

The Bristlecone

National Park Service
U.S. Department of the Interior



The official newspaper of Great Basin National Park
Summer 2011 - Spring 2012



Cold, wind, and ice have battered this tree for thousands of years; for bristlecone pines, beauty comes with age. Photo by B. Roberts.

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Great Basin National Park
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Superintendent
Andy Ferguson

Park Headquarters
(775) 234-7331

Mailing Address
Great Basin National Park
100 Great Basin National Park
Baker, NV 89311

Web Site
www.nps.gov/grba

E-mail
grba_interpretation@nps.gov

Lehman Cave Ticket Sales
(775) 234-7331 ext. 242

For Employment with the NPS or
other federal agencies, go to
www.usajobs.opm.gov.

Cell phone reception is
not reliable in the park and
surrounding areas.

Welcome to Great Basin National Park!

Hello and welcome to Great Basin National Park! If this is your first visit to the area, you are in luck. You have a chance ahead to know a national park in the same way that visitors used to enjoy our true national treasures. Here, there are seldom noisy crowds, long lines or traffic jams. Instead we hope you'll find park staff willing to answer your questions and share something special about the Great Basin. You are in for a wonderful experience filled with discoveries and memories that could last a lifetime. And if you are returning, you already know why this park seems like a throwback to the past. What makes Great Basin National Park so special? Maybe it is the cool high desert streams hiding cutthroat trout, the star-studded night skies, the absolute darkness and quiet of Lehman Cave or the chance to imagine how earlier residents made a living from this seemingly unforgiving landscape.

As the Superintendent of the park, I am proud to share all of this with our visitors. There really is something here for everyone. That is, unless your tastes require high-tech entertainment and more urban conveniences. We are not so sophisticated. At Great Basin National Park, our visitor centers aim to educate and inspire while the campgrounds provide the surroundings for needed relaxation. Park trails present a challenge for every level of hiking experience. In my opinion, the park staff is top notch and you will see their wealth of knowledge, pride and workmanship. Don't be afraid to ask questions. If you need help, they are also ready to assist you. BUT, please be safe in everything you do here. The opportunities to get out into nature's playground may involve unfamiliar and unknown

situations. Enjoy the experience, but plan ahead and use good judgment. We are a long way out and it can take a long time bring help.

You will want to plan a visit to Lehman Cave and see what has attracted visitors to these underground wonders since the 1880's. Maybe a campfire program is something you would enjoy as you consider the next day's hike among bristlecone pine trees up to 5,000 years old. Do not miss seeing the stained glass panorama or the newest exhibits at the Great Basin Visitor Center in Baker. Leave the wildflowers where you find them, but you can pick the pine nuts. If you are lucky, taste how good a fresh-caught trout can be! Maybe you will happen upon some deer in our historic orchard or view desert bighorn sheep in the distance during your stay. Visit a limestone formation as tall as a six story building, known as Lexington Arch, or the rock glaciers on Wheeler Peak's flanks. Have you given yourself enough time here?

Finally, let me thank you for coming. Thank you for traveling so far off the beaten path. We hope that through your park experience that you have come to better understand this part of our heritage as Americans. We have succeeded if our visitors take away a new appreciation for the stories and a greater sense of ownership for the resources under all of our care. And we have really succeeded when you tell your friends, "Great Basin is my favorite park!"

Andy Ferguson
Superintendent

The view from Mather Overlook takes in Jeff Davis and Wheeler Peaks. Autumn colors fill the Lehman Creek drainage below. Park user fees funded the construction of the new observation deck and restroom, completed in 2010. Photo by B. Roberts.



Park Facilities

Lehman Caves Visitor Center

The Lehman Caves Visitor Center is located at the end of the main park entrance road (Hwy 488). The visitor center is open every day of the year except Thanksgiving Day, Christmas Day, and New Year's Day. The self-guided Mountain View Nature Trail begins at the visitor center. Restrooms, drinking water, and a pay phone are also available. Adjacent to the visitor center, Lehman Caves Gift and Café is open in the summer 8:00 a.m. to 5:00 p.m.

Great Basin Visitor Center

The Great Basin Visitor Center, located just north of the town of Baker, provides information on the park and the Great Basin region. Exhibits funded through donations raised by the Great Basin National Park Foundation tell the geological, biological, and cultural stories of the Great Basin. A short trail (bicycles and pets on leashes permitted!) leads from the visitor center to Baker. Open in summer 8:00 a.m. to 5:30 p.m.

Accessibility

Both visitor centers are wheelchair accessible. The Lehman Caves Visitor Center provides a lift between the parking lot and main level. Audio-visual programs are subtitled. All four developed campgrounds have at least one accessible site with a picnic table, fire grate, and tent pad. These sites are generally located next to restrooms. All sites are first-come, first-served. When campgrounds fill, these sites are made available to all campers.

Evening programs are offered during the summer at the Upper Lehman Creek and Wheeler Peak Campgrounds. Programs are given in wheelchair-accessible amphitheaters.

Assisted listening devices are available for use with any ranger-led program, including cave walks and evening programs. Talk to a ranger at a visitor center about using one before the start of the program.

To access the telephone relay services, TTY users should call (800) 326-6868. The user will be connected to an interpreter and automated system. The voice number in Nevada to reach an interpreter is 1-800-326-6888.

Picnic Areas

The park has several developed picnic areas. The first is located near the Lehman Caves Visitor Center parking lot. It has several accessible tables and fire grills. Restrooms and water are available in the summer. Upper Lehman Creek Campground has several picnicking possibilities, including an area near the host site and tables near the amphitheater that are available for groups through a special use permit (775-234-7331, ext. 213). Picnic and restroom facilities are also located at the Pole Canyon trailhead and at Mather Overlook.

WNPA Bookstores

Western National Parks Association operates bookstores in both of the park visitor centers. Both stores offer a wide range of titles on the natural and cultural resources of the region. Additional titles can be purchased on their website: www.wnpa.org.

Strawberry Creek Delays and Closures

This summer, major improvements will be made to the road and campsites in Strawberry Creek. To expedite work and to ensure the safety of our staff and visitors, there will be delays and closures throughout the summer. Expect construction delays and/or closures Mondays through Thursdays. Park staff will be opening and closing areas as construction progresses.

For the most up-to-date information, ask a ranger at a visitor center.

Campgrounds

Great Basin National Park has four developed campgrounds with vault toilets, picnic tables, tent pads, and campfire grills. There are no hookups or leveled parking sites. Water is available in the summer at the campgrounds, or year-round at the visitor centers. Campsites are first-come, first-served. No reservations can be made. Visitors are responsible for knowing and following all campground regulations, which are posted on the campground bulletin boards. Camping fees are \$12 per night per site (\$6 with a Senior or Access Pass), with a 50% reduction when the water systems are turned off (spring and fall).

Lower Lehman Creek Campground is open year-round, is located along the Wheeler Peak Scenic Drive at an elevation of 7,300 feet and has 11 sites including 6 pull-throughs.

Upper Lehman Creek Campground is generally open May through October, is located along the Wheeler Peak Scenic Drive at an elevation of 7,752 feet and has 22 sites.

Baker Creek Campground is located along the Baker Creek Road at an elevation of 7,530 feet and has 34 sites, 6 of which are pull-throughs. It is generally open May through October.

Wheeler Peak Campground is located at the end of the Wheeler Peak Scenic Drive at an elevation of 9,886 feet and has 37 sites. It is generally open Late May/early June through September.

Grey Cliffs Group Campground is available (groups only) by reservation from Memorial Day to Labor Day. It has pit toilets and picnic tables but no potable water. Fees apply. Reservations required: (775) 234-7331, ext. 213.

Ten newly developed campsites are located along **Strawberry Creek Road**. Sites are free and include fire grates, picnic tables and a centrally located pit toilet. There is no water.

Free primitive camping facilities are available along **Snake Creek Road**. All sites have fire grates. Snake Creek sites have picnic tables; some also have pit toilets. Group size is limited to 15 people, 6 pack animals, and 6 vehicles per site. Maximum stay is 14 days per site.

RV Dump Station

The RV dump station, potable water, and trash receptacles are located approximately one half mile inside the park on the entrance road (Hwy 488). Summer only; \$5.00 fee applies, no discounts.

