

# The Bristlecone

National Park Service  
U.S. Department of the Interior



The official newspaper of Great Basin National Park. Summer 2006 - Spring 2007.

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Photograph: Bristlecone in the Wheeler Cirque on the last day of winter by Pete Dronkers



Great Basin National Park  
National Park Service  
U.S. Department of the Interior

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(775) 234-7269

**Lehman Caves Advance Ticket Sales**  
(775) 234-7331 ext. 242

**For Employment with the National Park Service** or other federal agencies, log on to [www.usajobs.opm.gov](http://www.usajobs.opm.gov). Seasonal jobs are listed on [www.sep.nps.gov](http://www.sep.nps.gov).

Note:

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

The National Park Service cares for the special places saved by the American people so that all may experience our heritage.

# What Is The Great Basin?

At first glance, the Great Basin appears to be a desolate landscape not worthy of exploration, but nothing could be further from the truth. The rich diversity of this region may be subtle, but from the sagebrush to the mountain tops there are a thousand secrets to discover.

Defining the Great Basin begins with a choice: are you looking at the way the water flows (hydrographic), the way the landscape formed (geologic), or the resident plants and animals (biologic)? Each of these definitions will give you a slightly different geographic boundary of the Great Basin, but the hydrographic definition is the most commonly used.

**The Hydrographic Great Basin** is a 200,000 square mile area that drains internally. All precipitation in the region evaporates, sinks underground or flows into lakes (mostly saline). Creeks, streams, or rivers find no outlet to either the Gulf of Mexico or the Pacific Ocean. The region is bounded by the Wasatch Mountains to the east, the Sierra Nevada to the west, and the Snake River plain to the north. The south rim is less distinct. The Great Basin includes most of Nevada, half of Utah, and sections of Idaho, Wyoming, Oregon, and California. The term “Great Basin” is slightly misleading; the region is actually made up of many small basins. The Great Salt Lake, Pyramid Lake, and the Humboldt Sink are a few of the “drains” in the Great Basin.

The **Basin and Range** region is the product of geological forces stretching the earth’s crust, creating many north-south trending mountain ranges. These ranges are separated by flat valleys or basins. Across the region are “ranges [that] come in waves, range after range after north-south range, consistently in rhythm with wide flat valleys; basin, range, basin, range; a mile of height between basin and range” (John McPhee,



Basin and Range). These hundreds of ranges make Nevada the most mountainous state in the country.

The **Great Basin Desert** is defined by plant and animal communities. The climate is affected by the rain shadow of the Sierra Nevada and Cascade Mountains. It is a temperate desert with hot, dry summers and snowy winters. The valleys are dominated by sagebrush and shadscale. The biologic communities on the mountain ranges differ with elevation, and the individual ranges act as islands isolated by seas of desert vegetation. Because the Great Basin exhibits such drastic elevation changes from its valleys to its peaks, the region supports an impressive diversity of species, from those adapted to the desert to those adapted to forest and alpine environments.

## Welcome to Great Basin National Park!

No matter how short or how long your stay, there are many treasures awaiting your discovery. Great Basin National Park offers you the opportunity to discover ancient landscapes and history, experience the quiet spirit of the mountains and the basins, enjoy the abundance of stars in the night skies, and wander through pristine sub-alpine forests. Take the time to discover the spirit and secrets of the park.

The Great Basin is a spectacular example of America’s vastness and spirit. Great Basin National Park preserves a small representative piece of this region and is a place you can experience the fascinating resources of this vast area. The park provides an abundance of natural features and history for all to enjoy. From the depths of Lehman Caves to the 13,063 foot height of Wheeler Peak, from the natural landscape that includes ancient bristlecone pines, streams, lakes, and majestic mountain ranges to the abundant wildlife including pronghorn, badgers, mule deer, coyotes, and eagles, Great Basin National Park is yours to discover.

America’s national parks are about caring for the land, the wildlife, and our spirit as a people. Our national parks serve as shining examples of America’s foresight and deep love for country and a generosity of spirit that is evidenced by the preservation of so many extraordinary treasures for all people to enjoy now and throughout the future. The national parks provide places to discover the meaning of our spirit, our country, and our world through preservation of nature and cultural traditions.

Camping, hiking, birding, photography, wildlife observation, exploring – the list of ways to enjoy and understand Great Basin’s natural beauty and history is unlimited. Join a park ranger on one of the many activities offered daily or explore and discover the park on your own. Experience your America. Make Great Basin National Park your own special place, and have a safe and memorable visit.

# Park Facilities

## Lehman Caves Visitor Center

The Lehman Caves Visitor Center is located at the end of the main park entrance road. The visitor center contains exhibits, a bookstore, and a theater featuring a video about Lehman Caves and the Park. The visitor center and Lehman Caves are open every day of the year except Thanksgiving Day, Christmas Day, and New Year's Day. Lehman Caves Gift and Cafe (open April through October) is located adjacent to the visitor center. The self-guided *Mountain View Nature Trail* begins at the visitor center. Restrooms, drinking water, and a pay phone (no coins, calling cards available at gift shop) are also available. *Open 8:00 a.m. to 4:30 p.m. (pacific time), with extended hours in the summer.*

## Great Basin Visitor Center

The new Great Basin Visitor Center, located just north of the town of Baker opened in May 2005. This new center allows visitors to obtain information on the Park and the Great Basin region. The Great Basin Visitor Center houses a bookstore, exhibit hall, and mini-theater. This summer and fall, exhibits on loan from the Nevada Humanities will occupy the exhibit hall. Photographs donated by regional and local artists are also on display. The visitor center is open every day of the year except Thanksgiving Day, Christmas Day, and New Year's Day. Restrooms and drinking water are also available. *Open 8:00 a.m. to 4:30 p.m. (pacific time), with extended hours in the summer.*

## 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. This area is open from 8:00 a.m. to 4:30 p.m. Summer hours may be extended. **Upper Lehman Creek Campground** has several picnicking possibilities, including an area near the host site, tables near the amphitheater, and a group picnic area available by reservation. The newest park picnic area and restroom facilities are located at the **Pole Canyon trailhead**.

## 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.*

## Campgrounds

Great Basin National Park has four developed campgrounds with vault toilets, picnic tables, tent pads, and campfire grills. Only a few campsites can accommodate long trailers or RVs. There are no hookups or leveled parking sites. *Only Lower Lehman Creek Campground is open year-round.* Water is available in the summer at the campgrounds, or year-round at the visitor centers.

All campsites are first-come, first-served. **No advance reservations can be made.** Campsites may not be "saved" or reserved for members of a party arriving later. Up to two vehicles, three tents, and eight people are allowed per campsite. Campgrounds fill often during summer months, especially on weekends and holidays. Visitors are advised to find a campsite early in the day. **Campground regulations are posted on the campground bulletin boards. Visitors are responsible for knowing and following all regulations.**

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

**Free primitive camping** facilities are available along Snake Creek and Strawberry Creek roads. All sites have fire grates. Snake Creek sites have picnic tables; some also have pit toilets. Camping is usually available at the park's primitive sites or on neighboring U.S. Forest Service or Bureau of Land Management areas.

## Accessibility

Both visitor centers are fully accessible to mobility impaired persons. Service dogs are allowed in Lehman Caves. Only the Gothic Palace is wheelchair accessible. Visitors who are in wheelchairs or who are unable to negotiate the narrow passageways beyond the Gothic Palace may join the first part of any 90-minute tour for a reduced fee.

Each campground has at least one accessible site (locations marked on maps posted on campground bulletin boards) with adapted picnic tables, cement pads, and paved pathways leading to nearby restrooms. Campfire programs at Wheeler Peak and Upper Lehman Creek Campgrounds are reached by accessible dirt paths.

Some park documents are available in alternate formats, such as large format. Please contact the park in advance to make a request.

For more information on accessibility, including wheelchair accessible trails, pick up a copy of the *accessibility* site bulletin at a park visitor center.

