



2007, No. 2



Animals Popular with Visitors

Although Arches National Park is not known for its wildlife, some very impressive specimens can always be found at the Visitor Center. They are unafraid and approachable, and pose patiently for endless photographs.

These monuments are the work of sculptor Matthew Gray Palmer of Friday Harbor, Washington. Commissioned in 2005 for the new Visitor Center, the sculptures include a life-size desert bighorn sheep ram, ewe, and lamb, as well as two ravens, a whiptail lizard, and a collared lizard.

Bighorn sheep are native to the park. Numerous petroglyphs indicate that Native Americans saw – and no doubt hunted and possibly revered – these impressive creatures. After the original population was nearly extirpated through disease, 25 bighorn were re-introduced to Arches from nearby Canyonlands National Park in the 1980s. The population has stabilized around 80 animals. Watch for them around the entrance area and at the top of the hill behind the visitor center.



A life-size desert bighorn sheep ram is one of several sculptures found outside the new visitor center.

The sculptures provide a close-up look at these magnificent animals. To make the sculptures, the artist first made life-size wax models of the animals. A mold was made from the wax, into which molten bronze was poured. Additional details are worked into the bronze by hand to make the pieces as realistic as possible.

According to the artist’s website, Matthew Gray Palmer “began to think big at an early age.” Passing up major scholarships from several

art institutes, he opted for hands-on training, gaining skill in using a variety of media including stone, clay, marble, and bronze. In 1995 he started Parallaxis with the goal of educating people about conservation and the natural world through art. From his studio on San Juan Island, he devotes his time to a variety of projects and commissions. His monument installments can also be seen at the Columbus Zoo, the Toledo Zoo, and the Kroger Equestrian Center, all in Ohio. You can learn more about the

artist and see photographs of his work at www.matthewgraypalmer.com.

“I think the great thing about the project at Arches,” Palmer said, “in addition to the tremendous honor of having my work integrated with one of the most beautiful places in the country, is the use of the arts as an interpretive vehicle for the park. The arts are a natural complement to the predominantly immersive experience that visitors enjoy, particularly with the profound visual and tactile impact of the landscape at Arches. As visitors to our national parks, we seek an encounter with beauty and the sublime. The arts have always been a means to express this form of connection and if they can impart information about a place, a time, or its inhabitants, then that is a perfect combination.”

As you enjoy and appreciate these additions to the Visitors Center, please remember: Please don’t feed the animals (or climb on them, either!).

EXPERIENCE YOUR AMERICA

National Park Service
U.S. Department of the Interior
Arches National Park
PO Box 907
Moab, UT 84532



Hours of Operation

Arches is open every day of the year, 24 hours a day. The visitor center is open daily (except December 25) during the following hours:

Spring through October 2007
7:30 A.M. to 6:30 P.M.

November 2007 through Spring 2008
8:00 A.M. to 4:30 P.M.



National Park Service
U.S. Department of the Interior

Arches Visitor Guide

Published By

Canyonlands Natural History Association, a not-for-profit organization that assists the National Park Service in its educational, interpretive and scientific programs. For more information, see the back page.

Park Mailing Address

Arches National Park
PO Box 907
Moab, UT 84532

Phone

(435) 719-2299 (voice)

Email

archinfo@nps.gov

Website

www.nps.gov/arch

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

RANGER-GUIDED ACTIVITIES

Rangers offer a variety of guided activities from mid-March through October. Check at the visitor center or on any park bulletin board for specific times and locations.

Fiery Furnace Walks

From mid-March through October, rangers lead walks into the Fiery Furnace twice each day. These 2½ to 3 hour hikes wind through terrain that occasionally requires the use of hands and feet to scramble up and through narrow cracks and along narrow ledges above drop-offs. Group size is limited, and these popular walks often fill a day or two in advance. **Make your reservation and pay your fee at the visitor center no more than seven days in advance of the walk, and for groups of no more than ten people.** Larger groups can request a special tour (a minimum of four weeks notice is advised).

Guided Walks

Rangers lead easy, one-hour walks each day at different locations throughout the park between early mid-March and late October.

Evening Programs

Join a ranger at the Devils Garden campground amphitheater (next to Canyon Wren group campsite and across the road from campsite #25) nightly from mid-March through October. Talks last about forty-five minutes, and cover a wide variety of topics, with titles such as “The Bare Necessities,” “Mines, Minerals and Mayhem,” and “Habitat is where it’s at.” Starting times vary through the season.

General Information

CAMPING

Devils Garden Campground is 18 miles from the park entrance. 24 sites are available on a first-come, first-served basis. One site is set aside for visitors with disabilities. 28 sites and two groups sites may be reserved in advance (see below). The campground fills daily between March and October, usually by mid-morning. Visitors must pre-register at the visitor center as early as possible. Tables and fire rings are provided in each site. Water and flush toilets are available in several locations. Individual sites are \$15 per night. Wood gathering and ground fires are prohibited. Wood may be purchased from campground hosts March through October and at the visitor center November through February. Two group tent sites are available for eleven people or more: Juniper Basin (up to 55 people) and Canyon Wren (up to 35 people). The group camping fee is \$3 per person per night, with a \$33 per night minimum. No recreational vehicles or trailers are permitted in group sites.

RESERVATIONS

At Devils Garden, 28 individual sites and two group sites may be reserved for dates between March 1st and October 31st. Reservations must be made at least four days and no more than 240 days in advance. To make a reservation online, go to www.reserveUSA.com (search for Devils Garden Campground) or contact ReserveAmerica by phone: Toll Free (877) 444-6777; TDD (877) 833-6777; International (518) 885-3639.

ACCESSIBILITY

Not all park facilities meet mandated standards, but we’re always trying to increase accessibility. We would appreciate your comments. Visitors with mobility impairments can access:

Visitor Center

Ramp and reserved parking.

Restrooms

Throughout the park including the visitor center and Devils Garden.

