1906: It Was a Very Good Year!

HONORING 100 YEARS OF MONTEZUMA CASTLE NATIONAL MONUMENT AND THE ANTIQUITIES ACT

A milestone in the administrative history and stewardship of Montezuma Castle will be observed on December 8, 2006: one hundred years ago, President Theodore Roosevelt proclaimed the site one of the United State's first National Monuments.

The legislation that granted the president sole authority to designate such areas of significant historic and scientific interest is the Antiquities Act of 1906. Signed into law on June 8, 1906, the Antiquities Act has been praised as the most significant piece of legislation to protect the rapidly disappearing cultural and natural resources on public lands.

The Expanding West

In the early to mid-1800s, vast expanses of land were added to the new nation with the Treaty of Guadalupe Hidalgo and the Gadsden Purchase. As the race to claim homesteads in the West accelerated, the Civil War and conflicts with the indigenous American Indian tribes slowed the quest for good ranch and farm land.

Following the Civil War, the surge toward the new territory resumed. Families displaced by the conflict and European immigrants fleeing from political upheaval and famine sought a new beginning. War veterans from both sides were sent to western outposts with orders to protect the newly-arriving settlers and subjugate the native people.

In the 1870s, archaeology was a fledgling science in the United States; up until this time, most people had nominal interest in preservation and less resources to devote to philanthropic concerns.

Looting of Sites

As the new immigrants fanned out through the West, continued on page 7

Welcome To The Monuments Of The Verde Valley

The Verde Valley, lying under the spectacular pine-clad cliffs of the Mogollon Rim of central Arizona, forms an immense biological transition between desert, grassland and forest vegetation zones.

As the seasons change, this endangered riparian or streamside habitat of the Verde River serves as a migration corridor for many animals traveling from summer to winter ranges in the south. But for thousands of years, the Verde Valley was also a haven for the movement of people, providing the food and water all life needs for survival.

The National Monuments of the Verde Valley—Montezuma Castle, Montezuma Well and Tuzigoot—protect and interpret the legacy of the Sinagua, an Ancestral Pueblo people who flourished in the area for centuries, long before Columbus claimed to have discovered this New World.

Montezuma Castle has been described as the best preserved and most dramatic cliff dwelling in the United States. Montezuma Well is a natural limestone sinkhole with prehistoric sites and several animal species found nowhere else in the world. Tuzigoot is the remains of a 110-room pueblo perched on a high ridge with a panoramic view of the Verde River.

This is a very special year for Montezuma Castle. On December 8, 1906, President Theodore Roosevelt established the site as a National Monument, declaring it, “of the greatest ethnological value and scientific interest.” Centennial activities will focus on the stewardship of Montezuma Castle’s natural and cultural treasures: past, present and future.

Today’s visitors marvel at the well-preserved Sinagua dwellings, but also allow some time to experience the oasis of the riparian area. As the seasons change, we invite you to – ENJOY! —Kathy M. Davis, Superintendent

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Early Preservation: In 1897, the Arizona Antiquarian Society erected a metal roof to cover exposed areas of Montezuma Castle. Dedicated members also installed long iron rods to stabilize areas that were in danger of collapse, and built ladders, improving access to the site. This photo shows these improvements before Montezuma Castle became a National Monument in 1906.

Photo from the Bradshaw Family Collection, Sedona, Arizona.
About the Monuments: Your First Visit

MONTEZUMA CASTLE NATIONAL MONUMENT is 3 miles off Interstate 17 (see map). Address: 2800 Montezuma Castle Road, Camp Verde AZ. This is one of the best preserved prehistoric cliff dwellings in the United States. Summer hours are 8am to 6pm; winter hours are 8am to 5pm, 7 days a week. The flat, paved trail is an easy third of a mile total loop that takes 20 to 30 minutes. The Castle is not open to the public but the trail runs beneath it with many panoramic views. The Visitor Center and most of the trail are accessible to wheelchairs, with only one portion of the trail to “Castle A” that is too steep. There is a shaded picnic area, but this is not accessible to wheelchairs. Detailed information is available on the website at www.nps.gov/moca
Phone: 928-567-3322

MONTEZUMA WELL is open 8am to 6 pm in the summer and 8am to 5pm during the winter, 7 days a week. It is 4 miles off Interstate 17 (see map) and 11 miles from Montezuma Castle. Address: 5525 Beaver Creek Road, Rimrock AZ. Montezuma Well is a limestone sinkhole formed by the collapse of an immense underground cavern. Prehistoric dwellings are visible along the rim and interpretive signs explain the unique ecosystem. The third of a mile trail is easy to moderate with some steps to the rim of the Well. The trail is too steep for wheelchairs. Visitors who just want to view the Well should allow 20 minutes; walking the entire loop is too steep for wheelchairs. Visitors who just want to view the Well should allow 20 minutes; walking the entire loop is too steep. There is a shaded picnic area, but this is not accessible to wheelchairs. Detailed information is available on the website at www.nps.gov/moca
Phone: 928-567-4521

