



VOLUME 5 • NUMBER 1
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ECHOES



MONTEZUMA WELL • MONTEZUMA CASTLE NATIONAL MONUMENT • TUZIGOOT NATIONAL MONUMENT

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 culture, a Native 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.

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

Echoes from the Past

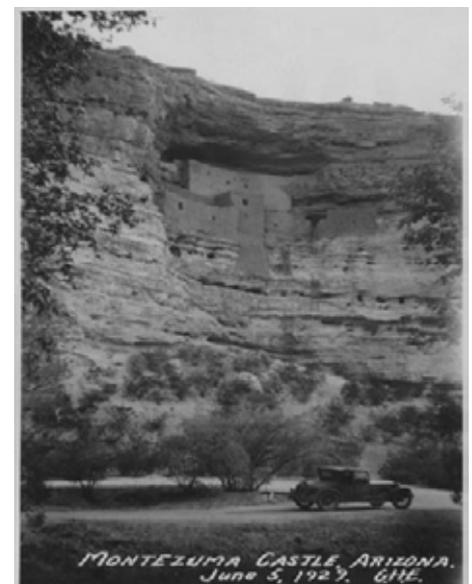
DISCOVERING THE 10,000 YEAR LEGACY OF PEOPLE IN THE VERDE VALLEY

A visit to Montezuma Castle, Montezuma Well, and Tuzigoot National Monuments provokes many questions. Why did they live here? Where did they go? And, perhaps most importantly, how did they live in this land of seemingly harsh contrasts: hot and arid in the summer, cool in the winter?

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GENERAL INFORMATION



National Park Service
U.S. Department of the Interior

Montezuma Castle & Tuzigoot National Monuments

Superintendent

Kathy M. Davis

Mailing Address

P.O. Box 219
Camp Verde, AZ 86322

Website

www.nps.gov/moca
www.nps.gov/tuzi

Park Headquarters

ph: (928) 567-5276
fax: (928) 567-3597

Email

moca_ranger_activities@nps.gov

Montezuma Castle

2800 Montezuma Castle Rd.
Camp Verde, AZ 86322
(928) 567-3322

Montezuma Well

5525 Beaver Creek Rd.
Rimrock, AZ 86335
(928) 567-4521

Tuzigoot

25 W. Tuzigoot Rd.
Clarkdale, AZ 86324
(928) 634-5564

Hours of Operation (Closed Christmas Day)

September–May: Daily 8 a.m. to 5 p.m.
June–August: Daily 8 a.m. to 6 p.m.

Park Entrance Fees and Passes

Daily Entrance Fees for Montezuma Castle or Tuzigoot:

\$5 per adult (16 & over) Children FREE (under 16)

Combined Fees for Montezuma Castle AND Tuzigoot:

\$8 per adult (16 & over) Children FREE (under 16)



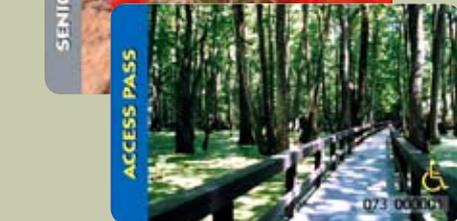
INTERAGENCY ANNUAL PASS: \$80

Grants access to all federal fee areas in the U.S. (with some exceptions), including all national parks and monuments, for twelve months from date of purchase.



INTERAGENCY SENIOR PASS: \$10

A one-time fee grants access to all federal fee areas in the U.S. (with some exceptions). For U.S. citizens or permanent residents 62 years of age or older.



INTERAGENCY ACCESS PASS: FREE

Grants access to all federal fee areas in the U.S. (with some exceptions) for permanently disabled U.S. citizens or permanent residents.

Protect your Monuments

- The arid desert landscape is very fragile, and wildfires are a real danger. 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.
- Please help with trash removal and use the waste receptacles. We have an active recycling program for aluminum cans and plastic bottles, with designated brown receptacles.
- 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.

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°F (38°C) in the summer and fall below freezing in the winter.
- Please stay on the trails. Rattlesnakes live here, though they are rarely seen.
- Handrails are there for your safety; please do not go past them. Rock surfaces can be slippery; please stay away from any cliff edge.
- 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.

Ranger Programs

- Ranger programs are offered at least twice daily at Montezuma Castle and as staffing allows at both Tuzigoot and Montezuma Well. These programs range in length from 20 minutes to an hour and cover topics including archeology, Sinagua culture, and the geology and biology of the Verde Valley. Ask a ranger or docent at the visitor center for program times and locations.
- Education programs and classroom presentation are available to local and visiting school groups. Call Ranger Case Griffing at (928) 567-3322 x230, or e-mail (case_griffing@nps.gov) for more information and scheduling.

Accessibility

- The national parks and monuments are areas of great beauty and significance, set aside for all to enjoy. Ask a ranger if there are any questions or concerns about accessibility. Audio cassettes and text in Braille are available. More details about trails and 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 x230.

"Echoes" is provided by Western National Parks Association in cooperation with: Montezuma Castle National Monument and Tuzigoot National Monument P.O. Box 219, Camp Verde, AZ 86322

Editor: Case Griffing
Design & Production: Amanda Summers Design, Case Griffing, Anne Worthington, Joshua Boles, and Paul Ollig

Contributors and Advisors: Kathy Davis, Sherry Wood, Ed Cummins, Karen Hughes, John Reid, Rex Vanderford, Jon Fistler, Skip Larson, Penny Wagner, Anne Worthington, Ryeon Corsi, Ryan Isaac, Deb Decovis, Sharon Kim, and Dennis Casper

Masthead art © 2004
Montezuma Castle National Monument
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MONTEZUMA CASTLE

It is not a castle, though there is a great magnificence to this prehistoric American Indian structure. Moreover, Aztec Emperor Moctezuma II was never here. The Castle that now bears his name was inhabited at least a century before he was born!

