National Park Service
U.S. Department of the Interior

Montezuma Castle National Monument
Tuzigoot National Monument
Arizona

General Management Plan
Finding of No Significant Impact

The National Park Service (NPS) has prepared a general management plan / environmental assessment (GMP/EA) for Montezuma Castle and Tuzigoot National Monuments, Arizona. Montezuma Castle National Monument was established in 1906 under the authority of the Antiquities Act. Montezuma Well was added as a detached unit of Montezuma Castle National Monument by an Act of Congress in 1943. Tuzigoot National Monument was established by presidential proclamation on July 25, 1939. The boundaries of Montezuma Caste National Monument, the detached Montezuma Well, and Tuzigoot National Monument have all been expanded over the years to protect natural and cultural resources, protect adjacent resources, provide for administrative purposes, and to protect prehistoric structures.

The last comprehensive management plan for Montezuma Castle and Tuzigoot National Monuments was completed in 1975.

Much has changed since then, including patterns and types of visitor use, land uses in the Verde Valley, and area populations. These changes affect how visitors access and use the national monuments, the facilities needed to support those uses, management of resource, and how the National Park Service (NPS) manages its operations.

A new plan is needed to:

- Set forth the basic management philosophy or vision for Montezuma Castle and Tuzigoot national monuments and provide strategies for achieving identified management objectives ("desired future conditions").
- Clearly define resource conditions and visitor use and experience to be achieved in the monuments.
- Identify the kinds of resource protection, management, use, and development that will be appropriate in achieving and maintaining those conditions.
- Identify future partnerships and collaborative planning efforts that will facilitate the realization of the monuments' goals.
- Provide a framework for the monuments' managers to use to make decisions about protecting Montezuma Castle and Tuzigoot national monuments' resources, provide quality visitor use and experience, manage visitor use, and determine the kinds of facilities, if any, to develop in and near the monuments.

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 could not 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 archeology 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 recourse 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, continue to provide access to traditional use and spiritual areas, and screening new development from traditional use areas.
- 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 (HABS/HAER) 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 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 to 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 to 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, such as erosion matting, silt fencing, and sedimentation basins, in construction areas to reduce erosion, surface scouring, and discharge to water bodies.
- Once work is completed, revegetate construction areas with native plants in a timely manner.

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 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 to 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 to 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.

Water Resources

To prevent water pollution during construction, mitigation will include the following:

- 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 NPS 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 to 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.

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 directional signs and education programs to promote understanding among visitors.
- Implement adaptive visitor use management, as outlined in the use capacity of the EA, 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 non-sensitive 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 NPS 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 NPS 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 non-point 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.

ALTERNATIVES CONSIDERED

Two other alternatives were considered for Montezuma Castle National Monument and Tuzigoot National Monument general management plan/environmental assessment. Alternative A (no action) consists of the continuation of current management direction and trends at Montezuma Castle and Tuzigoot national monuments. Under alternative A the National Park Service would have continued to manage the national monuments as it has since the approval of the 1975 General Management Plan. There would have been no other major change in the management of Montezuma Castle and Tuzigoot national monuments under this alternative. All facilities and resource programs would have continued as they have - no major new facilities would be built.

Management under alternative C would have focused on providing increased opportunities for visitors to self-discover the natural and cultural resources of the monuments. Resources would still receive the highest level of protection, and could interact with and explore a wider range of the resources found in the monuments. Natural resource protection would be reduced compared to Alternative B because of the larger development footprint of this alternative. Alternative C would provide more trails to access resource, visitor stays would increase, acquisition of privately-owned lands within the legislative boundary, and removal of mine tailing property from legislated boundary.

The Environmentally Preferred Alternative

The environmentally preferred alternative is defined as "the alternative that will promote national environmental policy as expressed in Section 101 of the National Environmental Policy Act." Section 101 states that it is the continuing responsibility of the federal government to . . .

(1) fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;

(2) assure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings;

(3) attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences;

(4) preserve important historic, cultural, and natural aspects of our national heritage; and maintain, wherever possible, an environment which supports diversity, and a variety of individual choices;

(5) achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life's amenities; and

(6) enhance the quality of renewable resources and approach the maximum attainable recycling of depleatable resources.

The environmentally preferable alternative is alternative B. This alternative best satisfies the national environmental goals – it provides the highest level of protection of natural and cultural resources while concurrently providing for a wide range of neutral and beneficial uses of the environment.