Campsite

Devils Garden site #7.

Park Avenue Viewpoint

Paved path with slight decline near end.

Delicate Arch Viewpoint

Hard surface, level.

Balanced Rock Viewpoint

Paved surface, level.



Interpretive walk

BACKPACKING

Arches is a relatively small park, with very few areas far enough from roads to qualify as “backcountry.” Outside the developed visitor area there are no designated trails, campsites, or reliable water sources. If you’d like to backpack, consider nearby places like Canyonlands National Park that offer more extensive backcountry opportunities. If you do backpack in Arches, you must obtain a backcountry permit at the visitor center. The maximum group size permitted is twelve, but smaller groups are strongly recommended to reduce impacts.

CLIMBING

Most technical climbing routes here require advanced skills. No permits are required; however, it is your responsibility to know current climbing rules and route closures, so ask at the visitor center. Climbing of any type is not permitted on arches named on the USGS topographic map. Slacklining is also prohibited. Climbers must access routes by using designated trails, slickrock or sandy washes to protect soil crusts. Canyonlands Natural History Association carries several books with route information.



Biking along the scenic drive.

SHARE THE ROAD

Drivers: Park roads are narrow and winding. Do not stop in the roadway—save sightseeing for designated viewpoints. Watch for pedestrians and bicycles. Ensure a minimum distance of three feet (one meter) when passing.

Bicyclists: Bikes are permitted only on roads, not on hiking trails or off-road. Ride single file, and be attentive to passing cars and recreational vehicles that may not be aware of cyclists. On the paved road, there are no road shoulders or bike lanes. Many dirt roads here are sandy, washboarded or gravel; however, the Willow Springs road offers an enjoyable two to three-hour ride. The most popular biking trails in the Moab area are on Bureau of Land Management (BLM) land outside of the park.

COMMERCIAL TOURS

The following privately operated companies are authorized by the National Park Service to provide visitors backcountry vehicle tours in Arches:

OARS Canyonlands, Inc.

PO Box 67, Angels Camp CA 95222; (800) 346-6277; (209) 736-4677; www.oars.com

Navtec Expeditions

321 N. Main, Moab, Utah 84532; (800) 833-1278; (435) 259-7983; www.navtec.com

Tag-A-Long Expeditions

452 N. Main, Moab, Utah 84532; (800) 453-3292; (435) 259-8946; www.tagalong.com

FOUR-WHEEL DRIVE ROUTES

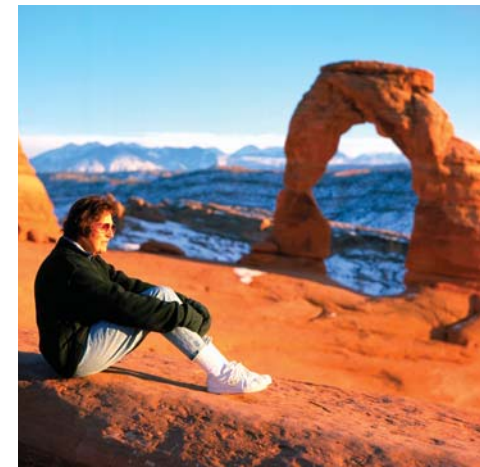
Arches has a limited number of four-wheel drive roads. Due to flood damage in the fall of 2006, the road from Klondike Bluffs to Eye of the Whale Arch is closed indefinitely. The other four-wheel drive road, Willow Flats, goes west from Balanced Rock to Highway 191. Please check at the visitor center for current road conditions. The Bureau of Land Management (BLM) has many popular 4WD routes offering a wide-range of difficulty.

EMERGENCY!

Any number of emergencies can occur while you are visiting a national park: hiking accidents, medical emergencies, motor vehicle accidents, or perhaps you have locked your keys in your vehicle. If you have an emergency:

- **Contact a park employee:** park ranger, campground host, or maintenance person. Many park rangers are trained emergency medical technicians. Law enforcement rangers can investigate vehicle accidents and handle other police matters. They can also take reports of lost hikers, fires, or other emergencies.
- **Go to the visitor center:** If the building is closed, use the pay phones in front of the building to dial 911 (no coin is needed).
- **Dial 911 on your cellular phone:** You will reach the Grand County Sheriff’s Office, who will contact a ranger in the park.

Have a safe and enjoyable visit!



Enjoying sunset at Delicate Arch.

Where does my money go?

IN 2004, CONGRESS PASSED THE FEDERAL LANDS Recreation Enhancement Act (FLREA), which replaced the Recreational Fee Demonstration Program. Authorized through December 2014, the law allows retention of 80% of fees collected at a site to remain there for repair, maintenance, and facility enhancement related directly to visitor enjoyment, visitor access and health and safety. It also includes interpretation, visitor information, visitor service, visitor needs assessments, and signs; habitat restoration directly related to wildlife-dependent recreation that is limited to hunting, fishing (where permitted), wildlife observation or photography; and law enforcement related to public use and recreation.

Congress is interested in your comments regarding the Federal Lands Recreation Enhancement Act. Forms are available at the Arches Visitor Center.

ENTRANCE FEES

The entrance fees at Arches National Park are \$10 per vehicle for a seven-day pass,

and \$5 for bicyclists, those walking, or on motorcycles. The following special passes are now available:

Interagency Annual Pass (\$80)

Previously the Golden Eagle/National Park Pass
Good for twelve months; available to anyone. Free entrance to Fish and Wildlife Service Refuges and National Park Service areas that charge entrance fees. Covers use of Bureau of Land Management, Bureau of Reclamation, and Forest Service sites that charge Standard Amenity Fees.

Interagency Senior Pass (\$10)

Previously the Golden Age Pass
Lifetime pass for U.S. citizens sixty-two years of age and older; entrance to all federal fee areas plus 50 percent discount on camping, activity fees, and other special user fees. Previously-issued Golden Age Passes will be honored forever by all agencies.