Rising 100 feet (30 m) above the Beaver Creek floodplain, Montezuma Castle is a testimony to the resilience and innovation of a people labeled the “Sinagua,” named after the Spanish term for the San Francisco Peaks, *la sierra sin agua*—the mountains 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 an alleged 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 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 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 through 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, and 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. The remains of a small structure above the Castle, on top of the cliff, allows views of the entire countryside. A sentry would have advanced 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 preparing food, were done on the roof, and most areas have an inspiring creekfront view!

Moving Away

Between 1380 and 1400, people 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 crossed centuries and generations. The decision to leave could only have been one 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 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. Instead, they 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.

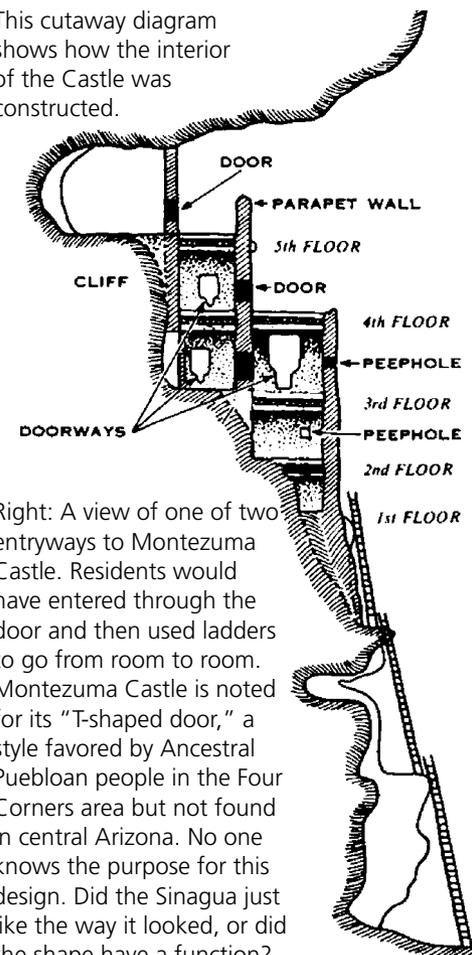
When Fort Verde was established to subdue and round up the Yavapai and Apache people, a popular outing for officers and enlisted men was to visit “The Castle.” Depending on the perspective, it was either a site to preserve or a treasure chest full of curiosities to take home.

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 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

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



Right: 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?



THE SINAGUA—Echoes from the Past



Agriculture also changed the way human society was organized after thousands of years of hunting and gathering. Corn had to be planted and tended by people and could not survive as a wild plant. Accomplishing this required larger communities, enabling people to pool resources and provide the labor needed to weed their crops and process the harvest, not to mention enjoy new social and family connections.

The earliest dwellings in these communities were partially dug into the ground and had roofs of timber, brush, and clay. By 600 C.E., small settlements of these pithouses ringed the edges of the Verde Valley and scattered along the waterways. One such dwelling, the “Pithouse Ruin,” can be seen at Montezuma Well.

About the same time, durable pottery vessels for cooking and storage were first utilized, since fragile clay pots are impractical for nomadic people who are constantly on the move. Weaving technology, based on spinning cotton fiber into a thread and using a loom, traveled up the large river valleys from Mexico and was quickly mastered by the people of the Verde Valley.

Five-hundred years later, around 1100 C.E., people here constructed pueblos, solid masonry structures with mud-plastered walls. They also made distinctive, polished ceramics and produced some of the finest textiles in the southwest. Archeologists call this culture the Sinagua, one of several groups in northern and central Arizona which shared basic cultural traits.

For at least ten thousand years, the Verde Valley has been a corridor of movement as people followed the seasonal migrations of big game animals, raised their families, and utilized the natural resources of the land. Today, people flock to northern Arizona, both to live and to play, precisely because of this variable climate. Whether escaping the even colder northern latitudes in the winter or the oppressive heat to the south in the summer, the Verde Valley still stands as a migration corridor for people from all over the world. But the Valley we experience today is very different from what earlier inhabitants saw.

Northern Arizona was once much cooler and moister, and the open range flowed with the deep, thick grasses favored by now-extinct large mammals such as prehistoric camel, giant elk, mammoths, and other big game animals. The earliest human inhabitants of the Southwest, the Paleoindians, killed these massive creatures with a distinctive stone spear tip called the Clovis point, and at least 16 of these extremely rare tools have been identified in the Verde Valley.

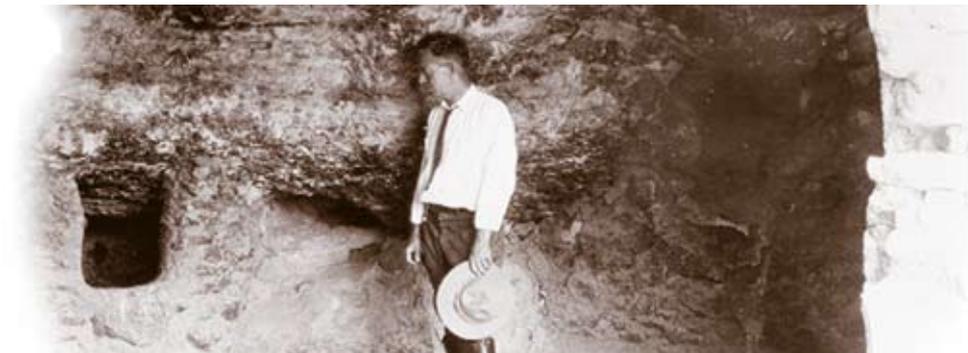
The Birth of Agriculture

Over the millennia the climate gradually changed, and the vast grasslands disappeared

along with the large animals that once supplied families with food, clothing, and other needs. People had to broaden their reliance to other plants and animals, as well as develop and strengthen a network of alliances. Besides creating a market to exchange minerals, textiles, jewelry, and other resources, such commerce also provided a mechanism to share new technologies and ideas while extending family and social ties.