Campgrounds		Nightly Fees:					Per Site (regular fee): \$12.00	Golden Age or Golden Access: \$6.00
	Elevation	Sites	Accessible Sites	Pull-through Sites	Usually Open	Distance from Visitor Center	Comments	
Lower Lehman Creek	7,300 feet (2,200 m)	11	1	6	year-round	2.5 miles (4.0 km)	Nearest campground host is at Upper Lehman Creek campground.	
Upper Lehman Creek	7,752 feet (2,362 m)	22	1	0	May - October	3.5 miles (5.6 km)	Group picnic area available by reservation. Campground host, Site 1	
Baker Creek	7,530 feet (2,295 m)	34	2	6	May - October	3.5 miles (5.6 km)	Access is via a graded gravel road. Campground host, Site 8	
Wheeler Peak	9,886 feet (3,013 m)	37	1	0	June - September	12.0 miles (19.0 km)	Access is via the narrow, curvy Wheeler Peak Scenic Drive. Vehicles longer than 24 feet are not recommended. Campground host, Site 1	

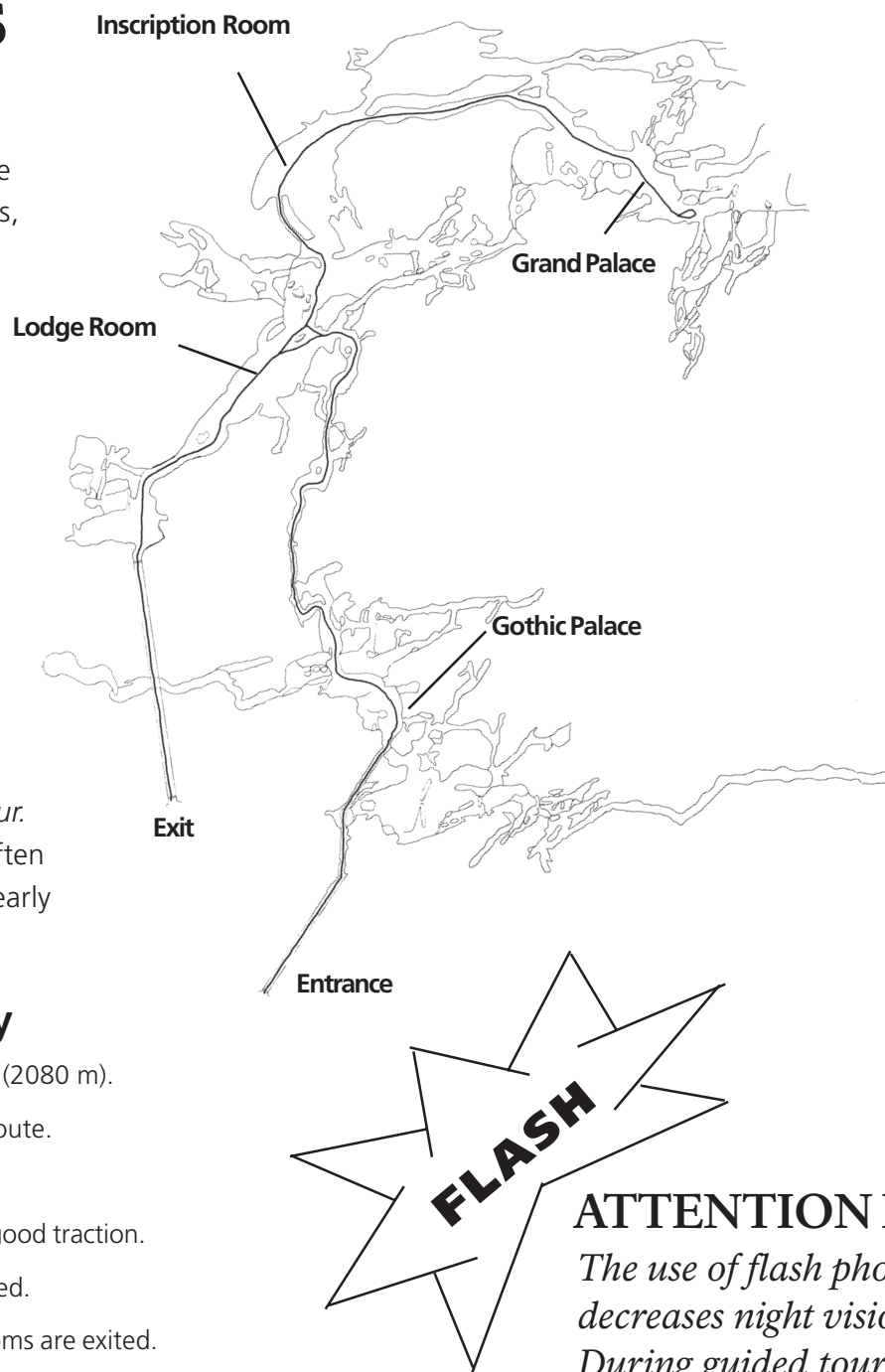
# Lehman Caves

## Tour Information

Along the tour route in Lehman Caves are stalactites, stalagmites, draperies, helictites, shields, and more. All tours are guided by a park ranger who will discuss the history and geology of the cave. Lehman Caves can only be entered with a guided tour. Cave tours are 60 or 90 minutes long. The full tour route is 0.54 miles round-trip. The 90-minute tour visits as far as the Grand Palace; the 60-minute tour visits as far as the Lodge Room. A wheelchair-accessible First Room Tour visits the Gothic Palace; it is reserved for those unable to negotiate the stairs and narrow passageways. *Children under 5 years of age are not permitted on the 90-minute tour.* Cave tours are limited to 25 persons and often sell out. To ensure space, buy your tickets early in the day, or in advance by telephone.

## For Your Comfort and Safety

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



**ATTENTION PHOTOGRAPHERS!**  
*The use of flash photography in Lehman Caves decreases night vision and disorients other visitors. During guided tours, rangers will inform you when and where photography is appropriate. Your cooperation is appreciated.*

## Advance Ticket Sales

During summer months, Lehman Caves tours may sell out. To ensure a space, visitors may purchase tickets up to one month in advance. *Tickets cannot be purchased over the phone on the day of the tour.* A maximum of 12 out of the total 25 spaces per tour are available for advance sale.

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 from 9:00 a.m. to 4:00 p.m. Pacific Time, Monday through Friday. 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. Golden Age and Golden Access cards must be presented to be eligible for a discount. Unclaimed tickets will not be refunded.

## Lehman Caves Tour Prices

	90 Minute Tour	60 Minute Tour	Park Recreation Fees at Work
<b>Adult 16 &amp; Older</b>	<b>\$10.00</b>	<b>\$8.00</b>	The fees paid by visitors to Great Basin National Park for camping and for ranger-guided cave tours are used to fund many important park projects and services. The fees you pay at Great Basin National Park are returned to the park and have been used to: <ul style="list-style-type: none"> <li>* Install new restrooms at trailheads and campgrounds</li> <li>* Produce free interpretive bulletins about park features</li> <li>* Improve trailheads with new information signs and maps</li> <li>* Install the accessible Forest Island Self-guided Nature Trail</li> <li>* Purchase equipment for recycling</li> </ul>
<b>Youth 5 - 15 Years Old</b>	<b>\$5.00</b>	<b>\$4.00</b>	
<b>Infants &amp; Toddlers 0 - 4 Years Old</b>	<b>N/A*</b>	<b>Free</b>	
<b>Golden Age cardholder only</b>	<b>\$5.00</b>	<b>\$4.00</b>	
<b>Golden Access cardholder only</b>	<b>50%</b>	<b>50%</b>	

\* Children younger than 5 years old are not permitted on the 90 minute tour.

## For the Cave

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

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.

# Walks & Talks

## Evening Programs

Campfire programs are offered in the summer at Upper Lehman Creek and Wheeler Peak Campgrounds. Programs are 45-60 minutes long and address subjects related to the Great Basin's cultural and natural resources. Come prepared with warm clothing and a lantern or flashlight. Pets are not permitted at the evening programs. Evening programs are scheduled **daily Friday, May 26 through Sunday, September 3, 2006** at the Upper Lehman Creek Campground. Additional evening programs are presented at the Wheeler Peak Campground on **Fridays and Saturdays from June 30 through September 2, 2006**. Programs begin at 8:00 p.m. May 26-July 29 and 7:30 p.m. July 30 - September 3. All times are Pacific Daylight Time. Programs are weather dependent.



Some bristlecone pines in the Wheeler Peak grove are over 4,000 years old.

## Bristlecone Interpretive Trail

1.4 miles up (elevation gain 600 feet) the Bristlecone-Glacier Trail you will find a grove of ancient bristlecone pine trees. This is the best place in the Park to see bristlecone pines, many of which are 3,000 - 4,000 years old! At the grove, a series of interpretive panels describes the ecology of these hardy survivors. From the grove, you may continue on to the glacier, hike the Alpine Lakes Loop Trail, or return the 1.4 miles to the parking lot (see trail information on page 8). On many summer days, a Park Ranger will be roving the Bristlecone Trail and Alpine Lakes Loop and will be happy to stop and chat. Be advised that this trail is at high elevation. Bring water and snacks, and be prepared for inclement weather.

## 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 a ranger and amateur astronomers for a celebration of this rare and valuable resource. In this sanctuary of natural darkness you can see stars like few places on Earth! Special Stargazing events are scheduled throughout the summer. Check at a park visitor center for dates, times, and location.

