanctuary for Wildlife



Pronghorn



Coyote



Prairie dog



Mule deer

Vast open prairies can look deceptively empty. But take a closer look. A small clax shape on the horizon may be a bison grazing knee-deep in bluestem and other grasses. You may glimpse a well camouflaged coyote hunting among the prairie dog "towns." Slowly comes the realization that the nutrient-rich plants of the plains support an abundance of wildlife. When first established, Wind Cave National Park's main purpose was to protect the cave and help visitors enjoy it. But by 1912 the protection and reestablishment of native wildlife within the park was recognized as an equally important goal.

Among the park's foremost missions as a wildlife sanctuary was the restoration of populations of bison (below), elk, and pronghorn to the Black Hills. By the late 1880s these animals had been eliminated from this part of their range, largely because of human predators. The story of the bison's return reflects the success of the park's management programs. Starting with 14 bison donated by the Bronx Zoo in 1903, the herd numbers about 3,500 today.

Other wildlife, including mule deer, cottontail rabbits, and many species of birds, live in the prairies, forests, and hills of Wind Cave. Located nearly at mid-continent, the park embraces animal and plant species common to both the East and West. Don't be sur-

prised to see ponderosa pines and pinyon jays—western natives—alongside American elms and eastern bluebirds.

### Safety and Regulations

To protect yourself and park wildlife, always view animals at a safe distance and stay alert. Bison and other animals are wild and unpredictable and can attack if startled. Hunting, chasing, or harassing wildlife is prohibited, and other weapons must be packed away to prevent their use. Feeding wild animals is prohibited, even small animals such as prairie dogs may bite. Watch for rattlesnakes, which sometimes live in prairie dog burrows and can strike without warning.



PHOTO OF COYOTE ©PHOTO RESEARCHERS, INC. BY GEM DAVIS  
REMANUAL WILDLIFE PHOTOS ©TOM BEAN

# Exploring Wind Cave and the Black Hills

## Touring the Southern Black Hills

There is a lot to see and do at Wind Cave National Park and in the surrounding area.

Several scenic roadways lead through the Black Hills to the park. Sightseers especially enjoy the Wildlife Loop Road, Iron Mountain Road, and Needles Highway. They wind through pine-spruce forests, meadows, mountains and pinnacles of granite, and lands populated by bison, pronghorn, deer, and prairie dogs. Ask about these and other travel routes.

Wind Cave country has many places of natural, historical, and scenic interest. Custer State Park and Black Hills National Forest, adjacent to Wind Cave,

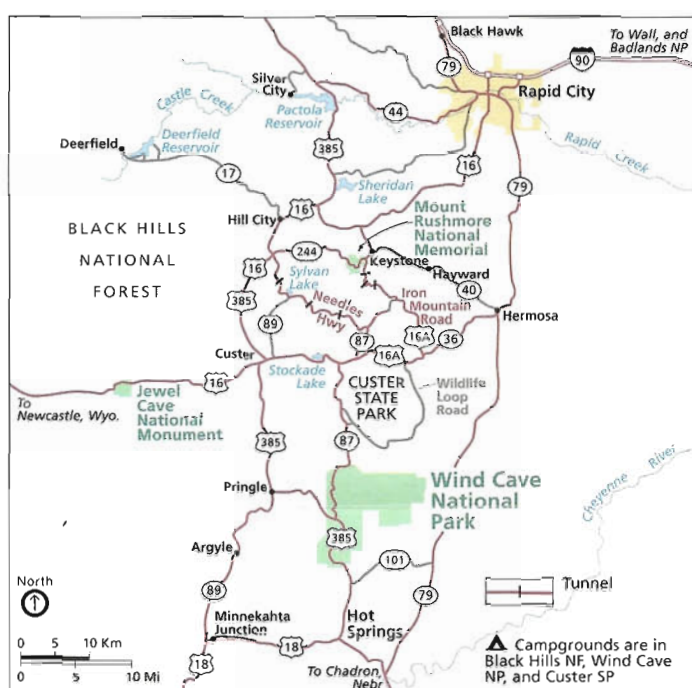
offer outdoor recreation opportunities. These two wild areas' one million-plus acres offer some 30 campgrounds; many lakes for boating, swimming, and trout fishing; trails for hiking and horseback riding; and picnic areas.

