

National Park Service  
U.S. Department of the Interior

Montezuma Castle – Tuzigoot National Monuments  
Arizona

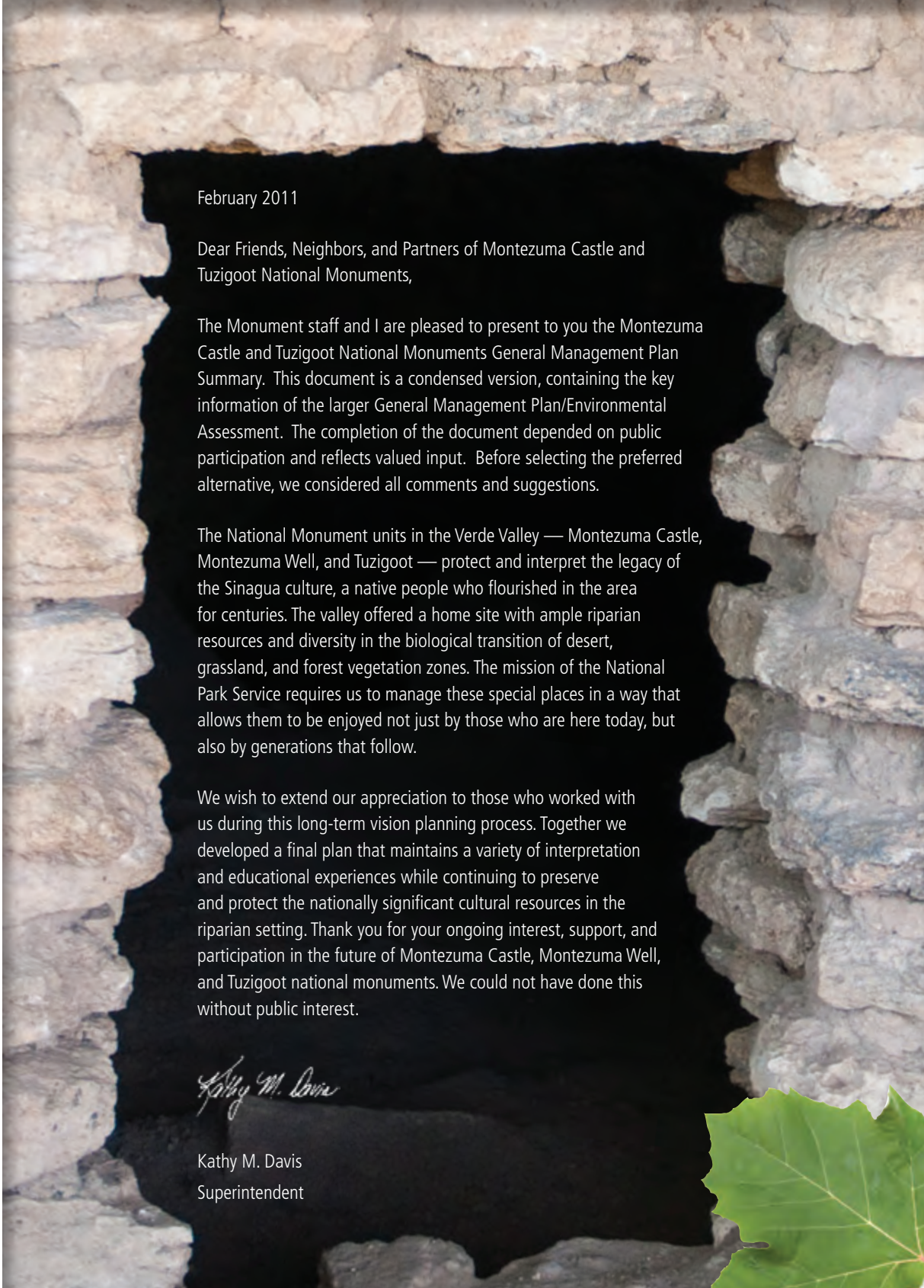


# MONTEZUMA CASTLE TUZIGOOT NATIONAL MONUMENTS

General Management Plan /  
Environmental Assessment Summary







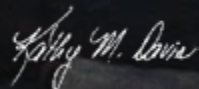
February 2011

Dear Friends, Neighbors, and Partners of Montezuma Castle and Tuzigoot National Monuments,

The Monument staff and I are pleased to present to you the Montezuma Castle and Tuzigoot National Monuments General Management Plan Summary. This document is a condensed version, containing the key information of the larger General Management Plan/Environmental Assessment. The completion of the document depended on public participation and reflects valued input. Before selecting the preferred alternative, we considered all comments and suggestions.

The National Monument units in 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. The valley offered a home site with ample riparian resources and diversity in the biological transition of desert, grassland, and forest vegetation zones. The mission of the National Park Service requires us to manage these special places in a way that allows them to be enjoyed not just by those who are here today, but also by generations that follow.

We wish to extend our appreciation to those who worked with us during this long-term vision planning process. Together we developed a final plan that maintains a variety of interpretation and educational experiences while continuing to preserve and protect the nationally significant cultural resources in the riparian setting. Thank you for your ongoing interest, support, and participation in the future of Montezuma Castle, Montezuma Well, and Tuzigoot national monuments. We could not have done this without public interest.



Kathy M. Davis  
Superintendent





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# CHAPTER 1 — INTRODUCTION









# INTRODUCTION



Montezuma Well

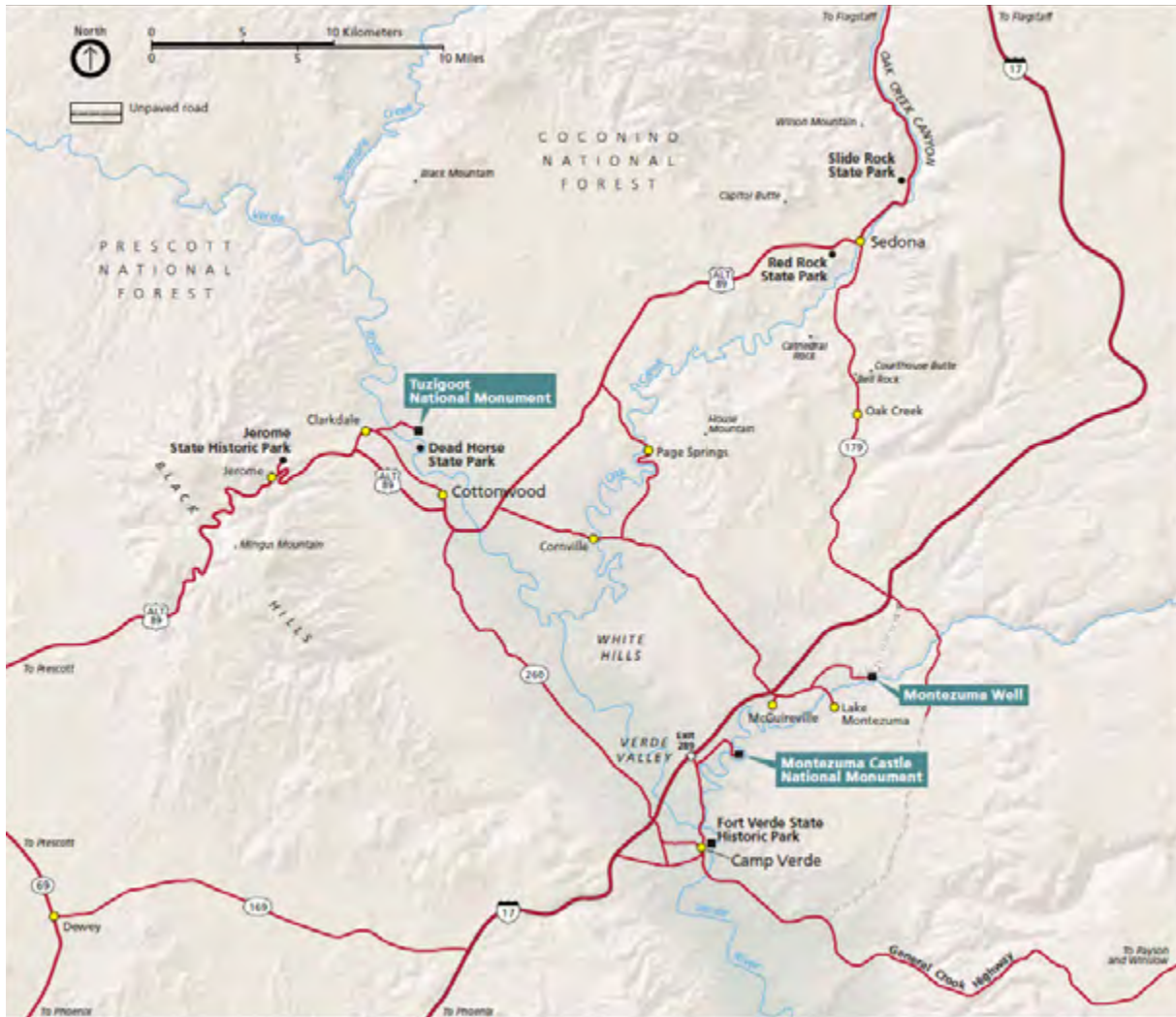
Hundreds of species of insects, arachnids and other invertebrates find a home in the unique ecosystems of Montezuma Castle National Monument. These include harmless tarantulas as well as highly venomous black widow spiders and bark scorpions. However, these often misunderstood desert inhabitants pose little threat to humans. The invertebrates found at Montezuma Castle and Montezuma Well reveal extraordinary evolutionary adaptations for survival in an arid desert environment.

## OVERVIEW OF MONTEZUMA CASTLE AND TUZIGOOT NATIONAL MONUMENTS

**M**ontezuma Castle National Monument (including Montezuma Well) and Tuzigoot National Monument are National Park Service (NPS) units in central Arizona. The monuments are within a 30-minute drive of each other and are managed collectively under a single administrative organization (see **FIGURE 1** for a vicinity map).



Bark scorpion



**Figure 1. Vicinity Map of Montezuma Castle National Monument, Montezuma Well Site, and Tuzigoot National Monument.**

Montezuma Castle National Monument was established in 1906 by presidential proclamation under the authority of the Antiquities Act (Presidential Proclamation No. 696, December 8, 1906, 34 Stat. 3265; see Appendix A). Since then, Congress passed legislation in 1937, 1959, 1978, and 2003 expanding the boundary of the monument to better protect the natural and cultural resources adjacent to the cliff dwellings. The legislation states it “is of the greatest ethnological value and scientific interest.” Today, Montezuma Castle National

Monument contains 1,004 acres within its boundary. This includes the 940-acre castle site and the 278-acre well site.

Montezuma Castle National Monument is approximately 3 miles east of I-17 exit 289. The monument preserves a prehistoric structure known as Montezuma Castle, which is a 20-room, five-story cliff dwelling built by the prehistoric Sinagua culture. It is one of the best-preserved cliff dwellings in North America. The National Monument has a visitor center, a bookstore, and a museum



that include exhibits and artifacts depicting the lifestyle, history, and culture of the Sinaguan, who built Montezuma Castle. The Castle itself is not open to the public, but a trail below the Castle offers many panoramic viewpoints. The monument also contains restrooms, a picnic area, and a parking facility for cars, buses, and recreational vehicles. An administrative building housing ranger operations and housing are south of the parking facility.

Montezuma Well, located approximately 4 miles east of I-17, exit 293, was added in 1943 as a 261-acre detached unit of Montezuma Castle National Monument through an act of Congress (October 19, 1943, 57 Stat. 572; see Appendix A). In 1959, 17 acres were authorized by an act of Congress (June 23, 1959, 73 Stat. 108; see Appendix A) “to facilitate the administration and protection” of the monument. Montezuma Well preserves an unusual example of a spring-fed, large, limestone sink and archeological sites representing the prehistoric Sinagua as well as Apache and Yavapai people. Montezuma Well contains a picnic area, restrooms, hiking trails, a visitor contact station, bulletin boards displaying visitor information, a small parking area, an administrative building and two ranger houses.

Tuzigoot National Monument was established by Presidential Proclamation No. 2344 on July 25, 1939 (see Appendix A). The boundary was expanded by an act of Congress in 1965 and again in 1978. Additional lands were conveyed through a land exchange in 2005. The establishing presidential proclamation states that “certain Government-owned lands (43 acres) in the state of Arizona have situated thereon historic and prehistoric structures and other objects of historic or scientific interest, and . . . it would be in the public interest to reserve such lands as a national monument to be known as Tuzigoot National Monument.” This 382-acre monument is approximately 20 miles northwest of I-17 exit 287 (Arizona Highway 260), near the town of Clarkdale, Arizona. Tuzigoot contains a visitor center and museum with a collection of Sinaguan artifacts, a nature trail, restrooms, an administrative building, a parking facility, and a 110 room prehistoric pueblo.

See Appendix B for maps of the national monuments.



# PURPOSE AND NEED FOR THE GENERAL MANAGEMENT PLAN / ENVIRONMENTAL ASSESSMENT

**G**eneral management plans are needed to meet the requirements of the National Parks and Recreation Act of 1978 and NPS policy, which mandate development of a general management plan for each unit in the national park system. As the responsible agency, the National Park Service prepared the general management plan to establish and articulate a management philosophy and framework for long-term (15 to 20 years) decision-making and problem solving in units of the national park system. The general management plan provides comprehensive, integrated guidance for preserving cultural resources, perpetuating natural systems, providing opportunities for visitor enjoyment and understanding, and establishing the organizational mechanism to accomplish the plan. The General Management Plan for Montezuma Castle and Tuzigoot national monuments was needed because the last comprehensive planning effort for these national monuments was completed in 1975. Since this time, the population of the Verde Valley has increased substantially and continues to grow. This growth has resulted in changes in land use near the monuments. Visitation to the monuments also has increased over the past 30 years, although some declines have occurred within the past decade. Each of these changes has major implications for visitor expectations, how visitors access and use the monuments, facilities needed to support visitor uses, how resources are managed and protected, and how the National Park Service conducts its operations.

In the alternatives that are based on the monuments' mission, purpose, and significance, the plan determines the areas to which resource protection and desired visitor use conditions are applied to achieve the management goals of the monuments. It also serves as the basis for later, more detailed implementation plans, which tier from the general management plan.



The environmental assessment was prepared in compliance with the National Environmental Policy Act to provide the decision-making framework that 1) analyzes a reasonable range of alternatives to meet objectives of the proposal, 2) evaluates potential issues and impacts to the monuments' resources and values, and 3) identifies mitigation measures to lessen the degree or extent of these impacts. Resource topics were included because impacts that may be greater than minor include cultural resources, natural resources, visitor use and experience, socioeconomics, and monument operations. Other resource topics were dismissed because the plan would result in negligible or minor effects.

This document is a summary of the approved *General Management Plan / Environmental Assessment*. For more details, refer to the full, 324-page document by visiting <http://parkplanning.nps.gov>.



## PLANNING ISSUES AND OPPORTUNITIES

**A**n issue is an opportunity, conflict, or problem regarding the use or management of public lands. The general public, NPS staff, and other agencies and organizations helped identify issues and concerns during scoping (early information gathering) for the general management plan. The general management plan helps determine the best mix of resource protection and visitor use beyond what is prescribed by law and policy to preserve the monuments' cultural and natural resources while encouraging visitors and employees to understand and appreciate their value. The following issues and opportunities were identified for Montezuma Castle and Tuzigoot national monuments:


- The plan needs to evaluate whether additional opportunities exist to expand the stories being told at the monuments to link the prehistoric cultures with contemporary people and whether to expand the areas available within the monuments for visitors to explore.
- The plan needs to evaluate how the visitors should interact with the resources of the monuments, including the variety and locations of monument resources that are accessible to visitors and the means of accessing resources.
- The plan needs to evaluate the character and level of development within the monuments and whether to expand existing facilities or construct additional facilities at the monuments to accommodate visitors and monument operations.
- The monuments' existing headquarters and maintenance facilities were outside the monument boundaries. There are two distinct General Services Administration leases on the headquarters and maintenance facilities. The plan needs to examine how best to accommodate these monument management functions.
- The monuments are a small portion of the Verde Valley. The National Park Service needs to work in partnerships with the other land management entities, local communities, tribes, and organizations within the Verde Valley on resource management and visitor use issues and opportunities.
- There are lands within the existing legislated boundaries that have not been acquired. Some of these contain significant resources that, if acquired, would protect additional resources associated with the monuments' purpose. The plan needs to provide guidance for managing these lands if they are acquired. A boundary adjustment study, still under consideration, is beyond the scope of the general management plan.