Visiting Lehman Cave

Tour Prices

Grand Palace Tour

Adults (16+)	\$10.00
Youth (5-15)	\$5.00
Infants/Tots (0-4)	N/A
Senior Pass	\$5.00
Access Pass	50%

Lodge Room Tour

Adults (16+)	\$8.00
Youth (5-15)	\$4.00
Infants/Tots (0-4)	FREE
Senior Pass	\$4.00
Access Pass	50%

Tour Times

Summer Schedule

(May 27 - Sept. 5, 2011)

Grand Palace Tour

9:00, 11:00, 1:00 and 3:00

Lodge Room Tour

8:30, 10:30, 12:30, 2:30
and 4:00

Winter Schedule

(Sept. 6, 2011 - May 24, 2012)

Grand Palace Tour

9:00 and 1:00

Lodge Room Tour

11:00 and 3:00

All times are Pacific Time



Cave popcorn (left), stalagmites (center) and translucent cave bacon (right) are just a few of the formations found in Lehman Cave. Explore this underground world on a guided walk with a Great Basin National Park ranger. NPS photos.

Tour Information

Lehman Cave can only be entered with a guided tour. All tours are guided by a park ranger who will discuss the history, biology and geology of the cave. **To minimize the spread of White Nose Syndrome, a screening process is now in effect: see page 5.**

The **Grand Palace Tour** visits all areas of the cave that are open to the public, takes approximately 90 minutes, is 0.54 miles long, and is open to visitors ages 5 and older.

The **Lodge Room Tour** visits several rooms in the cave, takes approximately 60 minutes, is 0.4 miles long, and is open to all visitors.

A Gothic Palace Tour is an option for visitors who are unable to negotiate the stairs and narrow passageways. The entrance tunnel is 250 feet long with a 5-8% grade; wheelchairs are permitted only if members of your party can control and push the chair both into and out of the cave. Speak with a ranger for details.

Limited **photography** is permitted. Please follow your ranger's guidance on when and where to take photos and be aware that flashes can impair vision and disorient other visitors.

For Your Comfort and Safety

- The elevation of the cave entrance is 6,825' (2080 m).
- There are steps and slopes along the cave tour route.
- Low ceilings may require frequent stooping.
- Trails may be slippery. Wear shoes with good traction.
- Watch your step and use handrails where provided.
- Stay with your tour and stay on the trail.
- The cave is a constant 50° F (10° C) and 90% humidity.
- A light jacket is recommended.

A Fragile Environment

The Lehman Cave ecosystem is easily affected by our presence and actions. Please help us in our effort to maintain its integrity by following these important rules:

You may bring a jacket, a hand-held camera, and a flashlight into the cave. All other items, including food, water or other beverages, purses, backpacks, camera cases, and tripods are not allowed. Touching or collecting of cave formations is strictly prohibited.

Ticket Sales

Lehman Cave tours are limited to 20 people per tour and do sell out. Tickets may be purchased up to one month in advance. Tickets cannot be purchased over the phone on the day of the tour.

Tickets may be purchased in person at the Lehman Caves Visitor Center or by phone at (775) 234-7331, ext. 242. All tickets must be paid for at the time of purchase. Major credit cards are accepted for phone orders. Phone orders are taken between 9:00 a.m. and 4:00 p.m. All advance sales are final; please plan carefully.

Advance tickets must be picked up at the Lehman Caves Visitor Center at least 15 minutes prior to tour time. Unclaimed tickets will go on sale to walk-in customers and will not be refunded. Senior and Access Passes must be presented to be eligible for a discount.

Purchase your Annual Pass at Great Basin National Park and get one FREE cave tour ticket!

The pass covers entrance fees at all National Park Service sites and other federal recreation sites for one year. Buy your \$80 pass at Great Basin National Park and you receive one free cave tour - up to a \$10.00 value!

White-Nose Syndrome, Bats, and You

White-Nose Syndrome (WNS) is a fungal disease that has killed more than 1 million bats in the U.S. and Canada. WNS is named for the white fungus that grows around infected bat's faces and other body parts. It was first documented in the winter of 2006-2007 in upstate New York and has since spread as far west as Oklahoma and as far south as North Carolina. White-Nose syndrome has been linked to the fungus *Geomyces destructans* and results in bats exhibiting abnormal behavior during winter months such as flying during the day and clustering near entrances. In some hibernacula (caves or mines where bats spend the winter) 90 to 100 percent of the bats have died. This epidemic has been called one of the greatest wildlife disasters in our nation's history. Bats make up over 20% of the mammal species on Earth and save the U.S. agricultural industry over three billion dollars a year in pest-control services.

Great Basin National Park is deeply concerned about the bat populations within and around the park and has developed a White-Nose Syndrome Response Plan, consistent with National Park Service guidance. As part of this plan, **all visitors to Lehman Cave are now screened through a simple question and answer process.** Visitors who have not been in any cave or underground mine in the past year, or who are not wearing any clothing, shoes, or other items that were in another cave or mine can go straight to their tour. **If visitors do have on clothing, shoes, cameras or other items that were in another cave or underground mine, they will be required to either change or clean items before**

being allowed on the tour. Cameras or other hard items can be wiped down with decontaminate wipes (provided by the park) and shoe soles can be decontaminated by immersion in a solution bath for 10 minutes (also provided by the park). As this process can take some time, visitors are encouraged to show up early or only wear and bring items that have not been in other caves or underground mines. Great Basin National Park is also taking the additional step of closing seven wild caves to recreational caving. Those seven caves are used by bats throughout the year. One wild cave, Little Muddy, will remain open each winter from October 1st to April 1st for those who can demonstrate cave conservation ethics, experience caving, and certify that their equipment is clean and disinfected.

As new information about both WNS and *Geomyces destructans* comes to light, Great Basin National Park will be implementing new decontamination and monitoring procedures, as well as other required guidance, as it becomes available. The park has also committed to reviewing the entire White-Nose Syndrome Response Plan, including cave closures, in three years time. Please work with us to protect our bats and their habitat.

You can find out more on the park website www.nps.gov/grba, the U.S. Geologic Service National Wildlife Health Center website www.nwhc.usgs.gov or the U.S. Fish and Wildlife Service website www.fws.gov/WhiteNoseSyndrome/.

Lehman Cave Restoration is Completed



Before (left) and after (right) restoration of the Sunken Garden, completed in 2011. Photos by Rick Bowersox, Southern Nevada Grotto.

After nearly three years, the Lehman Cave Restoration Project has been completed. This project, funded through the Southern Nevada Public Lands Management Act, has restored 4,700 square feet of cave floor in Lehman Cave to a natural condition by removing over 800 feet of trails and 1,500 feet of electrical lines from the cave. These areas of the cave were closed to public use in 1981 following safety concerns in the Talus Room. As abandoned features deteriorated and decomposed, they impacted the natural resources and water quality in the cave.

The restoration project was carried out by park staff and volunteers from the Southern Nevada Grotto (a caving group of the National Speleological Society based in Las Vegas) as well as other cavers and grottos from Nevada and Utah. Volunteers removed trail, hauled buckets, and conducted a before-and-after photographic inventory.

Park staff and volunteers removed all of the trail and electrical system. Most recently, the final cleanup of the Sunken Gardens section was completed, as staff removed over 100 years of debris from the pools. The concrete, asphalt, and sand making up the trail were removed one 5-gallon bucket at a time. Each bucket weighed over 52 pounds, and staff and volunteers hauled over 2,200 buckets totaling over 57 tons of debris. While most of the restored area is out of sight of visitors, dramatic changes in the Sunken Gardens are visible on the Grand Palace Tour. A concrete and asphalt trail once covered large expanses of flowstone as well as the pools for which the area was named. Visitors can see three restored pools, with their rimstone dams and the dramatic flow of water down the flowstone into the pools.

Walks & Talks

Ranger Programs

A variety of ranger-guided walks and talks may be available throughout the summer, so join us to experience our remarkable resources first-hand! Evening campfire programs are offered in the summer at Upper Lehman Creek and Wheeler Peak Campgrounds. These programs are 45-60 minutes long and address subjects related to the Great Basin's human history, geology, plants, wildlife, and more. Fifteen-minute Patio Talks are presented throughout the day at the Lehman Caves Visitor Center and cover a range of subjects, as well. Also at the LCVV, twenty-minute Great Basin for Kids activities are a great way for families to get their children involved while they wait to enter the cave or just after they've finished their tour. For those who are able, joining a ranger for Lunch at the Bristlecones is a great way to learn about the ancient bristlecone pines and their high-altitude homes. The program schedule changes throughout the summer, so stop by a visitor center for program times, topics and locations. Pets are not permitted at ranger programs. All outdoor programs are weather dependent.