Interagency Access Pass (Free)

Previously the Golden Access Pass
Lifetime pass for permanently disabled U.S. citizens; entrance to all federal fee areas plus 50 percent discount on camping, activity

fees, and other special user fees. Previously-issued Golden Access Passes will be honored forever by all agencies.

Pass for local areas: Arches, Canyonlands, Hovenweep and Natural Bridges (\$25)

Good for twelve months; available to anyone; entrance to these four areas only.

This new revenue funded the following improvements at Arches:

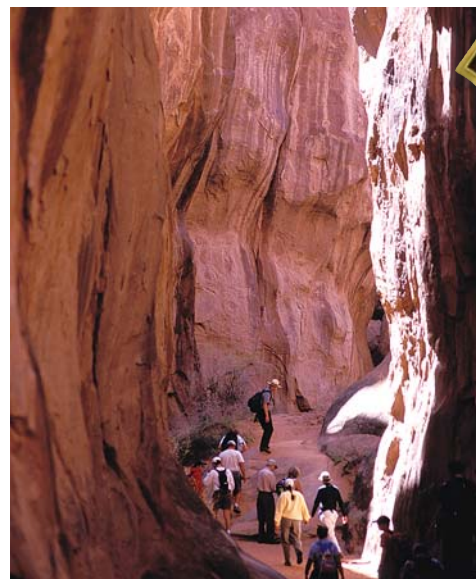
- Rehabilitating park trails
- Replacing the entrance station septic system
- Rehabilitating the Devils Garden picnic area
- Maintaining park roads

ACTIVITY FEES

Fees charged for the popular ranger-guided Fiery Furnace walks will go directly to supporting the program. The cost is \$10 for adults; \$5 for children six to twelve years old and Senior Pass/Golden Age card holders. Reservations are required and may be made at the visitor center.



Trails in the Windows Section (above left) and the Devils Garden Picnic Area (above right) are just two locations which have received needed attention in recent years.



The fee visitors pay for Fiery Furnace Walks directly supports this program.



Hey Kids — This One's For You!

Tired of just sitting in the car, looking at that stuff adults call scenery?

Do you want to know more about Arches and help protect the park?

Then the Junior Ranger program is for you!

If you are between the ages of six and twelve, and you are planning to spend at least one day in Arches, pick up a Junior Ranger booklet at the visitor center. You must complete several activities in the booklet, like word games, drawings and fill-in-the-blanks about why you shouldn't chase or catch lizards. You must also gather a



bag of litter *or* bring twenty aluminum cans to be recycled *and* attend a ranger program *or* watch the program at the visitor center. It's that simple! Then you can pick up your free badge at the visitor center. You also have the option of purchasing a patch in the bookstore. Becoming a Junior Ranger is a serious and important task, but it's lots of fun too!

Check it out!

Photography at Arches

The first time someone asked me about the best place to photograph the sunset, I advised, "well, most folks would say up at Delicate Arch." Though that information was accurate, and that person probably came away with a memorable photo, I've since come to feel that I could have conveyed more. Read on.

Composition is one of the first ways to improve those photographs. Look at a really good photograph and you'll find the subject is placed off-center, and probably falls along the imaginary line that connects the opposite corners of the frame. Or, imagine a grid in your viewfinder that sections the frame into thirds top to bottom and right to left. Now, place your subject at the intersection of a horizontal line and a vertical line. That's called the Rule of Thirds, and it's a good one to follow. Place a foreground subject on one of those intersections and a background subject on the opposite intersection, and you may find that friends start asking for copies of your photos.

Fill that frame! If your subject fills only 10 percent of the picture, the other 90 percent probably is wasted on uninteresting matter — not

the making of a high-quality shot. If you need to move in closer, do it. You might want to get a zoom lens or a longer focal length lens.

Eliminate unnecessary objects. See what your lens sees. Is there a yucca plant that seems to be sticking out of the top of someone's head? Is the red car in the background more obvious than the kids in front of the arch? Have you included too many points of interest, to the detriment of them all?

Basic rule: keep it simple.

A photograph is not about an object, it is about light on an object. The best photographic light occurs early in the morning and late in the afternoon, as the lower angle of light gives your subject depth and a greater sense of reality. The warmth of the light deepens the redness of the rock into amazing hues, the very reason this land is often called "color country."

The features listed in the table on the right will serve as fine starting points for your photographic odyssey. Those places should keep your eyes — and shutter fingers — busy,



Courthouse Towers

but remember, they are just the starting points. Countless other opportunities will present themselves if you keep an open mind and simply respond to that place within you that says, "Wow, look at that!"

Early Morning

Moab Fault
The Three Gossips
Sheep Rock
The Great Wall
Turret Arch
The Spectacles
Double Arch
Cache Valley
Wolfe Ranch
Landscape Arch
Double O Arch

Late Afternoon

Park Avenue
Courthouse Towers
Petrified Dunes
Balanced Rock
The Garden of Eden
North and South Windows
Delicate Arch
Fiery Furnace
Skyline Arch
Fins in Devils Garden
Tower Arch

Watch Your Step

This land is every bit as fragile as it is beautiful. If you step off the trail or away from the pullout, you may injure our living land. When biological soil crust is damaged, it can take centuries (literally) to heal (see page 6 for more information). Allow others who'll be inspired by your photos to come and see this land as Nature intended: organic and alive.



Be Safe

Each year, park rangers respond to dozens of search or rescue incidents in the park, many of which involve heat exhaustion and/or dehydration or improper footwear. Always carry (and drink) water! Even the shortest stroll will make you thirsty on a 100°F (38°C) day. One gallon (4 liters) per person per day is recommended for longer hikes. Water is available **only** at the visitor center and at Devils Garden.

