Emergencies
Call 911 or 435 676-2411, 24-hours a day
or contact a Park Ranger.

Web Site: www.nps.gov/brca

Questions?
Bring this newspaper to the Visitor Center!

Park Headquarters
435 834-5322
Fax 435 834-4102
Lost & Found: 435 834-4303

Mailing Address
PO Box 640201
Bryce, Utah 84764-0201
E-mail: brca_information@nps.gov
Death at Bryce Canyon

How many people die at Bryce? Fortunately, Bryce averages less than 1 fatality per year. In order of decreasing abundance, fatalities are caused by:
- Heart attacks
- Falling off cliffs
- Lightning
- Vehicle accidents

Unfortunately, hundreds of serious injuries have also needlessly occurred, some of it gone, but too many from ignoring park safety warnings.

Top 10 Causes of Bryce Injuries

#10 Unsafe Driving
- Speeding (limits are 25, 35 and 45 mph).
- Failure to wear seat belts.
- Passing on a double yellow line.
- Auto vs. animal. Watch for Wildlife!
- Rear-ending. Stop in pullouts, never in road.
- Not reducing speed on wet or icy roads.
- Not reducing speed on wet or icy roads.
- Not reducing speed on wet or icy roads.
- Not reducing speed on wet or icy roads.
- Not reducing speed on wet or icy roads.

#9 Climbing / Sliding down cliffs
The rock at Bryce forms crumbly cliffs and steep gravelly slopes. Hand and toe holds support nothing heavier than chipmunks. Climbing the rocks and sliding on the slopes may trigger lethal rockslides.

#8 Feeding Animals
Fed animals become aggressive. Even small animals can inflict bites requiring stitches and worse yet transmit disease. Watch wildlife from a distance and discourage animals that approach you.

#7 Ignoring Extreme Weather
At Bryce it is possible for the difference between the daily high and low to be as much as 50°F / 27°C! Lightning is a year-round danger -- especially during summer monsoons! Seek the shelter of a building or your vehicle whenever the “flash-bang interval” (time between lightning and thunder) is less than 30 seconds.

#6 Dehydration
Drink 1 quart / liter every 1-2 hours. A well hydrated body is better able to regulate body temperature and is more resistant to heat exhaustion. Sunburns also lead to dehydration. Wear a hat, sunscreen, and sunglasses to protect from the sun overhead and reflected UV light.

#5 Leaving the Trail
Stay on designated trails and away from cliff edges where footing can be tricky. Even on seemingly gentle slopes, it can be impossible to keep your footing. Bring the maps on page 6 and 7 to avoid getting lost.

#4 Over-exertion
Park elevations reach 9115 ft (2778 m) subjecting you to 70% of the oxygen you might be used to. Bryce's trails start at the top which means all returns will be uphill. Turn back BEFORE you become tired. Know and respect your own physical limitations.

#3, #2, & #1 Bad Choice of Footwear
Wear hiking boots with good ankle support and “lug” traction. Hiking without hiking boots is like SCUBA diving without an air tank. Sport-sandals & “trainers,” are NOT safe hiking footwear.
How to Make the Most of Your Time

Less Than 4 Hours
Visitor Center
Stop at the Visitor Center for information, museum exhibits, and a 22-minute award-winning orientation film, shown daily 8:30 a.m. to closing, on the hour and half hour.

Auto Tour of the Overlooks
Ride the shuttle or drive your own vehicle to Bryce, Inspiration, Sunset and Sunrise points first. If you have more time, visit overlooks in the southern portion of the park.

Short Walk
Hike a short segment of the Rim Trail or select one of the hikes from the “Easy to Moderate” group in the hiking table on page 7.

More Than 4 Hours
Visitor Center, Auto Tour, Short Walk and:

Day Hike
Bryce is best viewed from its trails. Select one of the combination loops from the “Moderate” or “Strenuous” groups in the hiking table on page 7.

Ranger Program
Attend a free Ranger Program to learn more about the natural and cultural history of this region. Check at the Visitor Center for the current program schedule.

Horse Ride
Take a horse ride into Bryce Canyon. Wranglers lead 2-hour and half-day rides daily. Inquire at Bryce Canyon Lodge.

Backcountry Hiking
Bryce Canyon has two trails designated for overnight hiking: the 9-mile Riggs Spring Loop, and the 23-mile Under-the-Rim Trail. Backcountry camping is by free permit on a first-come, first-served basis. Permits may be purchased at the visitor center from 9:00 a.m. until one hour before the visitor center closes.

Astronomy Programs
Join dark rangers, volunteers, and NASA Solar System Ambassador Patrick Wiggins, to learn about the heavens, and view Bryce Canyon’s night skies through telescopes (weather permitting). Offered most Tuesdays, Thursdays, and Saturdays.

Kids Programs / Family Programs / Bird Walks
All of Bryce Canyon’s ranger programs are family friendly, but these in particular are fun for kids and parents alike. Rangers present a wide range of programs appealing to a variety of interests. Most Kids Programs require reservations, inquire at the Visitor Center.