This interaction with people from what is now Mexico introduced changes that forever altered life in the Southwest. A new idea—agriculture—challenged thousands of years of a sustainable, hunting and gathering lifestyle and revolutionized the way people interacted with and transformed the land.

Two warm-weather plants native to Mesoamerica, corn and cotton, were hybridized over the centuries and traded into the desert southwest, gradually adapting to the short, arid growing season of northern Arizona. When properly tended and stored, corn, beans, and squash provided a nutritious, year-round source of food. People never gave up supplementing their diets with animals and native plants, but as larger game became increasingly scarce, the great hunts of the past were no longer a guaranteed method of survival.



“What’s That Tree With the White Bark?”

The Arizona Sycamore is a Highlight of Any Visit

Mostly white trunks 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 (24 m), is one of the most distinctive sights at Montezuma Castle and Montezuma Well. This member of the plane tree family once blanketed Arizona, 63 million years ago when the climate was cool and moist. As the weather became drier, these deciduous trees retreated to areas close to permanent water, such as the perennial riverways and canyon bottoms that bisect the state.

Some amazing adaptations help the Arizona Sycamore survive from seedling 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, torrents of water that reshape the land and move huge 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 its 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.

People in the Verde Valley have used the soft wood of the Arizona Sycamore for thousands of years. The ancient Sinagua used these trees for many of the support beams still visible in Montezuma Castle. Some of these beams, which were hoisted 80 feet above the valley floor, are estimated to weigh over two tons!

Montezuma Castle National Monument is one of the best locations to view Arizona Sycamore in its natural state. Sadly, over 90 percent of Arizona’s riparian areas, habitat necessary for the survival of these glorious trees, have been lost to development or are not accessible to the general public.

Montezuma Well features a large, curved sycamore along the Outlet Trail, unchanged since it was photographed in the 1870s. This tree stands as a relic of the distant past and continues to inspire awe in visitors today.

THE SINAGUA—Echoes from the Past

What's In a Name?

Visitors to the Southwest encounter many names associated with these prehistoric American Indian cultural groups. Names such as Anasazi, Chaco, and Mesa Verde are familiar, but these groups encompass only a tiny portion of the prehistoric Southwestern cultures, which also included the Kayenta, Salado, Hohokam, and Sinagua. Even so, these are not the names the people gave themselves. Rather, they were coined by archeologists in the 19th and 20th centuries in attempts to define and describe groups of people who interacted with extensive trade connections, practiced similar lifeways, engaged in agriculture, and shared religious concepts and practices.

In 1916 Dr. Harold S. Colton, founder of the Museum of Northern Arizona in Flagstaff, began extensive archeological surveys of central and northern Arizona. He was the first to recognize that the distribution of various pottery types reflected different cultural groups. Dr. Colton made an observation that “pottery equals people” and on that basis named prehistoric cultural areas using geographic terms like Mesa Verde, Chaco, and Mogollon. Within those areas he recognized even more localized groups: Salado, Sinagua, and Prescott. Dr. Colton called the early people of the Flagstaff and Verde Valley areas “Sinagua,” after the name early Spanish explorers gave the San Francisco Peaks near Flagstaff: *la sierra sin agua*, or “the mountains without water.”

Chances are, since these cultures possessed no written language, we will never learn what the people called themselves. However, speaking to their descendents can give us tantalizing clues to their identities. The Hopi people of northeast Arizona, some descended from those we call Sinagua, refer to their ancestors as the *Hisatsinom*, or “the people of the past.”

As researchers have learned more about the relationships of prehistoric groups to modern Indian cultures, the term “Ancestral Puebloan” is being used more frequently and is the name preferred by the modern Pueblo people. It is also a way to recognize that even though these people of the past had their own unique cultures, they also shared core values that united them into a larger Pueblo cultural tradition. These concepts, such as a focus on corn, clan social structures, ceremonial societies, kivas for religious structures, the katsina religion, and pueblo architecture, are still vital to the modern Pueblo people of Arizona and New Mexico.

The contributions of the *Hisatsinom* continue to be manifest in the arts, crafts, ceremonies and practices of Pueblo people today, strengthening a deep connection with the past and preserving this traditional knowledge for future generations.



The diorama on the loop trail at Montezuma Castle was installed in 1951 and will be 60 years old in 2011. When nearby I-17 was completed, visitation increased dramatically. The fragile dwelling could not withstand the added traffic, and park officials were forced to close it.

They Did Not Disappear!

Many theories have been proposed for why the Sinagua left their homes in the Verde Valley to move to larger pueblos in the north and east. The great, centuries-old trade networks dissolved, ending commercial and social contact between people. A prolonged period of drought, starting in 1380 C.E., made farming a challenge in areas distant from perennial waterways. Disease, conflict, and depletion of resources may have been factors. The Hopi people of today say it was a migration of their ancestors, preordained to fulfill a covenant with one of their most important spiritual beings, and they stress the fact that they did not disappear. They are still very much here.