- The legislated boundary of Tuzigoot National Monument contains approximately 300 acres of mine tailings and other land disturbed by mining activities. The mine tailings do not contain resources related to the purpose and significance of the monument, are recontoured and revegetated but highly disturbed by mining activity, and are contaminated by hazardous substances. The plan needs to evaluate whether the monument boundary should be adjusted to eliminate these tailings areas, while retaining remaining suitable lands.
- Tavaschi Marsh, acquired in 2006, is in a degraded condition and actions to restore the marsh are underway. The long-term objectives for restoration need to be supported within the management framework of the plan.
- Visitation at the monuments has generally increased since the 1940s, peaking at 1.2 million visitors in the mid-1990s. Although visitation has declined since the late 1990s, the population of the surrounding region is growing rapidly, and development of tourism in the area is expected to continue. The present visitor contact station at Montezuma Well is small, outdated, and limited in its ability to serve visitors. Expanded visitor contact would improve Montezuma Well's ability to interpret early regional land use. Each unit is readily accessible from Camp Verde, Cottonwood, Clarkdale, Jerome, and Sedona.
- Currently, there is limited general orientation to all three sites, resulting in a lack of connectedness of the sites and their stories. If visitor interaction with monument resources increased, cultural and natural resources could experience additional effects. New wayside exhibits are being developed to better connect sites with interpretive information.
- The plan analyzes developing new onsite administrative and storage space because the current General Services Administration lease with the Yavapai Apache Nation for maintenance space was expiring. Construction of workspace and storage at the three sites would improve monument operations because it would be more efficient to provide workspace and store equipment within the units that use them most frequently rather than in one central area.
- The National Park Service could acquire private land holdings within the monument boundaries, including land owned by Freeport McMoRan Copper and Gold, Inc. (except for the mine tailings at Tuzigoot, which the monument does not wish to acquire), or work with Freeport McMoRan and other entities to protect the land for public use rather than development.
- The population of and land uses within the Verde Valley are changing. During the life of the general management plan, these changes could have an effect on visitation and resource conditions of the monuments.



## CHAPTER 2 — BACKGROUND

A photograph of a rustic wooden ladder leaning against a wall. The ladder is made of several vertical wooden posts and horizontal rungs, all appearing to be made of natural, unpeeled wood. The wall is made of a textured material, possibly adobe or mud-brick, with a visible grid pattern. At the top of the frame, a window or opening in the wall is brightly lit, casting a warm glow on the ladder and the wall. The overall scene is dimly lit, with the primary light source being the window above.

In 1933, "Castle A," a 45-50 room, pueblo ruin was excavated uncovering a wealth of artifacts and greatly enhancing our understanding of the Sinagua people who inhabited this riparian "oasis" along Beaver Creek for over 400 years.





Beaver Creek.

## FOUNDATION FOR PLANNING AND MANAGEMENT

### Purpose

**P**urpose statements reaffirm the reasons for which the monuments were set aside as units of the national park system and provide the foundation for management and use of the monuments. The statements below are based on the monuments' legislation and legislative history and on NPS policies.

The purposes of Montezuma Castle and Tuzigoot national monuments are as follows:

- Preserve and manage prehistoric and historic structures and their related resources within Montezuma Castle, Montezuma Well, and Tuzigoot
- Protect and manage ecological processes and conditions related to the mix of desert and riparian habitats to maintain sustainable cultural and natural landscapes
- Promote stewardship through education and interpretation of continuing cultural adaptations to a desert environment



Desert tarantula



## Significance

Significance statements build on the monument’s purpose and clearly state why, within a national context, the monument’s resources and values are important enough to warrant the designation as a national park unit. These statements identify the resources and values central to managing the area and express the importance of the area to our natural and cultural heritage.

The primary significance of Montezuma Castle and Tuzigoot national monuments is summarized as follows:

- Montezuma Castle is one of the largest, most accessible, and best-preserved Sinaguan cliff dwelling in the Southwest.
- Tuzigoot is one of the largest known pueblos.
- The excavation, restoration, and development of Tuzigoot illustrate Depression-era (Civilian Works Administration, Works Project Administration, and Civilian Conservation Corps) pioneering archeological efforts in the Southwest and were instrumental in the preservation and accessibility of this and other national monuments.
- The monuments’ archeological collections constitute one of the largest artifact assemblages, including trade ware, of the Southern Sinagua culture of the Verde Valley.



Processing a western diamondback rattlesnake outside the Montezuma Castle Visitor Center.

- Montezuma Well is a unique, spring-fed, limestone sink connected to remnants of an extensive prehistoric irrigation system via a natural outlet.
- Because of its unique environment, Montezuma Well has substantial scientific value and contains species not found in any other waters in the world.
- The monuments represent a continuum of land use from pre-Columbian cultures through the present and have enormous learning potential about the relationship between humans and their environment.
- The natural and cultural resources within the monuments are significant to native tribes, as evidenced by oral histories, the archeological record, and continuing practices and beliefs. To this day, eight tribes maintain an association with the monuments.
- Montezuma Castle was among the first four national monuments created through the Antiquities Act of 1906, affording the first federal protection of archeological resources.

## Fundamental Resources and Values

Fundamental resources and values are a monument’s attributes — its features, systems, processes, experiences, stories, scenes, sounds, smells, opportunities for visitor enjoyment, or others — that are critical to achieving the monument’s purpose and to maintaining its significance. Other important resources and values are additional monument attributes that are noteworthy but not related to the monument’s purpose and significance.

Fundamental resources and values warrant primary consideration during planning and management or are important to monument management and planning.



The fundamental resources and values for the Montezuma Castle and Tuzigoot national monuments are grouped into the following three categories: cultural connectivity, structures and related resources and values, and natural features.

**Cultural Connectivity.** The cultural connectivity category lists the fundamental resources and values that support an understanding of the monuments’ role within larger geographic networks of exploration, settlement, resource development, and trade from prehistoric time to today. The fundamental resources and values in this category also support an understanding of continuing cultural adaptation to the desert environment.

- The vistas at the monuments that allow visitors to experience and understand the line-of-sight relationships among the prehistoric pueblos that were regularly spaced, approximately 1.8 miles apart, along the major drainages of the Verde Valley. The vistas make it possible to see pueblos (e.g., Sacred Mountain and Thoeny at Montezuma Well, the Salt Mine Pueblo at Montezuma Castle, and Bridgeport Pueblo, Tuzigoot Extension, and Hatalacva at Tuzigoot).
- The connection of structures within the monuments boundaries that reveal patterns in prehistoric land use and the related opportunity to contrast the similarities and differences in land use to human’s relationship with the environment from prehistoric to modern times.
- The resources and opportunities to understand the role of the Verde Valley as a major trading hub and an exporter of argillite, salt, and copper derivatives.
- The stories, oral histories, and resources revealing the role of the Verde River, Montezuma Well, Tavasci Marsh, Beaver Creek, and Wet Beaver Creek in prehistoric and historic trade, travel, exploration, and settlement of the area.



Olla at the Tuzigoot Museum.



Montezuma Castle.

### Structures and Related Resources and Values.

The structures and related resources and values category lists the fundamental resources and values that support preservation and understanding of the prehistoric and historic structures and related resources and values of the monuments.

*Montezuma Castle* — The prehistoric Sinagua structures and related resources of the Castle, including four cliff dwellings and five rock shelters on the limestone face of the north bank of Beaver Creek, three agricultural sites evidenced by small stone structures in the floodplain of Beaver Creek, one or two room masonry structures, a bedrock mortar site southeast of the Castle in the inner channel of Beaver Creek, and two lithic scatter sites above the Castle and between the Castle’s access road and Highway 17.

The high degree of architectural integrity of the Castle cliff dwelling including the adobe-and-cobble masonry building construction, viga-and-latilla roof construction, and the three-sided alcove niche carved into the limestone cliffs sheltering the cliff dwelling.

*Montezuma Well* — The prehistoric Hohokam and Sinagua structures and related resources, including 22 rock shelters sites within the inside rim of Montezuma Well and the limestone cliffs overlooking arable land or prehistoric irrigation ditches, two pueblos sites on the south rim of Montezuma Well,

several one or two room masonry structures, agricultural features including well-preserved segments of a prehistoric irrigation canal system, artifact scatters, a burial ground, and a prehistoric cobble concentration at the edge of a cliff overlooking the irrigation canal.

*Tuzigoot* — The prehistoric Sinagua structures and archeological evidence used to understand the sociopolitical organization of this large cluster settlement, including Tuzigoot Pueblo on the crest of Tuzigoot Hill and the site of a two-to-five-room masonry structure on the eastern slope of Tuzigoot Hill.

**Natural Features.** The natural features category lists the following fundamental resources and values that support protection and understanding of the significant natural features and ecological processes of the monuments:

- The unique hydrology and geology of the monuments, including the spring-fed, large, limestone sink of Montezuma Well; the spring-fed Tavasci Marsh draining onto the fields below; the limestone formations of the monuments; Beaver Creek; Wet Beaver Creek; and the Verde River.
- Special species at Montezuma Well, including *Kinosternon sonoriense* (Sonoran mud turtle), *Hyaella montezuma* (amphipod), and *Erpobdella montezuma* (leech).
- The ecological processes and conditions related to the integration of desert and riparian landscapes.



**Other Important Resources and Values.** The monuments also have the following noteworthy resources and values that are less than “fundamental,” but that remain important.

For cultural connectivity, one noteworthy resource and value is the partnerships with tribes, adjacent land owners, and local private and public agencies.

For structures and related resources and values, additional and important structures include the structures (museum and offices, storage tool house, pump house, and retaining wall) and pioneering archeological technologies developed at Tuzigoot by the Works Progress Administration and Civilian Conservation Corps. They also include structures and site features associated with 19th century homesteading activities, including the Back Cabin, the smokehouse structure, and irrigation ditch.

In addition, important natural features include the following:

- The Verde River, Beaver Creek, and Wet Beaver Creek that function as wildlife corridors and habitat for birds and mammals
- Mesquite bosques found at the Montezuma Well and Tuzigoot sites
- Night sky vistas at the Montezuma Well and Castle sites
- Open space for recreation at Montezuma Well

### **Primary Interpretive Themes**

Primary interpretive themes are the key ideas through which the monuments’ resource values are conveyed to the public. They connect monuments’ resources and values to the purpose and significance, providing

the building blocks on which the interpretive program is based. The primary interpretive themes for Montezuma Castle and Tuzigoot national monuments are the following:

- Land use patterns and human settlement of the Verde Valley illustrate the continuum of occupation in the Southwest and demonstrate how contemporary cultures are linked to, and identify with, this place.
- Riparian areas of the Verde Valley support a diversity of plants and animals and serve an important role in scientific discovery and species survival as habitat is lost to development worldwide.
- Montezuma Castle and Tuzigoot national monuments serve as benchmarks of pioneering archeological efforts in the Southwest and demonstrate evolving scientific inquiry, methods, and interpretations that help us understand past human experiences and how they inform the present.
- The experiences of people in the Verde Valley demonstrate how, through migration, travel, and trade along natural corridors, cultures influence and affect one another.
- The preservation and interpretation of Montezuma Castle and Tuzigoot national monuments illustrate the NPS mission of protecting exemplary sites that contribute to our national identity while providing authentic places and experiences for people to connect to their heritage.

## Special Mandates and Administrative Commitments

Special mandates and administrative commitments refer to monument-specific requirements. These formal agreements are often established concurrently with the creation of a unit of the national park system and include the following:

- The Beaver Creek Road crosses through the Montezuma Well site of Montezuma Castle. This road is on federal land but is partially maintained by Yavapai County. The National Park Service and the county work collaboratively to ensure that this road is maintained for public transit.
- The National Park Service has a partnership with Western National Parks Association to manage the sales of interpretation-related merchandise, such as books, at the Montezuma Castle and Tuzigoot visitor centers. This partnership is governed by the laws of the state of Arizona and NPS policy. The sale of merchandise provides a service to visitors and provides funds for management of the monuments.

## Servicewide Mandates and Policies

Many management directives are specified in laws and policies guiding the National Park Service and, therefore, are not subject to alternative approaches. For example, there are laws about managing environmental quality (such as air quality, threatened and endangered species, and wetlands), laws governing the preservation of cultural resources (such as the National Historic Preservation Act), and laws about providing public services (such as barrier-free access). A general management plan is not needed to decide, for example, that

it is appropriate to protect endangered species, control exotic species, protect archeological sites, conserve artifacts, and provide access to people with impaired mobility.



Park staff deploying turtle traps at Montezuma Well.

The National Park Service Organic Act (16 *United States Code*, section 1) provides the fundamental management direction for all units of the national park service. In this act, the National Park Service is charged to:

*Promote and regulate the use of the Federal areas known as national parks, monuments, and reservations. . . by such means and measure as conform to the fundamental purpose of said parks, monuments and reservations, which purpose is to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.*

The National Park System General Authorities Act (16 *United States Code*, section 1a-1 *et seq.*) affirms that while all national park system units “though distinct in character, are united through their inter-related purposes and resources into one national park system as cumulative expressions of a single national heritage.” The act makes it clear that the



Organic Act and other protective mandates apply equally to all units of the system. Further, it states that NPS management of park units “shall not be exercised in derogation of the values and purposes for which these various areas have been established.”

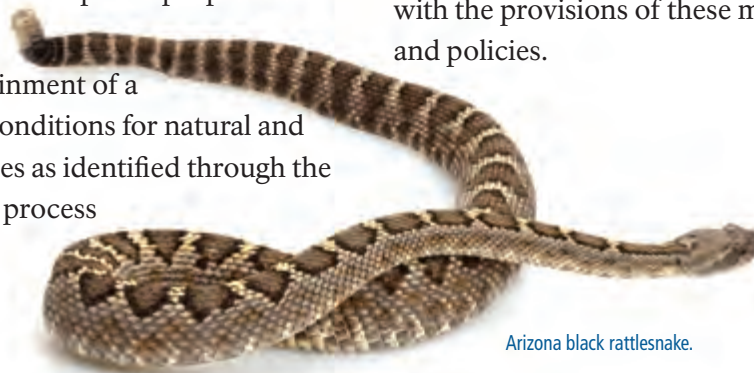
The Organic Act and the General Authorities Act prohibit any impairment of monument resources. Therefore, the general management plan includes determinations of whether the actions associated with the alternatives would result in impairment of the resources that collectively compose the monuments’ “scenery and the natural and historic objects and the wild life therein.”

Unless an activity is required by statute, the National Park Service cannot allow visitor uses in the monuments that would involve or result in any of the following, which are listed in section 8.2 of *NPS Management Policies 2006*:

- Be inconsistent with a park’s purposes or values
- Impede the attainment of a park’s desired conditions for natural and cultural resources as identified through the park’s planning process

- Create an unsafe or unhealthy environment for visitors or employees
- Diminish opportunities for current or future generations to enjoy, learn about, or be inspired by park resources or values
- Unreasonably interfere with
  - » park programs or activities
  - » an appropriate use
  - » the atmosphere of peace and tranquility, or the natural soundscape maintained in wilderness and natural, historic, or commemorative locations within the park
  - » NPS concessioner or contractor operations or services

The National Park Service has established policies for all units under its stewardship. These are identified and explained in the guidance manual, *NPS Management Policies 2006*. All of the alternatives considered in the general management plan, including the no-action alternative, incorporate and comply with the provisions of these mandates and policies.



Arizona black rattlesnake.





## GUIDING MANAGEMENT PRINCIPLES AND STRATEGIES MANAGEMENT

**G**uiding management principles and strategies shape the ways that monument staff manage the fundamental resources and values, within the limitations imposed by servicewide and special mandates, to preserve the monuments' significance, fulfill the monuments' purpose, and achieve the monuments' mission. These principles and strategies guide management under all three alternatives described in the general management plan document.



Some of these principles and strategies describe approaches that the monuments are currently taking; others are not currently being implemented but are consistent with NPS policy and are not controversial. As appropriate, the National Park Service would provide National Environmental Policy Act and National Historic Preservation Act compliance documentation for the implementation of actions under these principles and strategies and of actions taken under the selected alternative.

### Manage and Protect Cultural Resources

The protection of cultural resources is essential for understanding the past, present, and future relationship of people with the area. Montezuma Castle and Tuzigoot national monuments are part of the NPS Vanishing Treasures Initiative, which provides emergency measures to protect structures in imminent danger, evaluates structures to determine treatment priority, and trains a younger workforce in the craft skills needed for archeological preservation.

The strategies enable the National Park Service to preserve unimpaired the monuments' cultural resources while encouraging visitors and employees to understand and appreciate their value.

**Archeological, Historic Structures, Cultural Landscapes, and Ethnographic Resources.** The strategies for managing the archeological, historic structures, cultural landscapes, and ethnographic resources are as follows:

- Continue to survey and document or inventory cultural resources in accordance with the National Historic Preservation Act and other applicable regulations and policies.
- Gather field data regarding archeological resources to develop a more accurate predictive model of prehistoric site distribution and address related research questions.
- Continue to evaluate all identified resources to determine their eligibility for listing in the National Register of Historic Places.
- Use avoidance techniques and other measures to prevent impacts on known significant sites from visitors and project-related disturbances.
- Continue to support research and consultation to increase the understanding of all cultural resources.
- Consistent with Director’s Order 75A, continue to consult with and seek to improve working relations with federally recognized tribes and the state historic preservation officer on surveys, studies, excavations, and actions that potentially could affect cultural resources.
- Continue the preservation and stabilization of prehistoric and historic structures when necessary.

**Museum and Archival Collections.** The strategies for managing museum and archival collections are as follows:

- Continue to maintain a diverse museum collection according to NPS policies. While the collection will continue to contain primarily archeological artifacts and archival documents, managers should look for opportunities to expand holdings of ethnographic, historic biological, paleontological, and geological specimens.
- Continue to improve the conditions of artifact and specimen exhibits and storage according to NPS museum standards.
- Maintain and continue to expand opportunities for researchers to use the artifacts, specimens, and archival materials in the museum collection.