- Wear sturdy shoes with enough tread to give you good traction. Do not hike in leather-soled shoes or boots. Some trails cover uneven terrain and follow rock ledges.
- Protect your skin with a hat, long-sleeved shirt, and sunscreen. There is little shade in the desert. The sun is intense year round and can easily burn your skin, especially in the summer.
- Slickrock invites adventure. When you climb or scramble, be sure you can retrace your steps, and remember that it is often easier to go up than down.
- Sudden thunderstorms with deadly lightning do occur here. The distance of lightning can be calculated by counting the time interval between a lightning flash and the subsequent thunderclap. Sound travels about a mile in five seconds, so if the interval is fifteen seconds (or three miles) or less, you should seek shelter immediately. One of the safest places to be during a thunderstorm is in your vehicle with the windows completely closed. If you are unable to reach your vehicle, go to a low-lying area. Stay away from open areas, high spots or tall objects (such as Delicate Arch), and solitary trees. If your skin tingles or your hair stands on end (signs that a charge is building up), crouch down and place both feet together firmly on the ground.

Hiking Etiquette

- Stay on established trails: Follow the rock cairns. Help protect the fragile biological soil crust and other vegetation in our desert environment.
- Leave no trace: Move like a shadow, and please take out the trash, even if it isn't yours.
- Pets and bicycles are **not** permitted on hiking trails.

Hiking Trails



Balanced Rock

EASY TRAILS

Balanced Rock

Start: Balanced Rock parking area
Length: 0.3 mile (0.5 km) round trip
Time: 15 to 30 minutes

A loop trail at the base of fragile, picturesque rock formation.

The Windows

Start: Windows parking area
Length: 1 mile (1.6 km) round trip
Time: 30 to 60 minutes

A gentle climb up a gravel loop trail leads to three massive arches (North and South Windows and Turret Arch). An alternate return, slightly longer, is by way of the primitive loop around the back of the two Windows. The primitive loop trail starts at the South Window viewpoint.

Double Arch

Start: Double Arch parking area
Length: 0.8 mile (1.2 km) round trip
Time: 15 to 30 minutes

A relatively flat, sandy trail leads to the base of two giant arch spans which are joined at one end.

Delicate Arch Viewpoint

Start: Delicate Arch Viewpoint Trailhead
Length: 100 yards (91 meters) round trip
Time: 10 to 15 minutes

In addition to the short accessible trail, another (moderately strenuous) hiking trail climbs 0.5 mile (0.8 km) toward Delicate Arch and ends at the rim of a steep canyon that separates the viewpoint from the arch. This is not the popular trail to Delicate Arch, which starts at the Wolfe Ranch parking area.

Sand Dune Arch

Start: Sand Dune Arch parking area
Length: 0.3 mile (0.5 km) round trip
Time: 15 to 30 minutes

Trail leads through deep sand to a secluded arch among sandstone fins. **Do not climb or jump off the arch.**



Rock cairn

Broken Arch

Start: Sand Dune Arch parking area or Devils Garden campground across from campsite #40

Length: 1.3 miles (2.1 km) round trip; 2 miles (3.2 km) including the loop

Time: 30 to 60 minutes

From the Sand Dune Arch parking area, the trail crosses a large meadow to the arch and continues to the campground. Trail leads through fins with sand dunes and slickrock.

Skyline Arch

Start: Skyline Arch parking area
Length: 0.4 mile (0.6 km) round trip
Time: 10 to 20 minutes

A short hike on a flat, well-defined trail. On a cold November night in 1940, a large chunk fell out of the arch, instantly doubling the size of its opening.

Landscape Arch

Start: Devils Garden trailhead
Length: 1.6 miles (2.6 km) round trip
Time: 30 to 60 minutes

A relatively flat, gravel-surfaced trail (usually heavily populated with hikers) leads to a spectacular ribbon of rock, whose span is more than a football field in length. Short side trips to Tunnel and Pine Tree Arches. Trail guide available at trailhead.



Park Avenue

MODERATE TRAILS

Park Avenue

Start: Park Avenue parking area
End: Courthouse Towers parking area
Length: 1 mile (1.6 km) one way
Time: 30 to 60 minutes

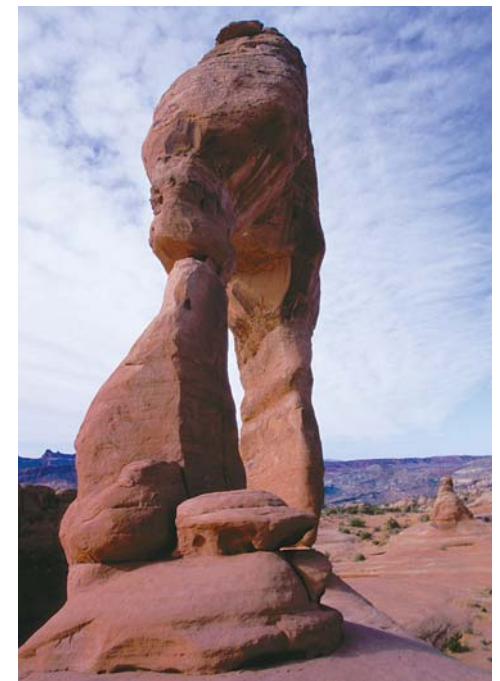
Elevation change: 320 feet (98 meters)

From Park Avenue parking area, the trail descends steeply into a spectacular canyon and continues down the wash to Courthouse Towers. If you have a shuttle driver, you can begin at one point and be picked up at the other. For round-trip hiking, retrace your steps along the trail rather than walk along the park road.

Tower Arch

Start: Klondike Bluffs parking area, via the Salt Valley road
Length: 3.4 miles (5.5 km) round trip
Time: 2 to 3 hours

The trail climbs a steep, short rock wall, cuts across a valley and then meanders through sandstone fins and sand dunes. An alternate, shorter trail (0.3 mile [0.5 km] one way), begins at the end of the four-wheel-drive road on the west side of Tower Arch. This unpaved road washes out quickly in rainstorms; check road conditions before heading out.