Whatever the reason for their departure, one thing remains true to this day: the Verde Valley was never completely without people. The ancestors of today's Yavapai and Apache people became caretakers of the land after the great Sinaguan exodus. In fact, their descendants continue to live within sight of one of the most recognizable and enduring symbols of the ancient Sinagua, Montezuma Castle.

Echoes of the Past

A visit to Montezuma Castle, Montezuma Well, or Tuzigoot National Monuments is more than simply an occasion to see some impressive ruins, or a chance to take a short break during the long drive to the Grand Canyon. It is an opportunity to glimpse a 10,000-year story of the ingenuity and perseverance of a people skilled at adapting to an ever-changing and often unforgiving landscape. It is a time to listen to the echoes of a past filled with change and struggle, fear and hope, and perhaps to learn a little about how we might cope with these challenges in our own lives. And it is a chance to discover the enduring legacy of a people who, like many of us today, called northern Arizona home.

By Anne Worthington
National Park Service



National Park Service Centennial 2016

National parks are special places that unite us all as Americans. For nearly a century, the National Park Service has preserved these national treasures for everyone to enjoy. Now, the National Park Service has the opportunity to build upon this remarkable legacy as we prepare for our 100th anniversary.

The Centennial Initiative

From now until the centennial in 2016, the National Park Service will expand programs and complete

projects at parks across the country to save America's special places and prepare them for a second century of conservation, preservation, and enjoyment.

We will accomplish this work using additional operational funding from Congress and by matching federal dollars with private donations. Please visit www.nps.gov/2016 to learn about the National Park Service, the type of programs and projects we will focus on, and how you can join us in this historic effort.

MONTEZUMA WELL

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 the thick beds of brown-green pondweed and algae that flourish through the year. A natural oasis, this unique refuge is like no other on Earth!

This natural, limestone sinkhole offers a unique setting as you experience the contrast of two distinct life zones along the ½-mile (0.5 km) 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.



Time And Water: The Birth Of Montezuma Well

The story of Montezuma Well began 12 million years ago, when this part of the Verde Valley was covered by a large, shallow lake. Floating plants in this body of water caused dissolved calcium carbonate to form minute crystals, which slowly sank to the bottom and accumulated into thick layers of soft limestone rock.

About two 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 Chain Of Life

Water enters Montezuma Well at a constant 74°F (24°C) with a flow of over 1,400,000 gallons or 5,600,000 liters every day. As the water passes through the limestone, it collects large amounts of dissolved carbon dioxide—nearly 100 times more than most natural aquatic environments.

The high levels of CO₂ make Montezuma Well completely inhospitable to fish, despite the presence of oxygen in the water. In their absence a community of unique species, each dependent on the others, has evolved. Four of these species are found nowhere else on the planet!

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.

The Mystery Of The Water

Scientists have not discovered the origin of the consistently warm water that feeds Montezuma Well. 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.

By Rex Vanderford
National Park Service



Wildlife of the Verde Valley

Although Montezuma Castle, Montezuma Well, and Tuzigoot are small in size, an astonishing diversity of animal species lives here.

Birds

Over 200 species of birds inhabit the riparian and upland habitats at Montezuma Castle, Montezuma Well, and Tuzigoot. The number of species observed each month varies but is highest during the breeding season due to a large number of migrating birds. Even so, birding in the Verde Valley is exceptional any time of the year!

Mammals

About 50 species of mammals are known to live inside monument boundaries. Some animals, like desert cottontails, ground squirrels, and deer, are common and may be seen by a majority of visitors.

Insects & Arachnids

Hundreds of species of insects, arachnids, and other invertebrates find homes in the unique ecosystems of the area monuments. These include harmless tarantulas, as well as highly venomous black widow spiders and bark scorpions. These invertebrates reveal extraordinary evolutionary adaptations for survival in this arid, desert environment.

Reptiles

Underappreciated and sometimes feared, reptiles play an important role in the high-desert ecosystem. Lizards and snakes help control insect and rodent populations. In turn, both are potential meals for birds and mammals. Sonoran mud turtles, which are easily spotted swimming and basking in Montezuma Well, depend on the abundance of aquatic insects and other small invertebrates in the year-round supply of warm, fresh water. Other, less commonly seen reptiles include western diamondback and black-tailed rattlesnakes.

TUZIGOOT

Dawn comes easily to the world, touching upon the mountain ridges and then illuminating down into the valleys. As the light comes to this hill above the river, the old walls reflect again a memory of life uncovered from time's dust.



Archeologists with a Civil Works Administration crew excavated and stabilized the ancestral village now known as Tuzigoot in 1933 and built a museum to hold its material story in 1935.

Our present understanding is of hunters passing through this abundant valley perhaps 10,000 years ago, followed before 1100 C.E. by farming peoples who built their way of life on the available resources of land and water.

Although the last word is yet to be written on the goings and comings of these people, we know from our scientific inquiries some clues about the climate of the times. Rainfall is sometimes marginal; the crops may have depleted the soil nutrients after years of planting.

By the time the people of Tuzigoot left the region around 1400 C.E., the citadel had housed perhaps 250 people in its 110 rooms. It was the city of its day, where people learned to resolve the problems of living life together. And though with more people came more problems, there were also more of the same people to find solutions. There is a creative

chain of choices and survival threading through the generations that lived here.

How big was the world they called their own? By the stories of people and artifacts, we know the Sinagua traded for shells from the coast and macaws from the south.

Where did they go? Depending on our use of the language, “vanished” may come to mean they moved on to other resources and other promised lands. The Hopi people of today tell, in their clan stories, of living in places like this before migrating to their present northern mesas.

Why did they leave? Perhaps resources became too few and politics too much—or perhaps the Promised Land lay just beyond the horizon.

