



THE GUIDE

GRAND CANYON NATIONAL PARK

SOUTH RIM Volume XXIII, Number 3

September 4 - October 25, 2000

SHUTTLE BUS
MAP
INSIDE



Index

MAPS

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HIKE SMART

IT'S A DESERT DOWN THERE

From the cool shade of the canyon rim, you can't sense how hot it is below. One-and-a-half to three miles down the trail, you'll really start to feel the HEAT.

You are in the DANGER ZONE!

The "Danger Zone" is the combination of distance traveled, elevation, temperature, and direct sunlight that can easily overwhelm your body's ability to keep itself cool, fueled, and hydrated. Due to changing environmental conditions, the Danger Zone generally starts to develop between 1.5 to 3.0 miles down inner canyon trails. IT'S HOT!

Avoid trouble by following the *Principles of Smart Hiking*:

- Hike during the cooler, shadier times of the day.
- Eat salty foods. Drink water or sport drinks.
- Go slow. Rest often in the shade. Stay cool.
- Plan your hike before you hike. Review pages 12 and 13.

Now Available!

Dieser Prospekt ist auf Deutsch vorhanden ins Besucherzentrum.

On peut obtenir la traduction française du Guide au Centre des Visiteurs.

Pueden obtener La Guía en español en el Centro de Visitantes.

Enjoying Grand Canyon

There is no one or best way to experience the Grand Canyon. Factors such as time, interests, and weather influence your visit. The following "MENU" of possible activities is provided for you to design your personal Grand Canyon experience. For locating places mentioned below please refer to maps on pages 8, 9, 13, and 16. (An Accessibility Guide is available for visitors with mobility impairments.)

ACTIVITY	COMMENTS
ATTEND FREE RANGER PROGRAMS	• Listed on pages 2 and 3 • Junior Ranger program described on page 3
VISIT HERMIT ROAD SCENIC DRIVE 8 miles one way Allow at least two hours round trip	• Closed to private vehicles. Take the free shuttle bus • Views of river at Hopi, Mohave, Pima Points • Visit Hermits Rest — historic landmark with view of river
VISIT DESERT VIEW SCENIC DRIVE 25 miles one way	• Tour by private vehicle or commercial bus • Views of river at Moran Point, Lipan Point, Desert View • May exit park to east on this road
HIKING THE GRAND CANYON	
Walk part of the Rim Trail	• See map pages 8-9; described on page 12 • Trail may be accessed at many locations along rim
Day Hike into the Grand Canyon	• See pages 12-13 for information on trails and safety • It will take twice as long to hike up as it does to hike down • Do not attempt to hike to the river and back in one day
Backpack in the Grand Canyon	• Permit and fees required (see page 13) • Inquire at Backcountry Information Center (8 a.m.-12 p.m. & 1-5p.m.)
VISIT A MUSEUM OR VISITOR CENTER	• The park offers a variety of museums and visitor centers which house exhibits and provide park information • See page 4 for more information

Sunrise & Sunset

SEPT. 3	6:01 A.M.	6:55 P.M.
SEPT. 7	6:04 A.M.	6:49 P.M.
SEPT. 9	6:06 A.M.	6:46 P.M.
SEPT. 11	6:07 A.M.	6:43 P.M.
SEPT. 14	6:10 A.M.	6:39 P.M.
SEPT. 17	6:12 A.M.	6:34 P.M.
SEPT. 20	6:14 A.M.	6:30 P.M.
SEPT. 23	6:17 A.M.	6:25 P.M.
SEPT. 26	6:19 A.M.	6:21 P.M.
SEPT. 29	6:21 A.M.	6:17 P.M.
OCT. 2	6:24 A.M.	6:12 P.M.
OCT. 5	6:26 A.M.	6:08 P.M.
OCT. 8	6:29 A.M.	6:04 P.M.
OCT. 11	6:31 A.M.	5:59 P.M.
OCT. 14	6:34 A.M.	5:55 P.M.
OCT. 17	6:37 A.M.	5:51 P.M.
OCT. 19	6:38 A.M.	5:49 P.M.
OCT. 28	6:47 A.M.	5:38 P.M.



AZ

UT

Mountain Standard Time
Arizona does not observe Daylight Savings Time.

Buckle up. It's the law.

EMERGENCY • 911

24 hours a day

Dial 911 (any phone)

Dial 9-911 (hotel phones)

638-2477 is an additional emergency number.

For general park information dial 638-7888.

USE CAUTION
NEAR THE EDGE



FOOTING CAN BE DANGEROUS

MOUNTAIN
STANDARD
TIME



Arizona does not use
Daylight Savings Time.

RANGER PROGRAMS

VILLAGE AREA

ACTIVITY

TIME/PLACE

CEDAR RIDGE HIKE ♣ With a ranger, descend 1140 feet (347m) below the rim on zigzagging South Kaibab Trail to Cedar Ridge. This strenuous hike is not recommended for people with heart/breathing problems or walking difficulty. Sturdy shoes and at least 1 quart (1 liter) of water per person are required; hat, sunscreen, and snacks recommended. Allow 3-4 hours for this 3-mile round-trip hike on an unpaved trail. To arrive on time, catch the South Kaibab shuttle bus at the following (approximate) times: Bright Angel Lodge at 7:05 a.m.; Maswik Transportation Center / Backcountry Information Center at 7:15 a.m.; Yavapai Lodge at 7:24 a.m.

7:45 a.m. DAILY
South Kaibab trailhead
(access via shuttle)
Last day for program
Sept 30

ALIEN INVADERS ♣ Help stop the invasion of the habitat snatchers! Leave your mark on Grand Canyon by joining the Habitat Restoration Team in its continuing battle with non-native plants. Activities to restore parts of this beautiful park may include digging out non-native plants or collecting seeds and cuttings. Bring a hat and 1 quart (1 liter) of water for this adventure. For ages 5 to adult; ideal for families. Allow 1-1/2 to 2 hours. Meet in front of the Visitor Center.

8:30 a.m.
Tues, Wed, Thurs
Visitor Center

FOSSIL WALK ♣ Sea shells on the rim of Grand Canyon? Join a ranger to solve this mystery of ancient seas and fossilized shells. Allow 1 hour for this easy, one-mile round-trip walk. Meet at the patio behind Bright Angel Lodge on the canyon rim.

9:00 a.m. DAILY
Bright Angel Lodge patio

RAPTORS IN FLIGHT ♣ Join a representative of HawkWatch International in observing the fall migration of birds of prey over Grand Canyon. Learn to identify raptors in flight. Optional: bring a bird book and binoculars. Allow at least 30 minutes. Meet at Yaki Point shuttle stop. To arrive on time, catch the Yaki/Kaibab shuttle bus from Bright Angel Lodge at 9:35 a.m., Maswik Transportation Center at 9:45 a.m., or Yavapai Lodge at 9:54 a.m.

10:15 a.m.
Fri, Sat, Sun
Yaki Point
(access via shuttle)

GEOLOGY TALK ♣ How did it all happen? Come explore the remarkable formation of Grand Canyon. Allow 30-40 minutes. Meet in front of Yavapai Observation Station, near the bicycle rack. Stroll with ranger to nearby seating area. Parking is limited, consider taking the shuttle bus.

10:30 a.m. DAILY
Yavapai Observation Station
(near the bike rack)

CANYON CULTURAL CONNECTIONS ♣ Learn about Native American life through presentations on origins, lifeways, family relationships, rites of passage, language, and song. Allow 1 to 1-1/2 hours. Meet in front of the Visitor Center.

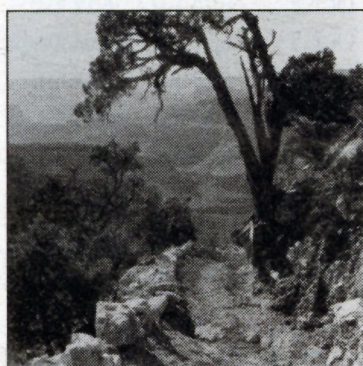
1:00 p.m.
Tues, Wed, Thurs
Visitor Center

RANGER'S CHOICE ♣ Join a ranger and share in their particular interest about Grand Canyon's natural or historic heritage. Allow 1 to 1-1/2 hours. Meeting locations and topics are announced daily. Inquire at the Visitor Center, or call 638-7610.

1:00 p.m.
Fri, Sat, Sun, Mon
Inquire at Visitor Center

HAWK MIGRATION ♣ Observe the fall hawk migration over Grand Canyon while a representative from HawkWatch International answers questions about migration. Optional: bring a bird book and binoculars. Allow 45 minutes. Meet at Yaki Point shuttle stop. To arrive on time, catch the Yaki/Kaibab shuttle bus from Bright Angel Lodge at 2:05 p.m., Maswik Transportation Center at 2:15 p.m., or Yavapai Lodge at 2:24 p.m.

2:45 p.m.
Fri, Sat, Sun
Yaki Point
(access via shuttle)



RANGER PROGRAMS

VILLAGE AREA

MOUNTAIN
STANDARD
TIME

Arizona does not use
Daylight Savings Time.

ACTIVITY

GEOLOGY WALK ♿ Why wide? Why deep? Why grand? Explore the basic geological "whys" of Grand Canyon's formation. Allow 1 hour for this leisurely 3/4-mile walk along the Rim Trail. Meet by the bike rack at Yavapai Observation Station. Consider taking shuttle bus.

ON THE EDGE ♿ This leisurely **rim walk** provides a perspective on Grand Canyon through exposure to its cultural and/or natural history. Allow 1 hour for this 3/4-mile one-way walk on a paved trail. Meet at the flagpole on the rim side of El Tovar Hotel.

SUNSET WALK ♿ Peace. Transition. Mystery. Enjoy the ever-changing colors and inspirational qualities of the canyon on this leisurely stroll with a ranger. Wear warm clothing for this 1/2-mile one-way walk. Allow one hour. Meet at Yavapai Observation Station. See page 1 for sunset times. Parking is limited, consider taking shuttle bus.

EVENING PROGRAM ♿ Travel on a visual journey exploring the marvels of Grand Canyon National Park. Inquire at the Visitor Center, or call 638-7888 for tonight's topic. Allow one hour for this outdoor presentation (dress warmly and bring a flashlight).

SPECIAL RANGER PROGRAMS AND CULTURAL EVENTS ♿ Evening star programs and other special-focus programs will be offered periodically. Inquire at the Visitor Center about topics, times and places, or call 638-7610.

TIME/PLACE

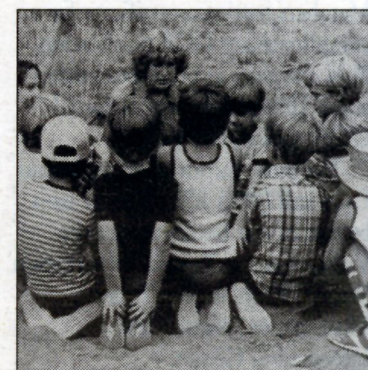
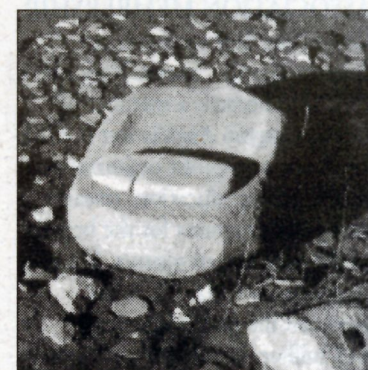
3:00 p.m. DAILY
Yavapai Observation Station
(near the bike rack)

4:30 p.m.
Mon, Wed, Fri
El Tovar Hotel flagpole
Last day for program
Sept 30

One hour before sunset
Sun, Tues, Thurs, Sat
Yavapai Observation Station
Last day for program
Sept. 30

Through Sept 23, 7:30 p.m.
NIGHTLY
Mather Amphitheater
Beginning Sept. 24,
7:30 p.m. NIGHTLY
Shrine of the Ages

Inquire at Visitor Center



DESERT VIEW AREA

RAPTORS IN FLIGHT ♿ Join a representative of HawkWatch International in observing the fall migration of birds of prey over Grand Canyon. Learn to identify raptors in flight. Optional: bring a bird book and binoculars. Allow at least 30 minutes. Drive to Lipan Point and meet in the parking lot (3 miles west of Desert View on Desert View Drive).