Within 50 miles of Wind Cave there are two National Park System areas. Jewel Cave National Monument preserves more than 125 miles of cave decorated with sparkling jewel-like calcite crystals and varied cave formations; cave tours are given. Mount Rushmore National Memorial features the monumental sculpture of American presidents Washington, Jefferson, Lincoln, and Theodore Roosevelt.

Many area communities, including Custer, Hot Springs, and Rapid City; some smaller towns; and Custer State Park, provide lodging, grocery and camping supply stores, gasoline stations, and other services seasonally or all year. Private campgrounds are available, too. There are no lodging facilities or grocery services in the national park.

**Warning** The tunnels on the Iron Mountain Road (U.S. 16A) are 12' 6" high and 13' 6" wide, and those on the Needles Highway/Sylvan Lake Road (S.D. 87) are as low as 10' 8" and as narrow as 8' 7" (see map at right).

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## Visiting the Park

**Visitor Center** The visitor center offers books, brochures, exhibits, and audio-visual programs about the cave and park. Cave tour information and tickets are available. Schedules of activities such as talks and nature walks are posted. Limited vending service is available. The center is open daily except Thanksgiving, December 25, and January 1.

**Park Roads** Sightseeing along park roads enables you to enjoy views of the Black Hills and see bison, pronghorn, and other wildlife. Pull into a parking area to enjoy the scenery safely. Bicycling is permitted only on park roadways. Backcountry biking is prohibited.

**Camping/Picnic Areas** Elk Mountain Campground, in hills of ponderosa pine forest and

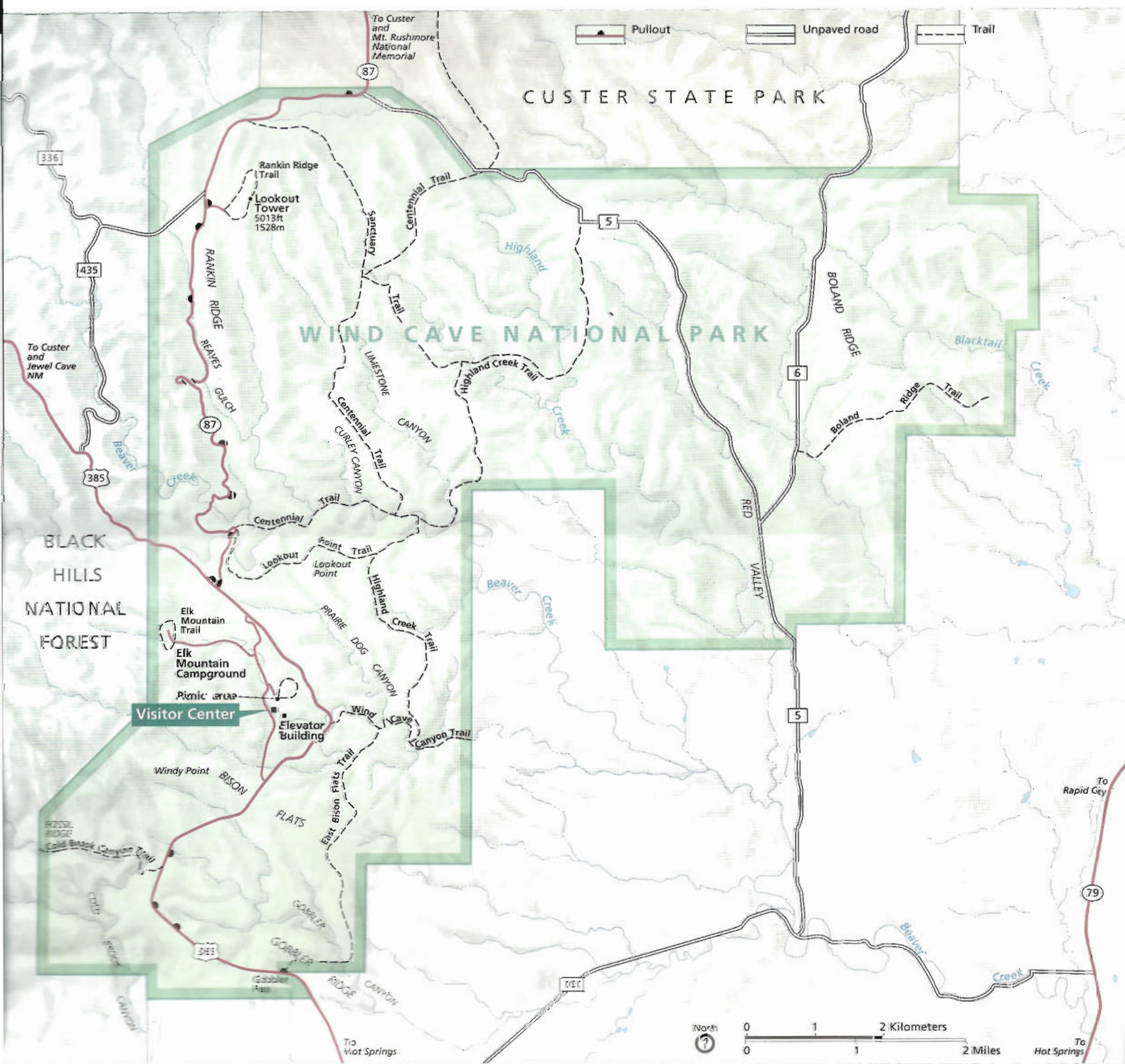
prairie, has 75 sites for tents and recreational vehicles. The campground is open April through October, first-come, first-served. Picnic tables, fire grills, water, and restrooms are provided; fees are charged. Campfire programs are given at the amphitheater in summer. Backcountry camping is allowed; a permit is required. The picnic area, located in a ponderosa pine woodland, has tables and water in the summer.