**Relationships with Native Americans.** The National Park Service recognizes that the monuments have long occupied a prominent position for Native Americans in the Verde Valley. NPS staff members will work to ensure that traditional Native American ties to the monuments are recognized and will strive to maintain positive, productive government-to-government relationships with tribes that are culturally associated with the monuments. The viewpoints and needs of tribes will continue to be respected, and issues that arise will be promptly addressed. Native American values will be considered in the management and operation of the monuments. To enhance its relationship with the tribes, the National Park Service will carry out the following strategies and actions:

- Consult regularly and maintain government-to-government relations with federally recognized tribes that have traditional ties to resources within the monuments to ensure productive, collaborative working relationships.
- Continue to identify and deepen the understanding of the significance of the monuments' resources and landscapes to Native American people through cooperative research and sharing.
- Once they have been identified, protect and preserve the sites, resources, landscapes, and structures of significance to the federally recognized tribes as required under federal laws and *Management Policies 2006*.
- Encourage the participation of tribes in protecting the monuments' natural and cultural resources of interest and concern to them.
- Involve tribes in the monuments' interpretation program to promote accuracy of information about Native American cultural values and enhance public appreciation of those values.
- Support the continuation of traditional Native American activities in the monuments to the extent allowed by applicable laws and regulations.



Desert jackrabbit.

- Continue to consult and collaborate with tribes concerning issues and proposed actions that might affect Native Americans.

### **Manage and Protect Natural Resources**

The protection, study, and management of the monuments' natural resources and processes are essential for achieving the monuments' purposes and mission goals. The following principles and strategies will help the National Park Service retain the ecological integrity of Montezuma Castle and Tuzigoot national monuments, including natural resources and processes. These actions will help ensure that the monuments' natural features are unimpaired; the areas continue to be dynamic, biologically diverse environments; and the monuments are recognized and valued as an outstanding example of resource stewardship, conservation, education, and public use.

**Inventory and Monitoring.** Knowing the condition of natural resources in a national park unit is fundamental to the National Park Service's ability to protect and manage that unit. Montezuma Castle and Tuzigoot national monuments are confronted with increasingly complex and challenging issues, and the National Park Service needs scientifically credible data to make management decisions. Inventories involve compiling existing information and collecting new information. Inventories contribute to the accurate statement of the condition of the monuments' resources, especially the natural or unimpaired state.





Redwinged blackbird at Tavasci Marsh.

A long-term ecosystem monitoring program is necessary to enable managers to:

- Make better informed decisions
- Provide early warning of changing conditions in time to develop and implement effective mitigating measure
- Persuade individuals and other agencies to make decisions benefiting the monuments
- Satisfy certain legal mandates
- Provide reference data for relatively pristine sites for comparison with areas outside the monuments
- Evaluate the effectiveness of management actions and obtain more accurate assessments of progress towards management goals

Using monitoring information will increase confidence in managers' decisions and improve their ability to manage natural resources.

Strategies for inventorying and monitoring include the following:

- Continue to develop inventories and long-term monitoring programs to address the status and health of the resources. Identify key indicators of resource or ecosystem conditions and monitor them over the long term to record changes in ecosystem health.
- Conduct inventories to identify vertebrate and invertebrate animal species, vascular and nonvascular plant species, and air, water, and geologic resources in the monuments.
- Continue to participate in the Sonoran Desert Inventory and Monitoring Network. Work with partners and collaborators to inventory resources and monitor vital components of the ecosystem. This will make it possible to better assess the condition of monuments' resources and trends and to develop databases, data analyses, and retrieval tools so that the usefulness of natural resource information can be improved.

**Air Quality.** Montezuma Castle and Tuzigoot national monuments are designated class II areas under the Clean Air Act. The National Park Service has a responsibility to protect air quality under both the 1916 Organic Act and the Clean Air Act. Accordingly, the National Park Service will seek to achieve the best possible air quality in the monuments to (1) preserve natural resources and systems; (2) preserve cultural resources; and (3) sustain visitor enjoyment, human health, and scenic vistas.

Vegetation, visibility, water quality, wildlife, historic and pre-historic structures and objects, cultural landscapes, and most other elements of the monuments’ environment are sensitive to air pollution. The National Park Service will actively promote and pursue measures to protect resource from the adverse impacts of air pollution.

The National Park Service will use the following strategies to address air quality in the monuments:

- Eliminate or reduce emissions associated with administrative and recreational use of the monuments.
- Continue to participate in regional air quality planning and research, and the implementation of air quality standards.
- Protect the monuments’ noteworthy night sky and scenic vistas as natural and cultural resources as an inspiration for visitor enjoyment.

**Natural Sounds.** Visitors have the opportunity in portions of the monuments to experience natural sounds, and the experience of reverence for cultural resources

and other experiential qualities of a cultural monument are sensitive to intrusions of human-caused noise. It is important to protect the natural soundscape for wildlife species as well. A natural, intact soundscape is important for animal communication, territory establishment, courtship and mating, nurturing young, and effective use of habitat. The sounds of modern society are generally confined to the developed areas in the monuments. Guiding principles and strategies will include protecting the monuments’ natural sounds as a contribution to visitor enjoyment and protecting natural sounds for the benefit of wildlife.

**Fire Management.** Prescribed and wildland fire will be used as a tool to meet resource management objectives. The following strategies will ensure that wildland fire will be used effectively to protect resources:

- Develop and maintain a current fire management plan for the monuments.
- Cooperate with adjacent communities, groups, state and federal agencies, and tribes to manage fire in the monuments and the region.
- Use fire as appropriate to maintain and restore native plant species and control nonnative plant species.

**Geologic Features.** Montezuma Castle and Tuzigoot national monuments contain unique landforms. The National Park Service will implement the following policies and strategies to ensure that the geologic features are not substantially degraded and the scenic views remain unimpaired:

- Inventory, map, and monitor geologic features to assess their condition.
- Allow natural geologic processes to proceed unimpeded. Intervention in natural geologic processes will be permitted only when directed by Congress, when necessary in emergencies that threaten human life and property, or when there is no other way to protect cultural resources or critical monument facilities.
- Develop interpretive and educational programs to educate visitors and the public about geology.
- Actively seek to understand and preserve soil resources and prevent to the extent possible its removal or contamination.
- Monitor high-impact visitor use areas and take actions to reduce impacts on geologic resources.

**Paleontological Resources.** Montezuma Castle and Tuzigoot national monuments contain paleontological resources. The following strategies will be implemented to better understand and protect these resources:

- Expand inventorying and monitoring to ensure that these nonrenewable resources are not lost.
  - Manage and study paleontological resources in their geologic context, which provides information about the ancient environment.
  - Partner with federal, state, and local agencies and with academic institutions to conduct paleontological research.
- Manage fossils collected in accordance with the monuments’ collection management plan.

### **Threatened or Endangered Species.**

The Endangered Species Act mandates that agencies, including the National Park Service, promote the conservation of all federally listed threatened or endangered species and their critical habitats within the monuments’ boundaries. Several special-status species, including those that are listed at the federal or state levels, are known to exist in and around the monuments and to use habitats in the monuments. The following actions will be taken to protect special-status species:

- Continue to work with the United States (U.S.) Fish and Wildlife Service (USFWS) and Arizona Game and Fish Department to ensure that the National Park Service’s actions help special status species to recover. If any state- or federally listed or proposed threatened or endangered species are found in areas that would be affected by construction, visitor use, or restoration activities proposed under any of the alternatives in this plan, the National Park Service will consult with the above agencies and will then try to avoid or mitigate any potential adverse impacts.
- Cooperate with the above agencies to inventory, monitor, protect, and perpetuate the natural distribution and abundance of all special-status species and their essential habitats in Montezuma Castle and Tuzigoot national monuments. These species and their habitats will be specifically considered in ongoing planning and management activities.



**Vegetation.** Whenever possible, natural processes will be relied on to maintain native plants and plant communities. Communities will include the diverse species, genetic variability, plant associations, and successional stages representing an ecologically functioning system. The following actions will be taken to manage the monuments' vegetation:

- Inventory plant communities to determine the species present and monitor communities to identify changes in their condition. Continue to inventory rare plants.
- Continue efforts to control invasive plants in the monuments. Continue to work with other federal, state, and local agencies and with private landowners to prevent the spread of invasive plant species across monument boundaries.
- Restore extirpated native species where suitable habitat exists and restoration is compatible with social, political, and ecological conditions.

**Wildlife and Fish.** The following policies and strategies will ensure that native wildlife and fishes are protected:

- Determine the condition of native wildlife and fish through baseline inventories and use long-term monitoring to identify and evaluate changes.
- Perpetuate the native animal life as part of the natural ecosystem. Emphasize minimizing human impacts on native animals and minimizing human influence



Prickly pear cactus.

on naturally occurring fluctuations of animal populations. Rely on ecological processes to control populations of native species to the greatest extent practical.

- Ensure the preservation of populations and habitats of migratory species, such as birds, that use the monuments. Cooperate with others to enhance the preservation of the populations and habitats of migratory species outside the monuments.

- Develop educational programs to inform visitors and the general public about wildlife issues and concerns.
- Manage populations of invasive animal species whenever such species threaten monument resources or public health and when control is prudent and feasible.
- Restore extirpated native species where suitable habitat exists and restoration is compatible with social, political, and ecological conditions.

**Ecosystem Management.** To achieve desired future conditions for monument resources, a regional perspective must be considered, and it must be recognized that actions taken on lands outside the monuments directly and indirectly affect the monuments. Many of the threats to monument resources, such as invasive species and water pollution, come from outside the boundaries. Therefore, an ecosystem approach is required to understand and manage the monuments' natural resources, and must be based on an understanding of the health and condition of the ecosystem.

Cooperation, coordination, and partnerships with agencies and neighbors are crucial to meet or maintain the desired future conditions for the monuments. This approach to ecosystem management may involve many parties and could include cooperative arrangements with federal and state agencies, tribes, or private landowners to address trans-boundary issues.

The following strategies will allow the National Park Service to lead in resource stewardship and the conservation of ecosystem values within and outside the monuments. They also will allow the National Park Service to maintain good relations with owners of adjacent property, surrounding communities, and private and public groups that affect and are affected by the monuments. The strategies involve active involvement of monument staff members to resolve external issues and ensure that the monuments' values are not compromised:

- Continue to seek agreements with the U.S. Forest Service, Arizona State Parks, Arizona Game and Fish Department, Native American tribes, and other owners of adjacent property to protect and enhance the ecosystem.
- Work cooperatively to manage nonnative species in the region.
- Continue to partner with the research community to further the knowledge of ecosystem processes that affect the monuments.
- Continue to work with partners to protect species of concern and reintroduce extirpated native species when practical.

### **External Influences – Private and Public Partners, Owners of Adjacent Land, and Government Agencies**

The National Park Service recognizes that Montezuma Castle and Tuzigoot national monuments are part of a greater area and that actions in the monuments affect the social, political, ecological, and historical condition of the surrounding environment and society. The management of the monuments influences local economies through tourism expenditures and the goods and services the National Park Service purchases to support operations. To ensure that the National Park Service continues to have good relations with area landowners and communities, and to ensure that the monuments are managed actively to resolve external issues and concerns, the following strategies will be implemented:

- Continue to establish partnerships with public and private organizations to achieve the purposes and missions of the monuments. Seek partnerships for resource protection, research, education, visitor enjoyment, visitor access, and management.
- Foster a spirit of cooperation with neighbors and encourage compatible uses of adjacent lands by keeping landowners, land managers, tribes, local governments, and the public informed about monument management activities. Consult periodically with landowners and communities that affect or potentially are affected by the monuments' visitors and management actions.

- Work closely with local, state, and federal agencies and tribal governments. In particular, to meet mutual management needs, maintain a close working relationship with the federally recognized tribes, U.S. Forest Service, U.S. Fish and Wildlife Service, Arizona State Parks, Arizona Game and Fish Department, and owners of adjacent private land.

### **Ensure Sustainability by Employing User (Carrying) Capacity**

General management plans must identify and implement commitments for user capacities for all areas of the monument. The National Park Service defines user capacity as the type and level of visitor use that can be accommodated while sustaining the quality of a monument's resources and visitor opportunities consistent with the purposes of the monument. It is not necessarily a set of numbers or limits, but rather a process involving monitoring, evaluation, actions (managing visitor use), and adjustments to ensure monument values are protected.

The premise behind this process is that with any use of public lands comes some level of impact that must be accepted. Therefore, the National Park Service has the responsibility to decide what level of impact is acceptable and what actions are needed to keep impacts within acceptable limits. Instead of solely tracking and controlling user numbers, the monument staff manages the levels, types, behaviors, and patterns of visitor use and other public uses as needed to manage the condition of the resources and quality of the visitor experience. Monitoring user capacity helps test the effectiveness of management actions and provides a basis for informed adaptive management of public use.





Sacred datura, an evening blooming plant.

The described desired conditions related to resource protection, visitor experiences, and general levels of development form the foundation for user capacity decisions. Specific indicators and standards will be monitored to confirm that the desired conditions are achieved or maintained. Actions that could be implemented if the standards are exceeded are included in either the general management plan or subsequent action plans. An indicator is used to track desired conditions to determine whether they are being met. A standard is basically the minimum acceptable desired condition. User capacity decision-making, which continues indefinitely, involves monitoring the indicators, determining whether standards are met, and taking management actions to minimize impacts when needed. At Montezuma Castle and Tuzigoot national monuments, managers initially will monitor facility-wide use levels and patterns. At the Castle, where crowded conditions that could affect sustainability occasionally occur, managers will apply more specific monitoring and focused management to achieve desired conditions. Adjustments in the type of monitoring at specific sites and throughout the monuments will be made as

needed. Additional information on ensuring sustainability is provided in the “User (Carrying) Capacity” section in chapter 3.

### **Provide Orientation, Interpretation, and Education**

A variety of methods are used to orient visitors at Montezuma Castle and Tuzigoot national monuments, provide information about the monuments, and interpret the monuments’ resources. The National Park Service will continue to pursue strategies to ensure that information is available so that visitors can plan a rewarding visit to the monuments. Increasing outreach and educational programs will help connect diverse audiences to the monuments’ resources, build a local and national constituency, and gain public support for protecting the monuments’ resources. Continuing to provide interpretation opportunities will build emotional, intellectual, and recreational ties with the monuments and their cultural and natural heritage.

The strategies for managing orientation, interpretation, and education will be as follows:

- Continue to emphasize providing effective information, orientation, and interpretive services. Use appropriate techniques and technologies to increase the visibility of the National Park Service and its programs and to make people aware of issues facing Montezuma Castle and Tuzigoot national monuments.
- Ensure that interpretive and education programs include key resource issues, management priorities, public safety, and demonstrate standards for interpretive competencies identified and outlined by the NPS Interpretive Development Program.

- Enhance cooperative efforts and partnerships with local communities, public and private agencies, organizations, stakeholders, and land managers in the region so that visitors can better learn about the abundance, variety, and availability of the region’s cultural, recreational, and interpretive opportunities. This will orient visitors about what to do and which attractions to see.
- Provide visitors with the tools and information they need for self-management and how to enjoy the monuments in a safe, low-impact manner.
- Strengthen partnerships with state parks, national parks, educational institutions, and other organizations to enrich interpretive and educational opportunities regionally and nationally.
- Ensure accessibility of opportunities for visitors to form their own intellectual and emotional connections to resource meaning for as many audiences as practical and possible by providing a variety of both personal and non-personal interpretive services.



King snake.

A few desert animals are primarily active during the day, or “diurnal.” These include rock squirrels, chipmunks, lizards, snakes, hawks, and eagles. Many animals have a temperature range in which they are active, so their active times of day adjust to the season. Snakes and lizards go into an active state of torpor during the winter, are active during the day during the late spring and early fall, and become crepuscular during the heat of summer. Many insects also alter their times of activity, which in turn influences the activity of insect eaters.



## CHAPTER 3 — THE PLAN AND ENVIRONMENTAL ASSESSMENT









Montezuma Castle.

## MANAGEMENT ZONES

**M**ontezuma Castle and Tuzigoot national monuments are defined in the establishing legislation, the national monuments' purpose and significance statements, and the servicewide mandates and policies described earlier. Within these parameters, the National Park Service solicited input from the public, NPS staff, other government agencies, tribal officials, and other organizations regarding issues and desired conditions for the national monuments. Planning team members gathered information about existing visitor use and the condition of the national monuments' facilities and resources. They considered which areas of the national monuments attract visitors, and which areas have sensitive resources. Using this information, the planning team developed four management zones and alternatives to reflect the range of ideas proposed by NPS staff and the public.

This chapter describes the management zones and the preferred plan for managing the national monuments for the next 15 to 20 years. Also it describes the affected environment and user carrying capacity.

Management zones define specific resource conditions and visitor experiences to be achieved and maintained in specified areas of the national monuments under each action alternative. Each zone includes the types of activities and facilities that are appropriate in that management zone. The management zones were developed as part of this planning effort and, therefore, are not applied or mapped for the no-action alternative.

In formulating the alternatives, the management zones were placed

Although Montezuma Castle is small in size, many species of animals live here. Birds, mammals, lizards, and insects are seen most frequently, though seasons and weather play a large role in determining what animals are active.

in different locations or configurations on a map of the monuments according to the intent (concept) of each alternative. That is, the alternatives represent different ways to apply the management zones to the national monuments.

Table 1 presents the management zones for Montezuma Castle and Tuzigoot national monuments. Resource conditions, visitor experiences, and appropriate activities and facilities are described for each management zone. Appendix B shows the locations of the management zones for the monuments.

### Park Operations

In this management zone, park operations are emphasized with substantial levels of resource modification and little or no visitor use.

Location examples include: staff housing and sewage lagoons (Montezuma Castle), current housing and maintenance area east of Back cabin (Montezuma Well), and the current housing and maintenance area north of the pueblo (Tuzigoot).



Work at the Experimental Kochia Plot to remove the invasive plant. Source: Case Griffing, NPS.