TUZIGOOT NATIONAL MONUMENT is approximately 20 miles from Interstate 17 near the town of Clarkdale (see map). Address: 25 W. Tuzigoot Rd., Clarkdale AZ. Hours are 8am to 6pm in the summer, 8am to 5pm in the winter, 7 days a week, closed Christmas Day. Tuzigoot is a 110 room pueblo on a high ridge overlooking the Verde River. The Visitor Center Museum houses one of the finest collections of Sinagua artifacts. The fourth of a mile trail is rated easy to moderate because there is some elevation gain to reach the site. The trail is too steep for wheelchairs but the Visitor Center and Museum are accessible. There are no picnic facilities. A separate nature trail, one-half of a mile, overlooks Tavasci Marsh, an Audubon Society-designated Important Birding Area. This trail is accessible to wheelchairs but has some elevation gain. More detailed information is available on the website at www.nps.gov/tuzi
Phone: 928-634-5564

The mailing address for all three monuments is: National Park Service, PO Box 219, Camp Verde, Arizona 86322.

Protect Yourself
• Remember to drink lots of water, use sunscreen and wear a hat! If you feel thirsty you are already on the way to being dehydrated. Be prepared with appropriate footwear and clothing for temperatures that can exceed 100 degrees in the summer and below freezing in the winter.
• Please stay on the path. Rattlesnakes live here although they are rarely sighted.
• Remember to lock your car and put valuables out of sight.
• Handrails are there for your safety; please do not go past them. Rock surfaces can be slippery; please stay away from any cliff edge.

Protect your Monuments
• The desert landscape is very fragile. Smoking is permitted in designated areas only.
• All the Monuments are protecting archeological sites as well as natural resources. It is against the law to tamper with, deface or remove any artifact, plant, rock or other natural feature of the park.
• Hiking off the trails can damage the soil crust—a living groundcover of lichens, mosses and other organisms.
• Off-road parking or driving is prohibited.
• Pets on a short leash are allowed on the trails but must be carried into Visitor Centers. Do not leave pets in a vehicle during warm weather. Please clean up after your pet.
• Camping is prohibited in all areas of the Monuments.
• Bicycles, skateboards and any motorized vehicle other than wheelchairs are not permitted on the trails.
• Gas stoves are permitted only at the Montezuma Well picnic area. No ash producing fires are allowed in the Monuments.
• Please help with trash removal and use the waste receptacles. We have an active recycling program for aluminum cans and plastic bottles, with designated receptacles. Help by removing the caps from bottles — caps cannot be recycled.

Entrance Fees
Montezuma Castle and Tuzigoot National Monuments have a fee of $5 per adult 16 years of age and older. Children 15 and under are no charge. A combination ticket to visit both the Castle and Tuzigoot is available for $8, good for seven days. Also accepted are the National Parks Pass, Golden Age pass, Golden Eagle and Golden Access. There are no other discounts available. For information on any of these programs, contact a Park Ranger.

Transportation
There is no public transportation to any of the Monuments. The nearest major airport is in Phoenix AZ., 100 miles to the south. Visitors may also fly into Flagstaff AZ., 50 miles to the north.

Accessibility
The National Parks and Monuments are areas of great beauty and significance, set aside for all to enjoy. Ask a Ranger if there is any question or concerns about accessibility. Audio cassettes and text in Braille are available. More details about trails and the Visitor Centers are available under individual Monument descriptions.

VIP Program
Our volunteers are priceless! The National Park Service’s “Volunteers in Parks” program gives the public an opportunity to share knowledge and experience. Call 928-567-3322, ext. 22.

If You Love Wild Animals — Don’t Feed Them!
They look adorable but remember squirrels and other wild animals can bite! They could be carrying rabies or other diseases. Wild animals can become aggressive if they are accustomed to humans and human food. Please enjoy wild animals from a safe distance!

Photo by Skip Larson

G E N E R A L  I N F O R M AT I O N

EFFECTIVE FEBRUARY 1, 2006:
The fee per adult is $5.00. There is no charge for children 15 and under. A combination ticket to visit Tuzigoot and Montezuma Castle is available for $8.00 per adult, valid for a seven day period.

Food and Supplies
There are numerous restaurants, convenience stores, hotels and grocery stores in the towns of Camp Verde, Sedona and Cottonwood. Contact the local Chambers of Commerce (see listings) for more details.

Ranger Programs
The Monuments are designed to be self-guided, with interpretive signs along the path. Ranger programs on many topics are presented daily if staffing and weather permit. Consult the signboard at the Visitor Center for times and locations or ask at the front desk.

A Great Way to Experience your National Parks and Monuments
For only $50, you can experience all 384 National Parks and Monuments for twelve months from date of purchase. The card is available at Montezuma Castle or Tuzigoot; by calling 1-800-GOPARKS, or by visiting the website at www.nationalparks.org. For an additional $15, you may upgrade your Park Pass to the “Golden Eagle” program, allowing access to all Federal fee areas, with some exceptions, in the United States. Also available, for a one-time fee of $10, is the Golden Age Pass for citizens or permanent residents of the U.S. who are 62 years of age or older. Ask a Ranger for any details about these opportunities.
Montezuma Castle

First — it is not a castle, although there is a great magnificence to this prehistoric American Indian structure. Second — the Aztec emperor Moctezuma II was never here; the Castle was abandoned at least a century before he was born.