GLIMPSES OF THE PAST ♿ Consider the ancient people who called Grand Canyon "home" 800 years ago. How did they survive in this harsh climate? A 1/10-mile walk on a flat, paved trail affords access to the ruins of an ancestral Pueblo (Anasazi) village. Allow 45 minutes. Meet at Tusayan Museum.

HAWK MIGRATION ♿ Observe the fall hawk migration over Grand Canyon while a representative from HawkWatch International answers questions about migration. Optional: bring a bird book and binoculars. Allow 45 minutes. Drive to Lipan Point and meet in the parking lot (3 miles west of Desert View on Desert View Drive).

10:15 a.m.
Mon, Tues, Wed, Thurs
Lipan Point

11:00 a.m. & 1:30 p.m.
DAILY
Tusayan Museum

2:45 p.m.
Mon, Tues, Wed, Thurs
Lipan Point



BECOME A JUNIOR RANGER

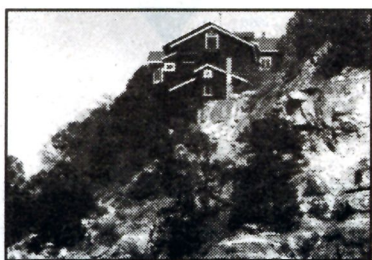
Grand Canyon National Park offers a Junior Ranger program for children ages 4-14. To take part in the program, pick up a Junior Ranger newspaper at the Visitor Center, Yavapai Observation Station, or Tusayan Museum information desk and complete the listed activities for the appropriate age level. Once completed, bring the newspaper back to the Visitor Center or Tusayan Museum to receive an official Junior Ranger certificate and badge.

Note: Children must be accompanied by an adult on all programs.

♿ All outdoor programs are subject to cancellation during rain, snow, or lightning storms.

♿ Indicates that program is wheelchair accessible with assistance. Wheelchairs may be available for loan at the Visitor Center.

VISITOR CENTERS & MUSEUMS

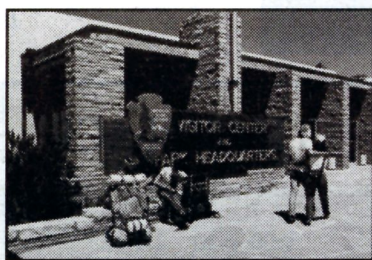


Kolb Studio

Once the home and business of the Kolb brothers, pioneering photographers at Grand Canyon, this building has been restored. The bookstore and auditorium are open to the public.

Art exhibits are on display in the auditorium (see page 15).

Kolb Studio is located in the Village Historic District, at the Bright Angel trailhead. **Open daily** 8 a.m. to 7 p.m. through 9/30; 8 a.m. to 6 p.m. beginning 10/1.



Visitor Center

The Visitor Center is in the Village and is located 6 miles north of the park's south entrance station. **Open daily** 8 a.m. to 6 p.m. Information about the park, maps, and brochures may be obtained at the information desk. Educational materials about the park and region are sold in the non-profit bookstore.

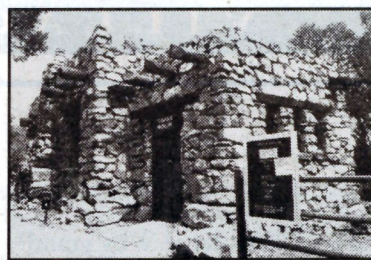
An orientation slide presentation is shown every 30 minutes in the auditorium from 8:30 a.m. to 5:30 p.m.



Yavapai Observation Station

Yavapai Observation Station, located 5 miles north of the park's south entrance, contains temporary exhibits about the fossil record at Grand Canyon. A panorama of the canyon is visible through the building's large windows. **Open daily** 8 a.m. to 7 p.m. through 9/30; 8 a.m. to 6 p.m. beginning 10/1.

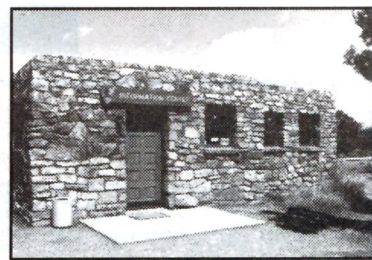
Educational materials about the park and region are sold in the non-profit bookstore.



Tusayan Museum

A visit to Tusayan Ruin and Museum will provide a glimpse of Pueblo Indian life at Grand Canyon some 800 years ago. The museum, located 3 miles west of Desert View, is **open daily 9 a.m. to 5 p.m.** Free admission.

A self-guiding trail leads through the adjacent 800-year-old ruin. Ranger-led ruin tours are offered daily (see page 3 for times).



Desert View Information Center

Orientation, park information, and books are available at Desert View Information Center, located at the park's east entrance. **Open daily 9 a.m. to 7 p.m.** through 9/30; 9 a.m. to 6 p.m. beginning 10/1.

GET INVOLVED

GRAND CANYON ASSOCIATION MEMBERSHIP

One of the best ways you can support Grand Canyon National Park is to become a member of Grand Canyon Association (GCA). GCA is a non-profit organization that supports education, research, and other programs for the benefit of the park and its visitors. Since its inception in 1932, GCA has provided the park with over \$13 million in aid.

Annual membership dues begin at just \$35—less than \$3 a month. Members receive a certificate for a complimentary GCA publication, 20% discount at GCA bookstores, and a 10% discount on selected GCFI courses (see below).

For more information or to join GCA call (800) 858-2808 or stop by one of our bookstores at the Visitor Center, Yavapai Observation Station, Kolb Studio, Tusayan Museum, or Desert View Information Center. www.grandcanyon.org

GRAND CANYON FIELD INSTITUTE (GCFI) In-depth classes about Grand Canyon are offered to the general public through GCFI. Classes are

one to eight days in length and cover subjects such as geology, ecosystems, native cultures, birds, photography, botany, and much more. Introductory and advanced backpacking trips are available as well. Classes are offered March through early November and meet on either the North or South Rim of the canyon unless noted otherwise.

For a course catalog call or write: Grand Canyon Field Institute, P.O. Box 399, Grand Canyon, AZ 86023; Phone: (520) 638-2485.

www.grandcanyon.org/fieldinstitute

GRAND CANYON NATIONAL PARK FOUNDATION

Grand Canyon National Park Foundation (GCNPF) is the primary fundraising partner working for Grand Canyon National Park's future. The foundation seeks private funding for park projects approved by the park superintendent. Currently, we are working on the following:

- Heritage Education Campus, which is a multi-year historic preservation project that will transform buildings within Grand Canyon Village into a

state-of-the-art educational center

- Grand Canyon Greenway trail project, which will increase the trail system on both rims of the canyon and provide expanded opportunities for bicyclists, pedestrians, and equestrians
- Contributions are accepted at in-park donation boxes or by mail. Your gift *does* make a difference. More information is available at the Visitor Center or by writing GCNPF, 23 E. Fine Ave. Flagstaff, AZ 86001. Phone: (520) 774-1760

www.grandcanyonfoundation.org

VOLUNTEER If you or your group would like to give something back to Grand Canyon, join the Habitat Restoration Team! Projects help restore the canyon's natural environment and may include: repotting or planting native plants and removing non-native species, restoring a historic cabin, painting, and carpentry. Projects range in length from a few hours to a week. If you have a few hours to give, we may be able to utilize your talents today. Call Frank Hays at (520) 638-7857 for further details.

SIGNS OF PROGRESS — YOUR FEES AT WORK



Photo © Lynn Radeka, all rights reserved

Wondering what happens to the money you've given Grand Canyon National Park? Grand Canyon is participating in the Fee Demonstration Program authorized by Congress in 1996. This program allows the park to keep 80% of the revenue from most fees charged at Grand Canyon (including entrance fees, backcountry/river permit fees, and commercial tour fees) and use that money for park projects. The remaining 20% supports projects in other NPS areas.

Since 1996 several projects have been completed. These important projects either improve visitor services or further protect the park's significant resources. One such project is the "prepaid" entrance line to the far left at the entrance station. This line helps decrease wait times at the paying windows. Another project is a new museum collection storage facility. The new storage area allows for better preservation of 250,000 artifacts that document the natural and cultural history of the park. The artifacts range from 20,000-year-old sloth bones to 1,000-year-old ceramic pots to a more recent 8,000 specimen herbarium collection.

UserFee

Look for this sign on recently completed projects throughout the park

Approved UserFee projects that will take place on the North Rim include rehabilitation of the historic campground amphitheater, orientation wayside exhibits in the Bright Angel Point area, repaving of the campground, and road realignments and improved bus parking at the lodge.

One of the most significant fee demonstration funded projects is the construction of a new visitor information and orientation center at Mather Point on the South Rim. Canyon View Information Plaza (CVIP) will be the first place most visitors stop after entering the park. CVIP is a multiphase project that will take several years to complete. The first three phases, constructing access and transit roads, installing utilities, and building the orientation building and restrooms, are in progress with a scheduled completion date of September 2000. CVIP is scheduled to open in late October 2000.

Another major fee demonstration project is the development of an Aircraft Over-Flight Management Program for the park. This project will help provide the resources park staff need to determine the magnitude of the aircraft noise problem and to develop measures to help restore natural quiet to the park.

The remainder of the fee demonstration projects will address other park concerns, including: constructing needed facilities, restoring historic buildings, preparing a new management plan for the river corridor, implementing new visitor education programs, adding additional backcountry patrols, and repairing and constructing restrooms.

PARK NEWS

FOR MILLIONS OF YEARS, THE COLORADO RIVER FLOWED WILD AND UNRESTRAINED THROUGH THE GRAND CANYON. It was high and muddy during the spring floods, muddy and warm during the summer, and low, muddy, and cold during the winter. The ruddy mud gave the Colorado, Spanish for red, its name.

Despite the heavy sediment load, eight species of fish originally thrived in the Grand Canyon portion of the river. The Colorado River pike minnow grew to over six feet in length.

Spring floods annually scoured riverbanks leaving little vegetation behind. These same floods deposited sandbars along the beaches. Vast amounts of debris were washed down side canyons by summer flash floods. Debris would form rapids and then be washed down the river with the next big flood.



long-term monitoring programs and to document whether the dam is operating in a manner consistent with the Grand Canyon Protection Act.

A significant management decision was to level river flows, rather than allow continued daily fluctuation to meet electrical demand.

Another pivotal decision was to allow a research "flood" in 1996. This release of 45,000 cfs tested the hypothesis that flooding would redistribute sand from the river bed to the river banks, restoring sandbars and camping beaches, scouring away exotic vegetation, rejuvenating riparian marshes, and flushing non-native fish downstream.