Tuzigoot's Tavasci Marsh and Black Hills.

### Interpretive Historic

In this management zone, formal, structured education and visitor services are emphasized with high use and resources in good condition.

Location examples include: existing facilities for visitor services (Montezuma Castle), existing roads and two parking lots at Well and picnic area (Montezuma Well), and existing visitor center and trails at pueblo (Tuzigoot).





View of Tuzigoot Pueblo.

### **Interaction and Discovery**

In this management zone, self-exploration and interactive education are emphasized with moderate use and resources in good condition.

Location examples include: corridor along Montezuma Castle Road (Montezuma Castle), area south and west of the picnic area (Montezuma Well), and areas east, north, and south of the pueblo (Tuzigoot).

### **Resources and Research**

In this management zone, resource protection and research are emphasized with limited use and resources in improving or pristine condition.

Location examples include most of the three sites of the national monuments.



View of Montezuma Castle.

**Table 1: Montezuma Castle and Tuzigoot National Monuments Management Zones**

Feature	Park Operations	Interpretive Historic	Interaction and Discovery	Resources and Research
Zone concept	Operations are emphasized with substantial levels of resource modification and little or no visitor use.	Formal, structured education and visitor services are emphasized with high use and resources in good condition.	Self-exploration and interactive education are emphasized with moderate use and resources in good condition.	Resource protection and research are emphasized with limited use and resources in improving or pristine condition.
Natural resource conditions	Natural resources may be modified for NPS operational needs.	Natural resources may be manipulated in small areas to minimize impacts relating to visitor use.	Natural resources may be manipulated to include features to tell the history of the area.	Management is limited to moving toward self-sustaining communities and ecological systems of native plants and animals.
Cultural resource condition	Properties eligible for or listed in the National Register of Historic Places or that fit the Archeological Resources Preservation Act definition of archeological resources are preserved. Additions or modifications are allowed only if they do not adversely affect resource integrity.	Stabilization and intensive preservation maintenance of all resource fabric associated with the National Register-eligible or – listed properties or that fit the Archeological Resources Preservation Act definition of archeological resources is a high management priority. Some modifications to cultural resources to support visitor activities may be appropriate.	Stabilization and intensive preservation maintenance of all resource fabric associated with National Register-eligible or – listed properties or that fit the Archeological Resources Preservation Act definition of archeological resources is a high management priority.	Archeological sites and other cultural resources that are eligible for or listed in the National Register or that fit the Archeological Resources Preservation Act definition of archeological resources are managed for their protection and research.
Hydrologic processes	Natural hydrologic processes are likely to be disturbed to protect infrastructure, but mitigation is used to minimize off-site impacts.	Natural hydrologic processes and water features may be stabilized to control erosion and deposition to protect cultural sites and landscapes.	Natural hydrologic processes and water features are an important component of the historic scene and, to the extent practical, are managed to reflect period conditions.	Natural hydrologic processes are primarily undisturbed except for management needed to repair past damage or protect cultural resources.
Natural sights and sounds	Natural sights and sounds may be compromised by the presence of vehicles and high levels of human activity.	A moderate noise level often occurs, including noise from vehicles and voices. Human-related sights predominate. Natural conditions are less important to the visitor experience than in other zones.	Natural sounds and scenic quality are important to the visitor experience and/or protection of wildlife. Periodic, low-intensity noise comes from vehicles and human voices. Natural sights predominate.	Natural sounds and scenic quality are important. Natural sounds and sights predominate. Intrusions are rare, of low intensity, and mainly from outside the zone (such as vehicle noise).
Tolerance for impacts from human use	Area has a high tolerance for resource impacts.	Area has a moderate tolerance relating to development and visitor use.	Area has a low tolerance relating to development and visitor use.	Area has a very low tolerance to development and visitor use. Resource protection takes precedence.
Visitor experience	Visitor access is restricted.	Amenities and services are available to welcome and orient visitors to the monuments and to support day-use activities. Visitors have a formal, structured, educational experience. Most time spent in this zone is on a hardened, designated route with numerous interpretive message highlighting monument themes.	Visitors experience resources and education opportunities that represent time periods from the Sinaguan culture to the 1860s. Contact with cultural and natural resources provides opportunities for visitor learning, mostly through self-discovery and exploration. Some structured learning aids may be provided, such as trails, signs, and programs.	Access by visitors is highly regulated because of the sensitivity of resources. Guided walks may provide limited access and an in-depth learning opportunity.

**Table 1: Montezuma Castle and Tuzigoot National Monuments Management Zones, Cont.**

Feature	Park Operations	Interpretive Historic	Interaction and Discovery	Resources and Research
Interpretation, education, and orientation	These activities do not occur in this zone.	Formal, structured opportunities are greatest in this area and could include guided programs and contact with roving interpreters. Opportunities for all ages and abilities to learn about monument resources are a high priority. All monument themes are introduced.	Opportunities primarily are self-directed with signs and brochures. Cultural demonstrations linking prehistoric to contemporary cultures could occur. To the extent permissible under section 5.3.5.2.4 of Management Policies 2006, recreated land use scenes, such as prehistoric or historic farming, could be provided to illustrate the historic landscape.	Primarily, these areas would be interpreted indirectly in other areas of the monuments.
Use levels, density, and encounters	Visitor use does not occur in this zone.	High levels of activity predominate with a very high probability of encounters with other visitors and NPS staff. Group activities are handled effectively.	Moderate levels of activity occur in this zone with a moderate probability of encountering other visitors and NPS staff.	Except for a limited number of guided walks, this zone has very low levels of visitor use, low visitor density, and few encounters with others.
Appropriate activities	Visitor use does not occur in this zone.	Activities include walking, natural and cultural resource observation, guided walks, picnicking, and photography. Special events could be allowed with a permit.	Activities include resource education, interpretive walks, natural and cultural resource observation, and sightseeing.	Activities include guided, interpretive hikes; photography; resource observation, and research.
Level of challenge, adventure, and time commitment	Visitor use does not occur in this zone.	This zone provides a low level of challenge and adventure. A short time commitment is needed to experience this zone.	This zone provides a moderate level of challenge and adventure, and requires a moderate time commitment.	A moderate to high time commitment is needed to access and experience this zone. Challenge and adventure are not appropriate users.
Types of facilities	Monument administration facilities in this zone include headquarters, maintenance areas, housing, and other facilities necessary for the management of the monuments.	This zone includes visitor centers, fee stations, comfort stations, picnic areas, roads, parking lots, paved or hardened trails, benches, wayside exhibits, kiosks, and education facilities. Commercial visitor service and facilities could be based in this area. Regulatory and interpretive signs are common.	Facilities in this zone include interpretive signs and natural-surface trails that reflect historic conditions as much as possible. Other facilities, such as farm plots, represent periods of significance.  Improvements that facilitate interpretation and safety are small and blend with the environment.	This zone does not have any development for visitor use.
Visitor management	Visitor activities do not occur in this zone.	Physical controls, such as fencing and barriers, and providing tools for visitor self-management, such as prohibiting climbing, restrict visitor access and accommodate high use while protect resources.	Providing tools for visitor self-management, such as prohibiting climbing, ensure resource protection while accommodating moderate use.	Regulatory controls on visitor access, such as allowing only guided trips or access for approved research, results in low use and ensure resource protection.
Threshold for triggering visitor management actions	Visitor activities do not occur in this zone.	Thresholds are low for safety issues, moderate for resource protection, and moderate for visitor experience.	Thresholds are moderate for safety issues, low for resource protection, and low for visitor experience.	Thresholds are moderate for safety issues, low for resource protection, and high for visitor experience.



## DESCRIPTION OF THE PLAN



### Concept and General Management Strategies

The main emphasis of the plan is to connect the three sites (Montezuma Castle, Montezuma Well, and Tuzigoot) with improved regional orientation to the Verde Valley. Visitors would be introduced to all three sites and their related interpretive themes through coordinated messaging among the three sites. Visitors would travel to the sites to learn about the prehistoric and historic stories associated with human settlement of the Verde Valley.

- The Castle would highlight the architecture of the structure and offer the perspective of life in a cliff dwelling. This alternative would provide spectacular views from below the Castle along Beaver Creek.
- Montezuma Well would highlight the prehistoric and historic farming activities that were possible in the area because of the presence of water.
- Tuzigoot Pueblo would highlight the perspective of daily life in a hilltop pueblo, providing demonstrations and programs associated with the socioeconomic activities of the area.
- Partnerships would be developed and enhanced with Verde Valley organizations, land owners, and government agencies to ensure awareness of the significance of the monuments and the important role that regional activities and land uses can play in the protection of monument resources.

Managers would continue to follow the special mandates, administrative commitments, and servicewide mandates and policies that were described in “Foundation for Planning and Management” in chapter 2.

### Conditions and Actions Common to All Three Sites

Features of the plan that would apply at Montezuma Castle, Montezuma Well, and Tuzigoot include the following.

- Resource management activities would be increased through expansion of the monuments’ resource stabilization program and active participation in the NPS inventory and monitoring program.
- Formal interpretive and education opportunities would be expanded.
- Orientation to the sites and other opportunities in the Verde Valley would be improved through partnerships that focus on coordinated wayfinding, marketing, increased information dissemination, and pre-trip planning services. Visitors would learn about prehistoric and historic human settlements in the Verde Valley and how each of the monument sites and other sites in the region provides opportunities to experience these stories first hand.

- At each site, interpretation through signs, programs, and cultural demonstrations would highlight the major themes.
- The National Park Service could acquire most of the privately owned lands within the legislated boundaries through trade or purchase from willing sellers, except for the mine tailings at Tuzigoot, which would be removed from the legislated boundary. The mine tailings do not contain resources related to the purpose and significance of the monument, and are highly disturbed by mining activity. The monument is particularly interested in acquiring the relatively intact acreage on the bench northwest of the ruins, which has archeological sites. Operational efficiency would be improved through the development of workspace and storage among the three sites to replace offsite workspace and storage lost with the expiration of the General Services Administration lease with the Yavapai Apache Nation for the current maintenance facility. (The administrative headquarters under a different General Services Administration lease from that of the maintenance facility would remain in Camp Verde.)
- Where possible, new facilities, such as trails, would be constructed in already disturbed areas or on existing pathways, social trails, or management use trails. Trails would be clearly marked and would avoid archeological sites. Disturbance to sensitive areas, such as archeological sites or habitat for threatened or endangered species, would also be avoided whenever possible or mitigated.

### **Boundary Adjustments, Land Purchases, And Easements**

The boundary of Tuzigoot National Monument was expanded by Congress in 1978. However, until 2005, when it received 324 acres in a land exchange, the National Park Service did not own any of the land in the boundary expansion.

Because the mine tailings area does not contain resources related to the purpose and significance of the monument, and is highly disturbed by mining activity, it would be removed from Tuzigoot National Monument’s legislated boundary.

The National Park Service would look to acquiring the other land suitable within the monument boundary, including that owned by Freeport McMoRan Copper and Gold, Inc. (minus the tailings), or work cooperatively with Freeport McMoRan and other entities to protect the land for public use consistent with the general management plan zoning intent.

### **Cost Estimates**

The cost figures presented are intended only to provide an estimate of the relative costs. The National Park Service and industry cost estimating guidelines were used to develop the costs (in 2008 dollars) to the extent possible, but the estimates should not be used for budgeting purposes. Specific costs will be determined in subsequent, more detailed planning and design exercises, and considering the design of facilities, identification of detailed resource protection needs, and changing visitor expectations. Actual costs to the National Park Service will vary depending

on if and when the actions are implemented, and on contributions by partners and volunteers. The implementation of the approved plan will depend on future NPS funding levels and servicewide priorities, and on partnership funds, time, and effort. The approval of a general management plan does

not guarantee that funding and staffing needed to implement the plan will be forthcoming. Full implementation of the plan could be many years in the future.

Table 2 presents the plan’s cost summary.



Mountain lion / Puma

## AFFECTED ENVIRONMENT AND IMPLEMENTATION IMPACTS

### Cultural Resources

**A**rcheological. Montezuma Castle and Tuzigoot national monuments were established to preserve the important and unique archeological resources present within the monuments. The installation of new facilities in areas of previous disturbance and following site-specific archeological surveys would result in very low levels of impacts on archeological resources. The actions of the preferred alternative will have no adverse effect on archeological resources and will contribute to beneficial cumulative

effects through expanded archeological site monitoring programs. Therefore, there will be no impairment of archeological resources.

**Prehistoric and Historic Structures and Buildings.** Montezuma Castle and Tuzigoot national monuments were established to preserve important prehistoric and historic structures. Potential impacts would be beneficial to the resource because of continued monitoring efforts and intensive preservation treatments and stabilization of the monuments’ principal prehistoric and historic structures. The actions of the preferred alternative will have no adverse effect on prehistoric and historic structures and buildings and will contribute a small increment to beneficial cumulative effects. Therefore, there will be no impairment of prehistoric and historic structures and buildings.



**Table 2: Cost Summary for Preferred Plan**

Annual operating costs (ONPS) <sup>a</sup>	\$1,802,000 Additional staff <sup>b</sup> 1 GS9 ranger – community outreach 1 GS9 ranger – interpretation 2 WG7 maintenance mechanics 1 GS11 biologist
Currently planned costs (one-time costs) <sup>c</sup>	\$1,034,000
<b>Montezuma Castle – Castle Unit</b>	
Expand parking lot (25 cars)	\$65,000
Expand parking lot (35 cars)	\$0
Construct park headquarters	\$0
Rehabilitate historic maintenance building	\$200,000
Designated trails	\$50,000
Relocate picnic area	\$0
Construct vehicle access/parking on plateau	\$0
Operations Facility	\$1,000,000
<b>Montezuma Castle – Well Unit</b>	
Construct visitor ramad <sup>a</sup>	\$250,000
Construct visitor center <sup>c</sup>	0
Designated trails	\$50,000
Construct modest work space and storage building	\$490,000
<b>Tuzigoot</b>	
Designated trails	\$150,000
Construct marsh boardwalk (1000 feet)	\$270,000
Construct modest work space and storage building	\$490,000
Restore and rehabilitate Tavasci Marsh	\$953,000
<b>Total Costs<sup>d</sup></b>	<b>\$6,804,000</b>
<b>Total one-time costs<sup>e</sup></b>	<b>\$5,002,000</b>
<b>Facility costs</b>	<b>\$3,015,000</b>
<b>Non-facility costs</b>	<b>\$963,000</b>

- a. The base year for all estimates is 2007. Annual operating costs are the total costs per year for maintenance and operations associated with each alternative, including utilities, supplies, staff salaries and benefits, leasing, and other materials. Cost and staffing estimates assume that the alternative is fully implemented as described in the narrative.
- b. The total number of full-time equivalents (FTE) is the number of person-years of staff required to maintain the assets of the monuments in good level, provide acceptable visitor services, protect resources, and generally support the monuments’ operations. The FTE number indicated ONPS-funded NPS staff only, not volunteer positions or positions funded by partners. FTE salaries and benefits are included in the annual operating costs.
- c. The visitor center would be no more than 4,000 square feet. It would include parking, an upgraded access road, and development of a new water supply.
- d. Total costs are the sum of facility costs, non-facility costs and annual operating cost.
- e. Total one-time costs are sum of facility costs and non-facility costs.

**Cultural Landscapes.** The cultural landscapes, including the vistas between structures, have been identified as one of the fundamental resources of the monuments. There is some potential for impacts as a result of human activities and natural processes, such as vandalism and erosion. The National Park Service would continue efforts to reduce the impacts on cultural landscapes through law enforcement, public education, and implementation of the secretary's standards. The actions of the preferred alternative will have no adverse effect on cultural landscapes and will contribute a small increment to beneficial cumulative effects. Therefore, there will be no impairment of cultural landscapes.

**Ethnographic Resources and Traditional Cultural Properties.** Montezuma Castle and Tuzigoot national monuments were established to preserve cultural and ethnographic resources and traditional cultural properties. Although no ethnographic resources or traditional cultural properties have been evaluated at the monuments, resources within the monuments are treated as eligible for consideration. Therefore, ongoing consultation with Native American tribes is expected to have a beneficial impact. The actions of the preferred alternative will have no adverse effect on traditional cultural properties or ethnographic resources, and will contribute to a beneficial cumulative effect. Therefore, there will be no impairment of ethnographic resources and traditional cultural properties.

## Natural Resources

**Floodplains.** The unique hydrology and geology of the monuments was identified as a fundamental resource for the monuments because the hydrology was one of the reasons

for the settlement in the Verde Valley. Impacts to floodplains will be negligible due to a mix of beneficial and adverse effects from erosion control, and construction of a boardwalk at Tavaschi Marsh that may include potential increased visitor use and access through trails. However, the relatively small areas impacted and the mitigation methods (including closure of trails to allow for recovery of the understory and appropriate design of the boardwalk) will also reduce the impacts to floodplains. Therefore, no impairment will occur.

**Soils.** Soil was not identified specifically as a fundamental resource, but the association of the soils to the unique geology of the monuments identifies it as an important resource for protection. Impacts to soils will be very slight and adverse due to trails construction and expansion of the visitor center, but the level of impact will be low due to the relatively small area impacted and the use of soil erosion control methods. The impacts will not rise beyond the negligible range. Therefore, no impairment of soils will occur.