Rising 100 feet above the Beaver Creek floodplain, Montezuma Castle is a testimony to the resilience and innovations of a people called the “Sinagua,” named after the Spanish term for the San Francisco Peaks, the “Sierra Sin Agua” — “the mountain without water.”

Montezuma Castle is one of the best-preserved cliff dwellings in the United States. It is 90 percent original despite years of unauthorized excavation, visitation and even one attempt to blow apart a wall to collect artifacts.

Origins

Montezuma Castle was not an isolated structure where people lived generation after generation, having little contact with neighbors. The Castle instead was a small, but very dramatic, part of a large community of people spread up and down the waterways of the Verde Valley. As many as 6,000 to 8,000 people may have lived in the valley in small villages no more than two miles apart.

Montezuma Castle is located along Beaver Creek, possibly a final leg in a major prehistoric trade route from northern Arizona. People following this trail were seeking copper, salt, cotton, argillite and other minerals.

Were the residents of Montezuma Castle keeping watch on traders or other visitors entering the area, or was it simply a very nice place to live? No one really knows.

The Castle

Montezuma Castle is built into a deep alcove with masonry rooms added in phases. A thick, substantial roof of sycamore beams, reeds, grasses and clay often served as the floor of the next room built on top. Entrance to most areas was usually from a hole in the roof; a ladder made access easier.

The 19 rooms could have housed 35 to 50 people, conserving precious farmland near the creek. Around the corner was “Castle A,” a site with 45 to 50 rooms that also hugged the limestone cliff. These people were certainly related, sharing food, land, friendships; all ties that bind a community.

There is little evidence of conflict or warfare but perhaps people felt more secure living in the Castle. The series of ladders used to climb to the site could be pulled in for the night and there is a panoramic view of the river and valley from the top parapet level. A small ruin above the Castle, on the top of the cliff, allows views of the entire countryside; a sentry would have advance warning of anyone entering the area.

Just as important — the Castle is simply a wonderful place to live in all seasons. It is cool in the summer and warm in the winter. The higher elevation gives some relief from biting mosquitoes, juniper gnats and other pesky vermin. Daily activities, such as processing food, were done on the roof, and most areas have an inspiring creekfront view!

Moving Away

Starting around 1380 to 1400, the Sinagua began moving from the area, probably joining relatives in large pueblos to the east. As more explanations are offered for their departure, more questions arise. Stress factors may have included prolonged drought, disease, and nutrient-depleted soil from growing corn.

The departure from Montezuma Castle and surrounding ancestral lands had to have been very emotional. The ties to the land were over centuries and generations — the decision to leave could only have been out of necessity.

The “Halls of Montezuma”

In 1874, some of the first Euro-American explorers to see Montezuma Castle were veterans of the Mexican-American War (1846–1848). When they entered the Verde Valley and saw the great cliff dwellings and large pueblos with standing walls, they didn’t believe the local indigenous people had the knowledge or ability to construct such imposing structures, and so attributed them to the Aztecs, whose magnificent ruins they had seen in Mexico.

A popular Marine marching song of the time referred to the “Halls of Montezuma,” or, Mexico City, center of the Aztec world. Inspired, the veterans felt the Aztec king had to have been somehow involved! Once Montezuma Castle was recorded on early maps, the name was accepted.

When Fort Verde was established to subdue and round up the Yavapai and Apache people, a popular outing for officers and enlisted men was to visit “The Castle.” Depending on the perspective, the Castle was either a site to preserve—or a treasure chest full of curiosities to take home.

Very few original artifacts remained in 1906 when President Teddy Roosevelt declared Montezuma Castle a National Monument, but protection of the structure for future generations was assured.

In 1933, “Castle A” was excavated, uncovering a wealth of information and artifacts that expanded our knowledge of the Sinagua. The Visitor Center displays at Tuzigoot and Montezuma Castle showcase this culture; a legacy that did not disappear but is still alive with the Pueblo people of today.

By Anne Worthington, National Park Service Guide

This cutaway diagram shows how the interior of the Castle was constructed.

Left: A view of one of two entryways to Montezuma Castle. Residents would have entered through the door and then used ladders to go from room to room. Montezuma Castle is noted for its “T-shaped door,” a style favored by Ancestral Puebloan people in the Four Corners area but not found in central Arizona. No one knows the purpose for this design — did the Sinagua just like the way it looked or did the shape have a function?

Photo by Skip Larson
The concept of a park ranger, someone who patrols the land to protect its resources, goes back at least 5,000 years ago. In the Near East and Egypt, absolute rulers had servants or slaves regularly patrol kingdoms, protecting game animals from predators—human or otherwise.

In Europe, centuries later, vast forest reserves controlled by the landed aristocracy were monitored to keep common folk from pilfering firewood or stealing game. By the 1300’s, rangers in England were official officers of the realm.

In the “New World” three hundred years later, rangers protected fledgling settlements from attack. These rangers were often the only law enforcement officials available to the new settlers.