Canyon Hike
Join a park ranger for a hike down into the heart of the Bryce Amphitheater. Enjoy face to face encounters with hoodoos. Immerse yourself in a labyrinth of breathtaking views and engaging stories about all that surrounds you.

Full Moon Hike
Hike among moonlit hoodoos. Group size is limited to 30 people; in-person reservations can only be made at the Visitor Center the morning of the intended hike. Not for children 5 and under. Offered two nights each month during the full moon. Hikes usually fill-up in the first 15 minutes. Check page 10 for schedule.

Ranger-led Activities
We invite you to join rangers to learn more about Bryce Canyon National Park. Rangers discuss geology, plants, animals, and human history on the various walks and talks offered each day.

Geology Talk
Hoodoos, ancient lakes and something called frost wedging? Geologists have spent years studying the unique story of Bryce Canyon. Spend a half hour with a ranger as we discuss the current scientific explanation behind Bryce Canyon’s unique geologic history.

Sunset Point at 11:30 a.m. and 2:00 p.m.
Duration: 30 minutes

Rim Walk
Great views, fascinating plant and wildlife stories, a touch of geology, a smattering of cultural history – what more could you want? Join a park ranger for an overview of Bryce Canyon as you stroll along the rim of the Bryce Amphitheater.

Sunset Point at 5:00 p.m.
Length: 1 mile, Duration: 1.5 hours

Evening Program
Bryce Canyon’s diversity comes to life during ranger programs at the Bryce Canyon Lodge or Visitor Center auditoriums. In addition, programs are occasionally offered at the North Campground Outdoor Theater. Auditoriums are wheelchair accessible, the North Campground facility is not.

Duration: 1 hour

Auto Tour
Where is the best overlook?
There are 14 viewpoints along Bryce Canyon’s 18-mile scenic drive (one-way distance) and everybody determines his or her favorite for a multitude of reasons. Furthermore, for every 15 minutes you extend your visit, you can see another overlook. If you stop at all the viewpoints, it could take as little as 3-4 hours.

Our most famous views are found in Bryce Amphitheater, including Sunrise, Sunset, Inspiration and Bryce Points. The southern overloads feature long-distance, panoramic views across the Grand Staircase-Escalante National Monument.

Since all the viewpoints are on the left side of the road as you drive south towards Rainbow Point, we recommend stopping at the viewpoints as you drive north on your return trip. This way, each stop will be an easy and safe right turn.

The Hoodoo 3
Hoodoos: The Odyssey of an Oddity

Hoodoo  Pronunciation: ‘hu’doo
Etymology: West African; from voodoo
1: a body of practices of sympathetic magic traditional especially among blacks in the southern United States
2: a natural column of rock in western North America often in fantastic form
3: something that brings bad luck
4: nonsense, hokum, bunkum
transitive verb
1: to cast a spell on; broadly
to do harm to
2: to be a source of misfortune to
Merriam-Webster online (www.m-w.com)

The geologic history at Bryce Canyon National Park is rich and complex. Many processes and events have interacted over vast amounts of time to create and continually alter this unique landscape. The story begins long before technicolor hoodoos emerged from this limestone that geologists call the Claron Formation. First, you need to lithify sediments – turn them to rock. Before lithifying sediments, you need to trap them in a basin. To build a basin you need to first build mountains.

Approximately (~) 200 million years ago (Ma), Earth’s crust was wrinkling throughout Nevada, into southern Canada. A strong, dense Pacific seafloor had smashed into North America’s weaker continental crust. Much was at stake as theloser would be forced down and melted in Earth’s mantle. Although North America remained on top, it was shattered in the contest. Over the 120 million year match, compositional forces bent, folded, broke, and heaved our crust into the sky, giving birth to the once mighty Sevier Mountains. Given enough time, rain and snow become geologic jackhammers splitting mountains apart. From the mountains, streams and rivers carried debris eastward, pulverizing the boulders to mud in transit.

Slightly before the dinosaurs went extinct, ~ 65 Ma, the land in the Western U.S. changed dramatically. Down but not out, the oceanic plate pushed up our continental crust, stubbornly surfacing atop the mantle instead of sinking and melting. This attempt at escaping uplifted land, forming the Rocky Mountains and warping Utah and Arizona. The continued slow uplift shaped a land-locked basin between the Sevier Mountains and the younger Rockies. When the rivers wearing down the Sevier Mountains reached this basin they became braided streams and deposited layers of muds and silts. At the lowest levels, chains of lakes and ponds formed. Water escaped through evaporation, but with no rivers flowing out of the basin, the sediment was trapped. Between 55 - 30 Ma this mammoth mud puddle, known as the Claron Basin, continued to fill with sediments rich in calcium carbonate – dissolved limestone.