**Vegetation.** Special plant communities are identified as an important resource because of the interpretive themes and the importance to understanding the role of the Verde River, Montezuma Well, Tavaschi Marsh, Beaver Creek, and Wet Beaver Creek in prehistoric and historic trade, travel, exploration, and settlement. Impacts on vegetation will include minor, short-term, adverse impacts during construction efforts, but impacts will be mitigated through methods such as closure of trails to allow recovery of the understory, revegetation in certain areas, and control methods employed for nonnative species. Impacts to vegetation will be very low. Therefore, there will be no impairment of vegetation.

**Wetlands.** The hydrology of the area was identified as a fundamental resource for the monuments. The nature of the impacts to wetlands include marsh restoration to maintain existing hydrologic functions in Tavasci Marsh at Tuzigoot National Monument and a proposed boardwalk to provide education and interpretation of the marsh resource. The marsh restoration activities as well as trail construction will contribute a negligible adverse impact to wetlands, but the relatively slight impacts will be mitigated through trail closure to allow for vegetation to recover and the proper design of the boardwalk to limit impacts to a very small footprint that requires no removal of vegetation. The adverse impacts will be very slight. Therefore, there will be no impairment of wetlands.

**Wildlife.** The natural resources, including wildlife, were identified as part of the fundamental resources for the monuments. The nature of the impacts would be potential disturbance to the areas from the development and access of trails. Impacts to wildlife may rise to a level of minor, short-term, adverse impacts due to construction activities, but the impacts will be mitigated by timing construction to avoid nesting seasons, and in the long term the impacts from visitors will return to a very low level. Therefore, no impairment of wildlife will occur.

### **Threatened and Endangered Species.**

The natural resources, including wildlife, and threatened and endangered species were identified as part of the fundamental resources for the monuments. The nature of the impacts would be potential disturbance to the area from the development and access of trails. The impacts on threatened and endangered

species will primarily be minor and beneficial due to habitat restoration, with some negligible adverse impacts on habitat during construction that will be mitigated by timing construction activities to avoid impacts. The National Park Service made a determination and received concurrence from the USFWS that may affect but not likely to adversely affect all threatened, endangered, candidate species, and critical habitat. The impact will not exceed a negligible level during construction and habitat restoration effort. Therefore, no impairment will occur.



Bobcat.

Most desert animals are nocturnal, meaning they are active primarily at night. This can be an adaptation to both predation and hot summer daytime temperatures. Nocturnal animals include small desert rodents, skunks, ringtails, foxes, bobcats, mountain lions, bats, and owls.





Montezuma Castle Visitor Center.

### Visitor Use and Experience

Moderate to major, beneficial effects would result from the increased diversity in opportunities to view and learn about the monuments' prime cultural resources. Connecting the three sites in the monuments via a central orientation facility in the Verde Valley would increase exposure of visitors to all three sites and provide a better understanding of each site's unique role in settlement of the Verde Valley. Providing more trail opportunities and cultural programs would make visits to each site more exciting, interesting, and inviting for repeat visitation. Cumulative effects on visitor use and experience would be beneficial and moderate to major. In conclusion, the plan would contribute to moderate to major cumulative benefits.

### Socioeconomics

The effects of the plan on socioeconomic conditions in the Verde Valley would be short-term, beneficial, and minor. Cumulative effects

would be short and long-term, minor, and beneficial, except that land use changes could result in long-term, minor to moderate, adverse impacts to groundwater resources connected to Montezuma Well.

### Monument Operations

Implementation of the plan would result in long-term, minor to moderate, beneficial effects on monument operations because of increased and improved space for monument operations, and improved capability to manage visitors and resources. There would be long-term, minor, adverse impacts due the addition of facilities that would require increased operations and maintenance. In conclusion, the plan would contribute long-term, minor beneficial effects on monument operations, resulting in cumulative negligible to minor benefits for monument operations.

## MITIGATION MEASURES

**C**ongress charged the National Park Service with managing the lands under its stewardship “. . .in such manner and by such means as will leave them unimpaired for the enjoyment of future generations” (NPS Organic Act, 16 U.S. Code 1). As a result, NPS staff routinely evaluates and implements mitigation whenever conditions occur that could adversely affect the sustainability of national park system resources.

The following mitigation measures and best management practices will be applied to avoid or minimize potential impacts from implementation of the plan.

### General

- Subject projects to site-specific planning and compliance, and make efforts to avoid adverse impacts through use of the Secretary of the Interior’s Standards for Archeology and Historic Preservation and by using screening and/or sensitive design that will be compatible with historic resources. If adverse impacts cannot be avoided, mitigate those impacts through a consultation process with all interested parties.
- Inventory all unsurveyed areas in the monuments for archeological, historical, and ethnographic resources and for cultural and ethnographic landscapes. Conduct archaeological surveys in unsurveyed areas where development will occur to determine the extent and significance of archeological resources.
- Document cultural and ethnographic landscapes in the monuments and identify treatments to ensure their preservation.
- Conduct additional background research, resource inventory, and National Register of Historic Places evaluation when information about the location and significance of cultural resources is lacking, including development of a multiple property historic context for National Register eligibility for archeological resources in the Verde Valley. Incorporate results of these efforts into site-specific planning and compliance documents.
- Should archeological resources be discovered during any construction, stop work in that location until the resources are properly recorded by the National Park Service and evaluated under the Archeological Resources Protection Act and the eligibility criteria of the National Register of Historic Places. Because stopping construction can be expensive, preconstruction resource inventories and assessments will be conducted to minimize the probability of work stoppage. If, in consultation with the Arizona state historic preservation officer, the resources are determined eligible for listing, implement appropriate measures either to avoid further resource impacts or to mitigate the loss or disturbance of the resources.
- Avoid or mitigate impacts on ethnographic resources. Mitigation could include identification of and assistance in accessing alternative resource gathering areas, continuation of access to traditional use and spiritual areas, and screening new development from traditional use areas.



Snow at Montezuma Well, by Greg Webb.

- Conduct additional background research, resource inventory, and National Register of Historic Places evaluation where information about the location and significance of cultural resources is lacking. Incorporate the results of these efforts into site-specific planning and compliance documents.
- Mitigation measures include documentation according to standards of the Historic American Building Survey/Historic American Engineering Survey as defined in the Re-engineering Proposal (October 1, 1997). The level of this documentation, which includes photography, archeological data recovery, and/or a narrative history, will depend on significance (national, state, or local) and individual attributes (such as an individually significant structure or individual elements of a cultural landscape) and be determined in consultation with the state historic preservation officer (SHPO). When demolition of historic structure is proposed, architectural elements and objects may be salvaged for reuse in rehabilitating similar structures, or they may be added to the monuments' museum collections. In addition, the historical alteration of the human environment and reasons for that alteration will be interpreted to monument visitors.
- Wherever possible, locate projects and facilities in previously disturbed or existing developed areas. Design facilities to avoid known or suspected archeological resources.
- Whenever possible, modify project design features to avoid effects on cultural resources. New developments will be relatively limited and will be located on sites that blend with cultural landscapes and are not adjacent to ethnographic resources. If necessary, use vegetative screening to minimize impacts on cultural landscapes and ethnographic resources.
- Encourage visitors through interpretive programs to respect, and leave undisturbed, tribal offerings and archeological resources.
- Strictly adhere to NPS standards and guidelines on the display and care of artifacts. This will include artifacts used in exhibits in the visitor center. Irreplaceable items will be kept above the 500-year floodplain.



## Natural Resources

**Air Quality.** Mitigation measures to minimize, avoid, and offset adverse effects on air quality could include implementation of a dust abatement program for any construction. Standard dust abatement measures could include the following elements:

- Water or otherwise stabilize soils
- Cover haul trucks
- Employ speed limits on unpaved roads
- Minimize vegetation clearing
- Revegetate after construction

**Nonnative and Exotic Species.** Implement a noxious weed abatement program. Standard measures could include the following elements:

- Ensure that construction-related equipment arrives on site free of mud and seed-bearing material
- Certify all seed and straw material as weed-free
- Identify areas of noxious weeds prior to construction
- Treat noxious weeds or noxious weed topsoil before construction by methods such as topsoil segregation, storage, or herbicide treatment
- Revegetate with appropriate native species

**Natural Sounds.** Standard noise abatement measures that will be implemented during construction to mitigate impacts to natural soundscapes could include the following elements:

- Schedule work to minimize impacts on nearby noise-sensitive uses
- Use the best available noise control techniques wherever feasible
- Use hydraulically or electrically powered impact tools when feasible
- Locate stationary noise sources as far from sensitive uses as possible
- Site and design facilities to minimize objectionable noise

## Soils

Mitigation measures to minimize, avoid, and offset adverse effects on soils could include the following elements:

- Build new facilities on soils suitable for development
- Minimize soil erosion by limiting the time that soil is left exposed and by applying other erosion control measures in construction areas, such as erosion matting, silt fencing, and sedimentation basins, to reduce erosion, surface scouring, and discharge to water bodies
- Once work is completed, revegetate construction areas with native plants in a timely manner

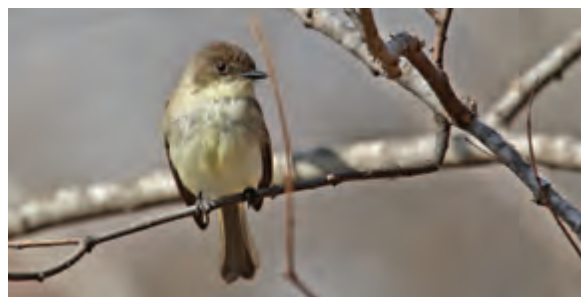
**Rare, Threatened, and Endangered Species and Species of Concern.** Mitigation actions will occur during normal monument operations as well as before, during, and after construction to minimize immediate and long-term impacts to rare, threatened, and endangered species. These actions will vary by specific project and area. Many of the measures listed below for vegetation and wildlife also will benefit rare, threatened and endangered species by helping to preserve habitat. Mitigation actions specific to rare, threatened, and endangered species will include the following:

- Conduct surveys for rare, threatened, and endangered species as warranted.
- Design and site facilities and actions to avoid adverse effects on rare, threatened, and endangered species. If avoidance is infeasible, minimize and compensate for adverse effects on rare, threatened, and endangered species as appropriate and in consultation with the appropriate resource agencies.
- Develop and implement restoration and/or monitoring plans as warranted. Plans should include methods for implementation, performance standards, monitoring criteria, and adaptive management techniques.
- Implement measures to reduce adverse effects of nonnative plants and wildlife on rare, threatened, and endangered species.

- Manage visitor use and access in rare, threatened, or endangered species' habitats to avoid, offset, and minimize potential adverse effects on the habitat or species. This could include trail or area closures, temporary or seasonal restrictions, or rerouting of visitor access.

**Vegetation.** Mitigation measures to minimize, avoid, and offset adverse effects on vegetation could include the following:

- Monitor areas used by visitors, such as trails, for signs of native vegetation disturbance. Use public education, revegetation of disturbed areas with native plants, erosion control measures, and barriers to control potential impacts on plants from trail erosion or the creation of social trails.
- Designate river access and crossing points, and use barriers and closures to prevent trampling and loss of vegetation in other riparian areas.
- Develop revegetation plans for disturbed areas, including construction sites, and require the use of native species. Revegetation plans should specify such features as seed and plant sources, seed and plant mixes, and soil preparation. Use salvaged vegetation to the extent possible.



Southwestern willow flycatcher.

**Water Resources.** To prevent water pollution during construction, mitigation will include the following:

- Use erosion control measures.
- Minimize discharge to water bodies.
- Regularly inspect construction equipment for leaks of petroleum and other chemicals.
- During ongoing operation of the monuments, it may be appropriate to build runoff filtration and sedimentation systems to minimize water pollution from larger parking areas.

**Wildlife.** Mitigation measures to minimize, offset, or avoid adverse effects on wildlife could include the following:

- Employ techniques to reduce impacts on wildlife, including visitor education programs, restrictions on visitor activities, and monument ranger patrols.
- Implement a natural resource protection program. Standard measures will include construction scheduling, biological monitoring, erosion and sediment control, use of fencing or other means to protect sensitive resources adjacent to construction, removal of all food-related items or rubbish, topsoil salvage, and revegetation. This could include specific construction monitoring by resource specialists as well as treatment and reporting procedures.

**Wetlands.** To avoid adverse effects on wetlands, the National Park Service will do the following:

- Delineate wetlands and apply protection measures during construction. Wetlands will be delineated by qualified NPS staff or certified wetland specialists and clearly marked before construction work.
- Design and install boardwalks for interpretive purposes and to minimize impacts on vegetation and wildlife.
- Perform construction activities cautiously to prevent damage caused by equipment, erosion, and siltation.
- Actively work to remove nonnative plants/ animals and restore natural water flows.



Barn owl.



### Visitor Safety and Experiences

Visitor safety, use, and experience will be protected and enhanced with the following:

- Implement measures to reduce adverse effects of construction on visitor safety and experience.
- Continue using directional signs and education programs to promote understanding among visitors.
- Implement adaptive visitor use management, as outlined in the user capacity section in the environmental assessment, when resource and visitor experience conditions trend toward or violate a user capacity standard.
- Employ management strategies such as visitor education, site management, visitor use regulations, rationing or reallocation of visitor use, and enforcement.

### Hazardous Materials

Mitigation measures to minimize, offset, or avoid potential exposure to or adverse effects from hazardous materials will include the following:

- Implement a spill prevention and pollution control program for hazardous materials.
- Employ best management practices for hazardous materials storage and handling, and for spill containment, cleanup, and reporting.
- Limit refueling and other activities involving hazardous materials to upland and or nonsensitive areas.

### Scenic Resources

Mitigation measures are designed to minimize visual intrusion. These include the following:

- Where appropriate, use facilities such as boardwalks and fences to route people away from sensitive natural and cultural resources while still permitting access to important viewpoints.
- Design, site, and construct facilities to avoid or minimize adverse effects on natural and cultural resources and visual intrusion into the natural viewshed and/or landscape.
- Provide vegetative screening where appropriate.

### Socioeconomics

During the future planning and implementation of the approved management plan for the monuments, the National Park Service will work with local communities and county governments to further identify potential impacts and mitigation measures that will best serve the interests and concerns of both the National Park Service and the local communities. Partnerships will be pursued to improve the quality and diversity of community amenities and services.

### Sustainable Design and Aesthetics

Projects will avoid or minimize adverse impacts on natural and cultural resources. Development projects, such as buildings, utilities, roads, bridges, and trails, or reconstruction projects, such as road improvements, building rehabilitation, and utility upgrades, will be designed to work in harmony with the

surroundings, particularly in historic districts. Projects will reduce, minimize, or eliminate air and water nonpoint source pollution. Projects will be sustainable whenever practicable, by recycling and reusing materials, minimizing materials, minimizing energy consumption during the construction, and minimizing energy consumption during the construction, and minimize energy consumption throughout the lifespan of the project.

## USER (CARRYING) CAPACITY

**G**eneral management plans for national park system units must address user capacity management. The National Park Service defines user capacity as the type and level of use that can be accommodated while sustaining the quality of a park unit’s resources and visitor opportunities consistent with the purposes of the park unit. User capacity management involves establishing desired conditions, monitoring, evaluating, and taking actions (managing visitor use) to ensure that park unit values are protected. The premise is that with any use on public lands comes some level of impact that must be accepted; therefore it is the responsibility of the National Park Service to decide what level of impact is acceptable and what management actions are needed to keep impacts within acceptable limits. Instead of just tracking and controlling user numbers, NPS staff manage the levels, types, and patterns of visitor use and other public uses as needed to preserve the condition of the resources and quality of the visitor experience. The monitoring component of this process

helps NPS staff evaluate the effectiveness of management actions and provides a basis for informed management of public use.

This section includes potential indicators, standards, and potential management actions for each management zone that would be implemented as needed during the life of this plan. The recommended indicators and standards help translate the broader descriptions of desired conditions, which are qualitative in nature, into something measurable. The potential indicators were suggested for monitoring key aspects of visitor experiences and resources at the monuments. As indicators are identified in the future, standards that represent the points where visitor experience and resource conditions become unacceptable in each zone would be defined based on management goals.



Existing facilities generally provide good visitor opportunities, protect monument resources, and, based on projected trends, will continue to function well. However, high volumes of use in the peak season can cause crowding in the visitor center at Montezuma Castle and along the main trail to the Castle viewing area. If use increases, or the patterns or timing of use changes, crowding may get worse.

Because of the occasional problems of crowded conditions at the Castle, the indicator for “number of people per hour” is being developed for the general management plan. This indicator and standard will ensure that staff take appropriate action to disperse use throughout the monument or during the day or season to mitigate crowded conditions, as needed.

The monument staff is already monitoring bus arrivals. In the future it may be appropriate to actively disperse bus use throughout the day by requiring buses to arrive and depart at defined times and reduce use during the mid-day, peak hours. The increases in trail opportunities and educational programming in the action alternatives should improve visitor opportunities and may disperse use away from current high-use areas.

The monument staff will continue monitoring use levels and patterns. If these change significantly in any of the zones, the staff will initiate more systematic monitoring of user capacity indicators to ensure protection of desired conditions.

The potential indicators include, but are not limited to the topics of vandalism, looting, or theft of resources; crowding at attraction points; litter; user-created trails; human-caused noise; and introduction of invasive plants. Before new areas of the monuments in the interaction and discovery zone are opened to visitors, the staff will select key indicators to monitor like those proposed in the zone description. Since use patterns were not established in these areas, it is important for the monument staff to monitor conditions to ensure that new use in these areas does not have unexpected or unintended consequences.