Self-guided Interpretive Trails

Great Basin National Park offers three self-guided interpretive trails. Walk through a pinyon-juniper ecosystem along the easy ¼ mile Mountain View Nature Trail, located at the Lehman Caves Visitor Center at 6,800 feet. Experience the sub-alpine forest first-hand along the ¼ mile accessible Island Forest Trail, located near Wheeler Peak Campground at 10,000 feet. Take some time to learn about the impressive survival strategies of the world's longest-living trees along the Bristlecone Interpretive Trail, located 1.4 miles up the bristlecone-glacier trail. See page 8 for trail information.



Whether day or night, Great Basin National Park is home to resources that visitors can explore on their own or with a ranger. Stop by a visitor center for current program schedules.

The Darkest Night Skies

Two-thirds of Americans cannot see the Milky Way from their backyards, and nearly all of us (99%) live in places with measurable light pollution. Here at Great Basin National Park, our night skies are dark — among the darkest in the country, even among other national parks. Join Great Basin's *Dark Rangers* for a celebration of this rare and valuable resource. Stargazing events are held every Wednesday and Saturday night (Memorial to Labor Day), and holiday weekends, May 28 & 29, July 2 & 3, July 23 & 24, and September 3 & 4. Two new 11-inch telescopes, donated by the Great Basin National Park Foundation (see article page 7), enable visitors to explore the cosmos.

Plan to attend our Second Annual Astronomy Festival for three days of astronomy-themed events. The festival will be held July 28-30, 2011. Join park rangers for out of this world family fun, with both daytime and nighttime activities. Visit our website or one of our visitor centers for a schedule of events.

The Great Basin Artist-in-Residence Program



To date, Great Basin National Park has hosted photographers Trish and Deon Reynolds, stained-glass artist Kay Malouff, poet P. D. Weddington and painter Mike Hess, shown here capturing the view from the Wheeler Peak Overlook. Photo by B. Roberts.

Throughout our nation's history, artists and writers have brought attention to our national heritage and have played a large part in the establishment of many national parks. Today many artists are able to visit our national park areas and become part of the many Artist-in-Residence programs offered by our national parks.

Great Basin National Park follows the tradition, offering the Darwin Lambert Artist/Writer-in-Residence Program. This program was created in honor of the late Darwin Lambert. As a proponent for the creation of Great Basin National Park and other parks, Lambert authored *Great Basin Drama* (available in park bookstores) in addition to other literary works.

This program offers visual and performing artists, composers, and writers the opportunity to live and work in Great Basin National Park. The selected resident(s) stay in a small cabin in the park for two to four weeks in the fall. No stipend is offered. Residents are required to present one public program in which they describe their work in relation to the park and its natural and cultural resources. Residents must also donate one original piece of their work to the park's permanent museum collection.

Learn more at www.nps.gov/grba/supportyourpark/artist-in-residence.htm.

Bioblitz: You Can Help to Document What Lives in Great Basin National Park

Have you ever wanted to contribute information and knowledge to a national park? Have you wondered what it would be like to be a scientist for a day or two? Would you like to explore the back corners of a national park to help catalog what lives there? Do you think you could discover a new species?

All of these things are possible if you join us for Great Basin National Park's third annual Bioblitz. A Bioblitz is a short-term intensive search for a specified group of organisms. This year we are focusing on the Order Hymenoptera—bees, wasps, and ants. The Bioblitz will be held Monday through Wednesday, August 1-3. We will begin with a workshop Monday morning to learn more about Hymenoptera, collecting techniques, and where to go in the park. Then, starting at noon, we will begin a 48-hour collecting period. During this time, participants will go to a variety of locations in the park—some to campgrounds and along paved roads, others to tops of peaks and far into the backcountry. Participants will try to find all the Hymenoptera species that are present in the park at this time.

Along with collecting the insects, we will also collect data on where they were found, such as the dominant vegetation, temperature, and elevation. This way we will learn not only what bees, wasps, and ants live in



Volunteers of all ages are welcome to participate in the Great Basin Bioblitz, August 1-3, 2011! Photo by G. Baker.

the park, but also a little more about the habitats they prefer.

No experience is necessary. Dr. James Pitts from Utah State University and some of his students will be conducting training and lead the identification of the specimens. Other entomologists (scientists who study insects) will also be in attendance and share their expertise. We welcome citizen scientists of all ages.

To learn more about the Bioblitz, please visit the park website or ask about it at one of our visitor centers.

The Great Basin National Park Foundation

The Great Basin National Park Foundation was established and incorporated in 1998 under the laws of the State of Nevada to raise funds to assist Great Basin National Park and the National Park Service to achieve the park's mission. Bonnie Bryan, wife of Senator Richard H. Bryan, of Nevada, served as the Founding Chairperson. The Foundation is a non-profit, tax-exempt [501(c)(3)] organization.

To date, the Foundation has raised hundreds of thousands of dollars and has been able to support the Park in several projects. These projects include the exhibits at the Great Basin Visitor Center, recording local oral histories, and improving park trails. Most recently, the Foundation has supported the Park's Night Sky Program with the donation of two 11-inch Celestron telescopes. The Foundation's support, both financial and otherwise, makes them an invaluable park partner. To learn more about current projects and opportunities to donate, visit them on the web at www.greatbasinfoundation.org.



Exhibits at the Great Basin Visitor Center in Baker were made possible by the Foundation. Photo by B. Roberts.

Have you ever wanted to work in a national park?

Great Basin National Park can use your enthusiasm and expertise! Volunteers may be able to help the park in the following areas:

Campgrounds

Natural & Cultural Resource Management

Interpretation & Education

The Park Library & Museum

Housing may be available, depending on length and season of service.

Thank you to all the 2010 Volunteers who donated over 15,590 hours to help with campgrounds, trails, visitor services, and resource management projects!



If you would like to help YOUR NATIONAL PARK by volunteering, call: (775) 234-7331, ext. 213.

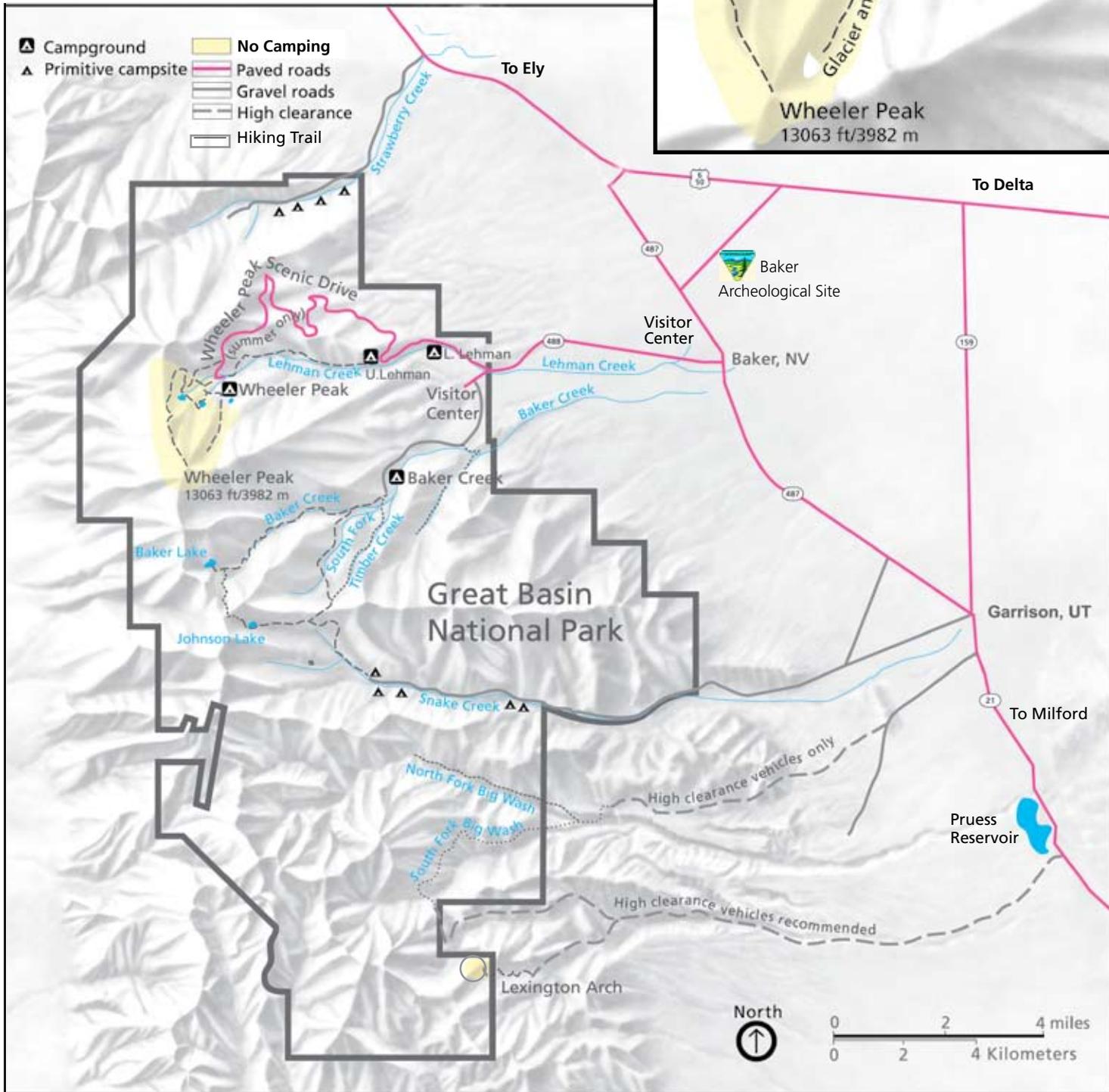
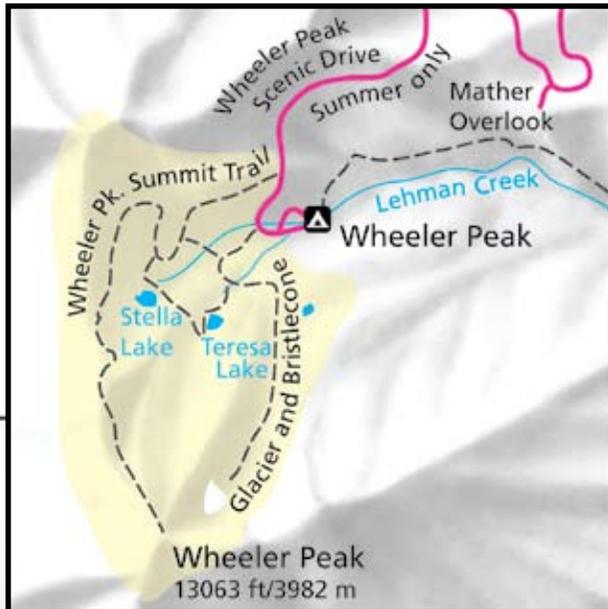
Hiking Information