The job description of a park ranger has completely reversed from the time of absolute monarchies and commoners; now it is a park ranger’s duty to protect the land, its history and natural resources for the good of all who visit.

In the late 1800’s, when large isolated forest reserves were designated in the West, rangers were assigned to patrol these remote lands. The first use of the term park ranger was in 1904 at Sequoia National Park, California.

At the turn of the 20th century, the job description of a park ranger required some expertise that only could be learned with real on the job training.

To get the coveted position, a ranger had to: load a burro, survive a blizzard, clean and cook a porcupine, skunk or other available wild animal for survival, build a fire in the rain, read a compass and topographical map, splint a broken bone, treat a snakebite, follow a trail and read landmarks.

If that wasn’t enough, the required field test might include: saddle, bridle a horse and pack a tent, two blankets, cooking gear and food in a pack not to weigh more 150 pounds; estimate by pacing the distance around a triangular tract of land not less than a half mile.

And, most importantly, a park ranger had to be able to: dodge a falling rock!

For more reading: National Park Ranger, An American Icon by Butch Farabee, available at the WNPA bookstores or online at www.wnpa.org.


Shoring up the Damage: a large part of Montezuma Castle was in danger of collapse after treasure-seekers dug holes in the rooms. This photo, from the 1920’s, documents the NPS preservation initiative to protect fragile sites continuing today as the “Vanishing Treasures” program.
In Arizona, the Indian tribes were not under the walls, that the entire structure was undermined and the stability of the site was endangered.

**Saving the Castle**

Several concerned citizens realized Montezuma Castle and other sites were about to crumble from the landscape. In 1895, the Arizona Antiquarian Society was organized by Dr. Joshua Miller of Prescott.

Dr. Miller and Frank Reed, the society’s vice-president, began a tireless crusade to raise funds to protect the Castle. Citizens from all over the state donated money, and with $50, Dr. Miller’s crew was able to anchor the structure with iron rods, repair the masonry, and install a corrugated tin roof to protect exposed areas. Dr. Miller died not long after these initial repairs were completed, but his efforts set a precedent to stabilize the site and his personal artifact collection became the basis for the newly established Arizona State Museum in Tucson.

**Preserving Landmarks**

While Arizonans were trying to salvage Montezuma Castle, scientists and concerned lawmakers were debating efforts to preserve other significant landmarks of American heritage.

National Parks could only be created by and Act of Congress. However, many Westerners were deeply suspicious of mandates they felt were imposed by an Eastern establishment trying to deny their use of the land. Congressional action did preserve vast, scenic areas such as Yellowstone and Yosemite, but how could smaller tracts of federal land with important natural and cultural resources be protected?

The debate continued for years until archaeologist Edgar Lee Hewett used his skills in politics to draft a bill that had overwhelming support. Politicians, scientists and landowners accepted “An Act for the Preservation of American Antiquities” introduced by Congressman John F. Lacey to the House of Representatives and Senator Thomas Patterson to the Senate. This created a new category of federal preservation—the National Monument.

**An Enduring Legacy**

The new law gave the president authority to bypass Congress and establish a monument as long as the smallest portion of land needed to protect the site was involved. A fine of up to $500 and six months’ imprisonment could be imposed on anyone caught illegally digging in sites. Museums and universities now had to apply for a permit to excavate, sharing artifacts and results of research with the public.

An enthusiastic President Theodore Roosevelt signed the bill into law on June 8, 1906. Devil’s Tower, in Wyoming, became the first Monument established by this new authority on Sept. 24, 1906, and on December 8, President Roosevelt signed the papers for El Morro in New Mexico and for Petrified Forest and Montezuma Castle in Arizona. Before President Roosevelt left office in 1909, he signed proclamations establishing 18 National Monuments—six cultural sites and 12 natural areas of scientific interest.

The preservation and stewardship of Montezuma Castle National Monument began when scientists, politicians, and private landowners were able to put aside different agendas for the common good. One hundred years later, this legacy endures as citizens and visitors from around the world experience the nation’s 384 parks and monuments.

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**ABOUT THE MONTEZUMA CASTLE NAT. MON. CENTENNIAL LOGO**

The design of Montezuma Castle National Monument’s Centennial logo unites elements highlighting the nature, history and cultural heritage of this important prehistoric American Indian site. The terracotta exterior of the Castle represents the ongoing program of repair, preservation and stewardship through the National Park Service’s “Vanishing Treasures” initiative.

In the spring and through early fall, Montezuma Castle is framed in the vibrant green hues of the Arizona Sycamore and other lush trees and shrubs along the walkway. The green also represents the endangered riparian, or natural waterway, habitats of Arizona and the green of the setting—the Verde Valley.

The design of the border, with its interlocked scroll or frets, is typical of designs found on a pottery type called “Walnut Black-on-white”. These beautiful ceramics were produced in the Hopi Buttes area 100 miles north of Holbrook, Az., from around A.D. 1100-1300.