### Program Schedule: Friday, May 26, 2006 - Monday, September 4, 2006

	8:30	9:00	10:30	11:00	12:30	1:00	2:30	3:00	7:30	8:00
90 Minute Cave Tour		Daily		Daily		Daily		Daily		
60 Minute Cave Tour	Daily		Daily		Daily		Daily			
Upper Lehman Evening Program									Daily 7/30 - 9/3	Daily 5/26-7/29
Wheeler Peak Evening Program									Fri-Sat 7/30-9/2	Fri-Sat 6/30-7/29









### Program Schedule: Tuesday, September 5, 2006 - Thursday, May 24, 2007
























	9:00	11:00	1:00	3:00
90 Minute Cave Tour	Daily		Daily	
60 Minute Cave Tour		Daily		Daily

Buy a **NATIONAL PARKS PASS** at Great Basin National Park and receive a **FREE CAVE TOUR!**

The National Parks Pass is good for entrance fees at all National Park Service sites for 12 calendar months. Buy your \$50 National Parks Pass at Great Basin National Park and you receive one free cave tour- up to an \$10.00 value! Talk to a ranger at a visitor center for details.

# 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 Cafe**    
(775) 234-7221 April - October
- B** **Great Basin Visitor Center & WNPA Bookstore**  
(775) 234-7331 x260
- Baker Ranch Service Station**    
- Ferg's Firewood**
- Getaway Cabin**   
(775) 234-7272
- Great Basin Art & Antiques** 
- Silver Jack Inn & Sports Hut  
Lectrolux Cafe & Art Gallery**    
(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](http://www.greatbasinpark.com).

## Baker Gas Station

Located on HWY 487 in the town of Baker. Self-serve gas and diesel available 24 hours (credit or debit card required). **Laundromat**, public **restrooms**, public and camper's pay **showers** (change available at Silver Jack Inn).

## The Border Inn

24 hour service. **Motel**, **restaurant**, bar, slots, pool table, video games, showers, **gas**, diesel, phones, laundry, and souvenirs. Also convenience store and ice. **22 RV spots**- full hookups and pull-through spaces. 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

Local master craftsman, featuring unique antler chandeliers and other antler art. Also creating wagon wheel chandeliers, sconces, and tables; lamp shades; and shed antler mounts. See all products on-line at [www.horns-a-plenty.com](http://www.horns-a-plenty.com) or call for a free 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.

## 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 color TV, fully equipped kitchen, fenced yard with picnic area and barbecue. Small pets OK. **(775) 234-7272**.

## Great Basin Art & Antiques

Featuring art and artists of the Great Basin. Stop by and meet local artists who gather in an open studio atmosphere. Downtown Baker. Closed Monday afternoons and Tuesdays, except on holidays.

## The Great Basin Lodge & Whispering Elms Motel, Campground & RV Park

6 miles from Great Basin National Park, located in beautiful Baker, NV. Offering 25 full-service RV sites, 6 clean motel rooms, large grassy areas for tents, many shade trees, coin laundromat, clean showers, arcade, pool table, ice. Fully stocked bar and horseshoe pits. Trading post with camping supplies. **(775) 234-9900**.

## Hidden Canyon Guest Ranch

Bed and Breakfast in luxury lodge, or camping in teepees or cabins. Full meal packages available by reservation only. Pheasant hunting packages. Campsites, hot showers, recreation area, children's playground, ATV tours, catch & release

trout fishing, hiking, farm animals. Relaxing environment by running water. Great for corporate retreats, church retreats, or family reunions. 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. Hidden Canyon Ranch, P.O. Box 180, Baker, NV 89311. **(775) 234-7172**. [www.hiddencanyonranch-nv.com](http://www.hiddencanyonranch-nv.com)

## Lectrolux Café, Bakery, Deli/Grocery, Art Gallery & Movie House

@ Silver Jack Inn, Baker, NV. Freshly ground beef burgers, incredible pizzas, nightly specials with flair, **HouseMad** desserts, pies, pastries, camping/RV groceries & deli - not the usual canned food in the desert. **Espresso & Wine and Spirits Bars. Movies Wed & Sat eves**, 7:30. Local artists featured in restaurant/Gallery. Open May 1 - November 31 6am - 9pm Daily. **(775) 234-7323**.

## Lehman Caves Gift & Cafe

Famous for their homemade ice cream sandwiches, located next to the Lehman Caves Visitor Center. The cafe serves hand dipped ice cream cones, malts, shakes, frozen treats, breakfast, lunch, and home-baked desserts. The gift shop has Great Basin and Lehman Caves souvenirs, apparel, cards, mugs, books,

plush animals, toys and games, jewelry, local and Great Basin crafts, camping and travel items, and bagged ice. Open April through October. **(775) 234-7221**.

**Silver Jack Inn & Great Basin Sports Hut**, Baker, NV. 7 rooms, 3 Efficiencies (w/ kitchenettes). Outdoor dining in treed patio and picnic ground/yard. Sports equipment rentals (mtn bikes, snowshoes, x-c skis) and guided tours (petroglyphs, ghost towns, hikes). **(775) 234-7323**.

**T&D's Country Store, Restaurant, and Lounge** We have been in business over 16 years. Our store carries a large supply of groceries, packaged liquor, ice, fishing tackle, some camping supplies, and **NV fishing/hunting licenses**. Restaurant summer schedule: Breakfast Fri-Mon, Lunch and dinner 7 days/week. Sunroom dining + covered patio with fireplace. Well known for our pizza, but have a large variety of delicious Italian, Mexican, American, and Vegetarian dishes at affordable prices. Lounge is a full-service bar with pool table, surround-sound system, and large screen TV. Open year round. Ask at a park visitor center for winter hours. Located in downtown Baker. **(775) 234-7264**.

# A New Partner in Great Basin National Park

Last summer, Great Basin National Park welcomed a new non-profit cooperating association, Western National Parks Association (WNPA), to manage the visitor center bookstores. In partnership with Great Basin National Park, WNPA has been dedicated to improving the visitor center bookstores and publishing interpretive materials, including a variety of educational pamphlets, and this *Bristlecone* newspaper. Also, WNPA has assisted Great Basin National Park by supplying funds to participate in an annual Audubon Society Bird Count and to maintain the Junior Ranger program.

Established in 1938, WNPA has since expanded to operate 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 \$37 million to the park service, generated through store sales and member support. WNPA supports parks by producing more than a half million free interpretive items every year, including trail guides,

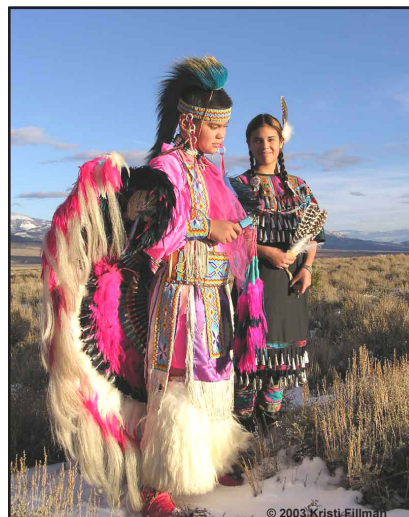
newspapers, schedules, and brochures. Currently, the association has more than 200 publications in print, and many new publications are introduced every year. A catalog of these WNPA publications and hundreds of additional educational products, on a variety of subjects such as national parks, Native Americans, biology, geology, archeology, 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](http://www.wnpa.org).

In addition to book publication and sales, WNPA supports parks by funding projects that enhance resource preservation and appreciation.



## The Great Basin Heritage Area Partnership

In 1998, citizens of Millard County, Utah; White Pine County, Nevada; the Duckwater Shoshone Reservation; and the Ely Shoshone Reservation came together to form the Great Basin Heritage Area Partnership. This grass roots, non-profit organization works to preserve the heritage of the central Great Basin, an area with stories of national significance. Integral to the group's endeavors is the belief that preserving and interpreting the cultural and natural heritage of the area will provide for both intellectual enrichment and sustainable economic development. Designation of the central Great Basin as a national heritage area has been a major focus of the group since its inception.



The central Great Basin is rich in natural and cultural heritage: Shoshone youth in authentic ceremonial regalia (left) and the territorial statehouse in Fillmore, Utah (right) which is now a museum. Photos: copyright Kristi Fillman.

The National Heritage Areas program provides resources for the preservation of local heritage in areas that are "historically cohesive." Although this is a federal program, designation as a national heritage area does not compromise local interests or control; rather it gives local communities a national designation that helps them obtain funding and other resources to preserve their heritage. Designation as a national heritage area can also benefit the local economy, as heritage tourism increases with designation.

One of the goals of Great Basin National Park is to interpret the resources of both the park and the entire Great Basin region. The Great Basin Heritage Area Partnership intends to assist with this task. So much

remains to be done, from development of wayside exhibits and restoration of historic buildings, to letting people know how the culture and landscape have interacted here. Points of interest on the Heritage Area route include the Nevada Northern Railway in Ely, Nevada, the Topaz World War II Japanese Internment Camp near Delta, Utah, and of course, Great Basin National Park. The Great Basin Heritage Area Partnership will work to coordinate efforts to preserve the heritage and tell the stories of the Great Basin.

Further information and brochures are available at *Lehman Caves Gift and Cafe* and at the park's visitor centers. Website: [www.greatbasinheritage.org](http://www.greatbasinheritage.org)

## The Great Basin National Park Foundation



The Great Basin National Park Foundation was formed and incorporated in 1998 to promote and financially support projects that further the mission of Great Basin National Park.