The selection of any indicators and standards for monitoring or for implementation of any management actions that affect use would comply with the National Environmental Policy Act, the National Historic Preservation Act, and other laws, regulations, and policies as

needed. The National Park Service would also inform the public of progress and proposed revisions to indicators and standards through regular reporting on the user capacity program.

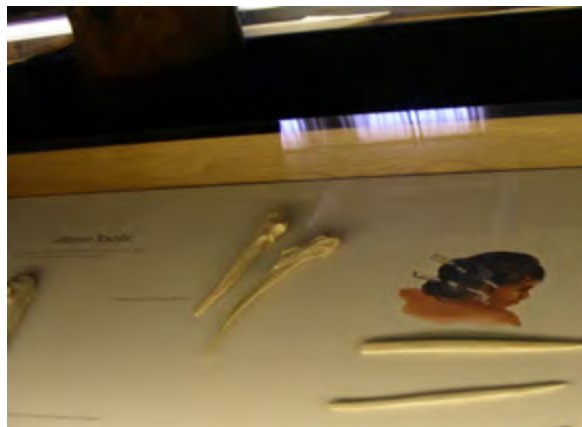
### Park Operations Zone

No indicators are identified for user capacity because public use is not generally permitted in this zone.

### Interpretive Historic Zone

This zone includes high levels of development and physical controls on visitor movement, which should substantially control visitor use impacts. Use levels and patterns would be continually monitored in this zone to identify trends based on data collected at the entrance gate, on traffic counters, and through regular observations by monument staff.

The indicator and standard for the number of people per hour for entry to Montezuma Castle would be implemented. The indicator, related monitoring, and management actions are below. Monument staff are developing the standard for this indicator.



Hairpin exhibit at the Tuzigoot Museum.



The indicator will be the number of people per hour entering the monument. Other indicators that may be considered in this zone for future monitoring at any of the popular sites in the monuments might include:

- The number of people at a given time at other major points of attraction, such as the Castle’s visitor center, the rim overlooks at Montezuma Well, or inside or on top of the Tuzigoot Pueblo
- Litter along main pathways
- Vegetation trampling in high use areas, such as the Montezuma Well picnic area
- The condition of archeological resources close to public use, such as the walls of the Tuzigoot Pueblo or the walls of the dwelling structures at Montezuma Well

Monument staff will periodically monitor the indicator using methods that may include traffic counters, cash-register receipts, and observations at select times throughout the day during both peak and off-peak season.

If monitoring indicates that the indicator is approaching the standard, future management actions could include any or all of the following:

- Implement voluntary redistribution of visitor use throughout the day, week, or season. For example, this could include visitor education to alert visitors to less busy times of the day, week, or season to plan their trips; and the use of intelligent transportation system (ITS) signs in town that indicate that the Castle is full to encourage visitors to delay their arrival.

- Require mandatory redistribution of visitor use during peak times. Under this approach, visitor reservations may be required to visit the Castle during peak hours of peak days, or tour bus operators may be required to manage the arrival of their vehicles to off-peak times, days, or months.
- Restrict visitor use. This could include actions such as the closure of the parking lot and/or loop trail during peak hours of peak-season days.

Other potential management actions to address changes in conditions could include expanding education and orientation messages, restoring disturbed sites, redirecting use to less busy areas, regulating visitor use (for example, reducing parking capacity), and increasing physical controls on use, such as installing fencing or other barriers.

### **Interaction and Discovery Zone**

This zone includes low levels of development and physical controls on visitor movement.

Use levels and patterns will be monitored to identify trends in use through data collected as part of regular monument staff patrols.

Other indicators that may be considered in this zone for future monitoring might include user-created trails, litter, human-caused noise, looting and vandalism of archeological sites near designated trails, and invasive plants.

The range of potential management actions to address changes in conditions could include expanding education (particularly “leave no trace” messages); restoring disturbed sites; restricting use through actions such as a permit system, closure of areas, or guided only trips; and increasing enforcement patrols.



View from Montezuma Castle.

### Resources and Research Zone

This zone would have low levels of use, all of which would be managed on guided tours, so no indicators of user capacity are proposed. However, monument staff would monitor for vandalism, looting, or theft of archeological resources.

## PLAN IMPLEMENTATION AND FUTURE STUDIES / PLANS NEEDED

Implementation of the approved plan depends on future funding. The approval of the general management plan does not indicate that the funding needed to implement all of its provisions will be immediately available. Full implementation of the approved plan could be many years in the future.

Other factors will also affect the implementation of the approved plan. After the general management plan for the monuments is completed and approved, other more detailed studies and plans would be needed to implement specific actions. As required, additional environmental compliance (National Environmental Policy Act, National Historic Preservation Act, and other relevant laws and policies), and public involvement would be conducted, as articulated in *Director's Order 75A: Civic Engagement and Public Involvement*. Additional studies would include, but would not be limited to, the following:

- Boundary adjustments at Tuzigoot National Monument to remove the mine tailings.
- Comprehensive ethnographic overviews and assessments (including ethnobotanical studies) at both national monuments.
- Historic resource studies at both national monuments.

- Cultural landscape inventories at both monuments to identify specific strategies and determine priorities for the management and protection of these resources.
- Comprehensive interpretive plan that outlines specific interpretive programming and services at both monuments (completed).
- Restoration plan for Tavaschi Marsh to outline strategies for returning it to a more naturally functioning and stable condition.
- Implementation plans, and site specific compliance, if necessary, for specific actions within this general management plan, such as increased parking at Montezuma Castle and a visitor contact station at Montezuma Well.
- Site-specific compliance for proposed actions that could impact floodplains or wetlands or their associated values in all three sites of the monument. Compliance could include statements of findings for actions not exempt under Director’s Order 77-1: Wetlands Management or Director’s Order 77-2: Floodplain Management.
- Tuzigoot administrative history (currently underway).
- Boundary surveys after land acquisitions then upgrade and post boundary fence.

- Native plants restoration and interpretative trails development at the Montezuma Well unit.
- Montezuma Well development plan to enhance visitor facilities.



Tavaschi Marsh, NPS photo by Sharlot Hart.

## CONCLUSION

**B**ased on the environmental analysis as documented in the environmental assessment, together with the capability of the mitigation measures to avoid, reduce, or eliminate impacts, and with the due consideration for the nature of public comments, the results determine that the approved plan is not a major federal action significantly affecting the quality of the human environment. Negative environmental impacts that could occur are no more than minor to moderate in intensity. There are no significant impacts on public health, public safety, threatened or endangered species, sites or districts listed in or eligible for listing in the National Register of Historic Places, or other unique characteristics of the region. No highly uncertain or controversial impacts, unique or unknown risks, significant cumulative effects, or elements of precedence were identified. Implementation of the plan will not violate any federal, state, or local environmental protection law.

Based on the above information, it has been determined that an environmental impact statement is not required for this project and thus will not be prepared. The plan can be implemented as soon as practicable but not sooner than 30 days following the date of the approval of the General Management Plan.



Coyote.



# APPENDIXES AND INDEX





# APPENDIX A: LEGAL MANDATES

## ENABLING LEGISLATION

### ANTIQUITIES ACT OF 1906 AND PRESIDENTIAL PROCLAMATION 696, DECEMBER 8, 1906, ESTABLISHING MONTEZUMA CASTLE NATIONAL MONUMENT

Montezuma Castle National Monument was founded by virtue of Presidential Proclamation 696, under the authority granted the president by the Antiquities Act of 1906 (16 *United States Code* 431-433). President Theodore Roosevelt issued the proclamation on December 8, 1906. The Antiquities Act and the subsequent proclamation form the foundation for all the rules, regulations, laws, and policies of the monument. Montezuma Well was added in 1943 as a detached unit of the monument with an act of Congress (October 19, 1943, 57 Stat. 572).

Praying mantis



### 51. Montezuma Castle National Monument

Establishment: Proclamation (No. 696) of December 8, 1906.....	Page
Boundaries enlarged: Proclamation (No. 2226) of February 23, 1937.....	235
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BY THE PRESIDENT OF THE UNITED STATES OF AMERICA

### A PROCLAMATION

[No. 696—December 8, 1906—34 Stat. 3265]

WHEREAS, it is provided by section two of the Act of Congress, approved June 8, 1906, entitled, "An act for the preservation of American antiquities," "That the President of the United States is hereby authorized, in his discretion, to declare by public proclamation historic land marks, historic and prehistoric structures, and other objects of historic or scientific interest that are situated upon the lands owned or controlled by the Government of the United States to be national monuments, and may reserve as a part thereof parcels of land, the limits of which in all cases shall be confined to the smallest area compatible with the proper care and management of the objects to be protected";

AND, WHEREAS, the prehistoric structure known as Montezuma's Castle in the Territory of Arizona, situated upon public lands owned by the United States, is of the greatest ethnological value and scientific interest and it appears that the public good would be promoted by reserving this ruin as a national monument with as much land as may be necessary for the proper protection thereof;

NOW, THEREFORE, I, Theodore Roosevelt, President of the United States of America, by virtue of the power in me vested by section two of the aforesaid Act of Congress, do hereby set aside as the Montezuma Castle National Monument the prehistoric structure aforesaid and for the proper protection thereof do hereby reserve from settlement, entry or other disposal, all those certain tracts, pieces or parcels of land lying and being in the Territory of Arizona, and within, what will be when surveyed, the tracts particularly described as follows, to wit:

The northwest quarter of the northwest quarter of section sixteen, the north half of the northeast quarter and northeast quarter of northwest quarter of section seventeen, township fourteen north, range five east, Gila and Salt River Meridian, as shown upon the map hereto attached and made a part of this proclamation.

Warning is hereby expressly given to all persons not to appropriate, excavate, injure or destroy said monument or to settle upon any of the lands reserved by this proclamation.

IN WITNESS WHEREOF, I have hereunto set my hand and cause the seal of the United States to be affixed.

DONE at the city of Washington this 8th day of December, in the year of our Lord one thousand nine hundred and six, and of the Independence of the United States the one hundred and thirty first.

By the President:  
ELIHU ROOT,  
Secretary of State.

THEODORE ROOSEVELT.







TITLE III—BOUNDARY CHANGES

REVISION OF BOUNDARIES

Sec. 301. The boundaries of the following units of the National Park System are revised as follows, and there are authorized to be appropriated such sums as may be necessary, but not exceed the amounts specified in the following paragraphs for acquisitions of lands and interests in lands within areas added by reason of such revisions:

(13) Montezuma Castle National Monument, Arizona: To add approximately thirteen acres, and to delete approximately five acres as generally depicted on the map entitled "Montezuma Castle National Monument, Arizona", numbered 20,006, and dated April 1978.

PRESIDENTIAL PROCLAMATION 2344, JULY 25, 1939, ESTABLISHING TUZIGOOT NATIONAL MONUMENT

Tuzigoot National Monument was established by President Franklin D. Roosevelt with the signing of Presidential Proclamation 2344, on July 25, 1939. The proclamation and the Antiquities Act of 1906 form the foundation for all the rules, regulations, laws, and policies of the monument.

17. Montezuma Castle National Monument

Addition of "Montezuma Well property" to monument authorized..... Act of October 19, 1943 167

An Act To provide for the addition of certain land in the State of Arizona to the Montezuma Castle National Monument, approved October 19, 1943 (57 Stat. 572)

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That (a) the Secretary of the Interior, on behalf of the United States, is authorized to acquire, in his discretion, certain lands located in the State of Arizona known as the Montezuma Well property, containing approximately one hundred and eighty acres and situated within section 36, township 15 north, range 5 east, and section 31, township 15 north, range 6 east, Gila and Salt River meridian. Such lands, when acquired, shall become a detached unit of Montezuma Castle National Monument.

Montezuma Castle National Monument. Addition of lands.

(b) Effective on the date of the acquisition of such property, the south half of the northwest quarter of section 31, township 15 north, range 6 east, Gila and Salt River meridian, containing eighty acres of land owned by the United States, shall also become a part of such national monument.

SEC. 2. All laws, rules, and regulations applicable to such national monument shall be applicable with respect to the lands described in the first section of this Act upon the addition of such lands to such national monument. The title to real property acquired pursuant to this Act shall be satisfactory to the Secretary of the Interior.

Administration.

SEC. 3. There are hereby authorized to be appropriated such sums as may be necessary but not to exceed \$25,000 to carry out the provisions of this Act.

Appropriation authorized.



Tuzigoot Pueblo

76. Tuzigoot National Monument  
Establishment: Proclamation (No. 2344) of July 25, 1939..... Page 311

BY THE PRESIDENT OF THE UNITED STATES OF AMERICA  
A PROCLAMATION

[No. 2344—July 25, 1939—53 Stat. 2548]

WHEREAS certain Government-owned lands in the State of Arizona have situated thereon historic and prehistoric structures and other objects of historic or scientific interest; and

WHEREAS it appears it would be in the public interest to reserve such lands as a national monument to be known as the Tuzigoot National Monument:

Now, THEREFORE, I, Franklin D. Roosevelt, President of the United States of America, under and by virtue of the authority vested in me by section 2 of the act of June 8, 1906, c. 3060, 34 Stat. 225 (U. S. C., title 16, sec. 431), do proclaim that, subject to all valid existing rights, the following-described lands in the State of Arizona are hereby reserved from all forms of appropriation under the public-land laws and set apart as the Tuzigoot National Monument:

GILA-SALT RIVER MERIDIAN

T. 16 N., R. 3 E., beginning at a point in section 21, N. 83 degrees 51 minutes, E. 5032.4 feet of the W ¼ corner said section 21; thence N. 26 degrees, 55 minutes, E. 1950.5 feet; thence S. 63 degrees, 05 minutes, E. 594.5 feet; thence S. 19 degrees, 56 minutes, W. 2977.7 feet; thence W. 70.0 feet; thence N. 13 degrees, 52 minutes, W. 1369.1 feet to the place of beginning containing approximately 42.665 acres.

Warning is hereby expressly given to all unauthorized persons not to appropriate, injure, destroy, or remove any feature of this monument and not to locate or settle upon any of the lands thereof.

The Director of the National Park Service, under the direction of the Secretary of the Interior, shall have the supervision, management, and control of this monument as provided in the act of Congress entitled "An Act to establish a National Park Service, and for other purposes," approved August 25, 1916 (c. 408, 39 Stat. 535; U. S. C., title 16, secs. 1 and 2), and acts supplementary thereto or amendatory thereof.

IN WITNESS WHEREOF, I have hereunto set my hand and caused the seal of the United States to be affixed.

DONE at the City of Washington this 25th day of July in the year of our Lord nineteen hundred and thirty-nine, and of the Independence of the United States of America the one hundred and sixty-fourth.

FRANKLIN D. ROOSEVELT.

By the President:  
CORDELL HULL,  
Secretary of State.



27. Tuzigoot

An act to authorize additional appropriations for the acquisition of lands and interests in lands within the Sawtooth National Recreation Area in Idaho, (92 Stat. 2467) (P.L. 95-625)

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,*

TITLE III—BOUNDARY CHANGES

SEC. 301. The boundaries of the following units of the National Park System are revised as follows, and there are authorized to be appropriated such sums as may be necessary, but not exceed the amounts specified in the following paragraphs for acquisitions of lands and interests in lands within areas added by reason of such revisions:

(18)(A) Tuzigoot National Monument, Arizona: To add approximately seven hundred and ninety-one acres as generally depicted on the map entitled "Master Proposal, Tuzigoot National Monument" numbered 378-30,000D, and dated January 1973: \$1,350,000.

(B) The Secretary is authorized to acquire by donation, purchase with donated or appropriated funds, exchange or otherwise and subject to such terms, reservations, conditions applied to the acquired lands as he may deem satisfactory, the lands and interests in lands that are included within the boundaries of the Tuzigoot National Monument as revised by this paragraph. When so acquired, they shall be administered in accordance with provisions of law generally applicable to units of the National Park System, including the Act of August 25, 1916 (39 Stat. 555).

(C) In exercising his authority to acquire such lands and interests in lands by exchange, the Secretary may accept title to any non-Federal property within the boundaries of the national monument and in exchange therefor he may convey to the grantor of such property any federally owned property under his jurisdiction in the State of Arizona. The values of the properties so exchanged either shall be approximately equal, or if they are not approximately equal the values shall be equalized by the payment of cash to the grantor or to the Secretary as the circumstances require.

SEC. 302. Within twelve months after the date of the enactment of this Act, the Secretary shall publish in the Federal Register a detailed map or other detailed description of the lands added or excluded from any area pursuant to section 301.

SEC. 303. (a) Within the boundaries of the areas as

revised in accordance with section 301, the Secretary is authorized to acquire lands and interests therein by donation, purchase with donated or appropriated funds, exchange, or transfer from any other Federal agency. Lands and interests therein so acquired shall become part of the area to which they are added, and shall be subjected to all laws, rules, and regulations applicable thereto. When acquiring any land pursuant to this title, the Secretary may acquire any such land subject to the retention of a right of use and occupancy for a term not to exceed twenty-five years or for the life of the owner or owners. Lands owned by a State or political subdivision thereof may be acquired only by donation.

(b)(1) Lands and interests therein deleted from any area pursuant to section 301 may be exchanged for non-Federal lands within the revised boundaries of such area, or transferred to the jurisdiction of any other Federal agency or to a State or political subdivision thereof, without monetary consideration, or be administered as public lands by the Secretary, as the Secretary may deem appropriate.

(2) In exercising the authority contained in this section with respect to lands and interests therein deleted from any such area which were acquired from a State, the Secretary may, on behalf of the United States, transfer to such State exclusive or concurrent legislative jurisdiction over such lands, subject to such terms and conditions as he may deem appropriate, to be effective upon acceptance thereof by the State.