Enjoy your visit to Tuzigoot, and look past the ruins to a time when the best world was on top of a hill made golden by dawn's light.

By John Reid
National Park Service



The intricate pattern of this cloth bag speaks to the aesthetic sense of the ancient peoples populating the area.

Tavasci Marsh: Relic of an Ancient World

Tuzigoot National Monument overlooks Tavasci Marsh, a natural riparian area surrounding an old meander of the Verde River. This ancient world 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.



Kids Become Green Rangers

National Park Service teams up with local schools and communities to get youth outdoors

Hints of winter rustle the amber leaves that dangle from the trees at Montezuma Well. The mid-morning sun melts away last night's chill just in time for the first group of children arriving in the picnic area. Within ten minutes, expressions of astonishment, bursts of laughter, and the crunching of leaves overcome the murmuring irrigation canal and twittering rock wrens.

This time, the kids have spotted the remains of a crawdad anchored into the side of the canal. In the past they have darted around trees, searched for cicada shells, or hunted for the perfect piece of sycamore bark for the morning's mini-boat races. Over the next two hours, a troop of ten children scour the picnic area for trash, add wood chips to a new trail, investigate the tracks and scat of local wildlife, and demonstrate their nature knowledge in trivia games. These children carry with them not only the excited energy that accompanies outdoor explorations, but the honor of serving as park-certified Green Rangers.

Begun in September 2010, the Green Rangers program engages youth ages 8–12 with the local environment by offering free sessions to the Verde Valley community twice a month. Lessons on water quality, habitat restoration, native flora and fauna, traditional-

ly grown foods, and the prehistoric Sinagua allow the children to practice stewardship and volunteerism as they learn. Parents Julie and Jay Mills, who brought their two sons, express that the program offers them support. "We're trying to raise them to have a conscience about the planet," they said.

While these lessons about nature will hopefully become valuable, lifelong memories and tools the kids can continue to develop, the Green Rangers program hinges on learning through hands-on, field experience. Biologist and Outreach Coordinator Deborah DeCovis stresses the importance of engaging the children in safe, outdoor fun—something that moves the kids both physically and intellectually from the couch.

As a Student Conservation Association intern for the National Park Service, I have listened to countless knock-knock jokes and transformed into a human climbing post. I have become a rabbit, a leech, a wolf, and a flower on various Saturdays, all in the name of environmental education. These outdoor lessons seek to engage the whole of a child's universe—the wonder and humor, land and animals, technology and imagination. As always, the true values of education cannot be canned in a textbook, but instead stem from fluid engagement in the field.

Youth outreach field programs have been a recent emphasis for the natural resource staff at Montezuma Castle and Tuzigoot National Monuments. In the past year, Outreach Coordinator DeCovis has engaged over 1,000 students and parents in programs at Beaver Creek Elementary, Camp Verde High School, the Central Arizona Boys and Girls Club, and the Yavapai-Apache Nation. And she has created programs of her own, like the Green Rangers series.

Superintendent Kathy Davis, reflecting on her own childhood adventures in Nevada, commented that the Green Rangers program and other outreach ventures are a "personal growth experience for the kids that will hopefully last them a lifetime." And we hope it does—we hope the field lessons and games we play will sustain these young rangers as they navigate twenty-first century adolescence, swiftly advancing technologies, and a shrinking natural world.

By Ryeon Corsi
Student Conservation Association

The Secret World of Rattlers

NPS and Northern Arizona University explore the fascinating lives of rattlesnakes

Yes, there are rattlesnakes in the Verde Valley. At Montezuma Castle and Tuzigoot, many have been the subjects of a long-term research project conducted by Dr. Erika Nowak of Northern Arizona University. By capturing, releasing, and tracking individual snakes for nearly two decades, Dr. Nowak's study has furthered our understanding of these secretive and amazing creatures.

It's unlikely, but one may see a rattlesnake here any time of year. A valuable component of the southwestern environment, they play a vital role in controlling rodent populations. Their venom is primarily for killing and digesting prey, so they are not eager to bite people. They avoid predators, including us, using camouflage—if the snake can evade detection, it can save its venom for hunting.

While rattlesnakes can be dangerous, it is possible to have an enriching encounter with this iconic symbol of the desert. Here are some tips to make your next sighting memorable for all the right reasons:

- Treat the snake with respect. Do not throw rocks or poke it with a stick.
- Give it some space. About six feet (two meters) is the minimum for safety.
- If a snake wants to retreat, don't chase it.
- If you hear a rattle but do not see the snake, do not back up. Turn around and calmly walk forward in the direction from which you came. You don't want to trip and fall on a rattlesnake because you couldn't see where you were going.
- Always photograph and observe rattlesnakes from a safe distance.

As a general rule in the desert, remember to never put your hands, feet, or behind anywhere your eyes have not been first. If you are ever bitten by a snake, do not attempt to treat yourself. Many folk remedies do more damage than good. Call 911, and go to the hospital immediately.

Finally, if you find a rattlesnake on park trails, note its location and report the sighting to a ranger as soon as possible. Rangers are trained to capture and relocate rattlesnakes in a way that is safe for them and the public.

By Ryan Isaac
Student Conservation Association

Exotic Plant Round-Up

Quick, name a familiar symbol of the American southwest!

Some imagine wild mustangs in wide, open spaces. Others picture the sun-bleached cow skulls and crimson sunsets of a Georgia O'Keeffe painting. Perhaps you think of a rugged cowboy, or a skeletal tumbleweed bouncing aimlessly over a parched plain.