The Foundation played a major role in the development of the new Great Basin Visitor and Resource Center in Baker. The Foundation also provided assistance in the planning of the dedication ceremony for the center, which was held in July of 2005 and included a keynote address from the Honorable Senator Harry Reid.

Currently, the Foundation is working to raise funds for the construction of exhibits for the new center. The exhibits will be located both in the visitor center exhibit gallery and the outdoor plaza and will utilize visual, audio, and tactile techniques to give rich interpretation of the Great Basin. These exhibits will provide orientation to and interpretation of the entire Great Basin region. Design of the exhibits is scheduled to be completed this year.

To learn more about the Great Basin National Park Foundation and how you can help Great Basin National Park, please visit the Foundation's website: [www.greatbasinfoundation.org](http://www.greatbasinfoundation.org)

# Hiking Information

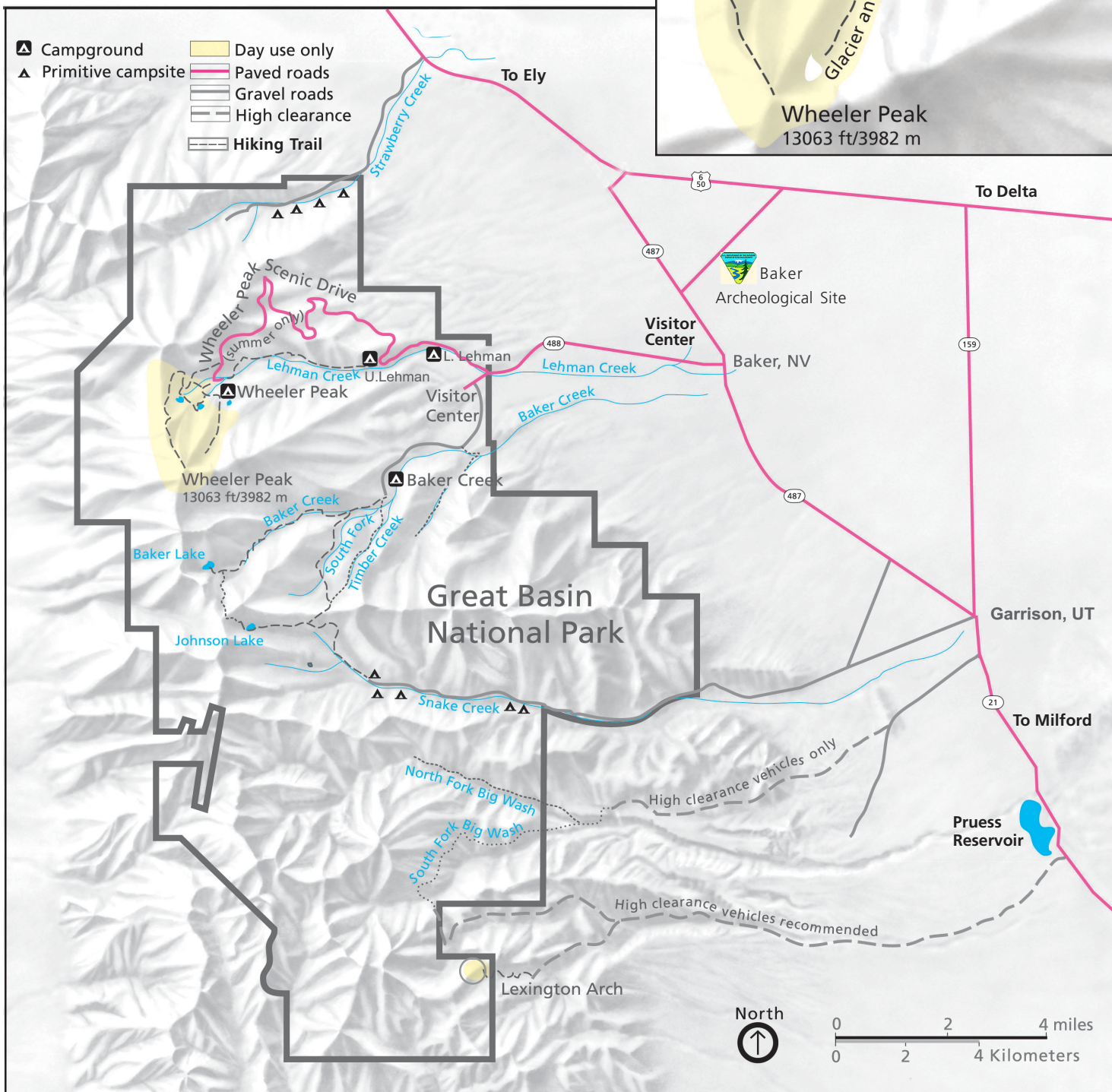
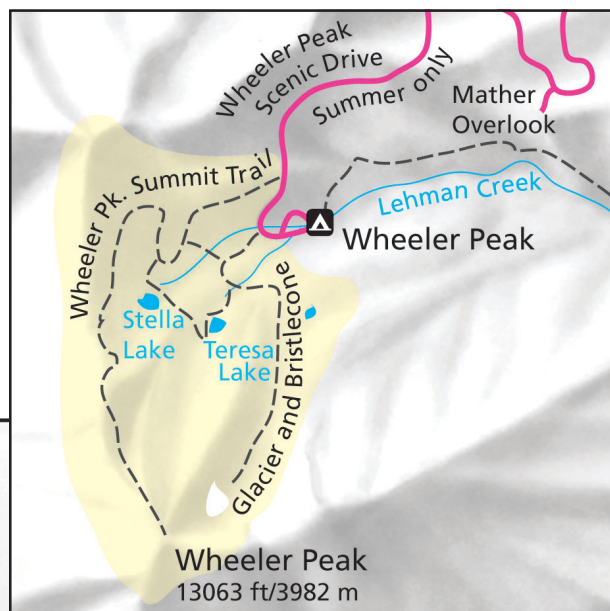
	Round-trip Distance	Elevation Gain	Starting Elevation	Description
<b>Mountain View Nature Trail</b>	0.3 miles (0.4 km)	80 feet (25 m)	6,825 feet (2,080 m)	This is a leisurely walk in the pinyon-juniper forest. The trail guide (available for loan at the Lehman Caves Visitor Center desk) describes the geology and ecology of the area. The trail starts at the Rhodes Cabin next to the LCVC.
<b>Lehman Creek Trail</b>	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>
<b>Osceola Ditch Trail</b>	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 down slope through ponderosa pine, white fir and Douglas fir trees to the remnant of an 18 mile long channel built by gold miners in the 1880's. The trail follows the old ditch towards Strawberry Creek.
<b>Wheeler Peak Trail</b>	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 Trail parking area. Day use only.
<b>Alpine Lakes Loop Trail</b>	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.
<b>Bristlecone Trail</b>	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.
<b>Glacier and Bristlecone Trail</b>	4.6 miles (7.4 km)	1,100 feet (340 m)		
<b>Pole Canyon Trail</b>	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.
<b>Baker Lake Trail</b>	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.
<b>Baker Creek Loop</b>	3.1 miles (5 km)	870 feet (270 m)	8,000 feet (2,440 m)	
<b>South Fork Baker Creek/ Johnson Lake</b>	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.
<b>Johnson Lake Trail (from Snake Creek)</b>	7.4 miles (11.8 km)	2,420 feet (740m)	8,320 feet (2,540 m)	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. <b>Warning: do not enter any mine structures!</b>
<b>Baker Lake/ Johnson Lake Loop</b>	13.1 miles (21.1 km)	3,290 feet (1010 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>
<b>Lexington Arch Trail</b>	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 or topographic 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.



## 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, sometimes fatal, 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 uncontrollable shivering and slurred speech. Drowsiness, lack of interest, and incoherent speech follow. 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 (especially deer on the Scenic Drive and marmots on Baker Creek Road). 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!

## Park Road Access

**Wheeler Peak Scenic Drive** is paved, but steep and winding. Vehicles over 24 feet in length are not recommended 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.

**Hiking** is a great way to explore the park as it is possible to experience true solitude. Make sure you are prepared before starting. Weather may change rapidly. Eat frequently and drink plenty of treated water. Trails are listed on page 8. Rangers can recommend other possible routes in even more remote areas of the park.

### **Backcountry Use**

Camping is permitted in the park at least 1/4 mile from a developed site. Camping is not permitted in the Wheeler Peak and Lexington Arch Day Use Areas. Backcountry registration is not required but is free and recommended. Stop at a visitor center to register and to obtain a copy of the regulations. Registration helps provide for your safety and allows the park to monitor backcountry use. **You are responsible for knowing and following the backcountry regulations** which are posted at trailheads and available at park visitor centers.

**ATV Use** is not allowed in the park.

**Mountain Biking** is allowed only on roads (no trails) in the park. Helmets are strongly recommended. The primitive roads within the park and on adjacent U.S. Forest Service and 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.