Delicate Arch

STRENUOUS TRAILS

Delicate Arch

Start: Wolfe Ranch parking area
Length: 3 miles (4.8 km) round trip
Time: 2 to 3 hours

Elevation change: 480 feet (146 m)

Take at least 2 quarts (2 liters) of water per person! Open slickrock with some exposure to heights and no shade. The first half-mile is a well-defined trail. Upon reaching the slickrock, follow the rock cairns. The trail climbs gradually and levels out toward the top of this rock face. Just before you get to Delicate Arch, the trail traverses a rock ledge for about 200 yards (183 m).

Devils Garden (includes primitive loop)

Start: Devils Garden Trailhead
Length: 7.2 miles (11.6 km) round trip, including all spur trails to points of interest
Time: 3 to 5 hours

Longest of the maintained trails in the park, Devils Garden Trail leads to eight awe-inspiring arches. Expect narrow ledges with rocky surface hiking and scrambling on slickrock. **Not recommended when rock is wet or snowy.** Trail guide available at trailhead.

Double O Arch

Start: Devils Garden Trailhead
Length: 4.2 miles (6.8 km) round trip
Time: 2 to 3 hours

Beyond Landscape Arch, the trail becomes more challenging as it climbs over sandstone slabs; footing is rocky; there are narrow ledges with exposure to heights. Spur trails lead to Partition and Navajo Arches. Dark Angel is one-half mile (0.8 km) farther. Trail guide available at trailhead.

Fiery Furnace (Fee Area)

The Fiery Furnace is a mazelike labyrinth of narrow sandstone canyons. **To enter the Fiery Furnace, visitors must accompany a ranger-guided hike (see page 2) or obtain a hiking permit at the visitor center.** There is no trail, so visitors are encouraged to accompany a ranger — both for their own safety and to reduce impacts on the area.



Biological soil crust is a living groundcover that forms the foundation of high desert plant life in Arches and the surrounding area.



Soilcrusts provide a haven for seeds.



Do not feed wildlife!

Recently, 15 deer were shot by park rangers in Grand Canyon National Park. Appalling? They thought so too. The rangers didn't want to do it. All 15 deer were weak and starving because people were feeding them.

These deer had become addicted to human food. They started out eating handouts of crackers, potato chips, and cookies, which eventually led them to eating food wrappers, plastic bags, and plastic twine that smelled like food. Autopsies revealed that the deers' stomachs were clogged with ingested trash. In some cases, three to five pounds of plastic obstructed the animals' digestive systems. Food could not be processed, and the animals were starving even as they ate.

Arches National Park is having similar problems with their deer, and also their coyotes and ravens. Wildlife that approaches you, your car, or your picnic table is accustomed to being fed. YOU can help by discouraging begging animals. Do not let wildlife approach you. Clap your hands. Chase them away. Keep food stored properly in cars and coolers. Help us keep our wildlife healthy.

Biological Soil Crust

ARCHES IS A MINIMALIST LANDSCAPE FOR THE MOST PART: SLICKROCK and stretches of sandy terrain sparsely vegetated with clumps of stiff grass and low-growing, tough-looking shrubs. In some places, the ground around and between the widely spaced plants appears to have large patches of dark, knobby, brittle crust. This same scruffy, apparently dead and dried out rind covers almost 75 percent of the ground surface of the 130,000-square-mile Colorado Plateau. It is called biological, or cryptobiotic, soil crust; it is very much alive and of great ecological importance. Soil crust, sometimes called crypto for short, is made up of cyanobacteria, mosses, soil lichens, green algae, microfungi and bacteria.

Cyanobacteria are the most prevalent and most important component. When filaments of cyanobacteria are moistened, they advance through the soil, leaving sheaths of sticky mucilage on their trail. These gluey filaments bind to soil particles and, over time, can create an erosion-resistant surface. Because cyanobacteria is able to capture nitrogen from the air and convert it to a form that plants can use, it serves as a fertilizer — a truly useful trait in an ecosystem notoriously poor in nitrogen. Calcium, potassium and manganese bind to the sheaths and are made available to plants in usable form. When wet, the sheaths will expand to ten times their dry size, enabling the soil crust to retain moisture, to its own benefit as well as that of nearby vascular plants.

In this harsh environment, plants need all the help they can get! Biological crusts provide stable soil, nutrients and moisture. Unfortunately, the interwoven mat of sheath material is easily broken, especially when dry. If you tramp on a well developed patch of crust, you erase decades of growth. Bike and vehicle tracks leave long, straight

strips of damaged crust that are extremely prone to wind and water erosion. Pieces of the damaged crust can also be carried away by the wind. The now loose soil underneath often blows over adjacent undamaged patches of cryptos, preventing them from receiving sunlight. No sunlight, no photosynthesis, no cryptos. Unstable sandy soils can turn a nearby solidly anchored, crypto-covered “garden” into a drifting sand dune.

Does biological soil crust ever recover? Well . . . sort of. The thin top layer can grow back in a few years. Down where the dead sheath material binds sand grains together, the damage heals much more slowly. It is estimated that for a disturbed area of cryptos to become fully functional again, to do all the wondrous things it can, may take as long as 250 years.

Though mature cryptos quickly become easy to recognize, young crusts are without distinctive coloration or features. To preserve this unique resource, we ask your help. Vehicles and bikes, please remain on designated roads. Hikers, stick to trails or, if walking cross-county, walk only on rock or in drainages. Avoid using “social” (unofficial) trails.

For the sake of the park and other park visitors, please leave no trace of your passage. In many natural areas, visitors are asked to “Take only pictures, leave only footprints.” In southeast Utah, you are asked to be even more careful. We all cared enough to seek out this unique place, let's care enough to keep it healthy, beautiful and wild for generations to come.