	Round-trip Distance	Elevation Gain	Starting Elevation	Description
Mountain View Nature Trail	0.3 miles (0.4 km)	80 feet (25 m)	6,825 feet (2,080 m)	This is a leisurely walk in the pinyon-juniper forest. The trail guide (available for loan at the Lehman Caves Visitor Center) describes the geology and ecology of the area. The trail starts at the Rhodes Cabin next to the visitor center.
Lehman Creek Trail	6.8 miles (11 km)	2,050 feet (620 m)	7,750 feet (2,360 m)	This trail can be accessed from trailheads in both the Wheeler Peak and Upper Lehman Creek Campgrounds. It passes through diverse habitats, paralleling a creek for parts of the trail. <i>Flagged for winter use.</i>
Osceola Ditch Trail	9.6 miles (16.0 km)	445 feet (drop) (136 m)	8,565 feet (2,635 m)	Begin at the signed pullout on the Wheeler Peak Scenic Drive. Walk downslope through ponderosa pine, white fir and Douglas fir trees to the remnants of an 18 mile long channel built by gold miners in the 1880's. The trail follows the ditch towards Strawberry Creek.
Wheeler Peak Trail	8.2 miles (13 km)	2,900 feet (890 m)	10,160 feet (3,100 m)	This hike should be started very early in the day because of the risk of afternoon thunderstorms. Along most of the route, the trail follows the ridge up to the Wheeler Peak summit. It is easiest to begin the hike from the Summit Trailhead parking area. Day use only.
Alpine Lakes Loop Trail	2.7 miles (4.4 km)	600 feet (180 m)	9,800 feet (2,990 m)	The trail passes two beautiful alpine lakes, Stella and Teresa Lakes. There are good views of Wheeler Peak. Begin at the Bristlecone Trail parking area, near the Wheeler Peak Campground. Day use only.
Bristlecone Trail	2.8 miles (4.6 km)	600 feet (180 m)	9,800 feet (2,990 m)	Interpretive signs in the bristlecone pine grove explain the lives and significance of these ancient trees. The Glacier Trail continues beyond the bristlecone pine grove to the only glacier in Nevada, nestled beneath Wheeler Peak. Day use only.
Glacier and Bristlecone Trail	4.6 miles (7.4 km)	1,100 feet (340 m)		
Pole Canyon Trail	4 miles (6.4 km)	600 feet (180 m)	7,000 feet (2,150 m)	This hike starts east of the Grey Cliffs Campground area and crosses a small bridge. Once a road, this primitive trail passes through different forest communities, along the creekbed, and into several small meadows. If you are looking for a longer, more strenuous hike, ask a ranger how to connect to the Timber Creek Trail.
Baker Lake Trail	12.0 miles (19.4 km)	2,620 feet (800 m)	8,000 feet (2,440 m)	The trail begins at the end of the Baker Creek Road. It offers nice views of the surrounding peaks and ends at Baker Lake, an alpine lake with beautiful cliffs behind it. Just over a mile up the trail is the cut-off for the loop trail. Pass through ponderosa pines and a beautiful meadow, then return via the South Fork Baker Creek Trail.
Baker Creek Loop	3.1 miles (5 km)	870 feet (270 m)	8,000 feet (2,440 m)	
South Fork Baker Creek/ Johnson Lake	11.2 miles (18.2 km)	2,740 feet (840 m)	8,000 feet (2,440 m)	This trail also begins from the Baker Creek Road and follows the South Fork of Baker Creek. It then joins with the Johnson Lake Trail, passing historic Johnson Lake Mine structures just before reaching the lake.
Johnson Lake Trail (from Snake Creek)	7.4 miles (11.8 km)	2,420 feet (740 m)	8,320 feet (2,540 m)	<div style="border: 1px solid black; background-color: yellow; padding: 2px; margin-bottom: 5px;">Warning: Do not enter any mine structures: STAY OUT, STAY ALIVE!</div> Johnson Lake can also be reached by starting at the end of Snake Creek Road. This shorter, steeper route offers nice views of the Snake Creek drainage before reaching the historic Johnson Mill and Johnson Lake. Please preserve the past by leaving historic objects and buildings undisturbed!
Baker Lake/ Johnson Lake Loop	13.1 miles (21.1 km)	3,290 feet (1,010 m)	8,000 feet (2,440 m)	The Baker Lake and Johnson Lake Trails can be combined into a loop hike. This makes a good overnight trip. The connecting section is a steep route over the ridge between Baker and Johnson Lakes. The ridge top offers spectacular views in all directions. <i>Caution: this trail is very steep and prone to avalanches in winter. Route finding can be difficult.</i>
Lexington Arch Trail	3.4 miles (5.5 km)	820 feet (250 m)	7,440 feet (2,270 m)	This trail leads to a six-story limestone arch. The trail has steep sections. The trailhead is outside of the park, about 25 miles (48 km) south of Baker. The road is unpaved. Check at a park visitor center for road conditions. Dogs on leash are permitted. Day use only.

Park Map

Finding Your Way

The maps shown here are meant as orientation maps and should not be used in place of trail maps. If you are planning on hiking, especially in the more remote areas, please purchase a topographic map at a park visitor center. Many trails in the park are primitive, making route finding difficult. It is a good idea to carry a compass and have basic orienteering skills before heading into the backcountry. The bookstores sell 7.5 minute topographic maps and trail maps, as well as books detailing the trails and routes in Great Basin National Park.



Park Road Access

Wheeler Peak Scenic Drive is paved, but steep and winding. Vehicles and trailers over 24 feet in length are not permitted beyond Upper Lehman Creek Campground. The scenic drive is open three miles to Upper Lehman Campground year-round. The upper nine miles of the road are generally open June through October, weather dependent.

Baker Creek Road is a graded gravel road and is generally open May through November, weather dependent.

Remote Park Roads (Strawberry, Snake, Lexington) are open year-round, but can be muddy or snowy in the winter and spring. High clearance vehicles are recommended for these rough, dirt roads.

Please drive slowly: speeding is the most common cause of accidents on these roads!

Travel distances from Baker: Ely: 63 miles west; Delta: 100 miles east; Milford: 85 miles south-east.

Recreation Hazards

Altitude Sickness is a condition brought on by high elevations often in conjunction with strenuous activity. Symptoms include difficulty breathing, nausea, incoherent speech, and headache. The cure is to descend immediately. Altitude sickness can be life threatening. To avoid altitude sickness, ascend slowly, eat lightly and frequently, and drink plenty of water.