The preferred alternative (alternative B) surpasses the other alternatives in realizing the full range of the Section 101 national environmental policy goals. The preferred alternative (alternative B) will provide the highest levels of resource protection while increasing the diversity of visitor opportunities, including the opportunity of self-exploration of the site's resources.

Alternative C would provide for more visitor use opportunities, but there also would be a higher potential for more impacts to archeological resources, because this alternative would provide more opportunities for unsupervised access to currently close areas of the monuments. In addition, in alternative C also presents greater threats to public health and safety than the preferred alternative. Thus, alternative C would not satisfy the following criteria as well as alternative B:

- attain the widest range of beneficial uses without resource degradation and risk to health or safety
- preserve important cultural aspects

WHY THE PREFERRED ALTERNATIVE WILL NOT HAVE A SIGNIFICANT EFFECT ON THE HUMAN ENVIRONMENT

As defined in 40 Code of Federal Regulations (CFR) §1508.27, significance is determined by examining the following criteria:

Impacts that may be both beneficial and adverse

No greater than minor adverse impacts will result to any monument resource from implementation of the preferred alternative. Facility improvements and trail and boardwalk development will have negligible to minor, short-term, adverse impacts on resources at the monuments.

Active marsh restoration activities at Tuzigoot National Monument will have a negligible to minor, long-term, beneficial effect on wetland habitat functions and special status species habitat at Tavasci Marsh.

Beneficial effects will result from connecting the three sites and from the increased diversity in opportunities to view and learn about the monuments' prime cultural resources.

Long-term, minor to moderate, beneficial effects on monument operations will result from increased and improved space for monument operations and from improved capability to manage visitors and resources.

Actions at Montezuma Castle and Tuzigoot national monuments will result in minor benefits and will have no adverse effect on archeological resources, prehistoric and historic structures and buildings, cultural landscapes, and ethnographic resources of the monuments.

Degree of effect on public health or safety

Visitor safety will remain a priority under the preferred alternative. None of the actions proposed in the preferred alternative will adversely affect public health or safety. Indeed, several of the actions will beneficially affect public health and safety, including: providing additional parking to reduce perceived and actual visitor safety concerns, expanding the visitor contact station to improve dissemination of safety information, and trail designation in already used trails to reduce hazards will result in long-term, minor beneficial impacts on visitor safety.

Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas

Montezuma and Tuzigoot national monuments contain significant cultural connectivity, structures and related resources and values, and natural features. Cultural connectivity resources include vistas, patterns of prehistoric land user, history of Verde Valley as trading hub, and 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. Structures and related resources and values support preservation and understanding of the prehistoric and historic structures and related resources and values of the monuments including prehistoric Sinagua structures, high degree of architectural integrity at Montezuma Castle; prehistoric Hohokam and Sinagura and historic Apache structures and related resources at Montezuma Well; and, prehistoric Sinagua structures and archeological evidences used to understand sociopolitical organization of settlement at Tuzigoot. Natural features of the monuments include the unique hydrology and geology of the monuments including large, spring-fed, limestone sink of Montezuma Well; the spring-fed Tavasci Marsh draining into the fields below; the limestone formations of the monuments; Beaver Creek; Wet Beaver Creek; and the Verde River. Special species and ecological processes and conditions related to the integration of desert and riparian landscapes.

Degree to which effects on the quality of the human environment are likely to be highly controversial

None of the actions proposed in the preferred alternative have the potential to be highly controversial. This is supported by the small number and noncontroversial nature of public comments received on the environmental assessment.

Degree to which the possible effects on the quality of the human environment are highly uncertain or involve unique or unknown risks

The effects of management strategies, constructing modest new administration facilities, a visitor contact shade ramada, new trails, and restoring the Tavasci Marsh are fairly straightforward, are similar to actions at other parks and do not pose highly uncertain, unique or unknown risks.

Degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration

No actions are proposed in the preferred alternative that are inconsistent with the enabling legislation Montezuma Castle and Tuzigoot national monuments. The preferred alternative will establish management zoning and will provide modest facility improvements and resource restoration that is consistent with law and policy. The preferred alternative will not set any NPS precedent for future actions with significant effects, nor does it represent a decision in principle about a future consideration.

Whether the action is related to other actions with individually insignificant but cumulatively significant impacts

Cumulative effects were analyzed in the environmental assessment and no significant cumulative impacts were identified.