**Trails** Three self-guiding trails help you explore the park's grasslands and ponderosa pine forests. Trail booklets are available at the visitor center or trailheads. Rankin Ridge Trail (1¼ miles) climbs to the top of Rankin Ridge, highest point in the park, for panoramic views of the Black Hills country from a ridgetop fire lookout. The Elk Mountain Trail (one mile) offers a mildly

strenuous walk circling the campground. Hikers may travel cross-country or explore on 30 miles of hiking trails that include the southern terminus of the 111-mile Centennial Trail.

**Safety and Regulations** The danger of wildfire is high year-round. Build fires only in the campground and in fire grills or campstoves. Never leave a fire unattended. Pets must be physically restrained at all times and are not permitted in buildings, the backcountry, or cave. Off-road driving is prohibited. Avoid contact with poison ivy.

Wind Cave National Park  
RR1 Box 190  
Hot Springs, SD 57747  
605-745-4600  
www.nps.gov/wica



## Touring the Cave

Scheduled, ranger-led tours of Wind Cave are offered all year; fees are charged. The cave is closed on Thanksgiving, December 25, and January 1. Cave tour tickets and information are available at the visitor center. All tours begin there.

Approximately eight of the more than 100 miles of known passages in Wind Cave are on the map below (shown in gray).

Three cave tours are available—two tours

are 0.5 mile, and one tour is 0.25 mile—that follow paved and lighted walkways through underground passages decorated with boxwork and other fascinating cave formations. The **Natural Entrance Tour** (shown in red) and the **Fairgrounds Tour** (gold) last from 1¼ to 1½ hours and require negotiating 300 to 450 stairs. The shorter **Garden of Eden Tour** (green) lasts about one hour and includes 150 stairs.

Two special tours are offered from mid-June to mid-August. The one-mile **Candlelight Tour** (purple) allows visitors to experience Wind Cave as early visitors may have. Most of the tour route follows passages where the only light comes from hand-held candle lanterns. Bending, stooping, and stair-climbing are required on this two-hour cave tour.

Another special tour, the **Caving Tour** (blue), lets visitors experience what it is like to explore a wild 3,000-foot passage of Wind Cave. Participants must be physically fit, because a lot of crawling is required on this three-to four-hour trip.

Reservations for special tours are required and may be made no sooner than one month in

advance. Contact the park for reservations or information about proper clothing, caving gear, and age restrictions. A short cave visit for visitors with special needs may be arranged at the visitor center.

**Safety and Regulations** Portions of the cave tour routes may be uneven or wet and slippery. Watch your

step and wear low-heeled, non-slip shoes. The cave temperature is always 53°F; wear a jacket or sweater. If you have breathing heart, or walking problems, or are claustrophobic, ask your doctor before taking a tour. The cave's delicate formations are easily broken or discolored by skin oils; please do not touch. Smoking, food, and drink are prohibited.