Hypothermia is a serious condition in which a person's body temperature is lowered. It can occur at temperatures well above freezing. Avoid hypothermia by wearing appropriate, layered clothing. Do not wear cotton clothing as it is very cold when wet. Carry extra clothes, drink plenty of fluids, eat high energy foods, and stay dry. Signs of hypothermia include slurred speech and uncontrollable shivering. If someone shows signs of hypothermia, warm the individual slowly, replace wet clothes with dry ones and give the person warm liquids without caffeine.

Drinking Water is essential; it is easy to become dehydrated when hiking in the dry desert air. Carry plenty of water and drink it! All surface water should be chemically treated, boiled, or passed through a filter capable of eliminating harmful microbes and parasites such as giardia.

Abandoned Mines are common in the park and the surrounding region. They can be extremely dangerous. Shafts and tunnels are unstable; do not enter them. Great Basin National Park is currently working to make abandoned mine lands safer.

Driving conditions in the park can be hazardous. Please obey the posted speed limits. Use lower gears on long downhill sections to prevent overheated brakes. Use of seat belts is required in both Nevada and the park. Please stop only at pullouts. Watch for wildlife and pedestrians. Congestion in the visitor center parking areas can lead to accidents. Please use caution.

Cell Phones do not usually work in the park. Do not rely on them!

Planning for a Safe and Enjoyable Visit

Camping

Front country camping is permitted in any available developed campsite. See page 3 for details.

As a courtesy to your fellow campers, please follow all campground regulations. These regulations are posted on the information kiosk near the self-service fee stations as well as in the campground brochure. You can also contact a ranger or campground host for additional information.

Backcountry camping is free and permitted in many areas of the park. Please go to one of the park visitor centers to get recent trail condition reports and to acquire a backcountry camping informational brochure.

Fishing

Fishing is a very popular activity in Great Basin National Park. A valid Nevada fishing license is required for anglers age 12 and older and can be obtained online at www.ndowlicensing.com. Internet access and a printer are available at the Border Inn. Catch-and-release and use of barbless or de-barbed hooks is encouraged when fishing for Bonneville cutthroat trout. Within the park, the use of fish as bait, whether dead or alive or any parts thereof except for preserved salmon eggs is prohibited. Other aquatic bait may be used only in the water from which it is taken.

It is unlawful to transport live fish away from the body of water in which they were caught or to release them into another body of water. Introducing other aquatic species to the streams and lakes of Great Basin National Park severely impacts Bonneville cutthroat trout conservation efforts and is strictly prohibited by law.

Please note that there is a three mile irrigation pipeline that divides Snake Creek into two separate bodies. Fish and other aquatic organisms from the section of stream below the pipeline cannot be transferred to any portion of the stream located above the pipeline.

Mountain Biking

Bicycle riding is allowed in the park only on roads open to motor vehicles (no trails). Primitive roads within the park and on adjacent BLM lands offer challenges for all skill levels of mountain bikers, and some can be connected into loops. For more information on possible rides, check with a ranger at a visitor center. Please wear a helmet!

Natural and Cultural Resources

All park resources, both natural and cultural, are protected and therefore may not be damaged, disturbed, defaced, or removed from the park.

These resources include, but are not limited to, animal bones or antlers, live animals, rocks, fossils, standing trees both living and dead, any bristlecone pine wood whether standing or on the ground, arrowheads, rock art and any other historic objects.

For the enjoyment and safety of all visitors, please observe wildlife from a distance. For the health of the animals, please do not feed, touch, or otherwise disturb them from their natural state.

Many of these resources are fragile and irreplaceable, promptly report any violations to park staff.

Pack Trips and Stock Use

Horses, mules, burros, and llamas are permitted on the backcountry trails of the park, but not on paved roads, in developed campgrounds, developed areas, interpretive trails, the Lexington Arch Trail or the Wheeler Peak "No Camping" Area (see map page 9). Certified weed-free hay is required two days prior to and during your trip. More information is available at the visitor centers.

Pets

Pets are allowed in the campgrounds, but they must be on a leash of not more than 6 feet at all times. Pets are not allowed on trails or in the backcountry of the park, except for the Lexington Arch trail and the trail between Baker and the Great Basin Visitor Center. Leashed pets may be exercised in the campgrounds, in front of the visitor centers, and along roads. Please do not leave pets unattended except in your vehicle. These restrictions are intended to prevent harassment of wildlife and to provide for a better experience for other park visitors.

Vehicles and Traffic Safety

For your safety and the safety of other visitors and wildlife, please abide by posted speed limits signs and traffic control devices.

Due to the steep and winding nature of the Wheeler Peak Scenic Drive, single vehicles and trailers greater than 24 feet in length are not permitted beyond the Upper Lehman Creek Campground parking area.

Only all-terrain (ATV) / off-highway (OHV) vehicles that are properly licensed and registered ("street-legal") are permitted on park roads. Unlicensed vehicles are not permitted. Currently, Nevada does not register ATVs/OHVs to be "street-legal" but some other states do. Driving off designated roadways is strictly prohibited.

Please DO NOT DRINK AND DRIVE and avoid driving while fatigued. Be aware that animals congregate near roadways in and around the park, especially in the early morning, at dusk and at night.

Contact a ranger or stop by a visitor center for additional information. Regulations specific to Great Basin National Park are published in the Superintendent's Compendium, available on the park's website: www.nps.gov/grba/parkmgmt/lawsandpolicies.htm.

Great Activities for Kids and Families

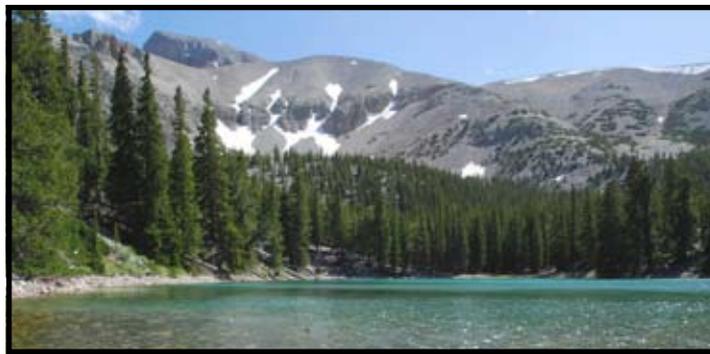
Alpine Lakes Loop This trail passes two beautiful alpine lakes, Stella and Teresa Lakes. There are good views of Wheeler Peak. Begin at the Bristlecone Trail parking area, near the Wheeler Peak Campground.

Campfire Programs are offered in the summer at Upper Lehman Creek and Wheeler Peak Campgrounds, weather permitting. Program topics are related to the Great Basin's cultural and natural resources and programs last 45 - 60 minutes. Please come prepared with warm clothing and a lantern or flashlight.

Family Adventure Packs provide an opportunity for families to discover, learn about and document local resources while they explore Great Basin National Park. Each "themed" pack is equipped with a field journal and a large variety of educational tools for young explorers. Three different packs are available for check-out from park visitor centers: *Nature Discovery*, *Tracking*, and *Night Exploration*.

Great Basin for Kids activities are a wonderful way for families to get their children involved while they wait to enter the cave or just after they've finished their tour. Meet on the back patio of the Lehman Caves Visitor Center for this 15-20 minute activity.

Junior Rangers After completing several activities in the book, attending a ranger program, and doing a



Teresa Lake, along the Alpine Lakes Loop, is a great spot to take a break, though a tad chilly for swimming! NPS photo.

service activity like picking up trash at your campsite, participants receive a certificate and a junior ranger badge.

Lehman Cave is an amazing playground for your child's imagination! The Lodge Room Tour (60 minutes) is recommended for families with young children (details page 4).

Star Parties are fun for the whole family, though you may want to take an afternoon nap since these programs go quite late! Details page 6.

Program schedules change throughout the summer. Check our website or stop by a visitor center to find out what is happening during your visit.

New Firearms Regulations Take Effect

On February 22, 2010, a new federal law came into effect allowing individuals to possess firearms in national parks so long as it is done in accordance with the state and local regulations in which the park unit is located. While visiting Great Basin National Park those wishing to be in possession of firearms must abide by the laws of the State of Nevada.

As of the date of this publication Nevada law does not restrict those in legal possession of a firearm from "open" carry. Nevada law allows for the concealed carrying of firearms so long as the individual has a valid concealed carry weapon (CCW) permit from the state of Nevada or one of the following states: Alaska, Arkansas, Kansas, Louisiana, Michigan, Missouri, Nebraska, Ohio, Tennessee, or West Virginia. Please note: Nevada does NOT recognize CCW permits issued by the state of Utah.