The Claron Formation consists of two types of limestone rock. It has a lower pink member and an upper white member. In the early years of the basin, the environment appears to have been more marsh-like, where plant roots helped oxidize iron to give the sediments a red color. Within the pink member, thin and non-continuous gray ponds within this marsh setting became so salty and/or mineralized that only cyanobacteria could survive. These algal-like creatures enriched limestone with magnesium they took from the water to create dolostone – important to hoodoo formation. With the passage of time and an increase in water depth, the basin transitioned into purer lakes where the less iron-rich white limestone was deposited.

Geologists are unsure as to this mud puddle’s fate as rocks that might have recorded this story do not exist. Did it evaporate away? Was it eventually drained as the basin was uplifted? What geologists are sure of is that over time these beds of sediment were compressed into rock and uplifted from 3000 ft to ~9000 ft in elevation. This uplift began ~15 Ma, forming the Colorado Plateau. About 8 Ma, the Bryce Canyon area broke off this uplift as the Paunsaugunt Plateau and has been sinking ever since into the Great Basin.

Technically, Bryce is not a canyon because canyons are primarily carved by flowing water – a stream or a river. Naturally acidic rainwater dissolves limestone, making the rounded edges of hoodoos, but the freezing and thawing of water does most of the sculpting at Bryce Canyon.

Approximately 200 days a year, ice and snow melt during the day and refreeze at night. When water becomes ice, it not only gets harder but expands to ~110% its original volume! This exerts enormous pressures on the rocks, forcing them apart from inside the cracks. First attacking the fractures created during uplift and faulting, the rock is chiseled into broken remains.

Monsoon rains remove this debris, helping to reveal fins, the first step in hoodoo creation. Most commonly, the second step in hoodoo formation begins when frost-wedging cracks the fins, making holes we call windows. When windows collapse they create the rust painted pinnacles we call hoodoos. We often think of this process as hoodoo creation; when, in reality, it’s just another step in water’s endless process of destroying the rocks it began creating 55 Ma.

Although visitors to Bryce come to see the hoodoos in the Claron formation, five other rock formations also exist in the park. They tell stories of dinosaurs, beaches, and of a sea that once separated North America into two large islands. Ask a ranger to learn more about these times in Earth’s history.
The Wild Side of Bryce Canyon

The Pronghorn: Built for Speed

They evolved at a time when North America was home to fierce predators. Today, no land animal in the Western Hemisphere can match their speed and only one in the world, the African Cheetah, can run faster. Based upon reports from explorers and settlers crossing the American frontier in the 1800s, some researchers believe that the Pronghorn population may have equaled—or possibly even exceeded—that of the Bison before the westward expansion began – more than 40 million Pronghorns! They can run at speeds in excess of 60 miles per hour (96 kph) for as long as 4 minutes and have been observed running for several miles at speeds between 30 and 40 mph (48-60 kph).

But why the need for all this speed when no living predator in North America can match them?

These fleet-footed animals are relics, a link to the past as one of the few remaining survivors of the last Ice Age. Pronghorns evolved when the hemisphere was home to the American Cheetah as well as other large predators and, in order to survive, had to be fast. In addition to their amazing speed, they also have developed keen eyesight and are able to detect movement up to 4 miles away!

With no living natural predator these animals thrived, however, their numbers were reduced to less than 20,000 animals by the early 1900s. The primary reasons for this were market hunting – at the turn of the 20th Century you could buy a whole Pronghorn in Denver, Colorado for 25 cents – and the “fencing of the west” by ranchers. In portions of their range Pronghorns migrate several hundred miles and, while fast, they are not great jumpers. Unable to get past the rancher’s fences to reach their winter foraging grounds, they would frequently starve.

In Utah the species was completely extirpated and a successful reintroduction program was begun in the 1970s. Look for Pronghorns in the sagebrush meadows both inside and outside of the park. View them from a distance and please do not obstruct traffic by parking on roadways.

A Threatened Resident - Utah Prairie Dogs

A year-round inhabitant of Bryce Canyon’s high plateau meadows is the Utah Prairie Dog, Cynomys parvidens. Although called a prairie “dog,” this species is actually a member of the rodent family. Prairie dogs live in complex social colonies or “towns.” Their burrow systems are made up of several chambers and provide the animals with protection from predators, places to raise young, store food, and hibernate through the cold winter months. Utah Prairie Dogs are considered “keystone species” that perform a variety of important ecological functions including soil aeration which helps plants grow, providing prey for other animals, and maintaining healthy meadow ecosystems. The Utah Prairie Dog’s range is the most restricted of the four prairie dog species in North America and is limited to the southwestern quarter of Utah. Once nearly eradicated through poisoning, disease, habitat loss and drought, Utah Prairie Dogs currently number less than 5,000 animals.

The Utah Prairie Dog has been federally listed under the Endangered Species Act since 1973 and is protected as a threatened species. Bryce Canyon National Park reintroduced the Utah Prairie Dog to Park meadows in 1974 through 1988 and is the only National Park Service unit where they occur. Today, approximately 200 Utah Prairie Dogs are found within several meadow complexes within the Park. Every year these colonies are monitored and counted to track the health of the animals and their habitat.