Animals that call this desert home

THE LANDSCAPE OF ARCHES, FOR ALL OF ITS spareness, provides life's necessities for a variety of animals that have adapted to meet its demands: 65 species of mammals, 190 bird species, 22 reptiles, 9 amphibians, 8 fish, and who knows how many kinds of insects.

Most desert mammals hunt in the early morning and evening hours to avoid the heat of day. About one-third of the area's mammals are rodents — squirrels, packrats, chipmunks, porcupines — and most of these spend daylight hours in burrows. You are most likely to glimpse even desert cottontails and jackrabbits at dawn and dusk. Mule deer are the most commonly seen large mammal in the park, especially in the Devils Garden area. Fawns and weak adults provide a food base for the park's large predators, coyotes and mountain lions.

If you are lucky, you may spot solitary coyotes foraging either day or night. The coyotes' predations help maintain a natural balance among animal populations in the park. Late in the evening, the yips and howls of one coyote are answered by a coyote

chorus singing the tremulous Song of the West. Very rarely are bobcats and mountain lions sighted.

Protection programs within Arches and Canyonlands National Parks have dramatically increased opportunities for visitors to glimpse the magnificent desert bighorn. The Moab Fault Overlook and along Highway 191 near the park entrance are particularly good places to watch for them. During the breeding season (November to January), extremely fortunate observers may see males engage in bouts of head-butting to establish dominance.

Of the lizards, the western whiptail (its tail is twice the length of its body) is most commonly seen. The western collared lizard is the park's most photogenic, with coloring of bright green with a distinctive black collar. It is not often seen, but is very cooperative with photographers.

Some poisonous animals live here, including rattlesnakes, scorpions and black widow spiders. They will not seek you out and will get

out of your way if they have a chance. Watch for them, but chances are you will not see any of these fascinating creatures. Even so, always look before you put your feet under ledges, rocks, debris or in any crack, crevice or dark place. Never lay your hand on a surface you cannot first see.

When animals eat other than their natural foods, they develop nutritional problems that can be fatal. Repeated contact with humans causes them to lose their “wildness.” Those that congregate by roadsides where people feed them are often hit by cars.

Aside from the risk to the animals, you may be in danger too. Coyotes and small rodents are known to bite, and may carry rabies and other diseases.

When you are unable to resist the urge to feed a wild animal, you are contributing to its death. Think about it. Enjoy watching them, but leave them wild.



Bighorn Sheep



Collared Lizard



Midget Faded Rattlesnake

Desert Plants

MANY VISITORS ARE SURPRISED AT THE AMOUNT of vegetation in Arches. Plants are critical components to all ecosystems, and Arches is no exception. Plants capture particulate dust in the air, filter gaseous pollutants, convert carbon dioxide to oxygen, provide animal habitat and food, and possess raw materials useful to humans. A variety of adaptations in leaves and roots enable plants to survive the moisture and heat stresses here. Plant survival strategies are grouped into three basic categories: drought escapers, drought resistors and drought evaders.

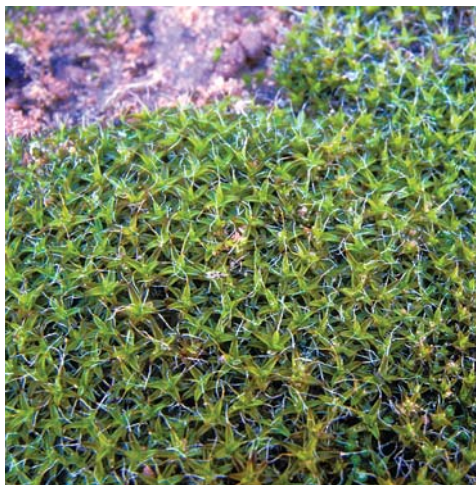
Drought escapers are plants that make use of favorable growing conditions when they exist. These plants are usually annuals that grow only when enough water is available. Seeds may lie dormant for years if conditions

are not favorable. Most grasses are drought escapers, as are wildflowers that bloom after seasonal rains during spring or late summer.

Drought resistors are typically perennials. Many have small, spiny leaves that reduce the impact of solar radiation, and some may drop their leaves if water is unavailable. Spines and hairy leaves act to reduce exposure to air currents and solar radiation, limiting the amount of water lost to evaporation. Cacti, yuccas and mosses are examples of drought resistors. Yucca have extensive taproots that are able to find water beyond the reach of other plants. Moss, a plant not commonly associated with deserts, thrives because it can tolerate complete dehydration: when rains finally return, mosses green up immediately.

Another fascinating adaptation to resisting drought can be found in the Utah juniper, one of the most common trees in the southwest. During drought conditions, junipers can self-prune, diverting nutrients from one or more their branches in order to conserve enough water for the tree to survive.

Drought evaders, the final group, survive in riparian areas where water is plentiful. Monkey flower, columbine and maidenhair fern are found in well-shaded alcoves near seeps or dripping springs. Cottonwoods and willows require a lot of water, and only grow along river corridors and intermittent streams where their roots can reach the water table easily.



Moss comes to life after a winter rain.



The abundance of wildflowers varies greatly from year to year.



Juniper "berries" (they're actually tiny pinecones) are a source of food for many animals.

Delicate Sky

LIGHT IS FAST . . . VERY FAST. LIGHT CAN CIRCLE THE EARTH IN LESS THAN one-quarter second. If you could see the Eiffel Tower, while you were standing atop Mount Peale in the La Sal Mountains, you would be viewing light that left Paris about 3/100ths of a second before. In one minute, light travels 11.2 million miles. In one year, light travels 5.88 trillion miles. Zoom.

In areas not plagued by light pollution, without a telescope you can see about 2,700 stars. Every one of those stars is in the Milky Way, our own galaxy. In cosmic terms, they are close neighbors. In the northern hemisphere, the brightest star (other than our own Sun) is Sirius, 8.5 light years away, or about 51 trillion miles. When you look at Sirius, you are seeing it as it was 8.5 years ago.