Federal law prohibits the possession of firearms in designated federal facilities. This includes visitor centers, park offices, maintenance buildings, and in Lehman Caves.

The following firearms restrictions are in effect:

It is still unlawful to use, point, or brandish a firearm in a national park.

Hunting in Great Basin National Park is prohibited.

Possession and use of other types of weapons is still prohibited. These include (but are not limited to) compressed gas or spring powered pistols or rifles, bow and arrows, crossbows, blowguns, spearguns, hand thrown spears, sling shots, paintball guns, irritant gas devices, explosive devices, or any other type of weapon designed to discharge missiles or projectiles.

It is the responsibility of the individual to understand and comply with all applicable federal, state, and local firearms laws before entering the park. Additional information may be found at www.nps.gov/grba or through the Nevada Department of Public Safety website <http://dps.nv.gov/>.

Leave No Trace

Leave No Trace refers to a method of outdoor recreation which minimizes the impact on the land and wildlife. These techniques also leave the area more enjoyable for the next hiker. More information can be found at www.LNT.org.

Plan Ahead and Prepare

Plan ahead for your safety and enjoyment and to protect the landscape in order to have a safe, enjoyable vacation with minimal impact to the land. Always carry a map, compass, food, water, rain protection, sunscreen, sunglasses, and warm clothing when hiking.

Camp and Travel on Durable Surfaces

When trail hiking, stick to the trail. Do not widen it or cut switchbacks. When hiking cross-country, pick your route to avoid impacting fragile areas, like alpine or wetland vegetation.

Dispose of Waste Properly

Pack out everything you brought in with you, including cigarette butts and food scraps. Bury human waste in a hole 4-8 inches deep. Pick a site at least 200 feet (60 m) from water, campsites, and trails. Do not leave toilet paper on the ground; pack it out with you.

Leave What You Find

Leave the areas you have used (such as campsites) looking natural. Park regulations prohibit collection of anything, including flowers, rocks, or historical and archeological artifacts. Ask a ranger about exceptions such as pinyon pine nuts and berries.

Minimize Campfire Impacts

Build small fires in preexisting fire rings or use a camp stove. The park only permits the use of dead and down wood for fires. Bristlecone pine wood may not be burned. Fires are not permitted above 10,000 feet elevation (3,060 m).

Respect Wildlife

Observe wildlife from a distance. Never feed animals, and keep your food properly stored. Control pets at all times.

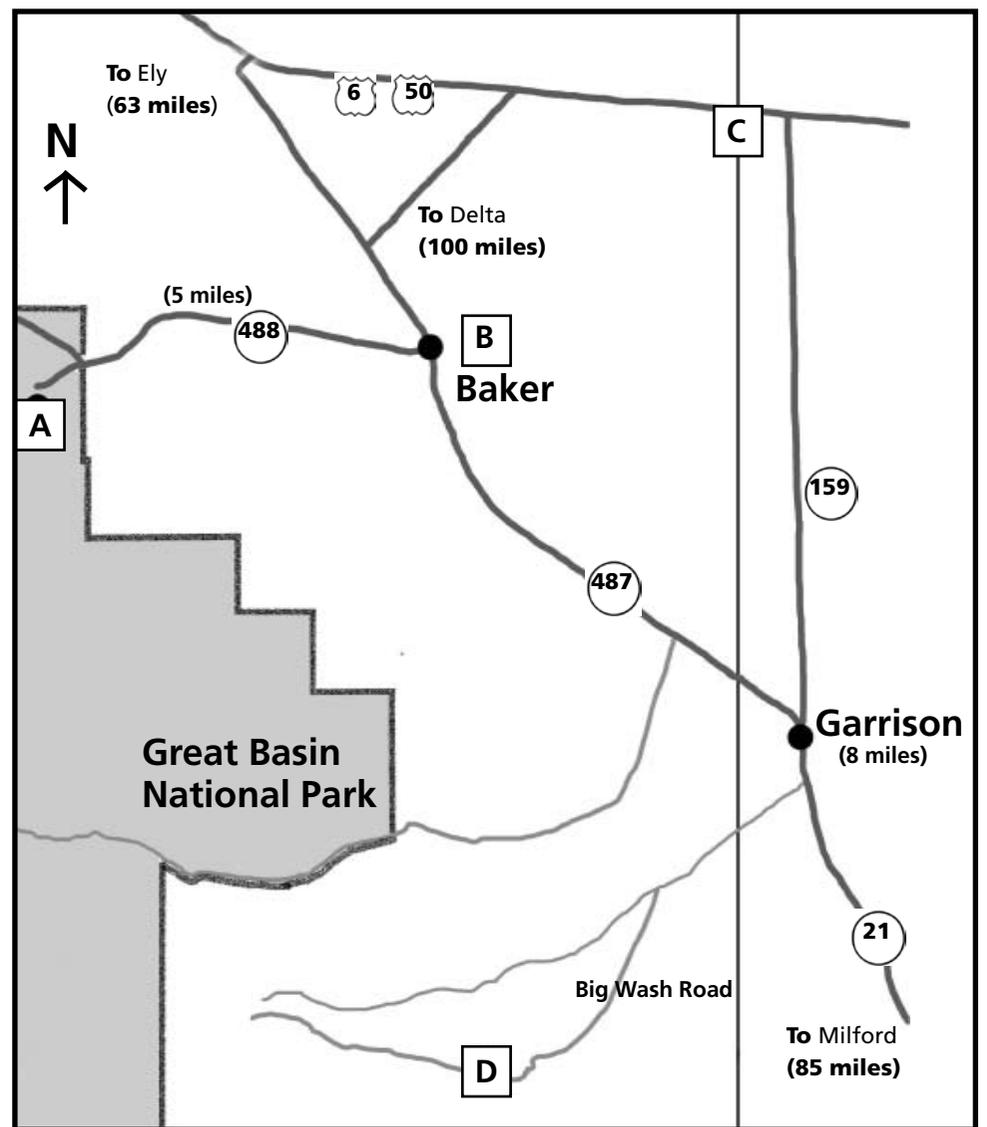
Be Considerate of Other Visitors

Be courteous, yield to other users on the trail, take breaks and camp away from others, and let nature's sounds prevail.

Area Services

- Convenience Store
- Fuel
- Gift shop
- Laundry facilities
- Lodging
- Public showers
- Restaurant
- RV facilities

- A** **Lehman Caves Visitor Center & WNPA Bookstore**
(775) 234-7331 x212
- Lehman Caves Gift and Café**
(775) 234-7221
- B** **Great Basin Visitor Center & WNPA Bookstore**
(775) 234-7331 x260
- Baker Ranch Service Station**
- Ferg's Firewood**
- Getaway Cabin**
(775) 234-7272
- Happy Burro Trad'n Post**
(775) 234-7115
- Silver Jack Inn & Art Gallery**
Lectrolux Cafe, Bar & Deli
(775) 234-7323
- T&D's Store, Restaurant & Lounge**
(775) 234-7264
- Whispering Elms Campground**
(775) 234-9900
- C** **Border Inn (open 24 Hours)**
(775) 234-7300 year-round
- D** **Hidden Canyon Guest Ranch**
(775) 234-7172 year-round



Mileages listed are from Baker.

To learn more about local services, visit www.greatbasinpark.com.

Western National Parks Association

Established in 1938, WNPA operates bookstores at sixty-five National Park Service sites throughout the western United States, with a mission of promoting the preservation of the national park system and its resources by creating greater public appreciation through education, interpretation, and research. WNPA has contributed more than \$40 million to the National Park Service, generated through store sales and member support. WNPA supports parks by producing more than a half million free interpretive items every year.

Currently, the association has more than 200 publications in print, and many new products are introduced every year, such as the book on Great Basin National Park published in 2007. A catalog of these WNPA publications and hundreds of additional educational products, on a variety of subjects such as national parks, archeology, American Indians, biology, geology, history, cooking, and children's interests is available in the Great Basin National Park visitor center bookstores.

You can find those titles not immediately available in the bookstores at our online store at www.wnpa.org.

WNPA supports Great Basin National Park in many ways, such as funding supplies, the park's Junior Ranger program, and the printing of this newspaper.