While the flood had substantial beach-building effects, the level of flooding (about half the size of historic levels) was not high enough to achieve all the anticipated benefits. The Glen Canyon Dam Adaptive

Managing the Dammed Colorado

This all changed with the building of Glen Canyon Dam in the early 1960s. The river that flowed from the dam became clear and cold. Its level no longer fluctuated with the seasons, but instead was determined by electrical power demand. Without the seasonal variations in temperature and volume, fish were not stimulated to spawn. Combined with competition from introduced species, this has led to the loss of four native fish and the severe reduction of a fifth.

Today, non-native vegetation such as the salt cedar overwhelms the river's beach habitats. Sandbars erode away, not to be replenished. Archaeological resources are exposed and lost before they can be studied.

During the 1980s, the Glen Canyon Environmental Studies program documented Glen Canyon Dam's effect on the Grand Canyon and the Colorado River. Many of these effects were determined to be detrimental to the long-term health of the park's ecosystems. In response to the study, Congress passed the Grand Canyon Protection Act of 1992, which directs the secretary of the interior to operate Glen Canyon Dam in a manner that protects and improves the values for which Grand Canyon National Park and Glen Canyon National Recreation Area were established.

The Bureau of Reclamation established the Grand Canyon Monitoring and Research Center to develop

Management Work Group (AMWG) was established in 1997 to make recommendations on dam operations. There are 25 entities represented in the AMWG including five federal and one state agency, six Native American tribes, seven basin states, four non-governmental recreation and environmental groups, and two federal power purchasers. A variety of contrasting and, at times, conflicting perspectives are represented by the membership of this group. Most members seek to protect resources important to their own organizations including natural resources, cultural heritage sites, recreational opportunities, hydropower revenue, water delivery, and funding for scientific studies.

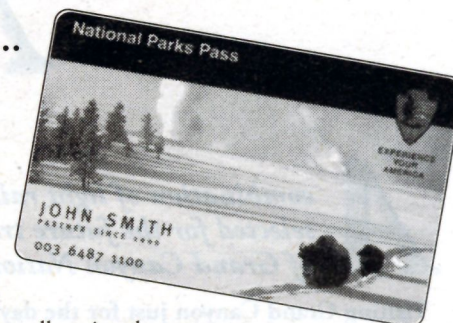
There will be a Colorado River running through the Grand Canyon for millennia to come. Due to the actions of humans, it is not the same river that flowed just a few decades ago. As stewards of the land, it is our responsibility to manage the resource and preserve the ecosystem. Today's research will guide the management decisions that the AMWG makes tomorrow. There are many demands being made on the Colorado River. Balancing those demands against the needs of the ecosystem requires an understanding of the natural processes involved and a willingness to compromise among those affected.

GOOD AT ALL NATIONAL PARKS

Now Available!

New National Parks Pass

The National Park Service proudly introduces the National Parks Pass. This new pass admits the pass holder and any accompanying passengers in a private vehicle to all national parks for one year. At a cost of \$50, this pass comes with a PopOut map of the national parks, a Proud Partner decal, and an offer for the free *GoParks* newsletter. The National Parks Pass can be purchased at park fee stations, by calling 1-888-GO-PARKS, online at www.nationalparks.org, and through cooperating associations.



PARK DEVELOPMENTS



NPS illustration

A SPECIAL NOTE FROM THE SUPERINTENDENT

Welcome to Grand Canyon National Park — an important place in our American heritage and legacy. Grand Canyon is a place of tremendous beauty, peace, and scenic grandeur, as well as tremendous natural and cultural interest. The park's General Management Plan directs us to take steps to improve your canyon experience, while together we protect this precious, natural landscape found nowhere else on Earth.

Several improvements are underway at the park. A new visitor orientation center, Canyon View Information Plaza, is scheduled to open in late October 2000. This year construction begins on the Greenway, a 73-mile network of multi-use trails on the North and South Rims. A dynamic learning center for park visitors of all ages and interests, the Heritage Education Campus, is planned for Grand Canyon's historic village. Development continues for a light-rail transportation system that will allow visitors greater ease in moving around the park without distraction and delay from the noise and congestion of automobile traffic. While this transit system is still several years away, the park is moving ahead with related improvements. In the latter part of this year, some traffic routes will be modified to provide shuttle service to the new orientation center. The park's alternative-fuel bus fleet will be expanded and available to all, including those with accessibility needs.

For more information about Grand Canyon National Park, see our website at www.nps.gov/grca or call 520-638-7888 for information updates.

A New Way to Visit

A combination of light rail and alternative fuel buses has been selected for the future transportation system at the South Rim of Grand Canyon National Park.

Visiting Grand Canyon just for the day? Day-use visitors to the South Rim will park their vehicles at Grand Canyon Transit Center in Tusayan. From this gateway community they will board a light rail train for the six-mile ride to Canyon View Information Plaza (CVIP) located near Mather Point. This service will run year-round and will also provide service from CVIP to Grand Canyon Village and back to Tusayan. These light-rail trains will be capable of transporting large numbers of people. They will be designed with spacious cars, large windows, and high ceilings. The trains will also be accessible to wheelchairs, bikes, and strollers. A fleet of alternative fuel buses will meet visitor transportation needs in those areas that are not served directly by the light-rail system. The buses will be powered by natural gas or electrical power cells. They will offer a clean and quiet alternative to conventional fuel buses. These buses will also run year-round at regular intervals.

Why the change? Grand Canyon is one of the most visited national parks in the country. We receive approximately 5 million visitors each year, most arriving by car. During the busy summer months, an average of 6,000 cars enter the park at the South Rim, all vying for the limited number of parking spaces. Because of this, visitor experience has been eroding for many years. The park's 1995 General Management Plan was developed as a way to respond to increasing visitation and the damage and congestion caused by private vehicles.

The selection of alternative fuel buses and light-rail transit is a milestone in accomplishing an innovative vision for efficient park transportation in the 21st century. With this system in place, the experience of park visitors will greatly improve from the congested auto-based experience of today. Visitors will find it easier to navigate and enjoy the park.

What about tour buses? Due to the efficiency and high capacity of light-rail transit, the need for tour-bus parking at Mather Point will be eliminated. Tour bus passengers will also change over to the light-rail system in Tusayan in order to visit the park. Transportation buses providing point-to-point visitor transportation services (such as the passenger bus from Flagstaff, Arizona) will use the Maswik Transportation Center for pick-up and drop-off.

Overnight visits. Visitors with overnight lodging, camping, or recreational vehicle reservations will be able to drive to a designated parking area for their accommodations. Once at their destination, they will travel within the park on the transit system.

Canyon View Information Plaza. Canyon View Information Plaza (CVIP) will be integral to the shift from automobiles to mass transit. This facility will be the primary hub for transit to and within the park. It will accommodate up to 4,000 people per hour. Here, visitors will experience their first view of Grand Canyon at Mather Point, encounter a menu of activities with which to plan a visit to the park, and board transportation to access those activities. In addition to light rail and shuttle connections, CVIP will also offer access to the Rim Trail and Greenway trail system, allowing visitors to walk or bicycle to other points in the park. Bicycles will be available for rent.

When do these changes happen?

This new transit system will be implemented in phases. Expansion of the existing shuttle system is underway and will continue through the next several years. Completion and opening of Canyon View Information Plaza is scheduled for late October 2000. The light rail component is expected to be completed by 2004. During the transition between the opening of CVIP and the arrival of the light rail, CVIP will be accessed by shuttle buses.



The big picture. The goal of the National Park Service is to preserve the Grand Canyon for future generations and to provide a memorable visitor experience. This transit system is consistent with management decisions being made to protect Grand Canyon's resources. While much is being done to reduce noise from aircraft and boat motors, this plan strives to solve transportation issues while also restoring, to the greatest extent possible, natural sounds of the canyon by reducing private vehicles and using alternative-fuel transit.

Want to learn more?

You can find more information about future plans for Grand Canyon National Park at: <http://www.nps.gov/grca/future.htm>

PARK NEWS



The Sky Above

RESOURCE MANAGEMENT DECISION AFFECTS GRAND CANYON AIR SPACE

March 2000 was a significant month in the regulation of the air tour industry over Grand Canyon National Park. Early in the month, the National Parks Air Tour Management Act was signed into law. An important section of this law calls for the establishment of the definition of “reasonably achievable quiet aircraft technology.” In other words, how quiet must an aircraft be to qualify as a quiet technology aircraft? Once this definition is established, the park’s Comprehensive Noise Management Plan will recommend the designation of special “incentive” routes for aircraft meeting the standard. These routes must not negatively impact the “substantial restoration of natural quiet” that is the goal established by the National Parks Overflights Act of 1987. Substantial restoration of natural quiet is achieved when half the park or more experiences natural sounds uninterrupted by mechanical noise for three-fourths or more of the day (day being the twelve hour period from 7:00 a.m. - 7:00 p.m.).

On March 28, the Federal Aviation Agency (FAA) issued new rules, collectively known as Federal Aviation Regulation 93, Subpart U (FAR93), that directly affect overflights in the Grand Canyon area. One rule defines six types of flights: air tours, transportation, repositioning, maintenance, training, and flights serving Grand Canyon West airport on the Hualapai Reservation. This rule caps the number of commercial air tour flights at approximately 90,000 flights a year, the number flown between May 1997 and April 1998. Unlike other special uses such as river rafting, mule rides, or backpacking, which have been regulated for some time, this is the first time that scenic air tours have been limited. Air tour companies will receive an allocation based on their usage during

the above time period. They may use their allocations at any time of the year. Flights in the popular Zuni Point and Dragon Corridors may not be increased, although companies may move flights out of these corridors and into other corridors if they choose. The rule limiting commercial air tour flights over the park became effective May 4, 2000.



*Grand Canyon Airlines plane and
hanger at Red Butte Airport,
south of Grand Canyon, circa 1929
(people are not identified).*