The Milky Way is a spiral-structured disk that contains an estimated 100 billion stars, and our solar system, revolving around one of those stars, is in one small arm of it. If you started at this very moment to count the stars in the Milky Way at the rate of one per second, it would take you 3,171 years to count them all.

Scholars estimate that there are more than 100 billion galaxies, each one containing hundreds of billions of stars. Is your mind reeling yet? We can see thousands of those galaxies with amateur

telescopes, which are, in essence, time machines. The Andromeda Galaxy, our closest neighboring galaxy, is more than 2 million light years away. If we want to see what Andromeda looks like right now, we would have to wait 2 million years. In comparison, we would wait only 8.3 minutes to see our Sun as it is right now; it is only 93 million miles away.



Many of us are becoming more aware of the beauty of the night sky, and the darkness necessary to enjoy it fully. Darkness, like many other environmental factors, is a shrinking commodity. Here at Arches, you are in a wonderful place to star gaze; there is less light pollution than near large cities, and the altitude gives us a clear atmosphere. When you step into the outdoor darkness, your eyes will need several minutes to adapt. Then in a sky filled with glimmering stars, you will see the Milky Way as a luminous streak. Binoculars will make thousands more stars visible. The sky changes with the time of day or night or year, and star maps will help you know what to look for and when. The visitor center and Moab Information Center educational sales outlets have a wealth of information on hand.

Millions of people travel to southeast Utah to see Earth's natural wonders. Don't overlook those countless marvels in our sky.

Want To Be a VIP?

Arches may have just the job for you as a Volunteer in the Park (VIP). The park provides training and orientation, and most VIPs receive a uniform and minimal subsistence pay. Many VIP positions involve visitor contact, so a love of people is a must. Commitments must be for three to five months. We need:

Campground Hosts

Hosts provide on-site coverage in the campground, the park provides a campsite with electrical, water and sewer hookups. Small cabin may be available.

Park Guides

Volunteers provide full-time help in the naturalist program, housing is provided (usually a private room in shared apartment or house).

Resource Management

Volunteers provide full-time help in the natural resource program. The park provides housing (usually a private room in a shared apartment or house).

Apply online at www.nps.gov/volunteer, or contact the Park Volunteer Coordinator at P.O. Box 907, Moab, UT 84532, or email archinfo@nps.gov. Please include your interests and availability.

Student Conservation Association

The Student Conservation Association, a privately funded, non-profit organization, places volunteers (not necessarily students) around the country in parks, wildlife refuges, forests and other resource agency locations. They provide a uniform allowance, \$60 per week subsistence, and transportation costs (by least expensive means) from your home to the park. We use SCAs for both park guide and resource management positions. Contact them directly at Student Conservation Association, P.O. Box 550, Charlestown, NH 03603-0550. Their web address is www.theSCA.org.

Food For Thought

Most people know that littering is unlawful, but it does still occur. Small items like twist ties and cigarette butts are most commonly found. Food is considered litter too since it does not biodegrade in the desert. Orange peels and apple cores will dry out and remain long after they have been left behind. Please don't litter! Be especially careful on windy days when things can fly away.

Aluminum cans may be deposited for recycling throughout the park, including the visitor center and Devils Garden campground. Clear and brown glass, tin cans, clear No. 1 plastic, corrugated cardboard and aluminum can be dropped off at the Canyonlands Community Recycling Center on the way to the Slickrock Bike Trail in Moab. Keep these items in use — don't send them to our landfill!

Time flies! Use it well

HAVE A LIMITED TIME TO EXPLORE ARCHES? HERE ARE SOME SUGGESTIONS to help you make the most of your visit, even if it is brief.

IF YOU LIKE TO HIKE

Time allocations are based on an average hiking speed of two miles per hour, and include time to drive to the trailheads. (Time spent marveling and contemplating the majestic wonders and sights varies greatly and is not included here.) Add time to take in the scenery from roadside pullouts between destinations.

In 2 hours, you can do one of these 4 routes:

- Hike the Windows loop trail and get an up-close view of the North and South Windows and Turret Arch. Then take the short trail between parking areas and hike up to Double Arch. Drive back to Balanced Rock and take the loop trail around its base. Contemplate its precarious position as you walk beneath it.
- Take the Delicate Arch Trail from Wolfe Ranch up the sloping slickrock to stand under the best known arch in the world. (During hot months, do this hike early or late in the day.)
- Hike between the tall sandstone fins in the Devils Garden to see Landscape Arch, perhaps the world's longest. How long will this thin span resist the forces of gravity?
- Walk to Sand Dune Arch, across the grassy field and onward to Broken Arch. Continue around the loop, through the end of the campground, and return. Enjoy the vista toward the distant Book Cliffs, the beautiful Tapestry Arch and the sandstone fins.

In half a day, take one of these three hikes:

- Hike the entire Devils Garden Trail, all the way out to the spire called Dark Angel. When you return, take the primitive loop.
- Take the moderately strenuous ranger-guided hike through the the

Fiery Furnace. Sign up ahead of time at the visitor center.

- If you don't mind driving the rough and often "washboard" road to the remote island of rock known as Klondike Bluffs, hike the primitive trail to Tower Arch.

If you have a *whole day* or more, combine the above hikes to fill the time you have.

IF YOU LIKE TO TOUR BY CAR

If you have 1½ hours:

- Drive to the Windows Section and see some of the park's largest arches. (Add one-half hour to stroll beneath either North Window or Double Arch.)
- Drive to the Delicate Arch Viewpoint and see the world's most famous arch, a mile distant. Stop at Wolfe Ranch on your way back and imagine what it would have been like to homestead this relatively barren area in the late 1800s.