Actually, it ought to be said that tumbleweeds "ain't from around here." Did you know this long-standing avatar of America's deserts comes from Eurasia? That's right: the famous tumbleweed is also known as Russian thistle. When one breaks loose and bounces across the desert, every brush with another object jostles loose more seeds—up to 200,000 of them!—spreading this invasive homesteader far and wide.

Unfortunately, tumbleweed isn't the only invasive plant at Montezuma Castle and Tuzigoot National Monuments. There are also fireweed, cheatgrass, London rocket, and many others! This posse of plants claim squatters' rights by spreading and growing so quickly that native plants can't compete and are sometimes pushed right off the land. When that happens, the effects can ripple throughout the entire ecological community, from plants to plant-eaters, all the way up to predators like coyotes, bobcats, and pumas.

As part of its mission to preserve America's outdoor heritage, the National Park Service is working to reduce the spread of invasive plants and maintain the health of natural areas in the parks. During your visit to Montezuma Castle and Tuzigoot National Monuments, you may see this science in action. In 2010 park biologists and volunteers will begin restoring native grasses and shrubs along the trail at Montezuma Castle. Staff at Montezuma Well are already in the second year of a project to restore habitat on historic farms along Wet Beaver Creek. At Tuzigoot biologists are developing strategies to control fireweed around the perimeter of Tavasci marsh.

Invasive exotic plants represent one of the most significant threats to natural resources in national parks. However, the science you see today helps us gather new information, detect and control the invasive plants, and develop long-term policies to send these bad guys into the sunset.

By Case Griffing
National Park Service

FLAGSTAFF AREA MONUMENTS

Located within a 90-minute drive of the Verde Valley are three strikingly beautiful and culturally significant national monuments. Sunset Crater Volcano, Walnut Canyon, and Wupatki National Monuments are not to be missed, for each tells a different chapter of the unique history of Native peoples in the Southwest and preserves the habitats they called home.



Sunset Crater Volcano National Monument

People must have been warned by tremors and earthquakes before red-hot rocks exploded from the ground and rained down on their pit houses and farmland. Perhaps some stayed to watch as their homes and farmland were buried under slow-moving lava flows. Most fled, taking their possessions with them.

Billowing ash, falling cinders, and forest fires blackened the land and the daytime sky. At night, the horizon glowed fiery red. A large fire fountain, accompanied by lightning and a tremendous roar, could be seen and heard for hundreds of miles. It must have been the loudest noise these people had ever experienced.

When their world again grew quiet, people faced a dramatically altered land. New mountains, including the 1,000-foot-high (305 m) cinder cone now known as Sunset Crater, stood where open meadows and forests had been. Black cinders blanketed the region.

Life in the shadow of the volcano was changed profoundly and forever. Some people relocated to nearby Wupatki and Walnut Canyon.

Nine-hundred years later, Sunset Crater is still the youngest volcano on the Colorado Plateau. The volcano's red rim and the dark lava flows seem to have cooled and hardened to a jagged surface only yesterday. As plants return, so do the animals that use them for food and shelter. And so do human visitors, intrigued by this opportunity to see nature's response to a volcanic eruption.

Walnut Canyon National Monument

Hike down into Walnut Canyon and walk in the footsteps of the people that lived here over 900 years ago. Under limestone overhangs, the Sinagua built their homes. These single-story structures, cliff dwellings, were occupied from about 1100 to 1250. Look down into the canyon and imagine the creek running through. Visualize a woman hiking up from the bottom with a pot of water on her back. Imagine the men on the rim farming corn or hunting deer. Think of a cold winter night with your family huddled around the fire...

Come out and see millions of years of history unraveled in the geology of the rocks. Listen to the Canyon Wren and enjoy the Turkey Vultures soaring above. And if you look closely, you may even see an elk or a javelina. Different life zones overlap here, mixing species that usually live far apart. In this canyon, desert cacti grow alongside mountain firs. It is a truly beautiful place to see!

And it is a sacred place. The people that lived here moved on to become the modern pueblo people of today. Walnut Canyon is one of their ancestral homes. Travel through quietly and carefully, and please, leave no trace.



Wupatki National Monument

For its time and place, there was no other pueblo like Wupatki. Less than 800 years ago, it was the tallest, largest, and perhaps the richest and most influential pueblo around. It was home to 85–100 people, and several thousand more lived within a day's walk. It was also built in one of the lowest, warmest, and driest places on the Colorado Plateau. What compelled people to build here?

Human history here spans at least 10,000 years. But only for a time, in the 1100s, was the landscape this densely populated. The eruption of nearby Sunset Crater Volcano a century earlier probably played a part. Families that lost their homes to ash and lava had to move. They discovered that the cinders blanketing lands to the north could hold moisture needed for crops.

As the new agricultural community spread, small and scattered homes were replaced by a few large pueblos, each surrounded by many smaller pueblos and pithouses. Wupatki, Wukoki, Lomaki, and other masonry pueblos emerged from the bedrock. Trade networks expanded, bringing exotic items like turquoise, shell jewelry, copper bells, and parrots. Wupatki flourished as a meeting place of different cultures. Then, by about 1250, the people moved on.

The people of Wupatki came here from another place. From Wupatki, they sought out another home. Though no longer occupied, Wupatki is remembered and cared for, not abandoned.



Become a Junior Ranger!

Kids
Corner

Can you tell a mano from a metate?

What kind of lizard was that one you spotted along the trail?

How did those people get up into the Castle, anyway?