Climate	Month	Average Max.	Average Min.
<p>There is almost an 8,000 foot (2,400 m) difference in elevation between Wheeler Peak and the valley floor. Weather conditions in the park vary with elevation. In late spring and early summer, days in the valley may be hot, yet the snowpack may not have melted at high elevations. The Great Basin is a desert, with low relative humidity and sharp drops in temperature at night. In the summer, fierce afternoon thunderstorms are common. Weather conditions are highly variable. Please come prepared for all types of weather. It can snow any time of the year at high elevations.</p> <p>Data from Lehman Caves Visitor Center, 6,800 feet.</p>	January	41°F (5°C)	18°F (-8°C)
	February	44°F (7°C)	21°F (-6°C)
	March	48°F (9°C)	24°F (-4°C)
	April	56°F (13°C)	31°F (-1°C)
	May	66°F (19°C)	40°F (4°C)
	June	76°F (24°C)	48°F (9°C)
	July	86°F (30°C)	57°F (14°C)
	August	83°F (28°C)	56°F (13°C)
	September	75°F (24°C)	47°F (8°C)
	October	62°F (17°C)	37°F (3°C)
	November	49°F (9°C)	26°F (-3°C)
	December	42°F (6°C)	20°F (-7°C)

Snake Valley Businesses

The Border Inn

24-hour service. Motel (25 rooms w/ Direct TV), free WI-FI, restaurant (full menu + daily specials), bar, slots, pool table, video games, showers, gas, diesel, phones, laundry, ATM, and souvenirs. Convenience store and ice. 22 RV spots: full hookups and pull-through spaces. Computer available to print boarding passes, fishing licenses, etc. Located on the Utah-Nevada state line on Highway 6 & 50. 13 miles from the park. (775) 234-7300.

D Bar X Lighting & Horns-A-Plenty Antler Art

Hand-crafted chandeliers, wall sconces, tables and more using natural renewable antlers, wooden wagon wheels, and old-fashioned oil lanterns. Thousands of happy customers worldwide since 1993. UL-Approved. All products guaranteed. The workshop, located 17 miles from Baker, is open by appointment. Complete catalog with more than 200 items available on-line at www.Horns-A-Plenty.com. Call for an appointment or a free color catalog. (800) 467-6599.

Ferg's Firewood

Campfire wood—\$5.00 per large bundle. Self-serve, 24-hour availability. Two locations in Baker—follow the signs. Proceeds go to a local, hard-working student's college fund.

GAS-TOILETS-LAUNDROMAT-SHOWERS at Baker Sinclair.

Gas & Diesel, Coin Laundry (wash & dry) in downtown Baker, public restrooms, and showers (\$3). (775) 234-7323.

The Getaway Cabin

Tired of motels? How about privacy in a clean, comfortable cabin located in the town of Baker. Room for the whole family. Satellite TV, wireless internet available, fully equipped kitchen, towels and linens provided, fenced yard with picnic area and barbecue. Small pets OK. (775) 234-7272.

Happy Burro Trad'n Post

Located in downtown Baker. We are open daily in summer, 8-6pm, or just knock on the door. Featuring fresh dried fruits, nuts & jerky. A good selection of sodas & power drinks. American Indian and Southwest jewelry & other crafts; knives featuring Booker, Swiss Army, and others; Black Hills Gold and silver jewelry (including Harley Davidson); t-shirts; and colorful rocks, crystals, and geodes. For our customers, come in & enjoy FREE WIRELESS INTERNET, a cup of coffee or a glass of cold water. We validate Highway 50 "The Loneliest Road" PASSPORT. (775) 234-7115.

Hidden Canyon Guest Ranch

Bed and Breakfast in luxury in our Lodge. Balcony-view rooms, private bath, king bed, luxury bedding, small fridge, full-cooked breakfast included. Full meal packages available by reservation only. Relaxing environment by running water, fly fishing (bring your own equipment), wonderful hiking. Great for a private getaway or design-your-own

fitness vacation. 14 miles from Baker, in the mountains at the eastern edge of the park with private access to Big Wash Trail. Open year-round. Reservations required. rcrouch7172@gmail.com, www.greatbasinpark.com, Hidden Canyon Ranch, P. O. Box 180, Baker, NV 89311 (775-234-7172).

Lehman Caves Gift and Café

Located adjacent to the Lehman Caves Visitor Center. Famous for our homemade ice cream sandwiches, we also serve breakfast, lunch, snacks, hand dipped ice cream cones, malts, shakes, frozen treats, and home-baked desserts. The gift shop has Great Basin and Lehman Caves souvenirs, apparel, cards, mugs, books, plush animals, toys and games, pottery, wood and metal arts, jewelry, local and Great Basin crafts, camping and travel items, and bagged ice. Open April through October. (775) 234-7221.

Silver Jack Inn & Lectrolux Restaurant/Deli/Bakery/ Groceries/Esspresso/Book Store/Gallery-Movie House

Cozy Inn rooms, Café with patio, free WI-FI, and private garden dining for breakfast & dinner every day, lunch Fri-Sun, Full bar -espresso, beer, wine and spirits. Movies Wed. & Sat. evenings. Also sports equipment rentals (Mtn. bikes, snow shoes, xCountry skis). **Art/Antiques Gallery** on site (ceramic, furniture, photography, painting, sculpture, crafts). Guided hikes, 775-234-7323, www.silverjackinn.com. Homemade desserts, and assorted goodies. Best wine list in rural America! Free primitive camping when campers patronize restaurant and/or grocery store. Every Fri night - allucaneat Pizza and cheap microbrews! Every Wed eve-TRIVIA PRIZE NIGHT.

T & D's Grocery Store, Restaurant, and Lounge

In business for over 21 years. Store open 7 days/week, carries large supply of groceries (meats, produce, dairy, can goods), beer, wine, liquor, soda, ice, ice cream bars, fishing tackle, and camping supplies). Sorry we no longer sell NV fishing and hunting licenses. Grab some fresh baked goods and coffee from the store and enjoy the covered patio for morning breakfast. Restaurant serves lunch & dinner 7 days/ week. Chef "T" has 35+ years of culinary experience. Well known for our pizza, but have a large variety of delicious Italian, Mexican, American and Vegetarian dishes at affordable prices. Dine in bright, cheery sunroom or on relaxing outdoor covered patio. Full-service bar-Chef "T" can mix up some incredible gourmet cocktails! Entertainment includes pool table, dart board, and surround-sound system. Open year round (reduced hours in winter). Located in downtown Baker (775) 234-7264.

Whispering Elms Motel, Campground & RV Park

5 miles from Great Basin National Park, located in beautiful Baker, NV. Offering 25 full and partial service RV sites, 6 clean motel rooms, bar, large grassy area for tents, many shady trees, coin laundromat, clean showers, free WI-FI, and satellite TV for motel guests. Bar open daily. Open Spring-Summer-Fall. (775)234-9900.

Regional Directory

Chambers of Commerce

White Pine County, NV

(775) 289-8877

Delta, UT

(435) 864-4316

Beaver County, UT

(435) 438-5438

Recreation Information

Humboldt-Toiyabe Nat'l Forest

(775) 289-3031

Ely Distict BLM

(775) 289-1800

Fillmore District BLM

(435) 743-3100

Bryce Canyon National Park

(435) 834-5322

Cathedral Gorge State Park

(775) 728-4460

Cedar Breaks NM

(435) 586-9451

Death Valley National Park

(760) 786-2331

Fremont Indian State Park

(435) 527-4631

Lake Mead NRA

(702) 293-8990

Timpanogos Cave NM

(801) 756-5238

Ward Charcoal Ovens & Cave Lake State Parks

(775) 728-4460

Zion National Park

(435) 772-3256

Road Conditions

Nevada DOT

(877) NVROADS (687-6237)

Utah DOT (Winter Only)

(866) 511-UTAH (8824)

California DOT

(800) 427-7623

While Great Basin National Park does not endorse the enterprises listed here, we do wish to thank them for their generous support in producing this publication as a visitor service.

When Is the Full Moon?



Full moon over the Snake Valley.
Photo by B. Roberts

Flower Moon

May 17, 2011

Strawberry Moon

June 15, 2011

Buck Moon

July 15, 2011

Sturgeon Moon

August 13, 2011

Harvest Moon

September 12, 2011

Hunter's Moon

October 12, 2011

Beaver Moon

November 10, 2011

Cold Moon

December 10, 2011

Wolf Moon

January 9, 2012

Snow Moon

February 7, 2012

Maple Sugar Moon

March 8, 2012

Planter's Moon

April 6, 2012

Mapping the West from Wheeler Peak

Panorama view of Spring Valley from Wheeler Peak shows distant ranges and peaks where other survey signal stations were located. All communication was done by mirror signal.

The violence of the electric discharge, the thunder claps was not infrequently so alarming that the party had to seek safety behind and under ledges of rock below the summit of the peak.

~ Annual Report of the Superintendent of the U.S. Coast and Geodetic Survey, 1882, U. S. Government.