### **Pack Trips and Stock Use**

Horses, mules, burros, and llamas are permitted on the backcountry trails of the park. However, some areas are closed to stock use, including paved roads, campgrounds (except primitive roadside sites along Snake and Strawberry Creeks), developed areas, interpretive trails, the Lexington Arch Trail and the Wheeler Peak Day Use Area. Be sure to picket, hobble, or graze your animals at least 100 yards from any water source. Feed animals weed-free hay for two days before trips in the park. All packed feed must also be weed-free. More information is available at the visitor centers.

**Pets in the Park** 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. Leashed pets may be exercised in the campgrounds, in front of the visitor centers, and along roads. These restrictions are intended to prevent molestation of wildlife and to provide for a better experience for other park visitors.

# Elk Ecology: Where, When and How Many?

The campers sat around their campfire up Strawberry Creek. The crisp evening air and the hint of yellow in the aspen trees clearly indicated September. Suddenly, a bugle, consisting of a piercing whistle followed by a series of grunts, shattered the quiet. The campers ran to the meadows edge and before them was a harem of elk made up of a large bull and 18 cows and calves. Another bugle sounded across the meadow and they saw a second larger harem. A third bugle behind them revealed yet another harem on the upper slopes. In between, bulls attempted to sneak into the harems to claim one or more cows for themselves before the dominant bull chased them away.

Such an occurrence is now commonplace in Great Basin National Park. It is quite remarkable, considering elk were rendered extinct in Nevada and almost extirpated from North America just 100 years ago. The first reintroductions of elk to Nevada occurred in 1932 when 30 elk from Yellowstone National Park were released in the Schell Creek Range, 15 miles northwest of the park. However, other releases of elk didn't occur until the 1970's, making elk historically new to the Great Basin. Today the highest densities of elk in the Great Basin region are found here in east-central Nevada on three mountain ranges: the Schell Creek Range, the Egan Range and the Snake Range, including Great Basin National Park.

Our experience with elk is relatively new in the Great Basin region, so we know little about their ecology, such as how big their home range is, when and where they occur on their range, what their habitat consists of, and how much the population grows. Without such information proper management of elk and their habitats cannot be carried out, and resource degradation or loss of the elk themselves could occur. For example, large growing elk herds tend to overgraze choice forage plants and degrade entire plant communities. Experiences in Yellowstone and Rocky Mountain National Parks showed plant communities dominated by aspen, cottonwoods and willows were severely reduced in quantity and health by continuous foraging from growing elk herds. In turn, other animals dependent on these plant communities were disappearing. Great Basin National Park has aspen, cottonwood and willow communities that could be impacted by elk. At the other extreme, if habitat is not protected and maintained it would eventually lead to the loss of elk and other wildlife species.

Over the past several years Natural Resource staff tracked three cow elk fitted with collars holding radio telemetry transmitters. Telemetry transmitters emit a radio signal that allows us to locate the elk wearing the collar by following the radio signal using a receiver and directional antennae. The elk were tracked all year long to determine the herd's home range, movements, and population size. With this information park staff identified management actions to protect elk and their habitats. Also, you should be able to improve your chances of seeing elk during your visit with this same information.



Elk calves are born in the spring and remain close to their mothers through the summer, fall and winter. NPS photo.

**Winter Range (November - April):** A 47,000-acre area north and west of the Park. Location within this range appears to depend on snow depths. When snows are deeper than 12 inches, the elk move west of the Park to Spring Valley. When snow levels are not as deep, the elk concentrate in the Sacramento Pass area north of the park. These areas are made up of southerly facing slopes where the snows melt away early and the first green forage can be found in late winter. All of the winter range lies outside of the park.

**Spring/Calving Range (May - June):** Calving season takes cows to slightly higher elevations on the periphery of the winter range and closer to water. This seasonal range is the smallest, about 1,000 acres, with the cows' movements restricted by newborn calves. This area is critical to protect because excessive human disturbance can cause elk to abandon both the range and their newborn calves.

Sightings of bull elk greatly increase at this time. More people are visiting the park and getting into the backcountry, increasing opportunities for elk to be seen. Most of the year bull elk are solo or form small bachelor bands. Also at this time the yearling bulls and cows are chased away by their mothers, who are tending to their new calves. These yearlings form small groups and begin to wander the park, sometimes joining mature bulls and following them throughout the spring and summer.

**Summer Range (July - August):** After the newborn calves gain strength and weight, they are ready to explore their home. The cow-calf pairs gather in loose groups, sometimes exceeding 75 individuals, and move to their 8,000-acre summer range in Strawberry and Sage Creeks. Yearlings that were chased off in the spring rejoin their mothers for the summer and even help take care of the new calves. It is common to see yearling bull elk (spikes) and yearling cows in these groups. The mature bulls remain away from the main herd foraging in the high mountain meadows.

**Fall Breeding Range (September-October):** During the breeding season, or rut, bulls bugle and hustle for dominance and the breeding rights to a harem of cows. The fall breeding range is similar to the summer range, but can expand to 23,000

(Continued on Page 12)

# Going Fishing?

During the summer of 2005, Mark Wiley, a volunteer with the Student Conservation Association, interviewed anglers while conducting creel surveys and fished the park streams and Baker Lake to determine fish health and assess recreational fishing pressure. He made the following observations.

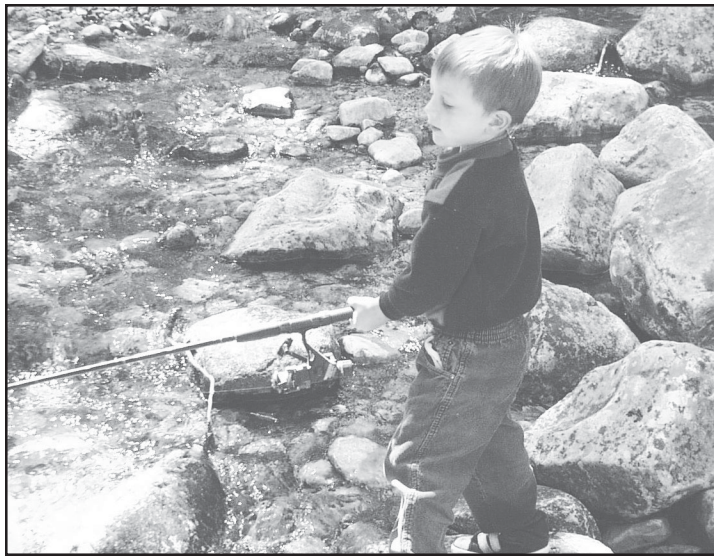
Lehman Creek and Baker Creek are the best streams to fish for numbers, size, and variety of trout. Brown, brook and rainbow trout all inhabit the streams. There are many good pools all along Upper and Lower Lehman and the Baker Creek campgrounds. Large brown trout can be found around the Pole Canyon picnic area along Baker Creek.

Snake Creek is difficult to access, but offers good fishing between the park boundary and the pipeline outlet, where brown trout are established. To get to the water you must descend down steep banks or negotiate through thick streamside vegetation. This is not only difficult, but can often spook the fish. Above the pipeline, approximately 5 miles west of the park boundary, the newly established population of Bonneville cutthroat trout is small and thus is more difficult to fish.

The population of Bonneville cutthroat trout in Strawberry Creek is growing, yet not large enough for high quality fishing. Good numbers can be found along certain sections of the creek. In late July, five of these cutthroats were caught and released in just a few hours. Please use catch and release techniques for this species since at this time population size is still limited.

Baker Lake, at an elevation of 10,730 feet, is located in a deep, narrow cirque basin between Pyramid and Baker Peaks. It contains both Lahontan cutthroat trout and brook trout. Baker Lake can offer a great fishing experience but even if the fish aren't biting the hike is worth the effort. The trout in Baker Lake are larger than in the streams and much more selective. Fish were taken on both nymphs and dry flies but I often saw them inspecting what was presented and turning away without striking. Locating the fish visually and then casting to them was an effective technique for catching the fish of Baker Lake. They are easy to spot in the calm crystal clear waters.

On the streams, a fly rod was used, attaching a short length of line from the rod tip with a fly on the end, then dipping the fly into the water. The fish are so aggressive that the strike should come within a few seconds. If not and the pool looks like it should have held fish, it is likely the fish was spooked and you



Children ages 12 and under can fish without a license. Nevada fishing licenses are available for purchase in the town of Baker.

should move on. There was rarely a fly that fish would not take. Dry flies, wet flies, and nymphs all worked well, but small dark colored nymphs used just below the surface appeared most successful.

To improve your fishing experience:

*Inquire about the park's fishing opportunities and activities before going fishing. The Snake Range Recreational Fishing brochure is a good source of information. It is available at park visitor centers.*

*Fish are easy to spook in these small streams. To avoid detection, approach trout from downstream, fish from behind streamside vegetation, and don't make sudden moves. Walk carefully to avoid tumbling rocks and other things that cause noticeable vibrations in the water.*

*Don't overestimate a trout's size. Use smaller lures, bait, and hooks since the fish in park streams are usually less than 12 inches long.*

Advice is no substitute for experience. What works for one angler may not work for another. Great Basin National Park offers wonderful opportunities for all types of anglers, so get out and try your luck with some beautiful mountain trout.