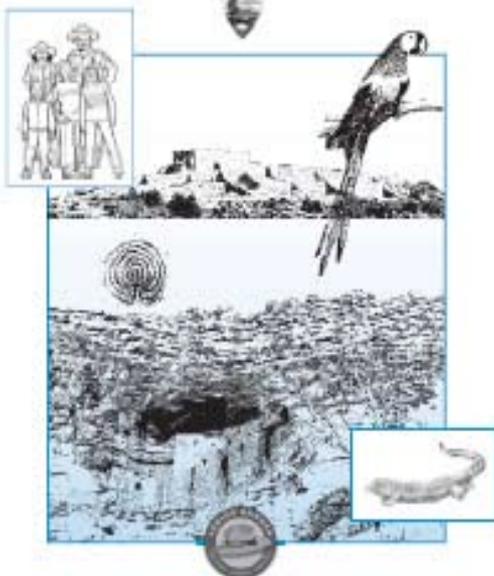
If you've ever asked yourself any of these questions, or if you think you know the answer to them, you'd make a great Junior Ranger!

Ranger BINGO!

Check off all items in a row (diagonally, horizontally, or vertically) as you find them. Please do not collect the items. Leave them where you found them. You may have to visit more than one site (Montezuma Castle, Montezuma Well, or Tuzigoot) to see all of these! For an extra challenge, try and get them all for a BLACKOUT!

 Rock Squirrel	Beaver Creek or the Verde River	 raven	evidence of animal life	 NPS arrowhead
A 3-D Model of Montezuma Castle	 hiking trail	 Arizona Sycamore	A Prehistoric Artifact	park newspaper: <i>Echoes</i>
 wildflower	 Lizard	 Visitor Center or Ranger Station	picnic area	 Pinacate Beetle
Another Junior Ranger	Cliff Dwelling	Prehistoric Irrigation Canal	 recycling bin	 Yucca
 Snake	 Prickly Pear Cactus	 Meet a Park Ranger	Hilltop Pueblo	information sign 

Montezuma Castle and Tuzigoot National Monuments



Ask a park ranger at any of the three monument sites for a junior ranger booklet. It's full of activities that will help you explore your national monuments and have fun learning about nature and the people who lived here long ago! When you're done with your booklet, show it to any park ranger. We'll look it over, then swear you in as a Junior Park Ranger for Montezuma Castle and Tuzigoot National Monuments. You even get an official badge! You can collect different badges at most national parks and monuments across the country.

When you get home, you can also become a Webranger. To sign up, go to www.nps.gov/webrangers.

LOCAL FRIENDS & PARTNERS

YAVAPAI-APACHE
NATION



ARIZONA STATE PARKS

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

Dead Horse Ranch State Park

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

HOURS: Ranger Station: 8 a.m. to 5 p.m. daily;
Trails: 8 a.m. to 5 p.m. (Oct–Mar);
8 a.m. to 6 p.m. (Apr); 8 a.m. to 8 p.m.
(May–Sep).

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

ADMISSION: \$7 per vehicle (1–4 adults) or \$3 per
individual.

PHONE: (928) 634-5283

Jerome State Historic Park

Jerome's modern history began in 1876 when three prospectors staked claims on rich copper deposits. By the early 20th century, Jerome was home to the largest producing copper mine in Arizona territory. Visitors can tour parts of the 1916 James S. Douglas mansion and view outdoor mining exhibits. A picnic area is available, and leashed pets are permitted outside. Call for details.

HOURS: 8:30 a.m. to 5 p.m. Thurs–Mon; closed
Christmas Day

ADDRESS: 100 Douglas Road, Jerome, AZ 86331
ADMISSION: \$5 for ages 14 and up, \$2 for ages
7–13, free for ages 6 and below.

PHONE: (928) 634-5381

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 on leash in most areas of the park, but not in the swimming areas.

HOURS: Day use only. 8 a.m. to 5 p.m. No entry
permitted after 4 p.m.

ADDRESS: 6871 North Highway 89A,
Sedona, AZ 86336 (in Oak Creek Canyon).

ADMISSION: \$20 per vehicle (1–4 adults)
Memorial Day through Labor Day.
Otherwise \$10 per vehicle (1–4 adults). \$3
per individual.

PHONE: (928) 282-3034

Red Rock State Park

A nature preserve and environmental education center just 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. Call for details.

HOURS: Visitor center: 8 a.m. to 5 p.m. daily.

Trails: 8 a.m. to 5 p.m. (Oct–Mar);
8 a.m. to 6 p.m. (April and Sept); 8 a.m. to
8 p.m. (May–Aug).

ADDRESS: 4050 Red Rock Loop Road, Sedona,
AZ 86339

ADMISSION: \$10 per vehicle (1–4 adults) or \$3
per individual.

PHONE: (928) 282-6907



Fort Verde State Historic Park

General George Crook's U.S. 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: 8 a.m. to 5 p.m. Thurs–Mon; closed
Christmas Day

ADDRESS: 125 East Hollamon Street, Camp
Verde, AZ 86322

ADMISSION: \$4 for ages 14 and up, \$2 for ages
7–13, free for ages 6 and below.

PHONE: (928) 567-3275



ARIZONA GAME AND FISH

Page Springs Hatchery

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, including a walk 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: 7 a.m. to 3:30 p.m. daily; closed

Thanksgiving and Christmas Day
ADDRESS: 1600 North Page Springs Road,
Cornville, AZ 86325

ADMISSION: no charge

PHONE: (928) 634-4805

U.S. FOREST SERVICE



Palatki Heritage Site

Cliff dwelling and pictograph trail interpreting the prehistoric Sinagua culture. Reservations are required because the parking lot only has 16 spaces.

HOURS: 9:30 a.m. to 3 p.m. daily; closed

Thanksgiving and Christmas Day
ADMISSION: fee; Red Rock, Interagency Annual,
Senior, or Access passes accepted.