(c) It is the established policy of Congress that wilderness, wildlife conservation, and park and recreation values of real property owned by the United States be conserved, enhanced, and developed. It is further declared to be the policy of Congress that unutilized, underutilized, or excess Federal real property be timely studied as to suitability for wilderness, wildlife conservation, or park and recreation purposes. To implement this policy, the Secretary, the Administrator of General Services, and the Director of the Office of Management and Budget shall establish a system with appropriate procedures to permit the Secretary full and early opportunity to make such studies and propose appropriate recommendations to disposing agencies for consideration in connection with determinations of further utilization or disposal of such property under existing law. Each affected executive agency is authorized and directed to provide to the Secretary such advice and information relating to such studies as the Secretary may request.

SEC. 304. The authorities in this title are supplementary to any other authorities available to the Secretary with respect to the acquisition, development, and administration of the areas referred to in section 301.

Approved November 10, 1978

Public Law 108–190  
108th Congress

An Act

To provide for the exchange of certain lands in the Coconino and Tonto National Forests in Arizona, and for other purposes.

Dec. 19, 2003  
[H.R. 622]

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,*

16 USC 431 note.

**SECTION 1. FINDINGS; PURPOSE.**

(a) **FINDINGS.**—Congress finds the following:

(1) Certain private lands adjacent to the Montezuma Castle National Monument in Yavapai County, Arizona, are desirable for Federal acquisition to protect important riparian values along Beaver Creek and the scenic backdrop for the National Monument.

(2) Certain other inholdings in the Coconino National Forest are desirable for Federal acquisition to protect important public values near Double Cabin Park.

(3) Approximately 108 acres of land within the Tonto National Forest, northeast of Payson, Arizona, are currently occupied by 45 residential cabins under special use permits from the Secretary of Agriculture, and have been so occupied since the mid-1950s, rendering such lands of limited use and enjoyment potential for the general public. Such lands are, therefore, appropriate for transfer to the cabin owners in exchange for lands that will have higher public use values.

(4) In return for the privatization of such encumbered lands the Secretary of Agriculture has been offered approximately 495 acres of non-Federal land (known as the Q Ranch) within the Tonto National Forest, east of Young, Arizona, in an area where the Secretary has completed previous land exchanges to consolidate public ownership of National Forest lands.

(5) The acquisition of the Q Ranch non-Federal lands by the Secretary will greatly increase National Forest management efficiency and promote public access, use, and enjoyment of the area and surrounding National Forest System lands.

(b) **PURPOSE.**—The purpose of this Act is to authorize, direct, facilitate, and expedite the consummation of the land exchanges set forth herein in accordance with the terms and conditions of this Act.

**SEC. 2. DEFINITIONS.**

As used in this Act:

(1) **DPSHA.**—The term “DPSHA” means the Diamond Point Summer Homes Association, a nonprofit corporation in the State of Arizona.



117 STAT. 2868

## PUBLIC LAW 108-190—DEC. 19, 2003

(2) FEDERAL LAND.—The term “Federal land” means land to be conveyed into non-Federal ownership under this Act.

(3) FLPMA.—The term “FLPMA” means the Federal Land Policy Management Act of 1976 (43 U.S.C. 1701 et seq.).

(4) MCJV.—The term “MCJV” means the Montezuma Castle Land Exchange Joint Venture Partnership, an Arizona Partnership.

(5) NON-FEDERAL LAND.—The term “non-Federal land” means land to be conveyed to the Secretary of Agriculture under this Act.

(6) SECRETARY.—The term “Secretary” means the Secretary of Agriculture, unless otherwise specified.

**SEC. 3. MONTEZUMA CASTLE LAND EXCHANGE.**

(a) LAND EXCHANGE.—Upon receipt of a binding offer from MCJV to convey title acceptable to the Secretary to the land described in subsection (b), the Secretary shall convey to MCJV all right, title, and interest of the United States in and to the Federal land described in subsection (c).

(b) NON-FEDERAL LAND.—The land described in this subsection is the following:

(1) The approximately 157 acres of land adjacent to the Montezuma Castle National Monument, as generally depicted on the map entitled “Montezuma Castle Contiguous Lands”, dated May 2002.

(2) Certain private land within the Coconino National Forest, Arizona, comprising approximately 108 acres, as generally depicted on the map entitled “Double Cabin Park Lands”, dated September 2002.

(c) FEDERAL LAND.—The Federal land described in this subsection is the approximately 222 acres in the Tonto National Forest, Arizona, and surveyed as Lots 3, 4, 8, 9, 10, 11, 16, and 17, and Tract 40 in section 32, Township 11 North, Range 10 East, Gila and Salt River Meridian, Arizona.

(d) EQUAL VALUE EXCHANGE.—The values of the non-Federal and Federal land directed to be exchanged under this section shall be equal or equalized as determined by the Secretary through an appraisal performed by a qualified appraiser mutually agreed to by the Secretary and MCJV and performed in conformance with the Uniform Appraisal Standards for Federal Land Acquisitions (U.S. Department of Justice, December 2000), and section 206(d) of FLPMA (43 U.S.C. 1716(d)). If the values are not equal, the Secretary shall delete Federal lots from the conveyance to MCJV in the following order and priority, as necessary, until the values of Federal and non-Federal land are within the 25 percent cash equalization limit of section 206(b) of FLPMA (43 U.S.C. 1716(b)):

- (1) Lot 3.
- (2) Lot 4.
- (3) Lot 9.
- (4) Lot 10.
- (5) Lot 11.
- (6) Lot 8.

Applicability.

(e) CASH EQUALIZATION.—Any difference in value remaining after compliance with subsection (d) shall be equalized by the payment of cash to the Secretary or MCJV, as the circumstances dictate, in accordance with section 206(b) of FLPMA (43 U.S.C.

1716(b)). Public Law 90-171 (16 U.S.C. 484a; commonly known as the “Sisk Act”) shall, without further appropriation, apply to any cash equalization payment received by the United States under this section.

**SEC. 4. DIAMOND POINT—Q RANCH LAND EXCHANGE.**

(a) **IN GENERAL.**—Upon receipt of a binding offer from DPSHA to convey title acceptable to the Secretary to the land described in subsection (b), the Secretary shall convey to DPSHA all right, title, and interest of the United States in and to the land described in subsection (c).

(b) **NON-FEDERAL LAND.**—The land described in this subsection is the approximately 495 acres of non-Federal land generally depicted on the map entitled “Diamond Point Exchange—Q Ranch Non-Federal Lands”, dated May 2002.

(c) **FEDERAL LAND.**—The Federal land described in this subsection is the approximately 108 acres northeast of Payson, Arizona, as generally depicted on the map entitled “Diamond Point Exchange—Federal Land”, dated May 2002.

(d) **EQUAL VALUE EXCHANGE.**—The values of the non-Federal and Federal land directed to be exchanged under this section shall be equal or equalized as determined by the Secretary through an appraisal performed by a qualified appraiser mutually agreed to by the Secretary and DPSHA and in conformance with the Uniform Appraisal Standards for Federal Land Acquisitions (U.S. Department of Justice, December 2000), and section 206(d) of FLPMA (43 U.S.C. 1716(d)). If the values are not equal, they shall be equalized by the payment of cash to the Secretary or DPSHA pursuant to section 206(b) of FLPMA (43 U.S.C. 1716(b)). Public Law 90-171 (16 U.S.C. 484a; commonly known as the “Sisk Act”) shall, without further appropriation, apply to any cash equalization payment received by the United States under this section.

(e) **SPECIAL USE PERMIT TERMINATION.**—Upon execution of the land exchange authorized by this section, all special use cabin permits on the Federal land shall be terminated.

**SEC. 5. MISCELLANEOUS PROVISIONS.**

(a) **EXCHANGE TIMETABLE.**—Not later than 6 months after the Secretary receives an offer under section 3 or 4, the Secretary shall execute the exchange under section 3 or 4, respectively, unless the Secretary and MCJV or DPSHA, respectively, mutually agree to extend such deadline.

(b) **EXCHANGE PROCESSING.**—Prior to executing the land exchanges authorized by this Act, the Secretary shall perform any necessary land surveys and required preexchange clearances, reviews, and approvals relating to threatened and endangered species, cultural and historic resources, wetlands and floodplains and hazardous materials. If 1 or more of the Federal land parcels or lots, or portions thereof, cannot be transferred to MCJV or DPSHA due to hazardous materials, threatened or endangered species, cultural or historic resources, or wetland and flood plain problems, the parcel or lot, or portion thereof, shall be deleted from the exchange, and the values of the lands to be exchanged adjusted in accordance with subsections (d) and (e) of section 3 or section 4(d), as appropriate. In order to save administrative costs to the United States, the costs of performing such work, including the appraisals required pursuant to this Act, shall be paid by MCJV or DPSHA for the relevant property, except for the costs of any

Applicability.

Deadline.

117 STAT. 2870

PUBLIC LAW 108-190—DEC. 19, 2003

such work (including appraisal reviews and approvals) that the Secretary is required or elects to have performed by employees of the Department of Agriculture.

(c) FEDERAL LAND RESERVATIONS AND ENCUMBRANCES.—The Secretary shall convey the Federal land under this Act subject to valid existing rights, including easements, rights-of-way, utility lines and any other valid encumbrances on the Federal land as of the date of the conveyance under this Act. If applicable to the land conveyed, the Secretary shall also retain any right of access as may be required by section 120(h) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (42 U.S.C. 9620(h)) for remedial or corrective action relating to hazardous substances as may be necessary in the future.

(d) ADMINISTRATION OF ACQUIRED LAND.—The land acquired by the Secretary pursuant to this Act shall become part of the Tonto or Coconino National Forest, as appropriate, and be administered as such in accordance with the laws, rules, and regulations generally applicable to the National Forest System. Such land may be made available for domestic livestock grazing if determined appropriate by the Secretary in accordance with the laws, rules, and regulations applicable thereto on National Forest System land.

(e) TRANSFER OF LAND TO NATIONAL PARK SERVICE.—Upon their acquisition by the United States, the “Montezuma Castle Contiguous Lands” identified in section 3(b)(1) shall be transferred to the administrative jurisdiction of the National Park Service, and shall thereafter be permanently incorporated in, and administered by the Secretary of the Interior as part of, the Montezuma Castle National Monument.

Approved December 19, 2003.



Montezuma Well





# United States Department of the Interior

OFFICE OF THE SOLICITOR  
Field Office, Southwest Region  
P.O. Box 1042  
Santa Fe, New Mexico 87504-1042  
December 3, 2007



L1425(IMLR-S)  
TUZI/01-108

## MEMORANDUM

TO: Chief, Land Resources Program Center  
Intermountain Region  
National Park Service

FROM: Robert C. Eaton, Attorney-Adviser  
Southwest Region

SUBJECT: Tuzigoot National Monument- Updated Final Title Opinion for the Acquisition of  
Tract No. 01-108, Yavapai County, Arizona

Updated FTO Request Dated: November 28, 2007  
Acreage: 323.75  
Interest Acquired: Fee Simple  
Vendor(s): Phelps Dodge Corporation, a New York Corporation  
Deed Dated: August 25, 2005  
Book No.: 4311  
Title Insurance: First American Title Insurance Company, Policy No. NCS-178391-PHX1

Consideration: Exchange  
Deed Filed: September 15, 2005  
Page No.: 392

An examination has been made of the title evidence pertaining to the above-numbered tract and interest(s) therein, which have been acquired under the authority of existing law. The land and interest(s) acquired are described more particularly in the deed contained in the file.

The title evidence discloses valid title to be vested in the United States of America, subject to any outstanding rights contained in Schedule B of the title insurance policy and endorsements thereto, and subject further to any reservations contained in the deed to the United States of America, which rights and reservations, if any, are such that the agency has determined will not interfere with the contemplated use of the land.

*Robert C. Eaton*  
Robert C. Eaton

cc: Assistant Attorney General, Environment and Natural Resources Division, U.S. Department of Justice, Attn: Chief, Land Acquisition Section, P.O. Box 561, Washington, D.C. 20044



Full Screen Image Viewer

First American Title Insurance Company  
This is to certify that this is a true and  
Exact copy of the original document.  
By: Danna J. Suter  
Date/Time: Sept 15, 2005 11:47am  
Fee Number: Book 431 pg 392  
County: Yavapai

WHEN RECORDED, RETURN TO:  
U.S. Department of the Interior  
Bureau of Land Management  
Attn: Lands and Minerals Adjudication (AZ933)  
222 North Central Avenue  
Phoenix, Arizona 85004-2208

**GENERAL WARRANTY DEED**

KNOW ALL PERSONS BY THESE PRESENTS: that for and in consideration of the exchange of certain lands and interests therein as authorized by Section 206 of the Federal Land Policy and Management Act of 1976, as amended (43 U.S.C. 1716), PHELPS DODGE CORPORATION, a New York corporation (hereinafter "Grantor"), does hereby grant, bargain, sell and convey to the UNITED STATES OF AMERICA and its assigns (hereinafter "Grantee") the following described real property situated in Yavapai County, Arizona, more specifically described as:

See Attached Exhibit "A"

TOGETHER WITH all those rights, including water rights, appurtenant to the lands.

AFFIDAVIT EXEMPT PER A.R.S. §11-1134.A.3

TO HAVE AND TO HOLD unto the UNITED STATES OF AMERICA and its assigns forever, all right, title, and interest in the above-described real property in fee simple together with all improvements thereon subject to the following matters of record as set forth on Exhibit "B." Grantor covenants and warrants that it is lawfully seized and possessed of the real property aforesaid and has the full right, power, and authority to execute this conveyance and that said real property is free and clear of liens, claims or encumbrances except as previously set forth and that it will forever defend the title to the real property conveyed herein against the lawful claims and demands of all persons whomsoever.

The acquiring federal agency is the Department of the Interior, National Park Service.

IN WITNESS WHEREOF, this Deed is hereby executed by the Grantor this 25<sup>th</sup> day of August, 2005.

PHELPS DODGE CORPORATION,  
a New York corporation

By: [Signature]  
S. David Colton, Senior Vice  
President and General Counsel  
"Grantor"

TUZIGOOT NATIONAL MONUMENT DEED NO. 4

<http://fast.firstam.net/imagz/bub/pages/breview.html?Repository=fastrepsdal.firstam.ne...> 10/5/2005

STATE OF ARIZONA )  
 ) ss.  
COUNTY OF MARICOPA )

This instrument was acknowledged before me this 25th day of August, 2005 by S. David Colton, the Senior Vice President and General Counsel of PHELPS DODGE CORPORATION, a New York corporation, for and on behalf of said corporation.

My commission expires:  
June 14, 2006

[Signature]  
Jacqueline Madison, Notary Public



Full Screen Image Viewer

Exhibit "A"TAVASCI MARSH PROPERTY

T. 16 N., R. 3 E.

That part of the Southwest quarter of Section 15, and that part of the Northwest quarter and the North half of the Southwest quarter Section 22, Township 16 North, Range 3 East of the Gila and Salt River Base and Meridian, Yavapai County, Arizona, more particularly described as follows:

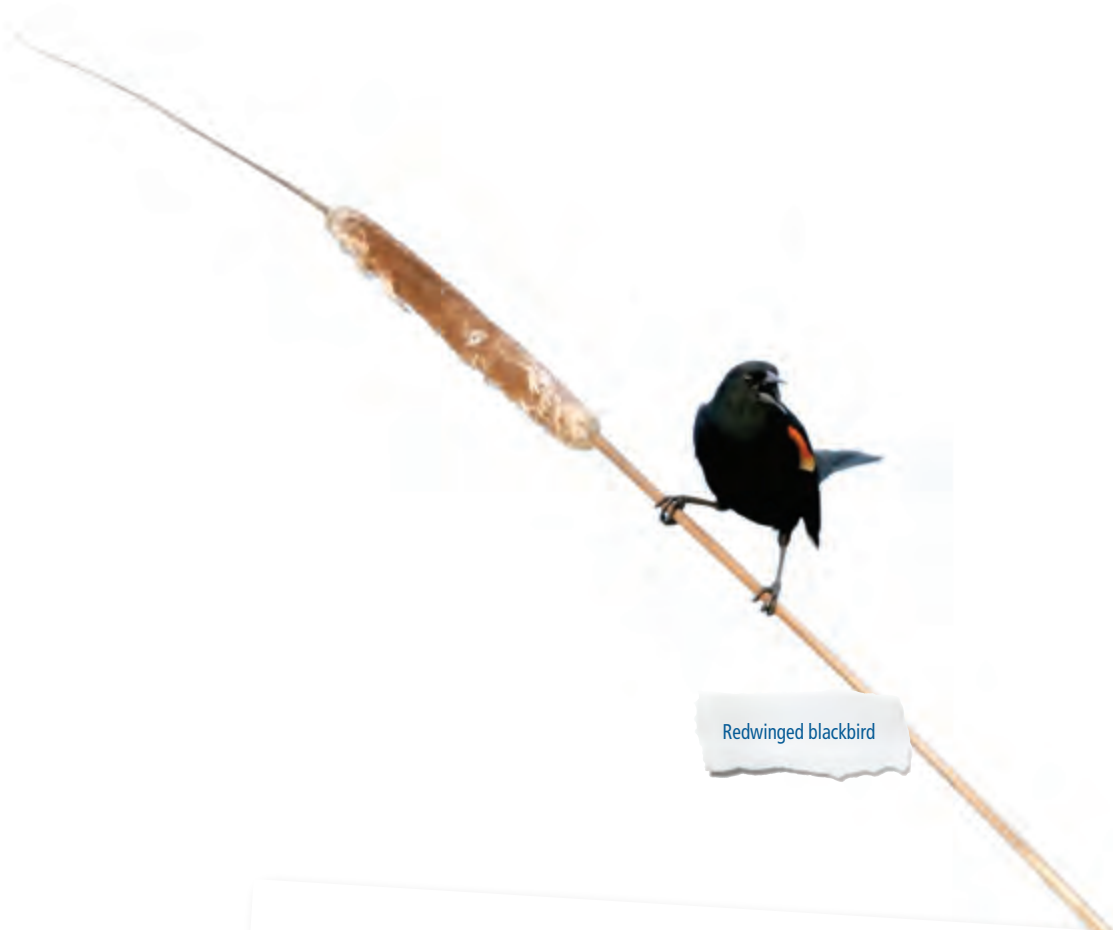
COMMENCING at the Southwest corner of said Section 15, monumented with a 2½" aluminum pipe; thence North 01 degrees, 38 minutes, 17 seconds, West (measured), North 00 degrees, 36 minutes, 26 seconds, East (record), along the West line of the Southwest quarter of said Section 15, as shown on the Boundary Survey of the Proposed Tuzigoot National Monument, recorded in Book 2 of Land Surveys, page 192, Yavapai County Records, a distance of 1,475.00 feet to the TRUE POINT OF BEGINNING.