STATE FISHING REGULATIONS APPLY, AND A NEVADA FISHING LICENSE IS REQUIRED FOR ALL THOSE OVER AGE 12 TO FISH IN THE PARK. MORE INFORMATION IS AVAILABLE AT THE VISITOR CENTERS. NEVADA FISHINGS LICENSES ARE AVAILABLE IN THE TOWN OF BAKER.

PLEASE DO NOT MOVE FISH BETWEEN CREEKS. WHIRLING DISEASE IS EXPANDING INTO UTAH AND NORTHERN NEVADA, AND WE ARE TRYING TO KEEP IT OUT OF THE PARK. THOROUGHLY WASH ALL WADERS AND OTHER GEAR BEFORE ENTERING A DIFFERENT CREEK.

## 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](http://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.

### Pack it in, Pack it out

Pack out everything you brought in with you, including cigarette butts and food scraps.

### Properly Dispose of Human Waste

Bury 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 the Use and Impact of Fires

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).

# People in the Great Basin: 12,000 years of occupation

## Sites to visit

To see a Fremont site, go to the Baker Archeological Site about five miles from the Great Basin Visitor Center. This site is managed by the Bureau of Land Management.

To see rock art go to the Baker Creek pictograph site. It is located between Grey Cliffs and Pole Canyon Picnic Area.

The Osceola mine is on private land and is still being mined but you can go see the cemetery.

If you want to take a long hike, hike the three miles (one way) to the park's Johnson Lake Historic Mining District. Here you will see several log cabins and the remains of a two story stamp mill building used to crush the ore before sending it to be processed. Be aware that this is a very strenuous hike, starting at 8,200 feet and ending at 10,800 feet above sea level. As always, take plenty of water and make sure that you plan at least a half a day for this particular hike.

Please remember while visiting any archeological site, that it is a fragile and irreplaceable resource. It is part of our American heritage so please take only pictures so that others may enjoy what you see. If you see any damage or suspected damage, please report it to the nearest Park Service employee.

Before heading out to any of these sites, stop by a park visitor center to get directions and tips on having a safe and enjoyable visit.

The area within and surrounding Great Basin National Park has been occupied by people for approximately 12,000 years. The first cultural group to occupy the area is what archeologists call the Paleo-Indians. They were in this area from about 12,000 to 9,000 years ago. They are considered to have been big game hunters; their prey were animals such as bison and the extinct mammoth and ground-sloth. They did not have permanent houses because they were following the animal herds. Their hunting tools were large fluted or unfluted projectile points lashed to the tip of a spear.

The Great Basin Desert Archaic is the next cultural group to occupy this region. They were here from about 9,000 to 1,500 years ago. These groups of people are considered hunter-gatherers that followed game animals such as the Mule deer and antelope. They also gathered wild plants such as onions, Great Basin wild rye and pinyon pine nuts. These cultural groups used grinding stones to process the plant seeds. They also made baskets, mats, hats, and sandals from plant fibers and used animal hides to make their cloths, blankets and moccasins. Marine shell beads are also associated with this cultural period, indicating trade with coastal peoples. Spears were still used for hunting large game, but the projectile points were smaller and what archeologists call stemmed, side-notched, and corner-notched points.

The Fremont lived in this area from about 1,500 to 700 years ago. They were a horticultural group that planted corn and squash but still harvested wild plants and hunted. They built small villages of adobe and produced pottery. With one style of pottery they painted black geometric designs. This type of pottery is known as black-on-grey.

The Shoshone came into this area around 700 years ago and their descendents still live in the area today. The ancestral Shoshone were hunter-gathers. They lived in temporary structures made of brush known as wikiups, and they moved to follow game and to collect wild plants. They made baskets and undecorated pottery. They hunted deer, rabbits and

## Elk Ecology (continued from page 10)

acres as bulls apparently try to sneak the harems away from intense competition to other areas. Up to 25 mature bulls competing for three harems have been sighted.

Why do the elk concentrate in these areas? Resource managers have observed, by overlaying maps of the elk range and plant communities, that the range almost exactly matches that of mountain big sagebrush, aspens and willows. These areas contain a high quantity and variety of grasses, forbs, shrubs and trees. This high diversity of forage choices is found in no other plant community. Considering an adult elk needs to consume 14 to 18 pounds of forage a day, it seems logical they would select these plant communities to form their habitat.

With the identification of summer and fall ranges, population surveys are being conducted to determine the herd size. As of fall 2005, it is estimated there are 133 elk in the Strawberry and Sage Creek areas of the park. Monitoring plots have been established in aspen and willow plant communities to provide

antelope and used the bow-and-arrow to hunt the large animals.

The nearest descendents of the early Shoshone now live in Ely, Nevada. Other early Shoshone descendents are the Duckwater Shoshone and the Skull Valley Band of the Gosiute (*also spelled Goshute*).

Around 1855 the first Euro-Americans entered the area to establish ranching. By 1869 there were six mining operations occurring within the South Snake Range. The largest one, Osceola, is on the west side of the South Snake Range outside the park boundary.

In the 1870's, Absalom Lehman established a ranch near today's Lehman Creek, where he grew and raised food for local miners. Trees from his orchard still survive and can be seen from the Lehman Caves Visitor Center. In 1885, he discovered the cave that now bears his name and devoted the rest of his life to guiding people through the natural wonder.

Ranching holds a significant place in Great Basin cultural heritage, including areas within the park. For many years, cattle grazed on the east side of the South Snake Range even after the establishment of the park. On the west side of the park, sheep still graze in the summer months on high elevation meadows.

All of the above cultural groups left evidence of their presence within the present-day park boundaries. During the summer of 2005, thirty new archeological sites were documented, bringing the park's known archeological sites to 127. One of the new sites is a petroglyph site. It contains a large number of stone (lithic) tools and ceramic sherds that were made by the Fremont and Shoshone. This is the first documentation of incised stone within the park.

There are still many areas within the park that need to be examined by archeologists to find more exciting information on the human occupation of the area.

warnings of excessive impacts. So far, the population is still small and no negative impacts in the plant communities have been detected.

So let's take what we have learned and go find elk. Use the information from above, and talk to a park ranger about road and trail conditions. Head out in the early morning and late afternoon. Focus on mountain meadows and sagebrush slopes to see bulls and yearling cows. Strawberry and Sage Creeks are where the main herd is found and is a good bet in the summer. In September the rut begins; the bulls are frequently bugling making them easy to find. Look for them in Strawberry Creek and Sage Creek and around Lexington Arch area in the southeast corner of the park. The ability to see 15 or more mature bulls bugling along with a potential shoving match is best at this time. Don't forget to let us know about your experience with elk and other wildlife by filling out a wildlife observation form. You may discover something new.

# Great Basin's Great Night Skies

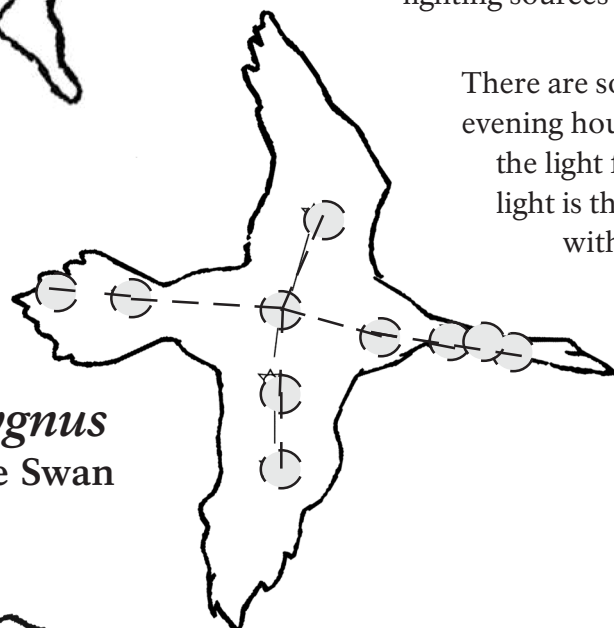


**Orion**  
**The Great Hunter**

One of the things that make Great Basin National Park so great is that you can experience clear, beautiful dark night skies. Many people who visit the park are amazed by how many stars are visible with just the naked eye. Most Americans grow up unable to see the stars that their grand parents knew so well. Many kids today think the Milky Way is just a candy bar. Dark night skies are becoming an extinct phenomenon, and the major factors contributing to the loss are light pollution and air pollution.