Degree to which the action may adversely affect districts, sites, highways, structures, or objects listed on National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources

As described in the environmental assessment, implementation of the preferred alternative will result in no adverse effects to archeological resources, prehistoric and historic structures, cultural landscapes, and ethnographic resources at either Montezuma Castle or Tuzigoot National Monuments. By letter dated October 5, 2010 the Arizona state historic preservation officer (SHPO) "...agree[d] with the premise that avoidance of historic properties and/or the application of the Secretary of the Interior's Standards will prevent actions under this plan from having an adverse effect on historic properties." The NPS and SHPO concurred that as individual actions of the preferred alternative are implemented, the NPS will continue to consult with the SHPO and associated Tribes, as necessary, to ensure that cultural resources are managed to preserve their historic, archeological, architectural and cultural values.

Degree to which the action may adversely affect an endangered or threatened species or its critical habitat

The NPS determined that the preferred alternative may affect, but is not likely to adversely affect the threatened spikedace (*meda fulgida*) and its designated and proposed critical habitat, the threatened loach minnows (*Tiaroga cobitis*) proposed critical habitat, the endangered razorback sucker (*Xyrauchen texanus*), the endangered Gila chub (*Gila intermedia*)and it critical habitat, the 10j experimental population of Colorado pikeminnow (*Ptychocheilus lucius*), the endangered southwestern willow flycatcher (*Empidonax traillii extimus*) (SWWF) and its critical habitat, and the endangered Yuma clapper rail (*Rallus longirostris yumanensis*). While not required for section 7 consultation, the same determination was made for the candidate yellow-billed cuckoo (*Coccyzus americanus*), the candidate roundtail chub (*Gila robusta*), and candidate northern Mexican gartersnake (*Thamnophis eques megolops*). By letter dated November 18, 2010 the U.S. Fish and Wildlife Service concurred with these determinations.

Whether the action threatens a violation of Federal, state or local environmental protection law

This action violates no federal, state, or local environmental protection laws.

APPROPRIATE USE

Sections 1.5 and 8.12 of NPS Management Policies underscore the fact that not all uses are allowable or appropriate in units of the National Park System. The proposed use was screened to determine consistency with applicable laws, executive orders, regulations, and policies; consistency with existing plans for public use and resource management; actual and potential effects to park resources; total costs to the Park Service; and whether the public interest would be served. As detailed in the EA, the preferred

alternative prescribes actions and uses that are consistent with laws, executive orders, regulations, and policies; and is consistent with the monuments' plans for public use and resource management. Therefore, the Park Service finds that the preferred alternative is an appropriate use.

IMPAIRMENT

National Park Service's *Management Policies, 2006* require analysis of potential effects to determine whether or not actions would impair park resources. The fundamental purpose of the national park system, established by the Organic Act and reaffirmed by the General Authorities Act, as amended, begins with a mandate to conserve park resources and values. National Park Service managers must always seek ways to avoid, or to minimize to the greatest degree practicable, adversely impacting park resources and values.

However, the laws do give the National Park Service the management discretion to allow impacts to park resources and values when necessary and appropriate to fulfill the purposes of a park, as long as the impact does not constitute impairment of the affected resources and values. Although Congress has given the National Park Service the management discretion to allow certain impacts within park, that discretion is limited by the statutory requirement that the National Park Service must leave park resources and values unimpaired, unless a particular law directly and specifically provides otherwise. The prohibited impairment is an impact that, in the professional judgment of the responsible National Park Service manager, would harm the integrity of park resources or values, including the opportunities that otherwise would be present for the enjoyment of these resources or values. An impact to any park resource or value may, but does not necessarily, constitute an impairment, but an impact would be more likely to constitute an impairment when there is a major or severe adverse effect upon a resource or value whose conservation is:

- necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park;
- key to the natural or cultural integrity of the park; or
- identified as a goal in the park's general management plan or other relevant NPS planning documents.

An impact would be less likely to constitute an impairment if it is an unavoidable result of an action necessary to pursue or restore the integrity of park resources or values and it cannot be further mitigated.