Although protected, the Utah Prairie Dog still faces challenges to its survival as human development, disease and drought continue to threaten remaining colonies. Please help us protect our Utah Prairie Dogs!

• Drive slowly around prairie dog towns – they live in the Park’s meadows and can be seen next to and sometimes crossing roads.
• Do not feed or approach prairie dogs: it is illegal and dangerous! All prairie dog species may carry and transmit diseases to humans. By feeding wildlife you decrease their ability to survive in the wild.

Bryce Canyon National Park is helping to recover and protect the Utah Prairie Dog. We’re lucky to have this special animal within the Park – please appreciate these amazing creatures from a distance!

What Other Animals Live Here?

For a small park, Bryce Canyon has several types of habitat which support a diversity of wildlife. While you may not see lots of any one species, you will see a variety of animals if you know when and where to look.

Habitat: Sagebrush, Meadow, Forest, Canyon, All habitats
Season: W=Fall/Winter, S=Spring/Summer, A=All seasons
Best time to look: d=day, t=twilight, b=both day and twilight
Difficulty in finding: e=easy, h=hard, u=unlikely

NEVER approach or attempt to feed any wild animal!

Mammals: Birds:

<table>
<thead>
<tr>
<th>Species</th>
<th>Habitat</th>
<th>Difficulty</th>
<th>Best time to look</th>
<th>How to help</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mule Deer</td>
<td>A,e</td>
<td></td>
<td>d</td>
<td></td>
</tr>
<tr>
<td>Pronghorn</td>
<td>A,d,h</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elk</td>
<td>W,t</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prairie Dog</td>
<td>S,d,e</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coyote</td>
<td>A,b,h</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gray Fox</td>
<td>A,b,h</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ringtail</td>
<td>A,t,h</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black Bear</td>
<td>A,b,u</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mtn. Lion</td>
<td>A,b,u</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jackrabbit</td>
<td>A,t,e</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cottontail</td>
<td>A,t,e</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Squirrels</td>
<td>S,d,e</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chipmunks</td>
<td>S,d,e</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Wings Over Bryce Canyon

Watching birds is one of America’s most popular pastimes and over 200 species of birds are known at Bryce Canyon National Park. Pictured above are 16 of the park’s most common species; look for them during your visit (left to right, top to bottom): Peregrine Falcon, Red-tailed Hawk, Clark’s Nutcracker, Steller’s Jay, Western Bluebird, Black-chinned Hummingbird, Mountain Chickadee, White-breasted Nuthatch, Dark-eyed Junco, Green-tailed Towhee, Wild Turkey, Common Raven, Yellow-rumped Warbler, White-throated Swift, American Robin, and Western Tanager.

Hoodoo 5
**FREE* SHUTTLE!**
Bryce Amphitheater Route

The Bryce Canyon Shuttle is voluntary. Riding the shuttle reduces traffic, conserves fuel, saves time, money, and the planet! Shuttle buses are fully accessible. Pets are not allowed.

2009 Season: May 22 – September 13

**Hours:**
9:00 am – 6:00 pm Mountain Daylight Time

**Bus Interval:**
12 – 15 min

**Last Bus ENTERS Park:**
5:40 pm

**Last Bus EXITS Park:**
6:20 pm

* Park entrance fee required to ride the shuttle
** Shuttle season ending date may be extended

**Scenic Drive Highlights . . .**

Natural Bridge, Agua Canyon, Yovimpa Point, Rainbow Point (clockwise from top left).

© The Hoodoo
## Hiking the Park

### Day-Hiking Trail Guide

Where’s a Good Hike? Bryce Canyon has 8 different day-hiking trails. Because many of these trails are interconnected, our most popular hikes are combinations of two or more of these basic trails. If you can only do one hike, the Queen’s / Navajo Combination Loop may be the best choice. Take this page with you while hiking.