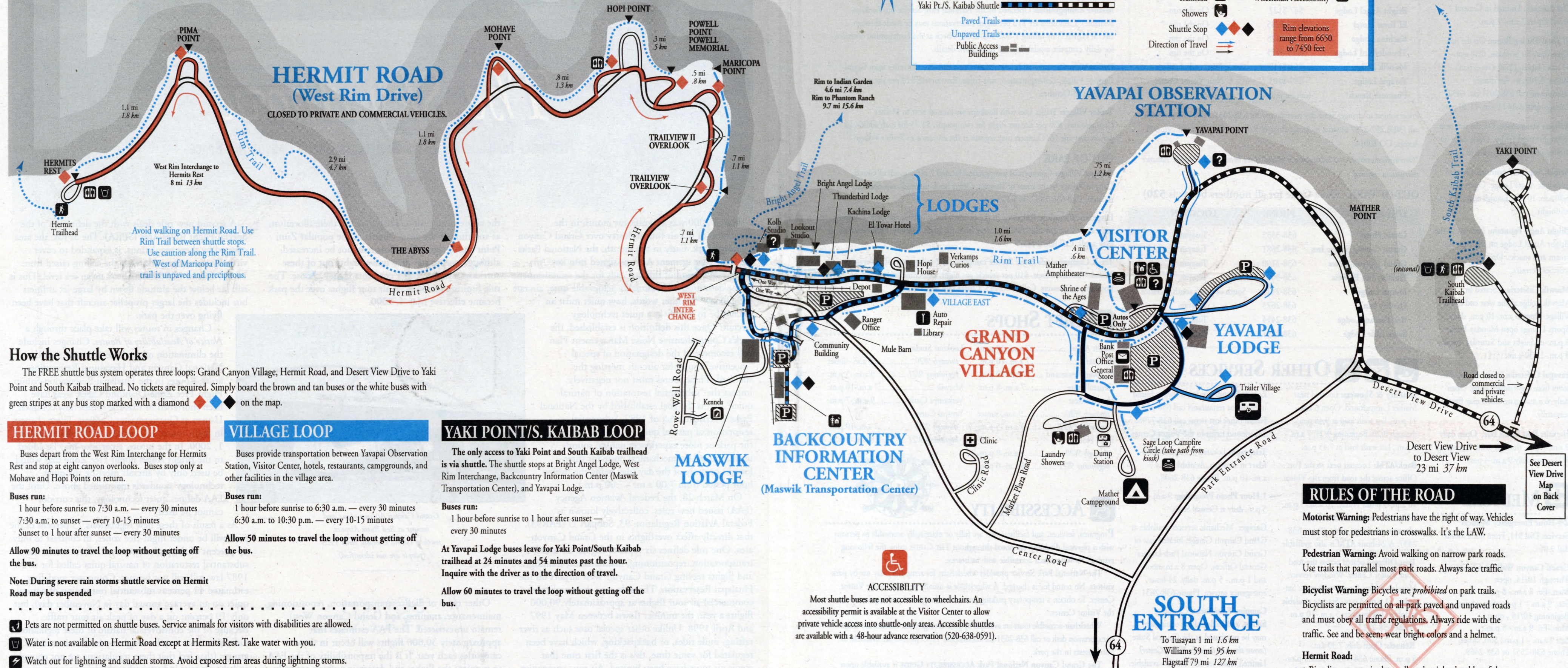
Other types of flights (transportation, repositioning, maintenance, training, and Grand Canyon West) remain unrestricted. The FAA estimates that approximately 30,000 flights will occur in these categories each year. It is the responsibility of the FAA to monitor the flights and determine which are truly air tour flights.

A second new rule deals with the definition of the Special Flight Rules Area (SFRA). The SFRA, the area covered by these regulations, is expanded to cover virtually the entire park, with the ceiling raised from 14,499 feet to 17,999 feet above mean sea level. This is still far below the altitude flown by large jet airliners but includes the larger propeller aircraft that have been flying over the park.

Changes in routes will take place through a *Notice of Availability of Routes*. Changes include the elimination of the Blue 1A route over the National Canyon and Havasupai Reservation areas. Routes in the Hualapai Reservation-Sanup Flight-Free Zone-Diamond Creek areas have been shortened so that the routes now complete a U-turn at Quartermaster Canyon. These changes in flight routes will become effective December 1, 2000. In the future, a corridor may be added to the Bright Angel Flight Free Zone that would be used only by aircraft meeting the quiet technology standards mentioned above. Until the FAA defines quiet technology, this corridor cannot be used.

As a result of these new regulations 75 percent of the park will be under flight-free zones, in contrast to only 45 percent of the park currently. Unfortunately, the substantial restoration of natural quiet called for in the 1987 law still will not be met. Computer modeling estimated 42 percent substantial restoration of natural quiet on an average annual day (a November day), but only 19 percent on a day of peak air tour traffic. Because of the controversial nature of these regulations, judicial actions may be sought by both conservation groups (that feel that these regulations are not enough) and the air tour industry (that thinks this is too much regulation) that would delay implementation.

Free Shuttle



How the Shuttle Works

The FREE shuttle bus system operates three loops: Grand Canyon Village, Hermit Road, and Desert View Drive to Yaki Point and South Kaibab trailhead. No tickets are required. Simply board the brown and tan buses or the white buses with green stripes at any bus stop marked with a diamond on the map.

HERMIT ROAD LOOP

VILLAGE LOOP

YAKI POINT/S. KAIBAB LOOP

RULES OF THE ROAD

Motorist Warning: Pedestrians have the right of way. Vehicles must stop for pedestrians in crosswalks. It's the LAW.

Pedestrian Warning: Avoid walking on narrow park roads. Use trails that parallel most park roads. Always face traffic.

Bicyclist Warning: Bicycles are prohibited on park trails. Bicyclists are permitted on all paved and unpaved roads and must obey all traffic regulations. Always ride with the traffic. See and be seen; wear bright colors and a helmet.

Hermit Road:

- Bicyclists are required to pull to the right shoulder of the road and dismount when large vehicles are attempting to pass.
- Never hang on to a shuttle bus while riding.

- ⚠ Pets are not permitted on shuttle buses. Service animals for visitors with disabilities are allowed.
- 💧 Water is not available on Hermit Road except at Hermits Rest. Take water with you.
- ⚡ Watch out for lightning and sudden storms. Avoid exposed rim areas during lightning storms. Be prepared for sudden rain storms, carry a waterproof jacket and other clothing.

LODGING & SERVICES

FOOD

General Store: Located across from the Visitor Center. Open 7 a.m.-8 p.m.

Delicatessen: Located in General Store. Open 7 a.m.-7 p.m.

El Tovar Dining Room: On the rim. Open daily for breakfast, 6:30 a.m.-11 a.m.; lunch, 11:30 a.m.-2 p.m.; dinner, 5-10 p.m. For dinner reservations, call 638-2631 ext. 6432. Lounge open daily 11 a.m.-11:30 p.m.

Arizona Steakhouse: On the rim next to Bright Angel Lodge. Open daily for dinner only, 4:30 p.m.-10 p.m.

Bright Angel Restaurant: Located in Bright Angel Lodge. Open daily 6:30 a.m.-10 p.m. Lounge open 11 a.m.-midnight.

Bright Angel Fountain: Located at the Bright Angel Lodge on the rim. Ice cream and snacks. Open daily as weather permits.

Maswik Cafeteria: Located in Maswik Lodge at the west end of the Village. Open 6 a.m.-10 p.m. daily. Sports Lounge open Monday-Friday 5 p.m.-midnight and Saturday-Sunday 3 p.m.-12:30 a.m..

Yavapai Cafeteria: Located across the street from the Visitor Center. Open daily 6 a.m.-9 p.m.; hours may fluctuate seasonally.

Hermits Rest Snack Bar: Open daily 9 a.m.-5 p.m. through 9/20. Beginning 9/21, open daily 9 a.m.-4 p.m.

MEDICAL

24-Hour Emergency Medical

Service: Dial 911. From hotel rooms dial 9-911.

Grand Canyon Walk-In Clinic:

Through 10/14, open Mon.-Fri. 8 a.m.-8 p.m.; Sat., 9 a.m.-1 p.m.; Sun. closed. Beginning 10/15, open Mon.-Fri. 9 a.m.-5 p.m.; Sat. 9 a.m.-1 p.m.; Sun. closed. Phone 638-2551 or 638-2469.

Dentist: Call 638-2395 for hours.

LODGING

IN-PARK

LODGE	PRICES (approx.)	LOCATION
Bright Angel Lodge	\$47-\$122	On the rim
El Tovar Hotel	\$117-\$285	On the rim
Kachina Lodge	\$115-\$125	On the rim
Thunderbird Lodge	\$115-\$125	On the rim
Maswik Lodge	\$64-\$119	West end of village
Yavapai Lodge	\$89-\$103	Near Visitor Center
Phantom Ranch*	(call for prices)	Bottom of the canyon

Prices subject to change. Same-day reservations call 638-2631. Advance reservations call (303) 297-2757 or write to Amfac Parks & Resorts, 14001 East Iliff, Ste. 600, Aurora, CO 80014.

*Overnight dormitory and cabin space is located at the bottom of the canyon. Advance reservations required.

OUT-OF-PARK (Area Code for all numbers below is 520)

LODGE	PHONE	LOCATION
Grand Hotel	638-3333	Tusayan
Grand Canyon Squire Inn	638-2681	Tusayan
Grand Canyon Suites	638-3100	Tusayan
Holiday Inn Express	638-3000	Tusayan
Moqui Lodge	638-2424	South of park's south entrance
Quality Inn	638-2673	Tusayan
Red Feather Lodge	638-2414	Tusayan
Seven Mile Lodge	638-2291	Tusayan

OTHER SERVICES

Laundry & Showers: Located near Mather Campground. Open 6 a.m.-11 p.m., last wash load at 9:45 p.m. through 9/20. Beginning 9/21, 7 a.m.-9 p.m., last wash load at 7:45 p.m.

Bank/ATM: Located next to the Post Office across the road from the Visitor Center. Open Monday-Thursday, 10 a.m.-3 p.m.; Friday, 10 a.m.-5 p.m. Will cash travelers checks. Cash advances on charge cards. Phone 638-2437. A 24-hour ATM is also available.

Post Office: Located across the road from Visitor Center. Window service: Monday-Friday, 9 a.m.-4:30 p.m.; Saturday, 11 a.m.-3 p.m. Stamps available in lobby. Lobby open 5 a.m.-10 p.m. Phone 638-2512.

Kennels: Open daily, 7:30 a.m.-5 p.m. Phone 638-0534. After 5 p.m. contact Fire and Safety for retrieval by calling 638-2631.

Lost & Found: For items lost or found in hotels or restaurants call 638-2631. For all other lost items call 638-7798. Take found items to the Visitor Center.

Telegraph: Located at Express Mini-Mart in Tusayan. Available daily 7 a.m.-10 p.m. Phone 638-2608.

1-Hour Photo Processing: 9 a.m.-5 p.m. daily at General Store.

Garage: Mechanic services available at Grand Canyon Garage, located east of Grand Canyon National Park Lodges' General Offices. Open 8 a.m.-noon and 1 p.m.-5 p.m. daily. 24-hour emergency service. Phone 638-2631.

Camping Equipment: Camping, hiking, and backpacking equipment may be purchased at the General Store (across the road from the Visitor Center). Limited repair services are also available.

Salon: Best Western Squire Inn open Mon.-Fri. 9:00 a.m.-6 p.m. Phone 638-2681.

CAMPING

Camping is permitted only in designated campsites while in Grand Canyon National Park. Violators are subject to citation and/or fine.

IN-PARK

Mather Campground: Operated by the National Park Service (no hookups available). Campsites are \$12 per night. Reservations may be made through BIOSPHERICS by calling 1-800-365-2267. Check at the campground entrance for daily campsite availability and reservation details.

Desert View Campground: Located near east entrance, 25 miles from Grand Canyon Village. Self-registration; first-come, first-served; \$10 per site per night. Closes mid-October.

Trailer Village: Trailer sites with hookups are located next to Mather Campground; \$20 per site per night for two people; \$1.75 for each additional person over age 16. Campers may register at the entrance to Trailer Village.

OUT-OF-PARK

Camper Village: Commercial campground located 7 miles south of Grand Canyon Village in the town of Tusayan. Offers hook-ups and coin-operated showers. Call 638-2887. \$15-\$23 fee.

Dispersed Camping: Permitted in the national forest outside the park. Camping must be at least 1/4 mile (1/2 km) away from the main highway. Other restrictions may apply. Call 638-2443.

Tex-X Campground: Forest Service campground 2 miles south of Tusayan in Kaibab National Forest. \$10 per vehicle per night; first-come first-served; no hookups; no showers. Call 638-2443. Closes late September.