The park resources and values that are subject to the no-impairment standard include:

- the park's scenery, natural and historic objects, and wildlife, and the processes and conditions that sustain them, including, to the extent present in the park: the ecological, biological, and physical processes that created the park and continue to act upon it; scenic features; natural visibility, both in daytime and at night; natural landscapes; natural soundscapes and smells; water and air resources; soils; geological resources; paleontological resources; archeological resources; cultural landscapes; ethnographic resources; historic and prehistoric sites, structures, and objects; museum collections; and native plants and animals;
- appropriate opportunities to experience enjoyment of the above resources, to the extent that can be done without impairing them;
- the park's role in contributing to the national dignity, the high public value and integrity, and the superlative environmental quality of the national park system, and the benefit and inspiration provided to the American people by the national park system; and

- any additional attributes encompassed by the specific values and purposes for which the park was established.

- Impairment may result from National Park Service activities in managing the park, visitor activities, or activities undertaken by concessioners, contractors, and others operating in the park. The NPS's threshold for considering whether there could be an impairment is based on whether an action would have major (or significant) effects.
- Impairment findings are not necessary for visitor use and experience, socioeconomics, public health and safety, environmental justice, land use, and park operations, because impairment findings relates back to park resources and values, and these impact areas are not generally considered park resources or values according to the Organic Act, and cannot be impaired in the same way that an action can impair park resources and values. After dismissing the above topics, topics remaining to be evaluated for impairment include paleontological resources and historic structures.

Fundamental resources and values for Montezuma Castle and Tuzigoot National Monuments are identified in this General Management Plan. According to the document, of the impact topics carried forward in this environmental assessment, the impact topics identified below are considered elements that contribute to the fundamental resources necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park; are key to the natural or cultural integrity of the park; and/or are identified as a goal in the park's General Management Plan or other relevant NPS planning document.

- **Archeological resources** – The 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 to 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 to Archeological resources.

- **Prehistoric and historic structures and buildings** - The 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 principle 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 to prehistoric and historic structures and buildings.

- **Cultural landscapes** – The cultural landscapes including the vistas between structures has 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 NPS would continue efforts to reduce the impacts on cultural landscape resources 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 to cultural landscapes.

- **Ethnographic resources and traditional cultural properties** – Montezuma Castle and Tuzigoot National Monuments were established to preserve its cultural and ethnographic resources and traditional cultural properties are identified as one of the fundamental resources of the monuments. While no ethnographic resources or traditional cultural properties have been

identified or documented at the monument, resources within the monument are treated as eligible for consideration. Therefore, ongoing consultation with concerned 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 on ethnographic resources, and will contribute to beneficial cumulative effect. Therefore, there will be no impairment to ethnographic resources and traditional cultural properties.

- **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 Tavasci marsh 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 to soils will occur.

- **Vegetation**–Special plant communities are identified as an important resource due to the interpretive themes and the importance to understanding 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. Impact to 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 non-native species. Impacts to vegetation will be very low. Therefore, there will be no impairment to 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 to 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 area from the development and access of trails. Impacts to wildlife may rise to a level of minor short-term adverse impacts due to construction related activities, but the impacts will be mitigated by timing construction to avoid nesting seasons and in the long term the impacts form 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 beneficial due to habitat restoration, with some negligible adverse impacts to habitat during construction which will be mitigated by timing construction activities to avoid impacts. The NPS made a determination and received concurrence from the USFWS of "may affect but not likely to adversely affect" all threatened, endangered, candidate species and critical habitat in the project area. The impact will not exceed a negligible level during construction and habitat restoration effort. Therefore, no impairment will occur.

In addition, the mitigation measures referenced above for these resources will further lessen the degree of impact to and help promote the protection of these resources. A summary of mitigation measures can be found under "Mitigation Measures" page 2-7 of this FONSI.

In conclusion, as guided by this analysis, good science and scholarship, advice from subject matter experts and others who have relevant knowledge and experience, and the results of public involvement activities, it is the Superintendent's professional judgment that there will be no impairment of park resources and values from implementation of the preferred alternative.

PUBLIC INVOLVEMENT

A variety of public involvement techniques were used for this project, including participation in public meetings, responses to newsletters, and electronic comments on the national monuments' websites and the NPS Planning, Environment, and Public Comment (PEPC) site. A notice of intent to prepare an environmental impact statement was published in the Federal Register on May 29, 2003. In August 2003, the first newsletter was issued describing the planning effort. Following additional review, the National Park Service determined that the actions anticipated in the plan would likely not result in significant environmental impacts nor was public controversy likely; therefore, an environmental assessment was appropriate rather than an environmental impact statement. On June 13, 2006 a formal retraction from an EIS to an EA was placed in the Federal Register. Less than 20 people attended each of two public meetings held in September 2003. People attending these meetings informed the NPS concerning the issues (opportunities, problems, or concerns) that it should address in the general management plan.