<table>
<thead>
<tr>
<th>TRAIL NAME / STARTING POINT</th>
<th>ROUND TRIP</th>
<th>ELEVATION CHANGE</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Easy to Moderate</strong> Hikes (gentle grades &amp; minimal elevation change)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MOSSY CAVE North end of Bryce along Hwy 12 (not a loop)</td>
<td>0.8 mi</td>
<td>1.3 km</td>
<td>1 hour</td>
</tr>
<tr>
<td>RIM TRAIL Anywhere along rim (not a loop)</td>
<td>1.0-11.0 m</td>
<td>1.6-17.7 km</td>
<td>(you pick start and end point)</td>
</tr>
<tr>
<td>BRISTLECONE LOOP Rainbow Point</td>
<td>1.0 mi</td>
<td>1.6 km</td>
<td>1 hour</td>
</tr>
<tr>
<td>QUEENS GARDEN Sunrise Point</td>
<td>1.8 mi</td>
<td>2.9 km</td>
<td>1-2 hours</td>
</tr>
<tr>
<td><strong>Moderate Hikes (steep grades with “down &amp; back” elevation change)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NAVAJO LOOP Sunset Point</td>
<td>1.3 mi</td>
<td>2.1 km</td>
<td>1-2 hours</td>
</tr>
<tr>
<td>QUEENS/NAVAJO COMBINATION LOOP Sunset or Sunrise Point</td>
<td>2.9 mi</td>
<td>4.6 km</td>
<td>2-3 hours</td>
</tr>
<tr>
<td>TOWER BRIDGE North of Sunrise Point</td>
<td>3.0 mi</td>
<td>4.8 km</td>
<td>2-3 hours</td>
</tr>
<tr>
<td>HAT SHOP Bryce Point</td>
<td>4.0 mi</td>
<td>6.4 km</td>
<td>3-4 hours</td>
</tr>
<tr>
<td><strong>Strenuous Hikes (steep grades with MULTIPLE elevation changes)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FAIRYLAND LOOP Fairyland Point or Sunrise Point</td>
<td>8.0 mi</td>
<td>12.9 km</td>
<td>4-5 hours</td>
</tr>
<tr>
<td>PEAKABOO LOOP Bryce Point</td>
<td>5.5 mi</td>
<td>8.8 km</td>
<td>3-4 hours</td>
</tr>
<tr>
<td>NAVAJO/PEAKABOO COMBINATION LOOP Sunset Point</td>
<td>4.9 mi</td>
<td>7.8 km</td>
<td>3-4 hours</td>
</tr>
<tr>
<td>THE ‘FIGURE 8’ (NAVAJO/PEAKABOO/QUEENS GARDEN COMBINATION) Sunrise or Sunset Point</td>
<td>6.4 mi</td>
<td>10.2 km</td>
<td>4-5 hours</td>
</tr>
<tr>
<td>BRYCE AMPHITHEATER TRAVERSE Bryce Point</td>
<td>4.7 mi</td>
<td>7.5 km</td>
<td>3-4 hours</td>
</tr>
</tbody>
</table>

### Hiking Reminders...

- Wear hiking boots with good traction.
- Carry plenty of water; drink a gallon a day.
- Park elevations reach over 9115 feet (2778 m). Even mild exertion may leave you feeling light-headed and nauseated. Know and respect your own physical limitations.
- Trails with this symbol are used by horses April-October. Horses have right-of-way. Stand on uphill side of trail to let horses pass. Give them warning of your presence. Talk, don’t yell.
- Stay on maintained trail. Do not take short cuts.

- Do not feed the wildlife.
- Do not throw anything, anywhere, at any time.
- Be respectful of others; keep noise levels down—no yelling.
- Pack out all trash including tissue paper and cigarette butts.
- Pets are not permitted on the trails.
- Uphill hikers have the right of way.
- Remember, you are entering a wild setting. Ultimately, you are responsible for your safety and the safety of those around you. Take what you bring; leave what you find.

The Hoodoo 7
Using Controlled Burns to Protect Visitors at Bryce Canyon

After nearly five years of planning and preparation, the Puma controlled burn finally came to fruition in September of 2008. The largest prescribed fire in Bryce Canyon National Park’s history was truly an interagency effort as the park collaborated the planning and implementation of the burn with the adjoining Dixie National Forest. Not often do fire management programs attempt controlled burns that cross agency jurisdictional boundaries due to the complications associated with often differing policies and management objectives. But Bryce Canyon National Park and Dixie National Forest showed that through a coordinated interagency effort, successful results can be achieved for both.

The Puma Burn Unit is located in the southern portion of the park near mile marker 13 on Highway 63 and continues to Rainbow Point at the end of the park road. The project area treated included 2,073 acres on the park and 2,019 acres on Dixie National Forest lands. This project was designed to increase visitor safety by the reduction of hazardous fuels along the park highway through modification of the forest structure. The road to Rainbow Point is located on top of a ridge and is a one-way in and one-way out. If a wildfire were to start below the road it could easily cut off the road, thus preventing escape and posing a threat to park visitors.

In addition to visitor safety, a secondary goal was to reintroduce fire to its natural role in the ecosystem. For many years, all fires in the park were quickly suppressed, leading to an increase of more fire susceptible vegetation and creating an unnatural build up of fuels. This prescribed fire opened the forest canopy and floor and will promote the regeneration of ponderosa pine, quaking aspen and other native species and help return the forest to a more natural state.

This controlled burn was conducted under weather conditions and other parameters that resulted in the mosaic pattern of fire intensity that you see pictured above. Some areas burned very hot, while others experienced lower intensity effects. This mosaic burn pattern will result in a variety of habitats and thus provide diversity for many of the park’s plants and animals.

The Puma controlled burn was a great example of how agencies can work together to manage public lands across jurisdictional boundaries. Since fire and the vegetation that carries it do not adhere to these agency boundaries, neither should certain land management styles when it comes to dealing with fire related concerns. By working together to create interagency burn plans, land managers can achieve results that may not be possible by using unit burn plans. These interagency efforts can also help to reduce prescribed fire costs, increase safety and manage our public lands in a more unified manner.