The abundance of Walnut pottery sherds suggests strong and enduring relationships between the occupants of Montezuma Castle and the Ancestral Pueblo residents of the north; a heritage and legacy that continues today.

Logo Design: Amanda Summers, Prescott Valley, Az.
**National Park Service**

*See page 2 for a detailed description of these National Monuments and fees.*

**Montezuma Castle National Monument**

**HOURS:** Summer 8am to 6pm; winter 8am to 5pm; 7 days a week

**ADDRESS:** 2800 Montezuma Castle Road, Camp Verde AZ 86322

**ADMISSION:** fee; permits and park passports honored

**PHONE:** 928-567-3322

**WEB:** www.nps.gov/moca

**Montezuma Well**

**HOURS:** Summer 8am to 6pm; winter 8am to 5pm; 7 days a week

**ADDRESS:** 5525 Beaver Creek Road, Rimrock AZ 86335

**ADMISSION:** free

**PHONE:** 928-567-4521

**WEB:** www.nps.gov/moca

**Tuzigoot National Monument**

**HOURS:** Summer 8am to 6pm; winter 8am to 5pm; closed Christmas Day

**ADDRESS:** 25 W. Tuzigoot Road, Clarkdale AZ 86344

**ADMISSION:** fee; permits and park passports honored

**PHONE:** 928-634-5564

**WEB:** www.nps.gov/tuzi

**Arizona State Parks**

**Website for all Arizona State Parks:** www.azstateparks.com

**Dead Horse State Park**

Located on the Verde River near Cottonwood. An excellent place for bird watching, hiking and recreating along the Verde River. Offers picnicking, full-facility camping, fishing, horseback riding, and mountain biking.

**HOURS:** Ranger Station - 8am to 5pm daily; campgrounds remain open.

**ADDRESS:** 675 Dead Horse Ranch Road, Cottonwood AZ 86326

**ADMISSION:** fee

**PHONE:** 928-634-5283

**Red Rock State Park**

A nature preserve and environmental education center located a few miles south of Sedona. The picnic area and classrooms may be reserved for public or private functions. Designated hiking trails are available, but there is no swimming, wading or camping. Pets are not allowed in the park. There are many nature hikes, talks, and programs for children.

**HOURS:** The Visitor Center is open 8am to 5pm. Trails are open 8am to 5pm October – March; 8am to 6pm April and September, 8am to 8pm May – August.

**ADDRESS:** 4050 Red Rock Loop Rd., Sedona AZ 86339

**ADMISSION:** fee per car

**PHONE:** 928-282-6907
**Slide Rock State Park**
This park, in scenic Oak Creek Canyon, takes its name from the 30-foot water slide naturally worn into the rocks of the creek bed. There are opportunities for bird watching, fishing, hiking, and relaxing along the creek. Pets are allowed if on leash in most areas of the park, but not in the swimming areas.

** Hours: Day use only. 8am to 5pm
** Address: 6871 N. Highway 89A
** Sedona AZ 86339 (in Oak Creek Canyon).
** Admission: fee per car up to four adults.
** Call for details
** Phone: 928-282-3034

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**Fort Verde State Historic Park**
General Crook's US Army scouts and soldiers were stationed at Fort Verde in the late 1800s. Several original buildings still exist. Historic military living quarters are open to visitors and teach about life on the frontier. The museum located in the old headquarters buildings displays artifacts explaining the history and methods of frontier soldiering.

** Hours: 8am to 5pm daily; closed Christmas Day
** Address: 125 E. Hollamon Street, Camp Verde AZ 86322
** Admission: fee; children under 7 free
** Phone: 928-367-3275
** Web: www.azstateparks.com

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**Arizona Game and Fish Page Springs Hatchery**
This is Arizona's largest fish hatchery. A self-guided tour takes visitors through the main hatchery where rainbow and brown trout are raised to be released in waters throughout Arizona. There are two additional nature trails and some of the walk is along Oak Creek. The Page Springs Hatchery is also an Audubon-designated Important Bird Area; sightings of bald eagles are common in winter months.

** Hours: 8am to 3:30pm daily; closed Thanksgiving and Christmas
** Address: 1600 N Page Springs Road, Cornville AZ 86325
** Admission: no charge
** Phone: 928-614-4805

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**US Forest Service What is the Red Rock Pass?**
The Coconino National Forest, Red Rock District, has over 80 trails and three heritage sites to visit in the Sedona area. The Red Rock Pass is a parking permit to access these sites and trails. It is not needed to drive through the area or stop to take a picture.

Red Rock Passes may be purchased at the South Gateway Visitor Center, Highway 179 in the Village of Oak Creek, 8:30am to 5pm daily; phone: 928-284-5233; at the Sedona Chamber of Commerce Center, Highway 89A and Forest road, phone 928-282-7722; and at many stores throughout the area.

** Web: www.redrockcountry.org

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**Palatki Heritage Site**
Cliff dwelling and pictograph trail, interpreting the prehistoric Sinagua culture. There is a small visitor center with exhibits and bookstore. Reservations are required because the parking lot only has 16 spaces.