The NPS also met with representatives of local, state, and other federal agencies to obtain input regarding the future of the national monuments. These meetings were held at key points throughout the planning process. In addition, the NPS partnered with Arizona State University to conduct a visitor use survey and gather data on visitor characteristics and preferences.

Issues and concerns raised in response to the first newsletter, public meetings, and meetings with other government agencies and organizations were considered and incorporated into the issues for the general management plan. An August 2004 newsletter described the management prescription and alternative concepts for managing the national monuments. Two public meetings were held in September 2004 and were attended by fewer than 20 people each.

Native American and SHPO Coordination

In September 2003, at the outset of the general management planning process, scoping letters were sent to following Native American groups traditionally associated with the lands of Montezuma Castle and Tuzigoot National Monuments: Yavapai Apache Nation, Yavapai-Prescott Indian Tribe, Zuni Pueblo, Hopi Tribe; Salt River Pima-Maricopa Indian Community, Gila River Indian Community, Ak-Chin Indian Community; and the Tohono O'Odham Nation. At the request of six of the tribes, subsequent meetings were held with various tribal representatives during 2003-2004.

In March 2010 copies of the general management plan/environmental assessment (GMP) was sent to each tribe for review and comment. Only the Hopi Tribe provided comments. The Hopi (1) expressed support for the preferred alternative; (2) requested a clarification on the use of affiliated and associated in the GMP with regard to the tribes; and (3) and requested that the Native American Graves Protection and Repatriation Act inventory information be deleted from the GMP. The Hopi Tribe's two requests were complied with (see the errata sheets).

The NPS will continue to recognize the past and present existence of Native Americans in the region and the traces of their use as an important part of the cultural environment to be preserved and interpreted and, as individual actions of the preferred alternative are implemented, the NPS will continue to consult with the eight associated tribes to develop and accomplish the programs of the two monuments in a way that respects the beliefs, traditions, and other cultural values of the Native American groups who have ancestral ties to the monuments' lands.

Scoping for the general management planning process was initiated with the Arizona state historic preservation officer (SHPO) by letter in September 2003. A subsequent letter notifying the SHPO of the continuing planning process was mailed in November 2007. The SHPO was also the recipient of planning newsletters and invitations to public meetings.

In March 2010 a copy of the general management plan/environmental assessment was mailed to the SHPO for review and comment. By letter dated October 5, 2010 the Arizona state historic preservation officer (SHPO) "...agree[d] with the premise that avoidance of historic properties and/or the application of the Secretary of the Interior's Standards will prevent actions under this plan from having an adverse effect on historic properties." The NPS and SHPO concurred that as individual actions of the preferred alternative are implemented, the NPS will continue to consult with the SHPO and associated Tribes, as necessary, to ensure that cultural resources are managed to preserve their historic, archeological, architectural and cultural values.

Public Review of the General Management Plan

The Environmental Assessment was made available for a 60-day public review ending May 24, 2010. A public notice was published on March 19, 2010 and the document was provided to agencies, stakeholders, associated tribes and interested members of the public, and was made available on the PEPC site. Substantive comments are defined by NPS Director's Order 12 (DO-12, Section 4.6A) as one that does one or more of the following:

- Question, with a reasonable basis, the accuracy of information in the EA;
- Question, with a reasonable basis, the adequacy of the environmental analysis;
- Present reasonable alternatives other than those presented in the EA; and/or
- Cause changes or revisions in the proposal.

About six comments were received and substantive comments to the EA centered on 3 topics: dismissal of water resources from full analysis, the definition of affiliated tribes, and presentation of NAGPRA inventory data. Some of these concerns resulted in changes to the text of the environmental assessment and are presented as errata attached to this FONSI. The FONSI and errata sheets will be sent to all commenters.

CONCLUSION

Based 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, results in determination 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 preferred alternative will not violate any federal, state, or local environmental protection law.

Based on the foregoing, it has been determined that an EIS 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.