GIFT SHOPS

Bright Angel	7 a.m.-10 p.m.	Lookout Studio
El Tovar	7 a.m.-10 p.m.	through 9/20.....8 a.m.-sunset
El Tovar Newsstand	7 a.m.-10 p.m.	beginning 9/219 a.m.-5 p.m.
General Store	7 a.m.-8 p.m.	Maswik7 a.m.-10 p.m.
Hermits Rest	7 a.m.-8 p.m.	Verkamps Curio9 a.m.-7 p.m.
through 9/20.....9 a.m.-sunset		Yavapai Curio
beginning 9/219 a.m.-5 p.m.		through 9/207 a.m.-10 p.m.
Hopi House		beginning 9/218 a.m.-9 p.m.
through 9/208 a.m.-8 p.m.		
beginning 9/218 a.m.-6 p.m.		



ACCESSIBILITY

Programs, services, and facilities that are fully or marginally accessible to persons with a physical disability are noted throughout THE GUIDE using the following symbol:  Wheelchair accessible with assistance.

The National Park Service provides wheelchairs for temporary day use by park visitors. No rental fee is charged. A wheelchair is usually available at the Visitor Center. To obtain a temporary parking permit for designated parking, inquire at the Visitor Center.

Wheelchair-accessible tours are available by prior arrangement. Contact any lodge transportation desk or call 638-2631 for information. TDD phones are available to hotel guests in the park.

The Grand Canyon National Park ACCESSIBILITY GUIDE is available upon request at the Visitor Center, Yavapai Observation Station, Kolb Studio, Tusayan Museum, and Desert View Information Center.

LODGING & SERVICES

RELIGIOUS SERVICES

Religious services are offered in the park and surrounding community. The National Park Service does not endorse any group or message. Check current schedules posted at Mather Campground (near restrooms), Visitor Center, Shrine of the Ages, and the information kiosk between the General Store and the Post Office. For additional information call numbers listed below.

Grand Canyon Community Church: (Interdenominational) Joe Surin, Pastor; 638-2340.

Church of Jesus Christ of Latter-Day Saints: Ted Meredith, Branch President; 638-2792.

Roman Catholic: Father Benedict, Priest; 638-2390.

Grand Canyon Assembly of God: Jim Strating, Pastor; 638-9415.

Grand Canyon Baptist Church: Dr. Paul Kinnison, Pastor; 638-2790.

Jehovah's Witnesses: Jim Reilly, (520) 635-0070.

A Christian Ministry in the National Parks: (Interdenominational) for more information call 638-2340.

SERVICE ORGANIZATIONS

Alcoholics Anonymous: Meets Mondays, Wednesdays, and Fridays 7 p.m. at Kachina Room, Kachina Lodge. Meetings are open, non-smoking, and members of all 12-step programs are welcome.

Grand Canyon Rotary Club: Meets Thursdays at noon at the Canyon Room, El Tovar Hotel.

Lions Club: Meets at the Grand Hotel in Tusayan. For meeting dates and times call 638-0666.



TRANSPORTATION

Tusayan Shuttle: Leaves airport every hour on the half-hour. Makes stops in Tusayan and at Maswik Transportation Center. Call 638-0821.

Bus: Bus service between Grand Canyon National Park and Flagstaff, Arizona, is offered by Nava-Hopi Tours; call 1-800-892-8687, or inquire at lodge transportation desks for schedule. South Rim Travel offers shuttle service from the park to Flagstaff. Call 638-2748 or 877-638-2257 for information and reservations. Greyhound Bus Lines offers service from Flagstaff and Williams, Arizona, to points nationwide.

Train: Grand Canyon Railway offers service between Williams, Arizona, and Grand Canyon. Call 1-800-THE-TRAIN for information and reservations. The Railroad Express offers bus service for people to take only a one-way trip on the vintage train. To ride on the train one-way in the morning, contact any transportation desk. To ride on the train one-way in the afternoon, contact the Grand Canyon Railway at 1-800-THE-TRAIN.

Taxi: Service is available to the Grand Canyon Airport, trailheads, and other destinations. 24-hour service daily. Call 638-2822 or 638-2631 ext. 6563.

Transportation Desks: Information about Phantom Ranch facilities, mule trips, horseback riding, air tours, one-day float trips, and motorcoach tours (wheelchair-accessible vehicles available) is available in lodge lobbies (hours vary seasonally). Call 638-2631 ext. 6015.

Maswik Lodge Transportation Desk: 6 a.m.- 6:30 p.m.

Bright Angel Transportation Desk: 6 a.m.- 8 p.m.

Visitor Center Transportation Desk: 8:00 a.m.-12 p.m.

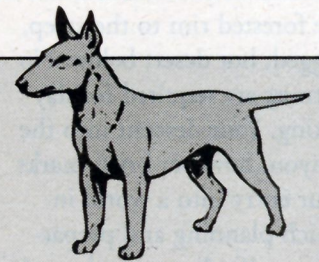
Yavapai Lodge Transportation Desk: 8 a.m.- 11 a.m./12:30 p.m.-5 p.m.

Enterprise Car Rental: At Grand Canyon Airport Terminal. Open 9 a.m.- 5 p.m. daily. Call 638-2871 or 1-800-736-8222.

MOUNTAIN
STANDARD
TIME



Arizona does not use
Daylight Savings Time.



PETS MUST BE LEASHED AT ALL TIMES.

Leashed pets are allowed on rim trails throughout the developed areas on the South Rim but *not below the rim.*

The only exception is service animals. Persons wishing to take a service animal below the rim must check in first at the Backcountry Information Center (located in the Maswik Transportation Center). Kennels are available.

ADDITIONAL OUT-OF-PARK SERVICES

The following facilities are located in Tusayan, just outside the park's south entrance on U.S. Highway 64 South. Additional services are also available. Consult the local telephone directory for further information.

Fuel

Moqui Service Station	638-2459
Shell Service Station	638-2608

Food

Cafe Tusayan	638-2151
Canyon Star	638-3333
Express Mini-mart	638-2608
General Store	638-2854
McDonalds	638-2208
Moqui Restaurant	638-2424
Pizza Hut	638-4629
Quality Inn	638-2673
Squire Inn Restaurant	638-2681
Taco Bell	638-8226
Tusayan Steak House	638-2780
We Cook Pizza, Etc	638-2278
Wendy's	638-6484



TOURS & RIVER TRIPS

Air Tours: Fixed-wing and helicopter tours of the Grand Canyon region originate daily from Grand Canyon Airport. Air tour reservations may also be made at any Grand Canyon lodge transportation desk. A list of air tour operators is available upon request from the Visitor Center.

Bus Tours: Tours within the park to Desert View and Hermits Rest, as well as sunrise and sunset tours, are available daily. Wheelchair-accessible coaches are available by prior arrangement. Contact any transportation desk for information or call 638-2631.

Mule Trips: One- and two-day mule trips into the canyon depart in the morning and may be available on a waiting-list basis. Call 638-2631 or contact the Bright Angel Lodge Transportation Desk for full information.

Horse Rides: One-, two-, and four-hour trail rides and twilight campfire and wagon rides available. Located at the Moqui Lodge in Tusayan village. For information and reservations call 638-2891.

White Water Raft Trips: White water raft trips through the canyon last from 3 days to 2 weeks and require reservations well in advance (ask Visitor Center staff for a TRIP PLANNER with a list of river trip operators).



Mike Buchheit

DAY HIKING

Dangerously alluring, Grand Canyon hiking trails rapidly descend from the cool shade of the forested rim to the steep, rugged, hot desert below. No permits are required for day hiking. Your descent into the canyon, however brief, marks your entry into a world in which planning and preparation, self-reliance, and good choices are crucial. *Your safety is your responsibility!*

Don't Suffer in the Danger Zone The "Danger Zone" is the combination of distance traveled, elevation, temperature, and direct sunlight that can easily overwhelm your body's ability to keep itself cool, fueled, and hydrated. Due to changing environmental conditions, you

start to enter the Danger Zone 1.5 to 3.0 miles down inner canyon trails. Experienced desert hikers know that the timing of their hike is the most important factor in avoiding the hazards of the Danger Zone. Hiking in the early morning or late afternoon shade will greatly enhance your enjoyment of your hike and dramatically reduce the danger of hiking in direct sunlight.

For summer hikes into the canyon:

- Start your hike in the cool of the morning or wait for the shadows of late afternoon.

Inner canyon temperatures can soar to **118° F (48° C) in the shade!**

VERY HOT!

HOT

WARM

COOL

COLD



- Rest in the shade during the heat of the day.
- Hike out of the canyon during the evening shade. Make sure to bring a flashlight.

Double Your Calories, Double Your Fun Salty snacks and water or sport drinks should be consumed on any hike longer than 30 minutes.

Food is your body's primary source of fuel and salts (electrolytes) while hiking in the canyon. If you do not balance your food intake with your fluid consumption, you run the risk of getting sick. With exertion, you lose salt and may develop a serious heat illness. For every hour

hiking in the canyon, you should drink 1/2 to 1 liter of water or sport drink. Your best defense against heat illness and exhaustion is to eat a large breakfast, a full lunch, a snack every time you take a drink, and a rewarding full dinner at the end of the day. This is not a time to diet.

WARNING

Do not attempt to hike from the rim to the river and back in one day.

Hiking Chart

Assuming that you follow the Principles of Smart Hiking listed on page 1, the following day hikes are considered reasonable.

Note: There are no loop trails for day hikes; you will be hiking on the same trail in both directions.

TRAILS	DESTINATION	DISTANCE ROUND TRIP	APPROX. TIME ROUND TRIP	ELEVATION CHANGE	NOTES
RIM TRAILS					
Begin from any viewpoint in the village or along Hermit Road. Rim Trails offer excellent walking for quiet views of the inner canyon and for visitors who desire an easy hike. See map on pages 8, 9, and 16 for details.	Along village rim	N/A	15 min. to 1 1/2 hours	200 feet 60 m	Paved. Best easy walk. Passes historic buildings.
	Along Hermit Road	N/A	15 min. to all day	200 feet 60 m	Becomes unmarked dirt path west of Maricopa Point.
BRIGHT ANGEL TRAIL — Steep					
Trail begins just west of Bright Angel Lodge. Some shade, seasonal water subject to pipeline breaks; check at Visitor Center for status.	1 1/2-Mile Resthouse	3 mi. 4.8 km	2-4 hours	1131 feet 345 m	Restrooms. Water May-September.
	3-Mile Resthouse	6 mi. 9.6 km	4-6 hours	2112 feet 644 m	Water May-September.
	Indian Garden	9.2 mi. 14.8 km	6-9 hours	3060 feet 933 m	Restrooms. Water.
	Plateau Point	12.2 mi. 19.6 km	8-12 hours	3195 feet 974 m	Water May-Sept. View of river 1 1/2 mi. beyond Indian Garden
SOUTH KAIBAB TRAIL — Steep					
Trail begins near Yaki Point on Desert View Drive. Best views for a relatively short hike. Steep trail, no water, little shade. Access trailhead via shuttle.	Ooh Aah Point	1.5 mi. 2.4 km	1-2 hours	780 feet 238 m	No Water. First view east.
	Cedar Ridge	3 mi. 4.8 km	2-4 hours	1140 feet 347 m	Toilet. No Water. First Hitching Rail.
	Skeleton Point	6 mi. 10 km	4-6 hours	2040 feet 622 m	No Water. Second Hitching Rail First View of River.
GRANDVIEW TRAIL — Very steep					
Unmaintained steep trail requires caution. Begins on canyon side of retaining wall at Grandview Point on Desert View Drive (12 miles east of village). For experienced desert hikers. <i>Hiking boots recommended.</i>	Coconino Saddle	1.5 mi. 2.4 km	1-2 hours	1600 feet 488 m	No Water. Use extra caution along narrow sections.
	Horseshoe Mesa	6 mi. 9.6 km	6-9 hours	2600 feet 793 m	Toilet. No Water. Use extra caution along some narrow sections.
HERMIT TRAIL — Steep					
Unmaintained steep trail requires caution. Begins 500 feet west of Hermits Rest. Water from springs must be treated before drinking. For experienced desert hikers. <i>Hiking boots recommended.</i>	Santa Maria Spring	5 mi. 8 km	5-8 hours	1680 feet 512 m	Treat Water.
	Dripping Springs	7 mi. 11 km	6-9 hours	1700 feet 519 m	Treat Water. Use extra caution along narrow sections.