The lack of natural fires in Bryce Canyon and the Dixie NF over the past few decades has contributed to high fuel loadings and a change in forest structure. Prescribed fire is a treatment to reverse these changes brought on by fire exclusion. The policy of using fire as a tool will help decrease risks to life, property and resources and will help perpetuate the values for which many of our public lands were established.
Is This Weather Normal?

<table>
<thead>
<tr>
<th>WEATHER AT BRYCE CANYON</th>
<th>MONTH</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>J</td>
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<tr>
<td><strong>TEMPERATURE (°F)</strong></td>
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</tr>
<tr>
<td>Normal Daily Maximum</td>
<td>39</td>
</tr>
<tr>
<td>Normal Daily Minimum</td>
<td>9</td>
</tr>
<tr>
<td>Extreme High</td>
<td>62</td>
</tr>
<tr>
<td>Extreme Low</td>
<td>-30</td>
</tr>
<tr>
<td>Avg. # of Days that rise above 90 °F</td>
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</tr>
<tr>
<td>Avg. # of Days that drop below 32 °F</td>
<td>31</td>
</tr>
<tr>
<td><strong>PRECIPITATION (inches)</strong></td>
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</tr>
<tr>
<td>Normal</td>
<td>1.7</td>
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<tr>
<td>Maximum</td>
<td>9.2</td>
</tr>
<tr>
<td>Maximum 24 hr. Precipitation</td>
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<tr>
<td>Maximum Snowfall</td>
<td>63</td>
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<tr>
<td>Days with Measurable Precipitation</td>
<td>7</td>
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<tr>
<td>Average # of Thunderstorms</td>
<td>0</td>
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<tr>
<td><strong>SUNSHINE / CLOUDINESS</strong></td>
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<tr>
<td>Number of Clear Days</td>
<td>9</td>
</tr>
<tr>
<td>Number of Partly Cloudy Days</td>
<td>8</td>
</tr>
<tr>
<td>Number of Cloudy Days</td>
<td>14</td>
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<tr>
<td>% Possible Sunshine</td>
<td>56</td>
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A Weed By Any Other Name...

As you drive along Bryce Canyon’s scenic roadways or hike any of the trails, you may see Bryce Canyon’s revegetation crew and volunteers hard at work. They’re identifying and documenting information such as species, location, and size of exotic vegetation infestations; manually pulling non-native plants; conducting erosion control measures on steep slopes; and reestablishing disturbed soils.

Bryce Canyon has currently documented 73 exotic plant species that have been in the park at one time. How did these “weeds” become established here? Wildlife may have played a small role. Animals with large ranges such as mule deer, black bears, and mountain lions can bring exotic plant seeds embedded in their fur. Birds may eat berries and seeds that, when passed through their digestive systems and excreted, can sprout exotics. Rodents may cache seeds for winter use in various locations, thus spreading the seed base. Probably more significant, though, is the role that humans play in this cycle. For instance, the revegetation crew is working to ensure that soils disturbed by road construction activities are repopulated with native, rather than exotic invasive species. Clothing and boot soles carry and spread non-native seeds into the backcountry, and vehicles do the same along roadways. How can you help prevent the loss of native plant diversity to invasive species at Bryce Canyon? Scrapping boots and cleaning the undercarriages of vehicles prior to entering the park will help.

Once identified, exotic species are eradicated using a number of techniques, including manual (hand-pulling and chopping), mechanical (chainsaw), fire, and—as a last resort—chemical means. Sometimes a combination of techniques is utilized such as in the case of tamarisk, *Tamarix ramosissima*. Small tamarisk plants can be pulled by hand if care is taken to remove the entire taproot. However, larger trees must be cut with a chainsaw, and the stumps treated with chemical herbicides to prevent resprouting. Tamarisk favors fragile riparian areas and outcompetes native species due to its rapid growth rate, deep taproots, and salt secretions that create a hostile environment for native plants.

Along the park’s roadsides, our crew is planting and reseeding soils with native plants. To prevent roadside weeds from becoming established, the crew will reseed with native seeds and transplant native shrubs, trees, and grasses. Seeds gathered from grasses and forbs native to the Paunsaugunt Plateau were sent to a nursery in Meeker, Colorado, in order to produce the number of seeds needed for the area of coverage.

Erosion control has also been undertaken along the road. You may have seen the “waddles” (stake—filled, net-covered cylinders that are certified weed free) staked into the bare hillsides. Waddles prevent soil loss from sloughing downhill or being washed down drainage ditches until roots from the reseeding efforts take hold and naturally bind the soil.

Help Stop Animal Cruelty

Feeding wild animals is a classic example of how good intentions can unwittingly cause serious harm. In fact, feeding wildlife is actually a form of animal cruelty!