PHONE: (928) 282-3854

Honanki Heritage Site

Cliff dwelling with associated rock art, interpreting the prehistoric Sinagua culture.

HOURS: 9:30 a.m. to 3 p.m. daily; closed

Thanksgiving and Christmas Day
ADMISSION: fee; Red Rock, Interagency Annual,
Senior, or Access passes accepted.

PHONE: (928) 300-8886

V-V Heritage Site

Rock art site highlighting over 1200 petroglyphs. There is a small visitor center and gift store.

HOURS: 9:30 a.m. to 3 p.m. daily; open

Friday–Monday; closed Thanksgiving and
Christmas Day

ADMISSION: fee; Red Rock, Interagency Annual,
Senior, or Access passes accepted.

PHONE: (928) 282-3854

Yavapai-Apache Tourism Department

Information on activities through the Yavapai-
Apache Nation.

ADDRESS: 353 West Middle Verde Road,
Camp Verde, AZ 86322

PHONE: (928) 567-1004

WEB: www.yavapai-apache.org

CHAMBERS OF COMMERCE

Camp Verde Chamber of Commerce

385 South Main, Camp Verde, AZ 86322
(928) 567-9294

WEB: www.visitcampverde.com

Clarkdale Chamber of Commerce

P.O. Box 161, Clarkdale, AZ 86324
(928) 634-9438

WEB: www.clarkdalechamber.com

Cottonwood Chamber of Commerce

1010 South Main, Cottonwood, AZ 86326
(928) 634-7593

WEB: www.cottonwoodchamberaz.org

Jerome Chamber of Commerce

P.O. Box K, Jerome, AZ 86331
(928) 634-2900

WEB: www.jeromechamber.com

Sedona-Oak Creek Chamber of Commerce

331 Forest Road, Sedona, AZ 86339
(800) 288-7336

WEB: www.sedonachamber.com

HISTORICAL SOCIETIES & MUSEUMS

Camp Verde Historical Society and Museum

PHONE: (928) 567-9560

Sedona Historical Society & Heritage Museum

PHONE: (928) 282-7038

WEB: www.sedonamuseum.org

Clemenceau Heritage Museum

PHONE: (928) 634-2868

WEB: www.clemenceaumuseum.org

Clarkdale Heritage Museum

PHONE: (928) 649-1198

WEB: www.clarkdaleheritage.org

WESTERN NATIONAL PARKS ASSOCIATION



Cultures of the Southwest

70 Common Cacti of the Southwest
Pierre Fisher

This perennial best-seller describes and depicts 70 common cacti species of the southwestern deserts. 80 pages. \$9.95

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Halka Chronic

Explains the spectacular geology of Arizona as seen from a car at specific points along highways throughout the state. 321 pages. \$18.00

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Covers the Four Corners area outlining Indian reservations, national parks and monuments, and geologic features. \$4.95

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Comprehensive list of over 60 selected trails highlighting hiking, camping, mountain bike trails, and equestrian trails. Laminated topo map with elevation gains for all trails. \$12.00

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Robert and Florence Lister

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Each booklet in this five-part series provides an introduction to the evolution, achievements, and lasting legacy of a distinct ancient culture. Please specify Ancestral Puebloan, Hohokam, Mogollon, Salado, or Sinagua. 16 pages. \$3.95 each. Complete Set \$15.95.

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50 Common Birds of the Southwest

Richard Cunningham

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Montezuma Castle National Monument

Susan Lamb

This book presents an overview of the early human history at Montezuma Castle National Monument, including Montezuma Well. 16 pages. \$4.95.

Tuzigoot National Monument

Rose Houk

This book presents an overview of the early human history at Tuzigoot National Monument. 16 pages. \$3.95

Ruins Along The River

Carle Hodge

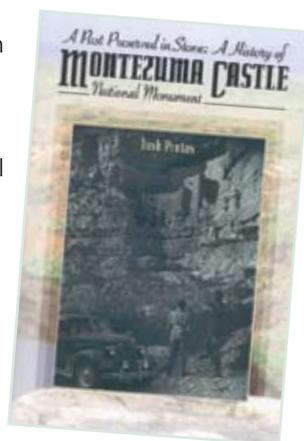
A study of the Sinagua culture in the Verde Valley. Includes Montezuma Castle National Monument, including the Montezuma Well Unit, and Tuzigoot National Monument. Also mentioned are Fort Verde, Jerome, Sedona, and the Flagstaff area national monuments. 48 pages. \$3.95

The Parks In-Depth

A Past Preserved in Stone: A History of Montezuma Castle National Monument

Josh Protas

An in-depth administrative history of Montezuma Castle National Monument, including Montezuma Well. Contains historic photographs. 256 pages. \$21.95



Bookstore Sales

Bookstore sales are WNPA's primary source of income, and this income is used to support National Park Service interpretive programs. The following publications, available from WNPA, are recommended for making the most of your visit to the Verde Valley national monuments in central Arizona.

For our full catalog, stop by our visitor center bookstore, or browse online at www.wnpa.org.

Introducing the Parks

The People of Montezuma Castle and the Verde Valley

Mary Ontiveros

The Sinagua culture thrived in the Verde Valley of Arizona for nearly eight centuries. This book gives readers a closer look at the people who lived there for generations: how they farmed, traded, and constructed the multi-story dwelling explorers named Montezuma Castle. 20 pages. full color, 6"x9". \$2.00

New! The Guide to National Parks of the Southwest

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This is your personal guide to the Southwest and the many opportunities for discovery in its national parks. 88 pages. \$12.95

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