** Hours: Reservation required; 9:30am to 3:30pm daily; closed Thanksgiving and Christmas Day
** Admission: Red Rock Pass, Golden Age or Golden Eagle
** Phone: 928-282-3854
** Web: www.redrockcountry.org

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**Honanki Heritage Site**
Cliff dwelling with associated rock art, interpreting the prehistoric Sinagua culture.

** Hours: 10am to 6pm daily; closed Thanksgiving and Christmas
** Admission: Red Rock Pass, Golden Age or Golden Eagle
** Phone: 928-282-4119
** Web: www.redrockcountry.org

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**V-V Heritage Site**
Rock art site highlighting over 1200 petroglyphs. There is a small visitor center and gift store.

** Hours: 9:30am to 3:30pm daily; open Friday-Monday; closed Thanksgiving and Christmas
** Admission: Red Rock Pass, Golden Age or Golden Eagle
** Phone: 928-282-4119
** Web: www.redrockcountry.org

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**Ranger Districts**

** Red Rock District Ranger Station**
Coconino National Forest
PO Box 300, Sedona AZ 86339
928-282-4119
www.fs.fed.us/r3/coconino

** Verde Ranger District**
Prescott National Forest
300 East Highway 260, Camp Verde AZ 86322
928-567-4121
www.fs.fed.us/r3/prescott

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**Yavapai-Apache Nation Yavapai-Apache Tourism Department**
Information on activities through the Yavapai-Apache Nation.

** Address: 355 Middle Verde Road, Camp Verde AZ 86322
** Phone: 928-567-3035
** Web: www.yavapai-apache-nation.com

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**Historical Societies & Museums**

** Camp Verde Historical Society and Museum**
Museum displays the rich historical past of the Verde Valley with timeline and exhibits on prehistory, mining, ranching and settlement.

** Address: 435 South Main Street, Camp Verde AZ 86322
** Phone: 928-567-9560
** Web: www.sedona-verdevalleymuseums.org

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**Sedona Historical Society & Heritage Museum**
This museum highlights Sedona's history from mining day to present time through photographs, books, newspapers, letters, histories, maps, and other artifacts.

** Hours: 9am to 5pm daily
** Address: 735 Jordan Road, Sedona AZ 86339
** Admission: fee; children under 7 free
** Phone: 928-282-7722; and at many stores throughout the area.

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**Chambers of Commerce**
Contact area chambers of commerce for information on an array of activities including antique shows, nature festivals, farmer's markets, pioneer days, art fairs, concerts, holiday celebrations, and more.

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**Camp Verde Chamber of Commerce**
385 South Main Street, Camp Verde AZ 86322
928-567-9294
www.campverde.org

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**Clarkdale Chamber of Commerce**
PO Box 245, Clarkdale AZ 86324
928-634-8700
www.clarkdalechamber.com

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**Cottonwood Chamber of Commerce**
1010 South Main Street, Junction 89A and 260
Cottonwood AZ 86326
928-634-7593
www.cottonwood.veroedvalley.com

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**Jerome Chamber of Commerce**
PO Box K, Jerome AZ 86331
928-634-2900
www.jeromechamber.com

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**Sedona-Oak Creek Chamber of Commerce**
PO Box 478, Sedona AZ 96339
800-288-7336
www.sedonachamber.com
MONTEZUMA WELL
A Natural Oasis

As seasons change, flocks of migratory green-winged teals and mallard ducks rest briefly on the surface of Montezuma Well. Muskrats, pond sliders and Sonoran mud turtles ply through the thick beds of brown-green algae that flourish through the year.

This natural limestone sinkhole offers a unique setting as you experience the contrast of two distinct life zones along the one-third mile trail. The Well rim, like most of the area nearby, is a high desert life zone. The riparian area along Beaver Creek creates a yellow and green ribbon of lush growth through this semi-arid countryside.

The perennial flow of this spring-fed stream together with water from Montezuma Well and its irrigation canal truly creates a natural and soothing haven for visitors.

Underwater Chain Of Life
Water entering Montezuma Well is at a constant 74 degrees with a flow of over 1,400,000 gallons a day. As the water passes through limestone it collects high amounts of dissolved carbon dioxide nearly 100 times higher than most natural aquatic environments.

The highly carbonated water is inhospitable to fish even though there is oxygen. Instead, an aquatic community of several unique species—each dependent on the other—has evolved. Four species are endemic, which means they only live in the Well! Algae, small floating plants, manufacture food from light energy and the rich supply of carbon dioxide in the water.

At night, a great feeding frenzy begins among the creatures who have adapted to this harsh aquatic environment. Amphipods, tiny shrimp-like animals, feed by combing algae through appendages below their mouths. Leeches, living by day in the bottom sediments of the well, rise at night and, searching with sensory hairs on their bodies, gulp large quantities of the small amphipods. Night-swimming water scorpions also make evening meals of the shrimp-like creatures.

With the first light of day, these creatures sink back to the depths of the Well until sunset, and the beginning of another cycle.

Arsenic And The Well
Arsenic is the 20th most common element in the earth's crust, and the 12th most common element in the human body. Arsenic is present in all living matter, as well as water, soil, and air. Where does arsenic come from? Arsenic enters water supplies from erosion of natural deposits in the earth's crust. Most organic and inorganic arsenic compounds are white and or colorless, and have no smell or taste.