Light pollution is the illumination of the night sky caused by artificial light. Most light pollution, or sky glow as scientists call it, is completely unnecessary, and is caused by bad lighting fixtures. Light pollution leads to the decreased visibility of the night sky. Many lights that we have installed at our homes, businesses, billboards, schools, and streetlights are the culprits behind light pollution. These lights don't have covers or are pointed upward and disperse light in all directions, wasting energy and money. Some of the light from these fixtures gets where it is needed, but most light is lost into space. It is estimated that money spent by wasted outdoor lighting sources in the United States alone, comes to 1 billion dollars a year.

There are some simple things that people can do to decrease light pollution. During the evening hours, close blinds or curtains to the windows of your residence. This prevents the light from escaping into the night sky. Use time controls, or dimmers to ensure that light is there when needed, and off when it isn't. Replace inappropriate light fixtures with full cut-off, low intensity and downward pointing lights. Shielding a light fixture and pointing it downward makes the area below the light better lit, making it safer and decreasing light pollution.

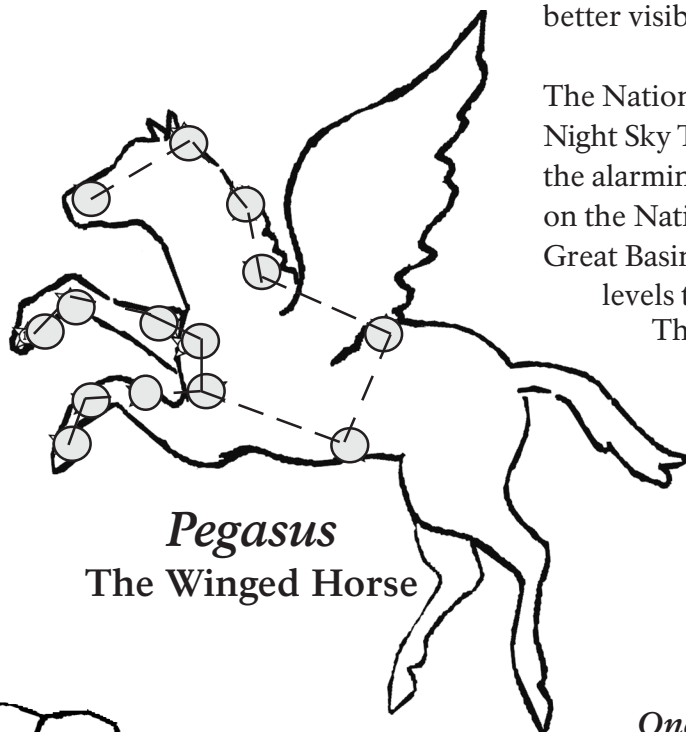


**Cygnus**  
**The Swan**

Light pollution isn't the only factor contributing to the decreased visibility of the stars. Air pollution contributes to the scenario as well. Because Great Basin National Park is so remote, and away from major urban areas, the park has exceptional air quality, which leads to better visibility of the night sky.



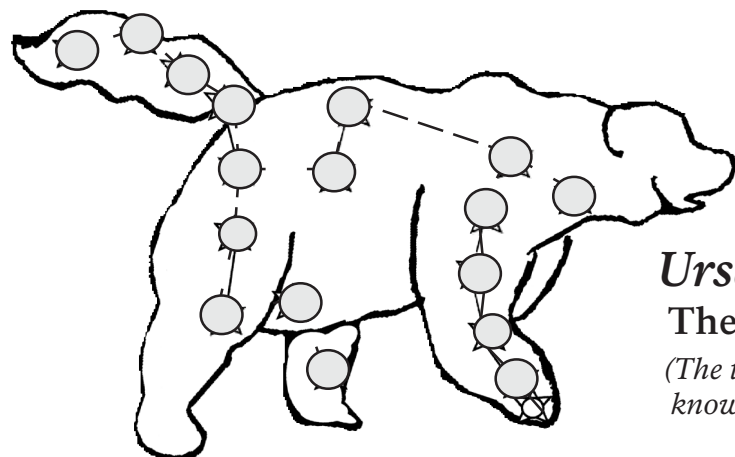
**Ursa Minor**  
**The Little Bear**  
*(Also known as the Little Dipper)*



**Pegasus**  
**The Winged Horse**

The National Park Service has an extension called the Night Sky Team. This team was formed as a response to the alarming increase of light pollution and its affects on the National Parks. The Night Sky Team visited Great Basin in October of 2005 and tested the light levels to determine how dark the skies are here.

The results were as expected. This is one of the darkest places in the National Park Service, making it an ideal place to stargaze. Several stargazing events are scheduled for the summer of 2006. Check at a visitor center to see if one is scheduled during your visit.



**Ursa Major**  
**The Big Bear**  
*(The tail of the Bear is also known as the Big Dipper)*

*One of the easiest ways to enjoy dark night skies is to look for constellations. Some of the better known constellations are shown here. Check out the Western National Parks Association bookstores in the park for guides and charts for novice stargazers, starting at just \$1.50.*

# Shifting Landscapes

Great Basin National Park was created in 1986 but the mountains that form its ragged spine have been in place for about 30 million years. The snow, ice, and water which carve and blanket the mountains have shaped the Snake Range since this time. 20,000 years ago mountain glaciers extended several miles along drainages from the high peaks. Ice hundreds of feet thick slowly flowed under its own mass, growing and shrinking at the whim of Pleistocene climates. This meltwater overflowed valley aquifers, giving rise to Lake Bonneville (a lake the size of present day Lake Michigan), which extended north from Snake Valley to the Great Salt Lake. As the Pleistocene transitioned to the Holocene, climates warmed and dried and glaciers shrank and retreated. A remnant of these past ice ages is preserved in the cirque below Wheeler Peak where one of the park's three rock glaciers resides.

Although the glaciers are effectively gone, snow still blankets the mountains in the winter. In wet years snowmelt swells streams beyond their capacities, washing out roads, moving stream channels, and flooding playas in the valleys. Avalanches, too, drastically alter landscapes. Steep slopes combined with unstable snow layers create avalanches that raze hundreds of acres, creating a rich palate for vegetation change.

Where dark spruce forests have been leveled, abundant summer sunlight reaches the forest floor, allowing forbs, shrubs, and grasses to flourish.



Heavy snowfall over winter 2004-2005 was released as avalanches throughout the Park. Pictured here is the 136-acre slide that covered the headwaters of South Fork Baker Creek.

Vegetation itself is a temporary phenomena. Although bristlecone pine groves have remained relatively static for thousands of years, most vegetation is much more dynamic. For example, currently piñon pine is ubiquitous throughout the Great Basin but less than 7,000 years ago was absent. During the warming and drying of the Holocene, piñon pine quickly expanded, reaching its current distribution, about 6,300 years ago. Cheatgrass or Downy brome is an even more recent migrant. Arriving from Eurasia 150 years ago in ship ballast, crop seeds, and packing material, it currently dominates 25 million acres of lower and mid elevations in the Great Basin.

Highly variable precipitation regimes, characteristic of arid lands, strongly influence vegetation patterns. Daily, monthly, and annual precipitation varies by a factor of 10, indicating the unpredictability in available moisture to vegetation. Vegetation distribution, density, and reproduction constantly adjust in response to this variation.

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## Impacts from Winter 2004-2005

Over 330 percent of normal snow fall occurred during the winter of 2004 and 2005. This high snow pack resulted in over 20 avalanches in the park, ranging in size from 6 to 136 acres. About 608 total acres were affected by avalanches opening up forested habitats to return as mountain meadows.

One of the most dramatic avalanches covered Johnson Lake. In July of 2005, only 10% of the water was free of snow and debris, and it took until the end of August for all the snow to melt off. The lake now contains more than 40 trees and is black from tannins and decomposing material. The Johnson Lake area contains a wealth of historic structures all relating to historic mining activity. Fortunately, none of the historic cabins and other structures, which have withstood the forces of nature for a hundred years, were damaged.

Another avalanche coming off Pyramid Peak to the north, crushed the Dieschmann cabin. Stumps near the cabin are visible, but the cabin itself has been completely swept away. Constructed around 1930 by Peter Dieshman, the cabin was a standing

log structure on a simple stone foundation with a sod roof. The cabin was likely used as a base camp by Peter Dieshman, an early twentieth century mining prospector of the area. The logs were chinked with wood shavings and sod. The doors and window frames consisted of hand crafted boards. The cabin was located about 1 ¼ miles below Baker Lake. This avalanche also covered a part of the Baker Lake trail making hiking difficult.

Although change is a defining characteristic of Great Basin systems, there is evidence that change is accelerating. Much of this acceleration is influenced by

human activity, but separating natural change from human induced change can be difficult. For example, wildfire suppression has altered plant communities and wildlife distributions. While fire is recognized as a natural agent of disturbance, the introduction of highly competitive, exotic plants, such as cheatgrass, has complicated the reintroduction of fire into Great Basin ecosystems. Fires often result in the complete replacement of native plants with non native cheatgrass. Native

wildlife species, such as sage grouse and horned lizards struggle to survive in cheatgrass communities. A natural disturbance results in an unnatural, human induced plant community. Human induced change, natural change, and climate change acting synergistically in a tangled and confused manner, present serious challenges in interpretation of ecosystem processes.