Fed animals frequent roads and parking lots where they are much more likely to get run over by cars. Furthermore, wild animals have very strict natural diets and therefore very specific types of digestive bacteria. Human food causes the wrong type of digestive bacteria to become dominant. Soon, fed animals can no longer digest their natural foods and ultimately will starve to death with full stomachs. What could be more cruel?

Fed animals will even teach their offspring to beg for food. These young animals may never learn the necessary skills to find natural foods and grow up totally dependent on humans for survival. The act of feeding wildlife can also be dangerous to people. Rodents are notorious for transmitting diseases. You put yourself in jeopardy every time you get within flea-jumping distance 6-9 feet (2-3 m) of a squirrel or prairie dog. Worse yet, feeding can cause normally docile animals, like deer, to become aggressive. In one sad instance at Yosemite National Park, a young child was gored and killed by a “spike” deer buck when he refused to relinquish his sandwich to the animal.

Unfortunately, once animals become habituated to humans, their behavior often leads to management actions that may result in their removal from the park.

Giving in just once to the big, brown, pleading eyes of a cute animal can have major consequences. Be responsible. Learn to be a friend of wildlife by not trying to befriend animals with food.

Please spread the word. True animal lovers don’t feed wild animals. Help protect your national parks.

Please do not feed the animals!

¡No dé comida a los animales!

Ne donnez pas à manger aux animaux!

Bitte nicht die Tiere füttern!

Please do not feed the animals!

Bite nicht die Tiere füttern!

Ne donnez pas à manger aux animaux!

¡No dé comida a los animales!

The Hoodoo 9
Protecting Natural Darkness

Losing Afraid of the Dark?

Some people are afraid of the dark. Interestingly, Bryce Canyon’s park rangers are scared of the light! Perhaps you’d be fearful, too, if it was your job to protect some of the best dark left in the world.

Preserving darkness isn’t easy. Education is our best tool, as Bryce Canyon’s biggest threats to darkness come from outside its boundaries. Protecting the dark requires using light wisely. Light that shines down is often necessary; however, light that escapes sideways or upward only pollutes the night and dims the stars. Many municipalities have found that by switching to shielded light fixtures, they can more effectively illuminate neighborhoods with less electricity. This not only reduces light pollution, but their residents’ tax burden, as well.

Being far from civilization, Bryce’s night skies are not only dark, but our high desert location makes our thin air very easy to see through. Consequently, this is a phenomenal place for stargazing. With a limiting magnitude rating of 7.4, Bryce’s sky is as dark as world class astronomical research locations. By comparison, a moonless night in a small town setting rates at a 6.0 magnitude, where 2500 individual stars can be seen twinkling in the void. But here at Bryce, 7500 are visible to the unaided eye!

As darkness falls, the first star may actually be the planet Venus, shining so brightley at Bryce it will cast your shadow. Venus is soon followed by Vega, Arcturus, and other bright stars. When the transition from light to dark is complete, look for the combined light of billions of stars all so distant they appear as one long cloud stretching across the sky.

Behold, the Milky Way! This stellar strip of light is only a portion of our galaxy, which contains 200 billion stars.

In most places it’s never dark enough to see, but at Bryce, only hours after sunset, your eyes will be able to see 2.2 million light years to the Andromeda Galaxy. Near the hind legs of the constellation Pegasus you will discover this fuzzy cloud that astronomers know as M31. Andromeda is simultaneously the largest and most distant object you will ever see with your unaided eye, measuring 110,000 light years in diameter!

At Bryce, the Andromeda Galaxy is just the beginning. From the vantage point of this sanctuary of darkness, a universe of stellar wonders await. Join park rangers for one of our popular astronomy programs where you can marvel at all the heavens have to offer. Before being veiled by the light pollution of the modern world, these deep sky objects were once visible everywhere. Now over much of the planet they are hard to detect. It is estimated that less than half of the residents of the northern hemisphere can even see any of the Milky Way!

It is easy to feel insignificant underneath such vastness, yet ironically, it is within an individual’s power to help preserve such a view. Close your blinds at night and replace porch lights with motion sensor security lights. Become involved in local efforts to establish good lighting. Who knows? Perhaps your home town has the potential for Bryce Canyon quality stargazing. In most places, all it takes to restore the heavens is a shared passion for the dark and the unified responsible management of light.
Established in 1961, Bryce Canyon Natural History Association is a non-profit organization dedicated to assisting Bryce Canyon National Park and Dixie National Forest in furthering their scientific, educational, historical, and interpretive activities. This is accomplished, in part, by making educational publications and materials available for sale and/or free distribution, and supporting existing interpretive activities, like the Junior Ranger Program.

Every purchase from a Bryce Canyon Natural History Association bookstore helps support our mission.

As a Natural History Association member, you can help us:

- Publish nearly a half million pieces of free literature for park visitors each year.
- Support resource management research activities.
- Support educational outreach programs to schools in southern Utah and beyond.
- Continue National Park Service research projects that document the natural and human history of Bryce Canyon National Park.
- Support the Junior Ranger Program.
- Help publish interpretive books, maps, posters, and audio-visual products that educate visitors about Bryce Canyon National Park and Dixie National Forest.
- Support the Bryce Canyon Interpretation Division of the National Park Service.
- Provide scholarships to deserving students and universities.