Photo by Mike Quinn

Heat Emergencies

All hikers feel the effects of heat stress while hiking in desert sun. You may feel the initial symptoms of heat illness as fatigue, a mild headache, or nausea. Help yourself! Find shade, stop hiking, and rest. Cool yourself with water. Start to eat and drink — slowly. You should begin to feel better. If you don't, send for help.

Extreme heat illness can result in life-threatening emergencies. Confusion, unconsciousness, and/or seizures require immediate action. **You should:**

- Cool the victim with water
- Shade the victim
- Insulate the victim from the hot ground
- Stay with the victim and send for help

YOU ARE RESPONSIBLE FOR YOUR OWN SAFETY

USE
CAUTION
NEAR THE
EDGE

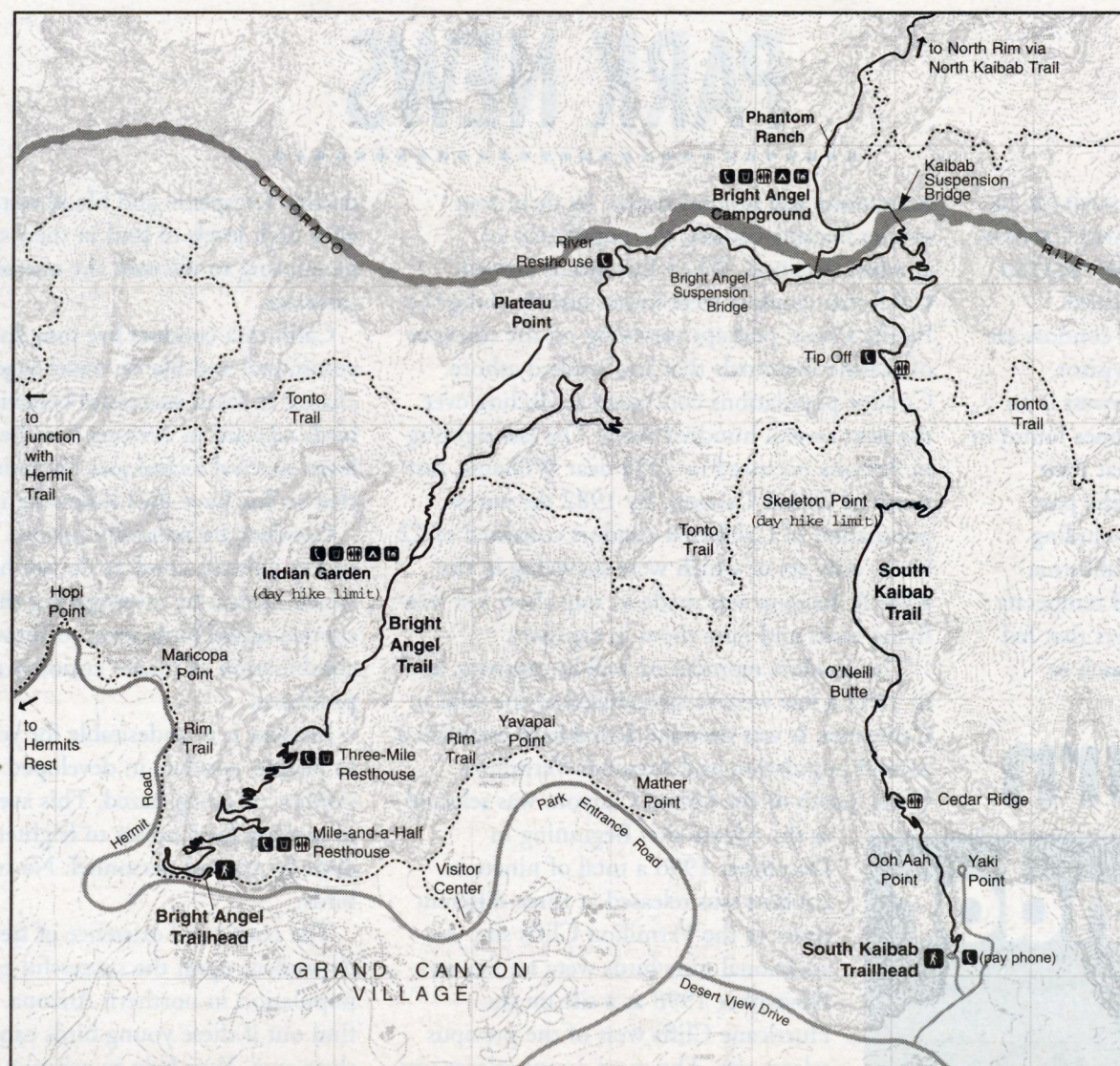


A young woman falls to her death when the ground beneath her gives way at a canyon viewpoint. A man dies after he falls while rock hopping outside the guardrails at Mather Point. A man dies after he falls while trying to get to a rock outcrop for a photograph.

These tragedies are real. In 1998 five people fell to their deaths in Grand Canyon. What was to be a memorable vacation became a nightmare for the friends and loved ones of the victims.

Such accidents are avoidable. Use caution anytime you are at the rim. Don't go beyond guardrails. Be aware of your footing and the condition of the ground surface you are standing on.

Remember there are many beautiful views of the canyon that you can enjoy without putting yourself at risk. Have the memorable trip you planned for and enjoy the canyon safely.



Camping Below the Rim

PERMIT & FEES REQUIRED

Overnight backpacking in the Grand Canyon provides a degree of solitude, wildness, and silence that is increasingly difficult to find. In the 1970s, overcrowding and environmental degradation made it necessary to institute a set of rules and regulations to which all backpackers are subject.

A backcountry permit is required for all overnight backpacking. The majority of available permits are reserved up to four months in advance.

A fee of \$10 per permit and \$5 per person per night is charged. The permit process allows the National Park Service to control the number of people in each use area daily, thereby limiting resource impact and impact from human waste and litter. The program allows backpackers to enjoy a greater degree of solitude in experiencing the wilderness of Grand Canyon.

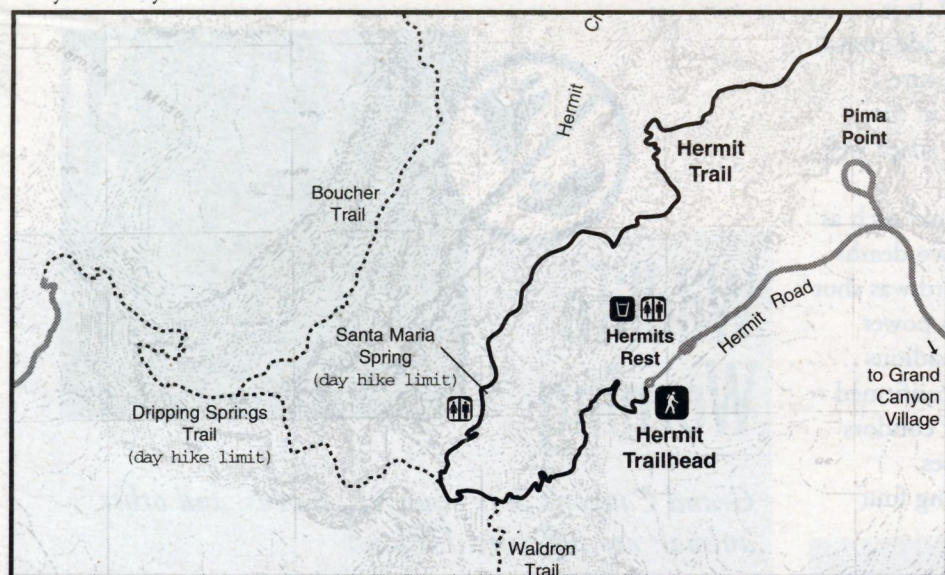
Obtaining a Permit

Individuals arriving in the park without a permit may be able to obtain one by participating in a day-by-day waiting list process for last minute space. Interested hikers should inquire at the Backcountry Information Center (located in the Maswik Transportation Center) which is open 8 a.m.-noon and 1 p.m.-5 p.m.

Guests of Phantom Ranch Lodge who have advance reservations do not need backcountry permits.

For more backpacking information, pick up a BACKCOUNTRY TRIP PLANNER at the Backcountry Information Center or the Visitor Center or by contacting the park information line at:

Backcountry Information Center
P.O. Box 129, Grand Canyon, AZ
86023; or call 520-638-7875
(between 1 p.m.-5 p.m. M-F)
Park info. line: 520-638-7888

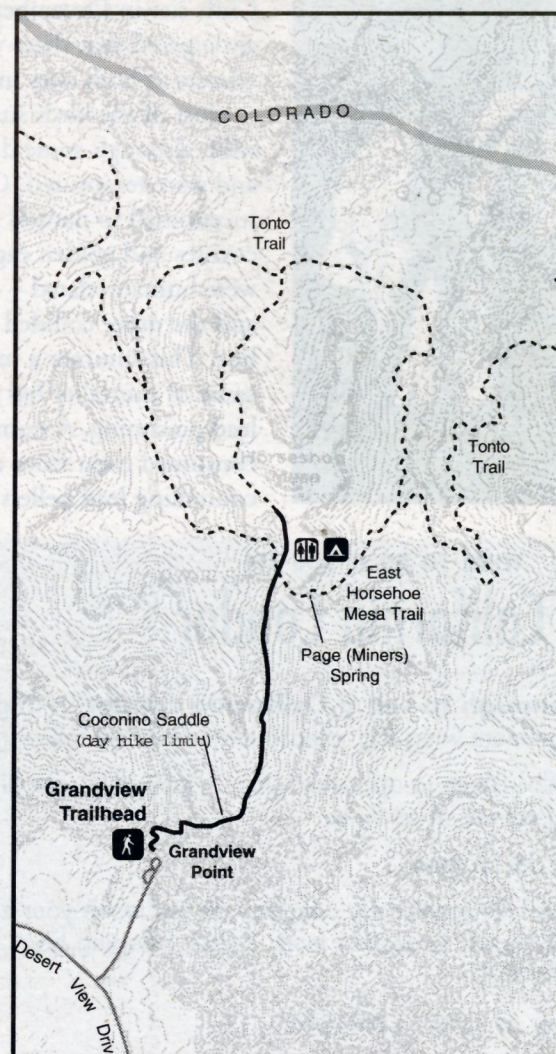


HIKING TIPS

1 Be Cool. Soak down your hat and shirt at every water source that you walk past. If you hike in the sun, try to keep yourself soaking wet to stay cool.

2 Rest Often. Find shade, sit down, prop your legs up, and take a 10-minute break at least once every hour.

3 Go Slow. If you can carry on a conversation, you are hiking at the right pace. If you find yourself out of breath, your legs and digestive system are not getting enough oxygen. Lack of oxygen may cause fatigue, heavy legs, and exhaustion.