Try to look for past and future changes in the Great Basin. Remember that change often hides in space and time. Avalanche chutes and fire scars are often visible from long distances, while sagebrush skeletons under piñon trees are evidence of a recent shift in vegetation. Tree line and alpine environments shift slowly upward over decades if not centuries. Subtle shifts in spring flows can locally extirpate a few dozen riparian plants and animals. These are just a few examples of changes in the Great Basin. Observing change and interpreting its mechanisms and implications are insightful exercises into the history and future of the Great Basin.

The largest avalanche, covering about 136 acres, slid off the east side of Pyramid Peak and covers the headwaters of South Fork Baker Creek. This avalanche can be easily seen from the South Fork Baker/Timber Creek trail intersection. Numerous other avalanches occurred in the North Fork of Big Wash. In addition to avalanches, winds and snow weight caused concentrations of downed trees along most mid to high elevation trails throughout the park. Trails in the Baker Creek, Snake Creek, Strawberry Creek and Big Wash watersheds bore the brunt of impacts from this unusually high snowfall year. In order to improve backcountry hiking, Park staff will be continuing our efforts to clear trails this summer. Please expect high levels of downed trees in places along certain trails.

# GREAT BASIN WILDLIFE CAUGHT ON FILM

Resource Management staff are using remote cameras to determine how many animals, particularly carnivores, are present in various areas of the park. The cameras operate by sensing the movement and body heat of an animal as it passes in front of the camera which triggers the camera to take a photo. If the animal stays in front of the camera, several photos may be taken. Multiple remote cameras are set up in various elevations and habitats across the park. Information such as the total number of camera nights, date and time, UTM coordinates and wildlife species caught on film are collected and entered into a park database. This project can help to determine spatial and temporal distribution, seasonal ranges, relative abundance and presence of a species. This information is important to better understand the wildlife in the park and if any management steps are needed for an individual species.



Rarely seen carnivores, such as the mountain lion and ringtail cat, are caught on film by remote cameras. Data collected from the cameras is used by the park's Resource Management staff to determine population and range of these species.

Carnivores are the focus of the project since they are rarely seen and are less abundant than other wildlife such as mule deer and black-tailed jackrabbits. Most carnivores are nocturnal or crepuscular (hunting and traveling in the early morning and at dusk) and active when most people are still sleeping or coming indoors for the night. Capturing an animal on film is not always easy, so we use incentives or strategies to get the animals to visit our cameras, like scented lures and bait. We also match the habitat and bait with the specific species for better camera success.

Some of the rarely seen animals that have been captured on film include porcupine, spotted skunk, long-tailed weasel, mountain lion, bobcat and ringtail cat. Porcupines appear to be declining throughout the West for unknown reasons, so this effort will help us to learn more about them and their habitat use. Skunks and weasels are important predators of small rodents. Mountain lions and bobcats are very secretive

and rarely seen or photographed. Ringtails prefer rocky habitat and are one of the least seen animals in the park.

Occasionally, mountain lion kill sites are found, which usually consists of a deer dragged under a tree and partially covered with soil and vegetation. Cameras are immediately set up upon discovery, since the lion will always come back to its prey for several days after the initial kill, giving us ample opportunity to photograph the lion. This is a fairly non-invasive way to observe these magnificent predators in their habitat.

Visitors to Great Basin National Park can help the Resource Management staff by documenting animals observed and the location where they were seen. Wildlife Observation Reports are available at the visitor centers, and we ask that you fill out one of these reports if you spot carnivores or other elusive wildlife. The information you provide can then be used to narrow down locations for our cameras. If you do come across one of our cameras, please do not disturb it. Thank you for your help in protecting and preserving Great Basin National Park for future generations!

## Life Around Springs

Springs are some of the best places to look for wildlife, since about 75% of life in the Great Basin region is associated with water. Great Basin National Park has over 400 perennial springs, and during a two-year survey of springs, animal sign was found in or near 85% of them.

Things you might find in the water itself include freshwater mollusks such as pea clams and springsnails. Pea clams are tiny, less than ¼ inch across. They are filter feeders, eating phytoplankton, zooplankton, detritus, and bacteria, and they live about two years. Springsnails are even smaller, and have a whorled conical shell. They have a foot that sticks out of the shell to help them move around. This foot also has a raspy “tongue” to scrape food, digestive and reproductive organs, and antennae with eyes. Many species of springsnail have been in the same spring for thousands of years and have adapted to the exact conditions there evolving into separate species.

Aquatic insects are found in most springs, and can be spotted by flipping over a rock or two. One common insect attached to rocks is blackfly larvae. These little creatures look like miniature bowling pins, with one end stuck to the rock and the other end topped with two fan-shaped filtering devices. Trout like to eat blackfly larvae. Small insects crawling around with two long tails are likely to be stonefly larvae, and with three long tails, mayfly larvae. Both are common fish food and indicate clean pure water.

Wildflower displays can be outstanding around these water sources from May through August. Vegetation in some springs includes watercress, a leafy plant occasionally used in salads (it may contain parasites so should be treated before eating), and duckweed, one of the smallest flowering plants on the earth.

You may spot some animals that frequent wet places next to springs, such as garter snakes, voles, and water shrews. Singing from nearby aspens, cottonwoods, water birch, and rose bushes are a variety of birds such as Yellow Warbler, MacGillivray's Warbler, Common Yellowthroat, and Song Sparrow. You might be lucky enough to see birds in the water such as American Dipper or Belted Kingfisher. These birds are considered to be riparian obligate species, meaning that they depend on the riparian zone for their existence, and if this zone disappeared, they would also disappear. In addition to riparian obligates, many other animals will come and use the springs for part of their life cycle. Butterflies are also often seen near springs, and the park has many species.

Even if you don't see animals themselves, animal sign is often present. One thing to look for is tracks and trails, burrows, and scat. Pellets are left by herbivores like deer, rabbits, and mice, while carnivores leave longer scat, often with bone and hair visible.

The springs easiest to access in the park are the ones near the campgrounds. Next time you are near a spring, take a closer look to find out what wildlife is using it.



# The Best Tasting Water in Nevada

In the spring of 2005 Great Basin National Park entered its drinking water in a contest judging the best tasting water in Nevada. This annual contest is sponsored by the Nevada Rural Water Association in Reno. Water systems throughout the state entered and, out of over twenty entries, the drinking water at Great Basin National Park was judged the best in the State.



Water operator Don Geary (right), accepts the Park's award for Best Tasting Water in Nevada.

Our Cave Springs water system is in operation year round and provides drinking water to the Lehman Caves Visitor Center and employee housing area from an elevation of 7,200'. The Park also has three seasonal campground systems ranging in elevation from 8,000 to 11,000 feet. The Cave Springs system is a hybrid filtration system and the first in the State to be approved for drinking water by Nevada EPA (2005). All of the Park's potable water systems are pure spring water and are gravity fed. The mountainous terrain may be tough on hikers but it is ideal for running water downhill into Park systems. Occasionally small amounts of sand flow out of the springs and can wreck havoc on valves and piping. The new filtration system has eliminated this problem.

All water systems at Great Basin National Park are maintained by Don Geary, the Park's certified water operator. When in operation, Don checks all systems several times a day to ensure the drinking water is worthy of the title *Best Tasting Water in Nevada*.

Randomly gathered water samples are sent to the Nevada State Health Lab in Reno for bacteriological testing several times a month. Test results are always deemed safe for drinking by national standards. You'd expect that from the Best Tasting Water in Nevada. Water temperatures range around 44 degrees F. The pH is fairly neutral at 7.2. Turbidity – a measure of clarity – is less than 1 percent (generally less than 0.075%) in all systems. As a guide, a turbidity rating of 2 percent appears cloudy in a clean glass

and, you cannot see through a glass filled with 4 percent.

One of the many wonderful things about our 54 national parks is that they are located in breathtaking locations. Americans have grown accustomed to the fact that there is not industry in the parks, with implied pollution. Because national parks are special places, you expect the water to taste great, the air to be pure and the visit worth the effort. Because of our remoteness, you won't be disappointed visiting Great Basin National Park.

We hope you enjoy your visit to Great Basin National Park. While you are here, please have a drink of the Best Tasting Water in Nevada and make a toast to our national parks. Cheers!

## 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 National Forest**  
(775) 289-3031

**Ely District 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 National Monument**  
(435) 586-9451

**Death Valley National Park**  
(760) 786-2331

**Fremont Indian State Park**  
(435) 527-4631

**Lake Mead National Recreation Area**  
(702) 293-8990

**Timpanogos Cave National Monument**  
(801) 756-5238

**Ward Charcoal Ovens & Cave Lake**  
(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

## Weather

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.

Month	Average Max.	Average Min.
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)

As recorded at Lehman Caves Visitor Center, 6,800 feet.