A membership with Bryce Canyon Natural History Association includes these benefits:

- 15% discount on all books, maps, posters, and other products sold by Bryce Canyon Natural History Association in our stores, by phone (888 362-2642), or online (www.brycecanyon.org).
- Discounts to hundreds of other stores operated by more than 60 non-profit cooperating associations at numerous national parks and other public lands throughout the United States (you must present your membership card to receive discount).
- Bryce Canyon Natural History Association members receive a discount on most High Plateaus Institute courses. These courses offer in-depth outdoor education to visitors. Call or check our website for listings.

Bryce Canyon National Park wants to thank its generous donors and park partners for helping to improve programs and services here at the park.

The Bryce Canyon Natural History Association provides the park with booklets and badges for the Junior Ranger program, printing costs for this Hoodoo newspaper and other publications, and housing for Volunteers and interns. The Association also funds a full time Education/Outreach Specialist for the park.

In 2008, two Geoscientist-in-Parks interns were funded by the Geologic Society of America. These interns assisted with research, presented public geology programs throughout the summer, and provided training for park staff on the geology of the Colorado Plateau. Our Natural History Association also helped to fund these two positions.

The Bryce Canyon Lodge and Ruby’s Inn Resort have implemented a Dollar Check-Off Program. Guests at their hotels have the option of donating a dollar per night of their visit. These programs have funded seasonal employees for interpretation and the trail crew.

A hearty “thanks” to our generous donors and park partners. We couldn’t do it without you!

Become a personal partner with Bryce Canyon National Park to help preserve and protect the wonder and resources for this and future generations.

Bryce Canyon Lodge

High Plateaus Institute

In the spring of 2004, the Bryce Canyon Natural History Association and Bryce Canyon National Park, in collaboration with the local business community, school officials, universities, and city, county, state and federal government entities, initiated efforts to facilitate the inaugural year of the High Plateaus Institute (HPI). This exciting educational endeavor provides researchers, students, teachers, local residents, and visitors with expanded opportunities for exploration, discovery, and science-based learning.

In 2007, the Hoodoo Visitor Center was purchased in 2007.

The Hoodoo provides interpretive equipment that directly benefits the visiting public. A “state of the art” projector for the visitor center auditorium was purchased in 2007.

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Thank You to Our Donors & Partners

V.I.P.s

(Volunteer-In-Parks)

Last year, more than 280 volunteers donated over 28,000 hours to Bryce Canyon National Park! If you’ve got time and talents to share, why not become a Volunteer-In-Park (V.I.P.)?

For more information, log on to:
www.volunteer.gov/gov.

To learn more about our astronomy volunteer program, log on to:
How do I drive to...?

Driving Distances

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The Waterpocket Fold, a giant wrinkle in Earth’s crust, features a jumble of colorful cliffs, massive domes, soaring spires, twisting canyons, and graceful arches. Ancient rock art and historic orchards tell of the park’s cultural history. Orchards are open June to October for “self-serve picking” of cherries, pears, apricots, peaches, and apples. Visitor Center: 435-425-3791

Capitol Reef National Park
121 miles northeast via Utah 12 & 24
At 10,350 feet (3155 m), Capitol Reef is the highest Park Service unit and features a spectacular amphitheater of walls, fins, spires, and columns eroded out of colorful Claron limestone. Forests of pine, spruce, fir, and aspen are separated by alpine meadows ablaze with brilliant summer wildflowers. Temperatures are usually cool. Headquarters: 435-856-9451
www.nps.gov/capre

Cedar Breaks National Monument
83 miles west via Utah 12, US 89 & Utah 14
At 10,150 feet (3100 m), Cedar Breaks is America's highest alpine basin. Overlooking a jagged 10,000-foot (3000 m) drop, the spectacular 120-sq-mile (310-sq-km) basin is a mecca for stargazers and nature lovers. Headquarters: 435-856-9451
www.nps.gov/cebr

Grand Staircase-Escalante National Monument
South and east via Utah 12 & US 89
Administered by the Bureau of Land Management, this 1.9 million acre area features diverse and ruggedly beautiful landscapes. Utah 12 and US 89 skirt the fringes of the monument and offer numerous scenic pull-outs. All of the roads in the monument’s interior are unpaved, and many require 4-wheel drive. Escalante Visitor Center: 435-856-5499
www.nps.gov/cebr

Red Canyon / National Scenic Byway 12
124-mile route between US 89 & Utah 24
National Scenic Byway 12 stretches 124 miles from Red Canyon to Capitol Reef National Park and provides breathtaking views across the Grand Staircase and into the Escalante Canyons. The Federal Highway Administration designated this route an “All-American Road,” making it a “destination unto itself.” Ask for a Byway 12 Route Guide at any visitor center along the way.

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