If you have 3 hours:

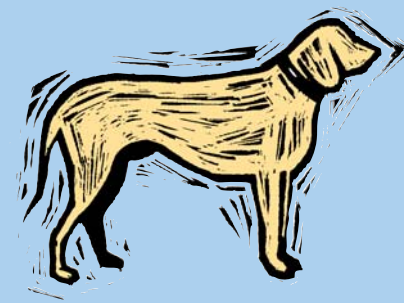
Do both drives listed above (or you can do one drive, spending ten minutes at each viewpoint along the way).

If you have 4½ hours:

You can drive all of the paved park roads, spending ten minutes at each viewpoint, and take quick drives to the Windows Section, Wolfe Ranch, and Delicate Arch Viewpoint.

Can't decide?

Well, forget the schedule and stay another day. If you try to see too much on your vacation, you end up really "seeing" nothing.



Can Chico come to Arches?

During her long drive to Arches, Susie had been anticipating a fun hike with her dog, Chico. She was so excited to get out of the car and walk that she overlooked the sign that read NO PETS. Susie let Chico run free, off leash, and as Chico romped, chunks of fragile cryptobiotic crust flew. He then left some urine marks and a few droppings. Susie was concerned when he disappeared for awhile; but, boy, he sure had a good time chasing that rabbit! The porcupine was another story, and the quills in his nose hurt even more than the cactus spines in his feet. Susie's work was cut out for her when he returned.

Such scenarios have made it necessary for pets to be prohibited from the backcountry as well as on trails in Arches. Pets must be leashed at all times and may be walked only on roads or in parking lots. They may not be left unattended (except in a paid-for campsite in the Devils Garden campground, where they must not cause a disturbance).

For your pets' safety, do not leave them in vehicles when outside temperatures are above 65°F. They can die of heat exhaustion in a very short time.

Visitors with pets need not fret!

There are two kennels with boarding services in Moab:

Karen's Canine Campground
2781 S. Roberts Rd.
(435) 259-7922

Moab Veterinary Clinic
4575 Spanish Valley Drive
(435) 259-8710

Nearby, there are vast public lands that offer great hiking and do allow pets on trails. We recommend that you keep your pet on a leash, even on public lands, to avoid uncomfortable encounters with wildlife and to prevent resource damage.



How do I get to Arches National Park?

Arches National Park is located in southeast Utah.

- 5 miles north of Moab
- 110 miles southwest of Grand Junction, Colorado
- 236 miles south of Salt Lake City, Utah
- 360 miles southwest of Denver, Colorado
- 350 miles north of Grand Canyon National Park's South Rim

Commercial airlines serve Grand Junction, CO and Salt Lake City, UT. From Salt Lake City, a commuter airline serves Moab.

Nationwide bus service is available to Green River, UT (50 miles from Moab) and Grand Junction, CO (100 miles from Moab).

Taxi and shuttle service can be arranged. ARK Bighorn Express (van shuttle) runs between Salt Lake City and Moab, Blanding, and points in between. Reservations required. For reservations and schedule, call (888) 655-7433 or see www.GoArk.com.

For additional information on transportation arrangements, contact the Grand County Travel Council, P.O. Box 550, Moab, UT 84532; (800) 635-MOAB.

Climate Information

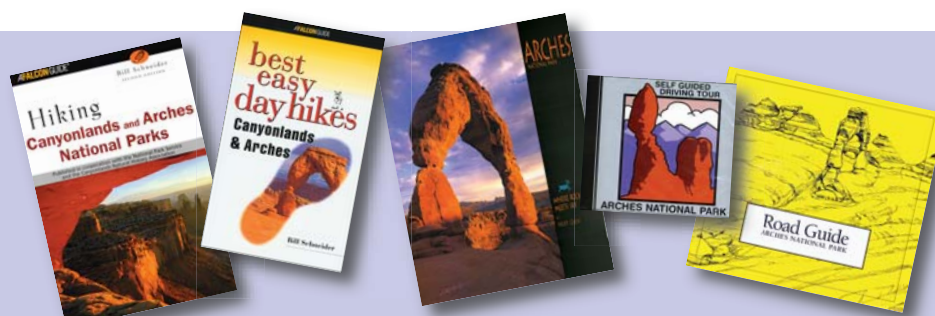
	Temperature (degrees Fahrenheit)						Precipitation (inches)	
	Average High	Average Low	Max High	Max Low	Days above 100	Days below 32	Average	% of Annual
January	44	22	63	-1	0	28	0.6	7
February	52	28	73	9	0	22	0.7	8
March	64	35	87	13	0	10	0.8	9
April	71	42	93	25	0	3	0.8	9
May	82	51	105	33	1	0	0.8	9
June	93	60	110	43	6	0	0.5	5
July	100	67	116	51	16	0	0.7	8
August	97	66	109	44	12	0	0.8	9
September	88	55	105	36	1	0	0.9	10
October	74	42	106	23	0	2	1.0	13
November	56	30	79	12	0	18	0.6	7
December	45	23	69	5	0	26	0.4	5

CANYONLANDS NATURAL HISTORY ASSOCIATION

(CNHA) sells hundreds of items about Arches National Park and the rest of Utah's canyon country. Visit their outlets in the Arches Visitor Center and the Moab Information Center (at the corner of Center & Main in Moab). *Your purchase supports Arches National Park!*



CNHA
3031 S. Highway 191
Moab, Utah 84532
(800)840-8978 (toll free)
(453)259-6003
www.cnha.org



Hiking Canyonlands & Arches National Parks: A comprehensive guide to the trails and backcountry roads in these parks. \$16.95

Best Easy Day Hikes: Arches & Canyonlands: A pocket-sized trail guide with descriptions and maps of 21 short hikes. \$7.95

Arches National Park: Where Rock Meets Sky: A beautiful book at a great price. \$9.95

Arches Self Guided Driving Tour (CD): Great audio commentary as you drive. \$10.00

Road Guide to Arches National Park: Well-illustrated, stop-by-stop guide. \$3.95