The EPA has set a standard for the amount of arsenic in public drinking water to be no higher than 10 ug/L (micrograms per liter). The arsenic level in samples of water taken from Montezuma Well has registered 100 ug/L! It is believed the Sinagua used the water from Montezuma Well to irrigate their crops and it would have entered the food chain in this way.

What effect does prolonged consumption of arsenic have on the human body? After one or two generations, people may have noticed an increase in birth defects or other health problems. Sinagua lived around the Well since A.D. 900, but could increasing levels of arsenic been a factor in their leaving Montezuma Well?

About 2 million years ago this part of the Verde Valley was covered by a large shallow lake. Floating plants in this body of water caused dissolved limestone to form minute crystals which slowly sank to the bottom, accumulating into thick layers of soft limestone rock.

About 2 million years ago the lake waters began disappearing. Underground streams started dissolving softer areas of the underground limestone and a cavern began to form. The passage of time and the force of water carved a cavern larger and larger until, about 11,000 years ago, the roof of one of these caverns gradually crumbled forming Montezuma Well.

Underwater Archeology — A First!
Montezuma Well was the first National Park Service area to use SCUBA divers in a systematic attempt to investigate the underwater component of a prehistoric archaeological site.

Approximately 700 artifacts of cultural material typical of a late Sinagua site in the Verde Valley were recovered and are curated by the National Park Service in Tucson, Arizona. These included: pottery, charred animal bone of rabbit, hare, and deer, worked obsidian and chert flakes, fired clay, building stone eroded from the ruins above, and ground basaltic stone.

The Well Outlet Trail is cool and inviting during hot summer months. The shaded trail follows a portion of the prehistoric irrigation ditch constructed by the Sinagua. The trail also parallels Beaver Creek, an important perennial water source for the Verde Valley.

The Mystery Of The Water
Scientists have not discovered the origin of the consistently warm water that feeds Montezuma Well at a rate of 1,400,000 gallons a day.

A current research topic with scientists from Northern Arizona University is trying to decipher where the water is coming from and from what level. Scientists have noted the flow rate from the Well rarely fluctuates—but the source deep in the earth’s layers remains a mystery.

Time And Water — The Formation Of Montezuma Well
Scientists believe about 12 million years ago this part of the Verde Valley was covered by a large shallow lake. Floating plants in this body of water caused dissolved limestone to form minute crystals which slowly sank to the bottom, accumulating into thick layers of soft limestone rock.

Montezuma Well hosts a variety of wildlife in all seasons but gilled fish cannot survive in the waters; the carbon dioxide level is too high. Instead, several species found only in the depths of Montezuma Well have evolved, adding to the rich tapestry of this life zone in the Upper Sonoran Desert.

Photo by Ernie Silva

By Rex Vanderford, National Park Service Ranger
A Gem of Habitats: the Changing Plant Life at Montezuma Well

The diversity of plant life at Montezuma Well is a showcase of how vegetation is able to adapt to the arid and harsh central Arizona landscape. Many areas of the national monument reflect these changing conditions: the type of soil, available water, drainage, evaporation and solar intensity.

Walkways to the Well

The effects of extreme exposure to the sun are most obvious as visitors ascend the trail to view Montezuma Well and then head downslope to the lower walking trail. This area has a southern exposure with intense solar radiation year round.

The small shrub Mariola dominates the area with a grey hue if there has been winter moisture. The upper reaches of the slope have mature junipers, creosote bush, Mormon Tea and an abundance of prickly pear cactus.

These species require more soil moisture and are associated with abundant rock on or near the surface. When there is rainfall, the moisture runs off the rocks and collects at the base, watering the root systems protected by the rocks and gravel. Scattered throughout this slope visitors will also see mesquite, catclaw and delicate grasses; when there are ample rains in March and April, the hillside is a veritable flower garden.

Inside the Well

A look at the walls inside Montezuma Well again displays this variance between north and south facing slopes. Mesquite and cat claw dominate the south while the shaded and cooler areas of the north facing slope nurture a diversity of trees and shrubs. The warty-barked Hackberry forms an arbor over the trail to Swallett Cave. Red willow borders the edges of the Well and a lone Arizona Walnut and Peach Leaf willow grow in the shade. A lone Velvet ash stands below the cliff dwellings in the west side. A fire in the early 1900’s may have destroyed some of the larger cottonwoods and sycamore that are shown in turn of the century photographs.

Gem of Habitats

Montezuma Well is bordered on one side by one of the more healthy riparian, or natural watercourse, systems in the state. This streamside, known as Wet Beaver Creek, is accessed by the trail to the Well Outlet and is critical habitat for migrating birds and home to least 60 percent of all life native to Arizona.

In this gem of habitats, some of the more obvious upper story trees are the Arizona sycamore, cottonwood, ash, walnut and elder. Many of the elder were harvested in the late 1800’s for building structures. Visitors at the Outlet, looking across Beaver Creek, can see a stand of elder alder, prominent in the spring because this tree with its cover of long dark red catkins stands out among the leafless, winter-dormant trees. Net-leaf hackberry also occupies the drier fringes of the riparian area and can be seen growing out of the vertical limestone cliff face.