PARK NEWS

DURING THE SPRING AND SUMMER OF THE LAST TWO YEARS, GRAND CANYON NATIONAL PARK VISITORS HAVE BEEN TREATED TO THE SIGHT OF CALIFORNIA CONDORS SOARING OVER THE CANYON. These condors are enjoying the park like any human visitor.

The story of condors in the Southwest is an old one with some new chapters. Bones found in caves at the Grand Canyon show that their ancestors have been in this area for the past 50,000 years. Originally condors, including some species even larger than the California condor, existed throughout much of temperate North America. They were scavengers that fed on the carcasses of large mammals such as

mastodons and ground sloths. As these prey species became extinct, the population of condors declined. When Europeans arrived, California condors were found mostly along the Pacific Coast, perhaps surviving on the carcasses of marine mammals that had washed ashore. Condor populations continued to decline over the next several hundred years. The last sighting in Arizona occurred in 1924 near Williams, just south of Grand Canyon. By 1982 the entire population of California condors consisted of 22 birds, only six of which were surviving in the wild. A decision was made to trap these last free-flying birds and raise them in captivity.

The condors reproduced well in captivity, and in 1992 a few were re-introduced to the wild in California. It was deemed desirable to establish a second population and Arizona's Vermilion Cliffs, north of the Grand Canyon, was selected

as the release site. Beginning in December 1996 a total of nineteen condors was released at three different times at the Vermilion Cliffs site. An additional nine birds were set free in November 1998 at a site on the Hurricane Cliffs west of the previous release site. The most recent release was of seven condors from the Hurricane Cliffs site in December 1999. It is anticipated that there will be additional releases at both sites in the future.

Most of the birds survived in the wild, although some did not adapt well and were recaptured. Others succumbed to natural predators such as coyotes and golden eagles. Two deaths were human related – one bird was shot and the other collided with a power line. This summer a more insidious cause of mortality has been confirmed – lead poisoning. A number of condors consumed meat from carcasses containing lead pellets, causing four

deaths. Recapture and blood testing have identified other condors with high levels of lead in their systems. Researchers are attempting to discover the source of the pellet-contaminated carcasses.

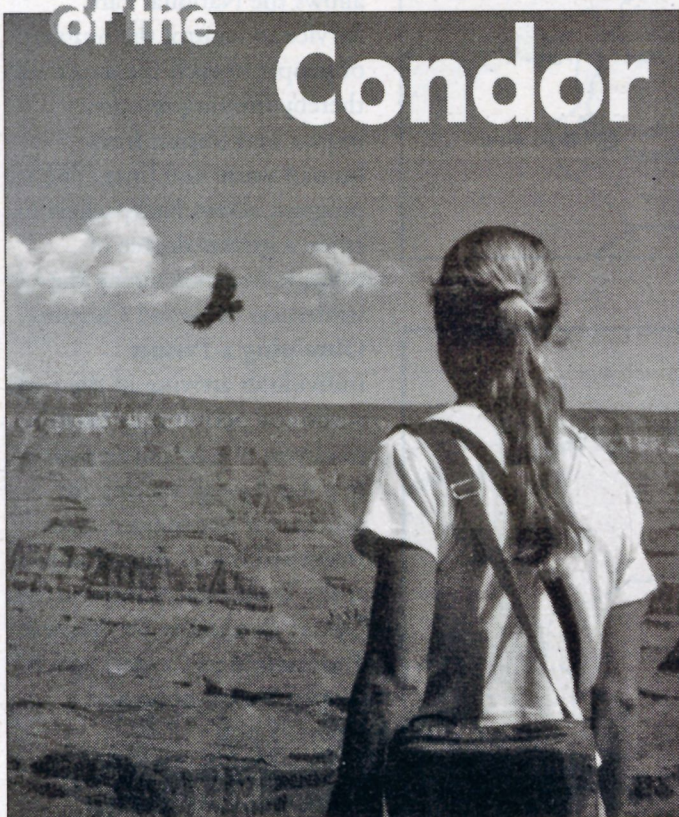
California condors live long lives of 60-70 years. They are very communal and like to travel together. This gives young birds a chance to learn successful behavior from older birds. All of the birds released in Arizona have been young birds that have had to learn survival techniques on their own. In a way, it is surprising that so few have died following re-introduction.

Condors are naturally curious. Unlike their close relative the turkey vulture, condors do not have a sense of smell. Instead, they locate carrion by investigating the activity of other birds. These captive-raised birds seem to show little fear of humans. This combination of innate curiosity and lack of fear can cause problems.

Because it is undesirable for young birds to become habituated to people, condors in developed areas and places frequented by visitors are being hazed. This aversive conditioning usually consists of making loud noises to frighten the birds away and must only be done by trained personnel. No techniques are used that harm the birds.

The continued existence of free-flying California condors is dependent upon the successful establishment of a self-sustaining population in northern Arizona. Over the next few years we will find out if these young birds can learn to survive and reproduce on their own. Your help in achieving this goal is greatly appreciated.

Return of the Condor



NPS photo by Elaine Leslie

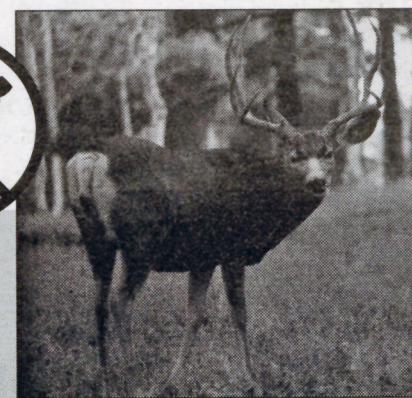
WHAT TO DO IF YOU SEE A California Condor

If you should be fortunate enough to see a California condor, a large black bird with a featherless head and a prominent wing tag, please remember the following guidelines:

- Do not approach the birds or allow them to approach you. A minimum safe distance of at least 50 feet (15m) must be maintained at all times.
- Do not feed them or leave food out for them.
- If you are backpacking in an area frequented by condors, do not leave your campsite unattended. Condors have been known to destroy tents, packs, sleeping bags, and other equipment while investigating the site.
- Report all sightings to a ranger as soon as possible.



Wildlife Warning



Grand Canyon's deer, squirrels, ravens, and other animals are suffering. Help us!

You can make a difference:

Keep your distance Discourage animals from approaching you. Scare them away.

Never feed them Once a wild animal is fed human food, it becomes addicted—this habit culminates in the animal's death.

Inform others If you see other visitors approaching or feeding wildlife, please stop them and let them know they are killing the animal. Report to a ranger the offenders' license plate numbers and/or other identifying information. It is a crime to feed or even approach park wildlife. 36CFR2.2(A)(2)—fines up to \$5000.

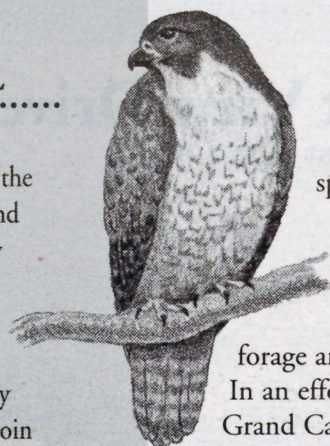
Remember, deer can be aggressive and may seriously injure you. Squirrels may carry bubonic plague and rabies. Protect yourself and your family: keep a safe distance while enjoying the park's wildlife.

HAWKWATCH INTERNATIONAL

Representatives of Hawkwatch International will be recording the fall hawk migration at Lipan and Yaki Points on the Desert View Drive **daily from 10:00 a.m. to 4:00 p.m.** Visitors are welcome to join in the count or to learn to identify migratory hawks, falcons, and eagles. To join the experts on any given day, park at Lipan Point, or take the shuttle to Yaki Point and from either location walk the short distance to the left (southwest) along the rim.

Also see page 2 & 3 for *Raptors in Flight* and *Hawk Migration* programs.

Peregrine falcon illustration by Pam Frazier.



SPECIAL EVENTS

spread of non-native plant species also have repercussions on the park's native vegetation. This then affects wildlife that relies on native plant species for forage and shelter.

In an effort to reverse these impacts, Grand Canyon National Park has dedicated park staff to habitat restoration. The revegetation crew, with the help of volunteers, restores impacted areas to a more natural condition. In order to accomplish these goals, the staff focuses on the following activities:

- A large variety of native plant seeds are collected from developed and natural areas in the park.
- Native plants and seeds are grown and stored in a plant nursery.
- Once the plants in the nursery are old enough, they are replanted in areas from which the seed was originally collected.
- Large trees, grasses, shrubs, and topsoil are salvaged prior to any construction activities that occur within the park. When the construction is completed they are replanted on the site.
- Fences are constructed to protect existing natural vegetation as well as restored sites. The fences also help to identify the existing trail system that should be used by park visitors.
- Non-native plant species are removed. Native species are then planted or seeded in their place.

At locations throughout the Village, and on Desert View and Hermit Road scenic drives, Grand Canyon's revegetation crew, volunteers, and park visitors have dedicated a great deal

of time and energy into designating pathways, replacing topsoil, replanting native plants, and erecting fences.

WE NEED YOUR HELP

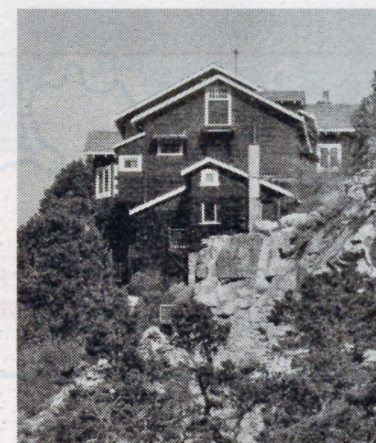
Habitat restoration is an ongoing process, and it often takes many years to see the results. For this process to work, we need your help.



- Volunteer with park staff to help with restoration efforts. To make arrangements, call 638-7964 or 7857.
- Always stay on trails, and do not fall victim to the temptation to shortcut. Do not enter areas posted as Revegetation Areas.
 - Enjoy observing and learning about the native vegetation of Grand Canyon. Please do not disturb the native vegetation by trampling, collecting, or harming these beautiful plants.

We ask that you respect the time that has been invested in protecting the park and its resources. Your cooperation will allow the native vegetation a chance to recover, and thus help to preserve Grand Canyon's incredible resources.

ART EXHIBIT



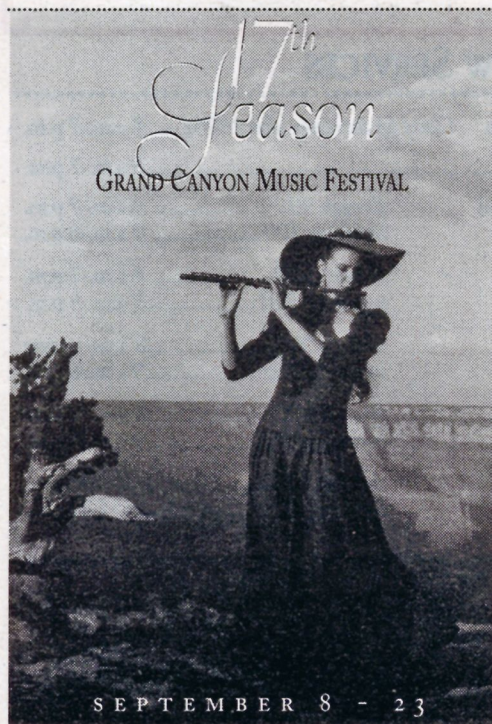
A Century of Grand Canyon Art

A Century of Grand Canyon Art: Selected Works from 1900 to 2000 will be on display at Kolb Studio **July 1 through October 15**. This exhibit gathers paintings from throughout the twentieth century, exhibiting them next to the natural wonder that was their inspiration. Included in the show are such well-known artists as Thomas Moran, Louis Akin, Gunner Widforss, Earl Carpenter, and Ed Mell. Works include everything from quick sketches to detailed studies; media range from watercolor to woodblock print to oil. Join us for a once-in-a-lifetime opportunity to see these artists' work displayed side by side in such a unique setting. Admission is free.