Thence continuing North 01 degrees, 38 minutes, 17 seconds, West, along said West line of the Southwest quarter of said Section 15, a distance of 1,196.12 feet to the West quarter corner of said Section 15, monumented with a United States Forest Service Aluminum Cap; thence North 88 degrees, 01 minutes, 21 seconds, East, along the East-West mid section line of said Section 15, a distance of 2,609.43 feet to the center quarter corner of said Section 15, monumented with a United States Forest Service Aluminum Cap; thence South 02 degrees, 20 minutes, 25 seconds, East, along the North-South mid section line of said Section 15, a distance of 2,659.29 feet to the South quarter corner of said Section 15, also being the North quarter corner of said Section 22, monumented with a GLO Brass Cap; thence South 03 degrees, 55 minutes, 01 seconds, East, along the North-South mid section line of said Section 22, a distance of 2,657.46 feet to the center quarter corner of said Section 22, monumented with an Aluminum Cap; thence South 03 degrees, 55 minutes, 08 seconds, East, continuing along the North-South mid section line of said Section 22, a distance of 1,323.01 feet to the Southeast corner of the North half of the Southwest quarter of said Section 22, monumented with a National Park Service Aluminum Cap; thence South 87 degrees, 09 minutes, 57 seconds, West, along the South line of said North half of the Southwest quarter of said Section 22, a distance of 2,667.13 feet to the Southwest corner of said North half of the Southwest quarter of said Section 22, monumented with a National Park Service Aluminum Cap in concrete; thence North 03 degrees, 33 minutes, 07 seconds, West, along the West line of the Southwest quarter of said Section 22, a distance of 795.91 feet to the Southwesterly boundary of the existing "Tuzigoot National Monument Boundary", monument with a ¼" rebar.

Thence along said existing "Tuzigoot National Monument Boundary", the following courses:

Thence South 16 degrees, 15 minutes, 43 seconds, East, a distance of 169.85 feet to a GLO Brass Cap; thence North 87 degrees, 28 minutes, 58 seconds, East, a distance of 70.00 feet to a GLO Brass Cap; thence North 17 degrees, 32 minutes, 19 seconds, East, a distance of 2,977.54 feet to a GLO Brass Cap; thence North 65 degrees, 28 minutes, 39 seconds, West, a distance of 594.31 feet to a GLO Brass Cap; thence North 24 degrees, 32 minutes, 11 seconds, East, departing said existing "Tuzigoot National Monument Boundary" and along the Northeasterly prolongation of the Northwesterly boundary line of said existing "Tuzigoot National Monument Boundary", a distance of 1,133.00 feet to the beginning of a 2,850.00 foot radius non-tangent curve, whose center bears South 45 degrees, 29 minutes, 58 seconds, West; thence Northwesterly, along said curve, through a central angle of 28 degrees, 12 minutes, 28 seconds, a distance of 1,403.10 feet to the TRUE POINT OF BEGINNING.

The area described comprising 323.749 acres, more or less.



Redwinged blackbird

**Exhibit "B"**

**TAVASCI MARSH PROPERTY**

Reservations or Exceptions in Patents, or in Acts authorizing the issuance thereof.

Water rights, claims or title to water, whether or not shown by the public records.

The rights or claims of title, if any, by the State of Arizona to any portion of the property described in Exhibit "A" being located in the bed of any river or dry wash.

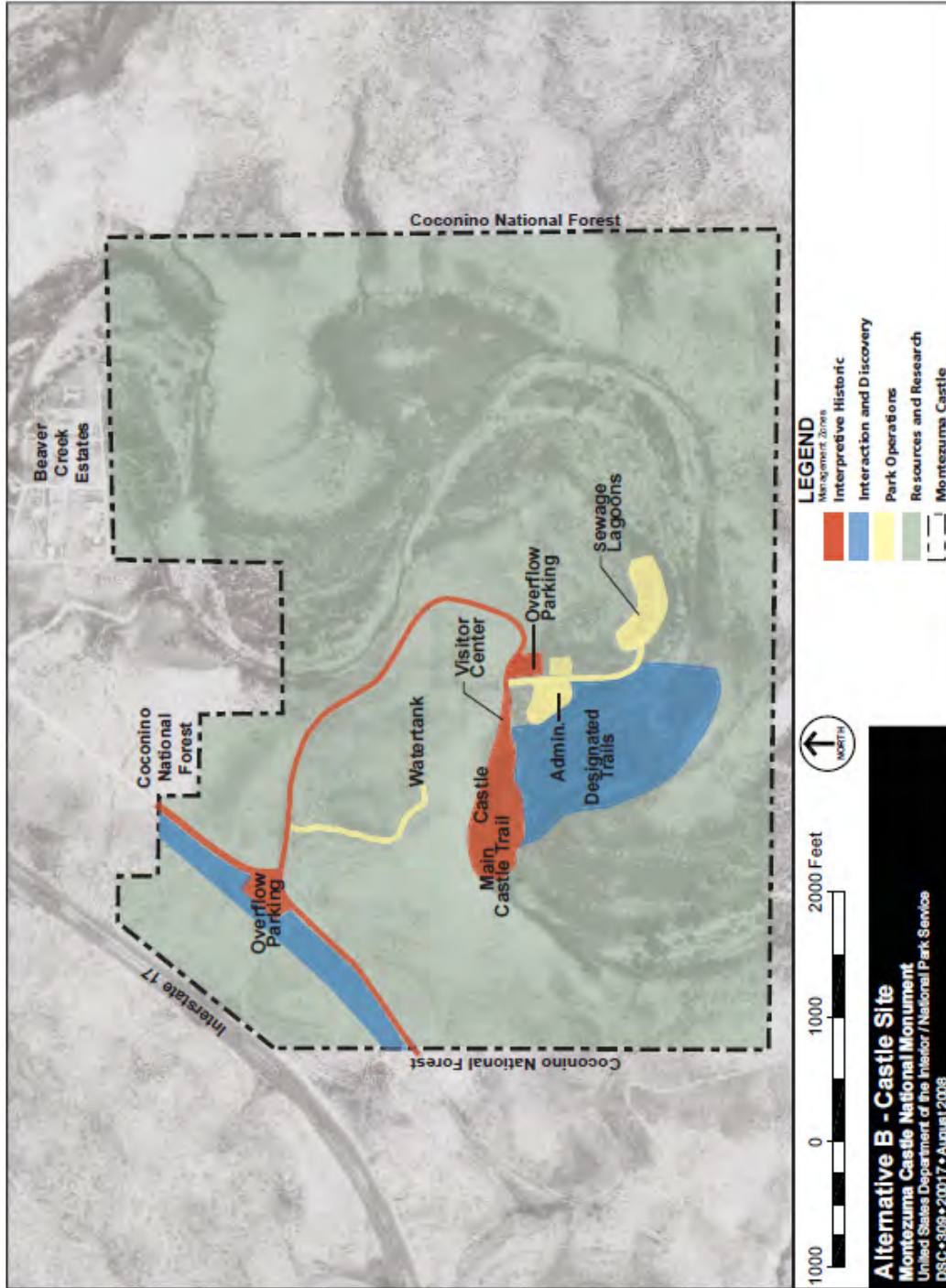
An easement for electric lines and incidental purposes in the document recorded as Book 348 of Official Records, Page 206 of Official Records.

All matters as set forth in Plat, recorded December 29, 1980 as Book 2 of Land Surveys, Pages 192 and 193.

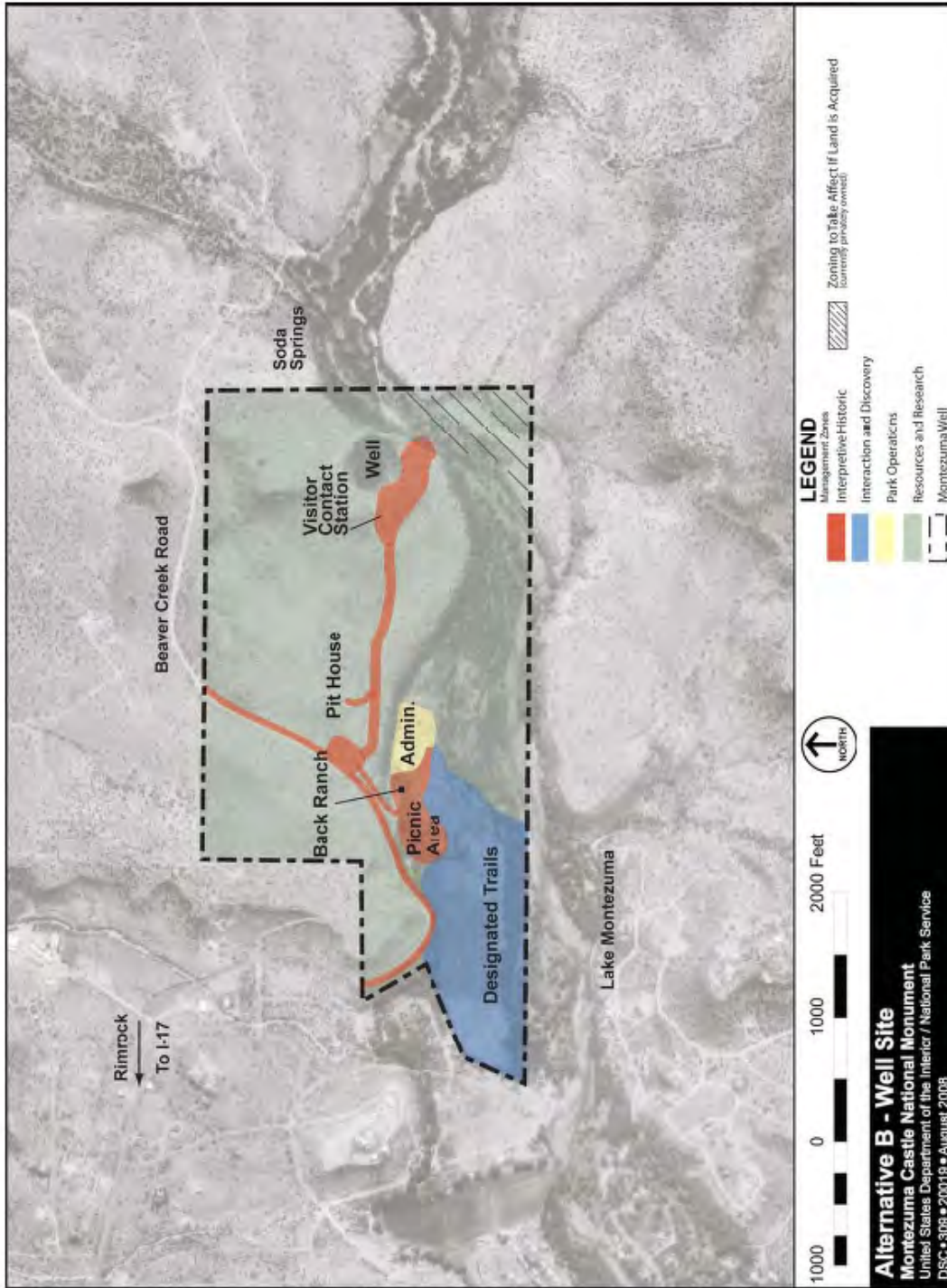
The terms and provisions contained in the document entitled "Agreement and Amendment of Agreement" recorded May 9, 1990 as Book 2247 of Official Records, Page 709 of Official Records.

The terms and provisions contained in the document entitled "Easement Agreement" recorded June 21, 2000 as Book 3762 of Official Records, Page 247 of Official Records.

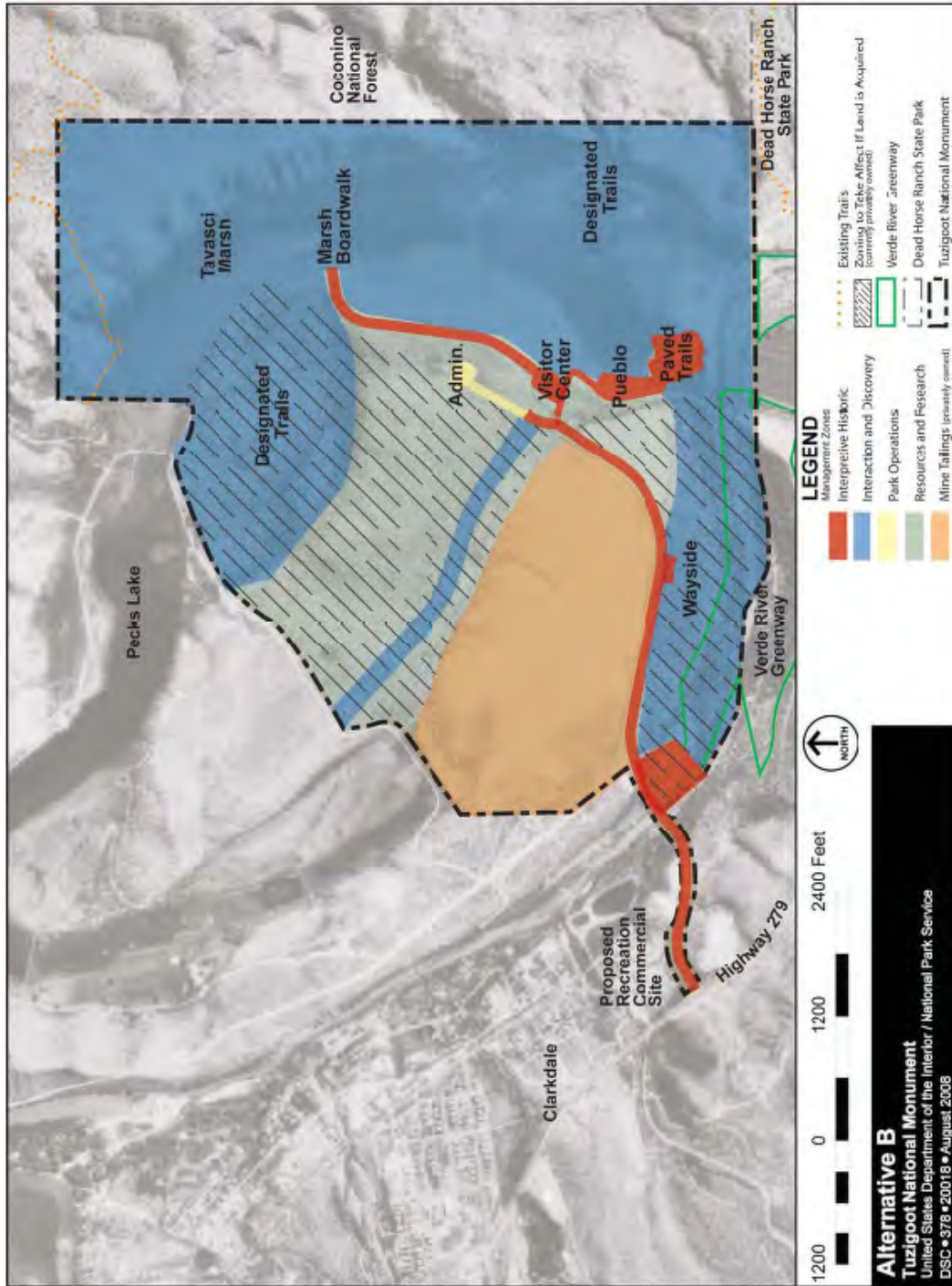
# APPENDIX B: PARCEL MAPS







**Alternative B - Well Site**  
 Montezuma Castle National Monument  
 United States Department of the Interior / National Park Service  
 DSC • 308 • 200118 • August 2008



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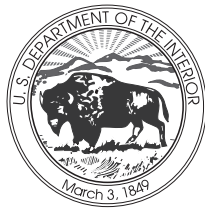
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As the nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering sound use of our land and water resources; protecting our fish, wildlife, and biological diversity; preserving the environmental and cultural values of our national parks and historic places; and providing for the enjoyment of life through outdoor recreation. The department assesses our energy and mineral resources and works to ensure that their development is in the best interests of all our people by encouraging stewardship and citizen participation in their care. The department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