In the fall and early winter of 1882 survey crews of the U.S. Coast and Geodetic Survey camped on top of Wheeler Peak (then known as Jefferson Davis Peak) to begin the task mapping the uncharted territory of the West. The men endured the winds, rain, violent storms and blizzards, to collect measurements vital in calculating distances and elevations. Their station high atop the mountain was part of the larger mission to map the 39th Parallel from eastern California to Pikes Peak in Colorado and portions of Missouri. Wheeler Peak was the highest station in the grid between Salt Lake base and the Sierra Nevada range. When their task on Wheeler was complete they left rock cairns, stone walls, instrument platforms, and a survey datum rod marking the highest peak in the central Great Basin.

Hikers ascending Wheeler Peak experience some of the highest points of western history. Rock windbreaks on the ridges and cleared platforms in the talus provided rest and storage areas for the 1882 supply and trail crews, and for surveyors who camped below the

summit in the worst weather. More than 10,000 pounds of equipment was needed at the top of the hill. A stone platform and cairn on the peak held instruments and marked azimuth lines measuring to distant peaks. The low stone circle and the higher rectangular stone walls on the peak are remnants of structures built to secure tents to protect instruments from the battering winds.

On the peak in 1882 survey crews waited hours and even days for weather conditions to clear on the surrounding peaks in the grid. On foot or horseback it could take days to relay messages over the distances. Mirror flashes from Pioche Peak 70 miles south, Gosiute Peak 63 miles north, and White Pine station to the southwest were the only form of communication to coordinate the work. There were often only short windows of time when the views were clear enough to signal and scope the distant stations to collect readings.

The trigonometric calculations that followed provided data to draft accurate maps for transportation, mining, property surveys, and even state boundaries. The network of station datum points were left in place as base marks for later surveys. Until the advent of satellite technology these were the primary points that connected remote places of the West. The low walls and structures left on Wheeler Peak are an important part of the history of the west and a testament to hardships and the perseverance of men dedicated to the geodesy (the science of mapping) to connect the country through accurate maps.



This stone cairn (L) marked one of the azimuth directions for instrument readings and calculations. The circular rock structure (R) was over four feet high with a tent inside to house the 1881 survey instruments. Photos by K. Jageman.

Bark Beetles in Great Basin National Park: Changing the Look of the Forests



The pinyon ips beetle is responsible for the death of this pinyon pine tree. In high-use areas, such as campgrounds, the NPS removes “hazard trees” that result from beetle outbreaks. Photo by G. Baker.

Many trees in Great Basin National Park appear to be dead or dying, largely due to outbreaks of native bark beetles. These bark beetles are taking advantage of drought, fire suppression, and climate change conditions, swarming into the forests and overwhelming the natural defenses of the weakened trees. It is common to have low levels of bark beetles in forests all the time, but these high levels have made noticeable changes in the landscape.

Different bark beetles target different trees. Mountain pine beetles attack limber, bristlecone, and ponderosa pine. White fir engraver beetles target white firs, often beginning at the top of the tree and working their way down. Douglas-fir beetles attack Douglas-fir trees, and spruce beetles are spreading among the Engelmann spruce trees at the higher elevations.

What is the park doing about bark beetles? Because they are native and the National Park Service allows natural processes to prevail, in most of the park the bark beetles will be allowed to run their course. Prescribed fire and thinning of stands may help the health of the forests and allow trees to be more resistant to attack. In high-use areas, such as campgrounds, picnic areas, and along road corridors, beetle-

infested trees can create safety hazards. As the trees die, they weaken and are more likely to fall, so some beetle-infested trees will be removed.

To help prevent beetles from infesting trees in high-use areas, a couple of treatments are available. One treatment for use in low-infested areas is the use of pheromone pouches. Two pheromones are used: verbenone for limber, bristlecone, and ponderosa pines, and MCH for Douglas-firs. The pheromone pouches are stapled to the trees, generally on the north side and about six-feet high. They send out a chemical signal that the tree is already filled with beetles, and thus encourages them to use another area. You may see some of these pouches during your visit in the park.

The park is developing a Bark Beetle and Hazard Tree Management Plan to prepare to use another strategy, spraying the insecticide Carbaryl on limber pine and Engelmann spruce to repel beetles. This strategy would be implemented primarily in the Wheeler Peak campground and along sections of the Wheeler Peak Scenic Drive. Before any spraying is done, signs would be posted at all campgrounds, park visitor centers, and on the park website. If this strategy works, fewer trees would be infested, and thus fewer would have to be cut down.

Although bark beetles are native, there is concern that a non-native pathogen may arrive and further weaken trees. White pine blister rust attacks trees of all ages, with young trees dying quickly. In combination with bark beetles, which are attacking the mature, seed-producing trees, white pine blister rust could greatly reduce populations of some trees. The park is particularly concerned about high-elevation pine species: limber pine and bristlecone pine. As part of a proactive strategy to prepare for the coming of white pine blister rust, the park has begun collecting seeds from these species. The seeds will be grown for seven years and then inoculated with white pine blister rust. Those that show resistance will have additional seeds gathered so that the park can help keep these native species thriving. During the time of the test, verbenone pouches will be placed on the trees to keep the beetles away.

It is much easier to prevent the introduction of a forest pest than it is to control an infestation after it has been introduced. Early detection is also important in managing a spread. Park managers and U.S. Forest Service personnel are conducting aerial surveys and forest health assessments, identifying the potential for introductions, and educating the public in order to prevent any introductions from occurring. Excellent brochures about bark beetles are available at the park visitor centers.



Although bark beetles are native to the forests of Great Basin National Park, human-caused factors such as fire suppression may be contributing to current outbreaks.

How You Can Help

The park is concerned about the introduction of non-native forest pests (such as white pine blister rust) to the park. You can help in various ways:

Do not transport firewood outside a 100-mile radius of location of procurement: Forest pests don't stop at the park boundary, and they can cause serious problems when they spread to wild areas. Use local firewood, leave unused wood behind when you go home, and burn firewood where you bought it.

Do not bring outside plant materials into the park: It might seem attractive to brighten your campsite with a supermarket azalea, but plants from outside the park can bring new insects and diseases into Great Basin.



The Great Basin National Heritage Area



Photo by D. Gooch.

Great Basin National Park lies within a national heritage area. Like national parks, national heritage areas are designated by Congress in recognition of their contributions in making up the unique fabric of our country. There are nearly 50 such Areas in the United States.

The Great Basin National Heritage Area was designated by the U.S. Congress in 2006 for its classic western landscape that contains long natural vistas, isolated high desert valleys, mountain ranges, ranches, mines, historic railroads, archeological sites and tribal communities.

The Great Basin National Heritage Area is a geographical region encompassing White Pine County, Nevada and Millard County, Utah and adjacent Indian reservations that contains nationally significant archaeological, historical, cultural, natural and scenic features that are emblematic of the entire Great Basin Area.

The Great Basin Heritage Area Partnership (GBHAP) is the coordinating entity for the Great Basin National Heritage Area. The National Park Service helps to fund the Partnership, and Great Basin National Park is the GBHAP's primary partner.

The history of the Great Basin Region is long and interesting. There have been many players. Included is a story of mountain building. The mountains blocked moisture from the west, creating deserts. Ancient bristlecone pine trees could persist on mountain moisture but sagebrush covered the broad valleys.

Distances between mountain "islands" led to plant and animal communities that were, to some degree, unique to each isolated area. Moving through the region are pronghorn, mule deer, elk, mountain lions, coyotes, rabbits, bats, hawks, eagles and other migratory birds. Some streams and lakes support fish populations, including the native Bonneville cutthroat trout.

Early inhabitants were able to grow corn, beans and squash in valleys watered by mountain springs. Spanish explorers encountered tribes of Shoshone and Paiutes that still live here today. Mormon pioneers established sparse settlements in the mid 1800's. The Pony Express and telegraph blazed transportation and communication routes across the area.

Prospectors found deposits of gold, silver and copper; mining followed. Sheep herders and cattlemen utilized the range. Railroads were built to haul out the mineral ore and livestock. Small settlements grew, attracting Greeks, Serbs, Basques, Italians, and Scandinavians. Some of the boom periods have passed away, leaving the landscape, people, structures and practices you see today. This is an important piece of our national heritage.

Visitors to the Great Basin National Park are encouraged to explore the cultural and natural features of the surrounding region and learn about its heritage. Learn more at greatbasinheritage.org.

Straddling the Utah-Nevada border, the Great Basin National Heritage Area is rich in natural and cultural resources. Photos by D. Gooch and B. Roberts.