The Kolb Studio Exhibit Program is sponsored by Grand Canyon Association and Grand Canyon National Park.

RESTORING NATIVE HABITAT AT GRAND CANYON

The South Rim of Grand Canyon National Park receives nearly 4.5 million visitors a year. Often these visitors take the easiest, most direct route to the canyon edge, impacting the park's native vegetation along the way. Other disturbances such as the construction of new facilities and the



17th
Season
GRAND CANYON MUSIC FESTIVAL

SEPTEMBER 8 - 23

The Grand Canyon Music Festival presents its seventeenth annual series of concerts in Grand Canyon National Park from September 8 through 23. Concerts are held at 7:30 p.m. in the Shrine of the Ages auditorium. The festival's world-class musicians come from all over the country.

Concert dates are as follows: **September 8, 9, 13, 15, 16, 22, & 23**. There will also be a concert held on **September 12** at the Ashurst Auditorium, Northern Arizona University, Flagstaff, AZ.

Tickets are \$18 for adults and \$8 for children 5-18 years of age. For ticket information, call 800-997-8285. Tickets are sold by the festival, the concierge at El Tovar, and in the Visitor Center bookstore. It is recommended that tickets be purchased in advance as some concerts sell out. To reserve tickets with a credit card call (520) 638-9215.

To be added to the festival mailing list for future seasons, write to:

**Grand Canyon Music Festival
Post Office Box 1332
Grand Canyon, Arizona 86023**

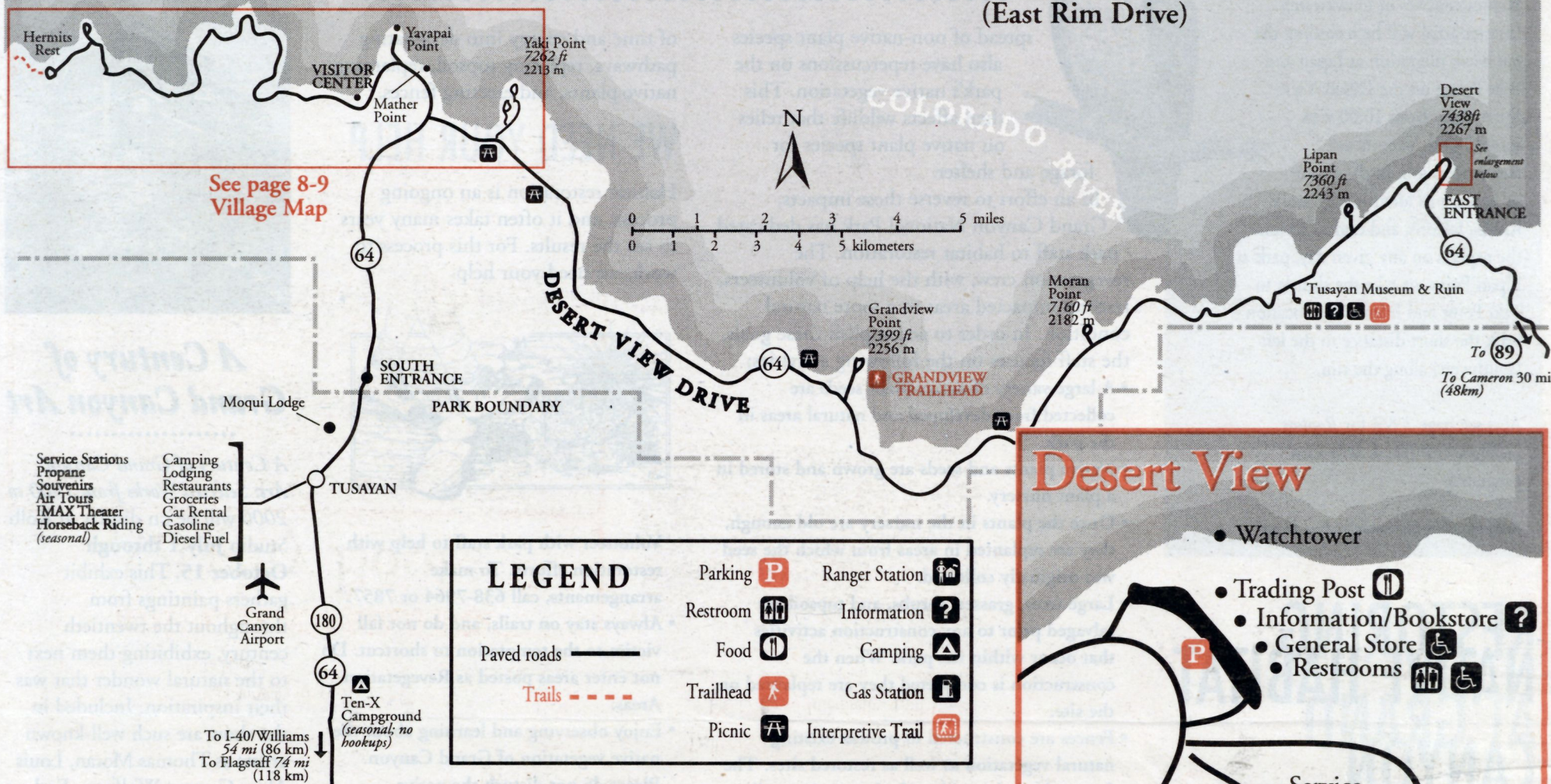


DYNAMIC EARTH

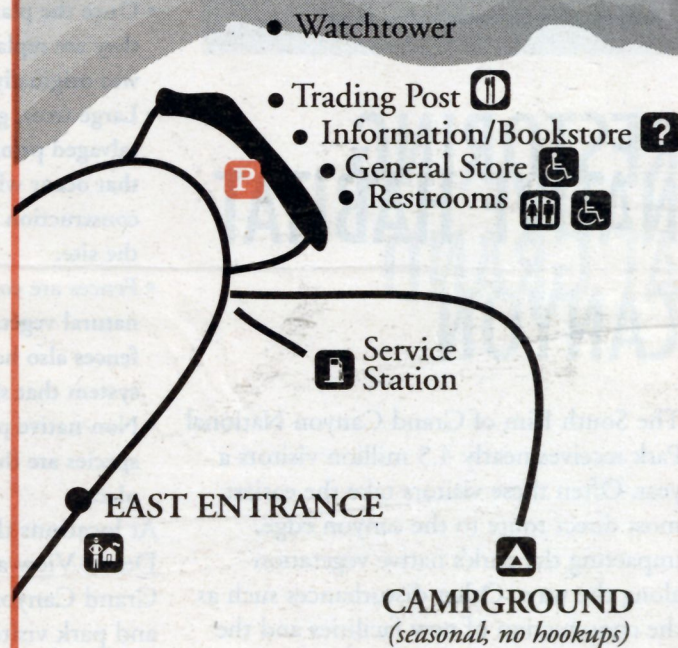
SCHOOL FIELD TRIP PROGRAM

Grand Canyon National Park invites you and your students to participate in our geology field trip program entitled "Dynamic Earth." This program is designed for grades 4 through 8, is curriculum-based, and addresses specific national and Arizona academic standards. It is free of charge and open to all interested schools and teachers. For more information and registration form call (520) 638-7762 or visit our website at www.nps.gov/grca/education/

Desert View Drive (East Rim Drive)



Desert View



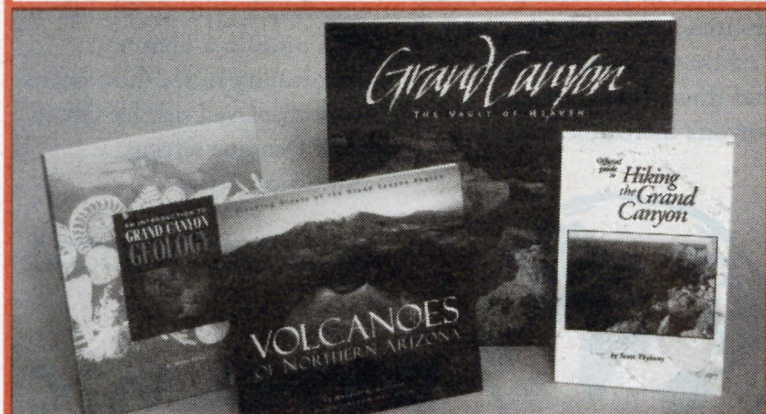
DESERT VIEW SERVICES

Chevron Service Station	Closed for the season after 10/25	8 a.m.-7 p.m.
General Store		8 a.m.-7 p.m.
Information Center and GCA Bookstore	through 9/30 beginning 10/1	9 a.m.-7 p.m. 9 a.m.-6 p.m.
Trading Post Snack Bar	through 9/20 beginning 9/21	8 a.m.-7 p.m. 9 a.m.-5 p.m.
Trading Post Gift Shop	through 9/20 beginning 9/21	8 a.m.- sunset 9 a.m.-6 p.m.
Watchtower Gift Shop	through 9/20 beginning 9/21	8 a.m.- sunset 9 a.m.-6 p.m.
Watchtower Stairs	through 9/20 beginning 9/21	8 a.m.-7:30 p.m. 9 a.m.-5:30 p.m.

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GRAND CANYON ASSOCIATION

Quality Books



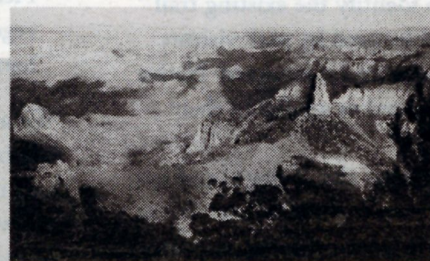
More than 350 titles to choose from. Proceeds benefit Grand Canyon National Park.

BOOKSTORE LOCATIONS:

- Visitor Center
- Yavapai Observation Station
- Kolb Studio
- Tusayan Museum
- Desert View Info. Center
- North Rim

Ask about becoming a Grand Canyon Association member (see page 4 for more information). Members receive discounts on purchases and selected Grand Canyon Field Institute classes.

Mail order service available. Inquire at stores or write for information:
Grand Canyon Association, P.O. Box 399, Grand Canyon, AZ 86023
Phone: (520) 638-2481 Fax: (520) 638-2484
Internet: www.grandcanyon.org



NORTH RIM

The average distance across the Grand Canyon "as the raven flies" is ten miles. However, getting from the South Rim to the North Rim by automobile requires a five-hour drive of 215 miles.

During winter months the road to the North Rim entrance is closed due to snow. Lodging and camping are available at the canyon's North Rim from mid-May through October 15. Reservations are strongly recommended. Additional facilities are available in the surrounding Kaibab National Forest, the Kaibab Lodge area, and Jacob Lake.

A separate **GUIDE** issue is published for the North Rim and includes details about facilities and services as well as program and hiking information. Inquire at the South Rim Visitor Center.