Over 90 percent of the wildlands in Arizona designated as riparian areas have vanished with increased development, making these habitats even more priceless.

Near the Pithouse

Visitors making a stop to view the pithouse will be able to see why the prehistoric Sinagua may have built subterranean residences and community structures in this unique zone. There is an absence of rock in the top soil layer except for an outcrop of limestone looking east toward the Well parking lot. As visitors face north, they will see a broad alluvium flat with an abundance of trees with a dense upper story. These include mesquite, cat claw and creosote, providing shade for an under story of grasses and small herbaceous plants. Absent are the plants requiring rocks to collect and preserve rain, such as the prickly pear cactus so prevalent near the top of the Well.

Picnic Area

Visitors should consider a visit to the Montezuma Well picnic area, a shady spot that provides relief from the hot sun. This area is flood irrigated with waters from the Well, utilizing an historic ditch constructed in the early 1900’s. The picnic area supports huge cottonwoods, ever thirsty and with roots that must be in moisture at all times. The Arizona

from the late 1800’s to the 1940’s. Hay was grown in this field and cattle grazed from the 1950’s to 1988. This area illustrates the fragile balance of much land in the arid Southwest: the meadow has been fallow for almost 50 years but because of extensive soil mineral depletion and time needed to regenerate, there is little growth other than grasses, some mesquite and yucca.

The staff and volunteers at Montezuma Well continually monitor plant health and changes due to periods of moisture followed by drought. As the lands change and heal over time, the commitment remains to keep the area in as natural a state as possible.

By Don Montgomery
Biologist and park volunteer

“What’s That Tree With the White Bark?”
The Arizona Sycamore is a Highlight of Any Visit

The ghostly white trunk and spreading gnarled branches rise in stark contrast to the vivid hues of green along the riparian, or streamside, areas of the Verde Valley.

The Arizona Sycamore, often reaching heights of 80 feet, is one of the distinctive sights at Montezuma Castle and Montezuma Well. This member of the Plane Tree family once blanketet Arizona 63 million years ago when the climate was cool and moist. As the weather became dry and more arid, these deciduous trees retreated to the moist perennial waterways and canyon bottoms that bisect the state.

Some amazing adaptations help the Arizona Sycamore survive from seeding to old age, at least 200 years. Each fruit pod contains an average of 667 seeds with a protective coating designed to withstand seasonal flooding; the torrents of water reshaping the land, moving and depositing masses of rocks, earth and debris.

The roots of the young plant must be able to penetrate the rock-laden, compacted substrate. If torrential flooding scours the area, the seedlings may be left literally high and dry with roots that have to remain in moist soil to thrive. Once established, the trees help protect against erosion, capturing precious topsoil for other plant life.

The sycamore hosts a myriad of species native to Arizona. Large palm-shaped leaves protect and shelter the many small birds using the waterways as a migration corridor. Woodpeckers and other burrowing animals nest in the spreading branches and insects go through various life stages as they become sustenance for even more creatures. In the hot, dry summer months, sycamores offer shade and relief to all life along the banks.

The prehistoric Sinagua utilized sycamore, a soft wood, for many of the support beams still intact in Montezuma Castle. In historic times, sycamore was used to make buttons.

Montezuma Castle National Monument, protected since 1906, is one of the best locations to view Arizona Sycamore in its natural state. Over 90 percent of Arizona’s riparian areas have been lost to development or are not accessible to the general public.

Montezuma Well features the famous large curved sycamore along the Outlet Trail, unchanged since it was photographed in the 1870’s; a relic of the distant past that continues to inspire awe in visitors today.
Tavasci Marsh — Vestige of an Earlier World

Tuzigoot National Monument overlooks Tavasci Marsh, a natural riparian area protecting an old meander of the Verde River. This ancient scene would have been familiar to the Sinagua who used water from the marsh and the Verde River to irrigate their crops. Today, Tavasci Marsh has been designated an Audubon Society Important Birding Area for the number and diversity of biological species that inhabit the area.
In the thousands of years before humans entered the Verde Valley, large Ice Age mammals roamed this area, searching for the tons of plants they needed to exist. But, before there were mammoths, there were Gomphotheres, a very distant but now extinct member of the elephant family. Paleontologist David Gillette of the Museum of Northern Arizona, Flagstaff, says this creature had skin like a modern-day elephant and probably did not have the thick fur of a mammoth or mastodon. But, notice what is really distinctive about him? The tusks point down toward the ground rather than curled up like a mammoth’s. Why do you think his tusks pointed down? Did this help him clear out grasses he could then eat? Your guess is really as good as anyone’s!

Drawing by Diana Rushford
Western National Parks Association was founded in 1938 to aid and promote the educational and scientific activities of the National Park Service. As a nonprofit organization authorized by Congress, we operate visitor center bookstores, produce publications, and support educational programs at more than 63 parks in 11 western states.

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