Recommended: _____ 12/22/2010
Superintendent Date

Approved: _____ 12/23/10
Intermountain Regional Director Date

Errata Sheets
Montezuma Castle and Tuzigoot National Monuments
General Management Plan/Environmental Assessment

Corrections and revisions to the General Management Plan / Environmental Assessment are listed in this section. Revisions were made in response to comments from public and agency reviews of the environmental assessment. These revisions have not resulted in substantial modification of the preferred alternative. It has been determined that the revisions do not require additional environmental analysis. The page numbers referenced are from the *Montezuma Castle National Monument Tuzigoot National Monument General Management Plan / Environmental Assessment*.

Page 105. Under the "Ceramic Period: Camp Verde Phase" section.

Change "best known of the Hohokam phases" to "Hohokam influenced phases."

Page 106. Under the "Tuzigoot Phase (ca. AD 1300 to 1400/1450)" section.

Change Tuzigoot Phase (ca. AD 1300 to 1400/1450) to Tuzigoot Phase (ca. AD 1100 to 1400/1450).

Page 109. Under the "Montezuma Castle National Monument, Site Conditions" section.

In the first paragraph, delete the sentence beginning "Sewage lagoon construction by the National Park Service also likely impacted some archeological sites."

Page 109. Under the "Tuzigoot National Monument, Site Descriptions" section.

In the seventh paragraph beginning The Tuzigoot Pueblo change the first sentence that states, "The Tuzigoot Pueblo is a medium-sized pueblo with 77 ground-floor rooms and 15 possible second-story rooms in one main roomblock and four smaller contiguous roomblocks" to "The Tuzigoot Pueblo is a medium-sized pueblo with 86 ground-floor rooms and 15 to 24 possible second-story rooms in one main roomblock and four smaller contiguous roomblocks."

Page 112. Under the heading which starts on page 111 "Native American Graves Protection and Repatriation Act Inventory Information" heading.

In the sentence "The report also identified the following Native American tribes as having cultural affiliation with the two national monuments" change the word "affiliation" to "association."

Page 112-113. Under the "Native American Graves Protection and Repatriation Act Inventory Information" heading.

Delete the section including text under both headings "Cultural Affiliation Study."

Page 117. Under the "Criterion D" heading.

Delete the sentence "All cultural deposits were removed from Montezuma Castle by the turn of the century, and the cliff dwelling has little potential for further study, other than re-examination of its architecture, historic graffiti, and perhaps C14 dates (there are no direct dates of the cliff dwelling)."

Page 245. Under the "Consultation with Native Americans" heading.

In the right hand column, second paragraph, in the sentence "After further review, the final version of the agreement was sent in January 2005 to representatives of the eight affiliated tribes for their consideration", change the word "affiliated" to "associated."

SUBSTANTIVE COMMENTS

Dismissal of Water Resources

Comment: Water resources should not be dismissed as an impact topic. Surface and ground water are some of the most important resources found in the monuments. The continued vitality of these resources is threatened by rampant development and pumping within the Verde Valley.

Response: The National Park Service agrees with the commenter that water resources are of fundamental importance to the monuments. This is recognized under Fundamental Resources and Values on page 16 of the environmental assessment (EA), which lists among resources that are fundamentally important, "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."

The reasons for dismissing water resources from evaluation in the EA are provided on page 38. NPS guidance for dismissing impact topics in EA's is provided in Director's Order 12, and states that the EA should "describe only those resources that may experience or cause impact or be affected if the proposal or alternatives are implemented." As none of the alternatives, including the preferred alternative, would cause greater than short-term, negligible adverse impacts, water resources were not retained for full evaluation in the EA. However, this section also provides additional recognition of the importance of these resources to the monuments' purpose and significance.

The NPS understood during the preparation of the EA that recognition of the issues cited by the commenter should be addressed. For this reason the external effects of actions by others within the Verde Valley was addressed in the cumulative impact analysis for Socioeconomics on page 240. It was concluded that impacts from adjacent and surrounding land use changes could result in minor to moderate adverse impacts to water resources.

To address this and other issues related to management of the monuments, the GMP establishes an objective for partnerships which will, as stated on page 20, "establish and maintain effective partnerships and collaborative planning efforts that facilitate the realization of the monuments' goals."

Definition of Affiliated Tribes

Comment: Three Yavapai tribes, the Hopi Tribe, and the Gila River and Salt River Communities are cited as "being culturally affiliated to the two national monuments" on page 112, and

"eight affiliated tribes" is cited on page 245. As we have stated previously, cultural affiliation pursuant to the Native American Graves Protection and Repatriation Act (NAGPRA) is defined as a shared group identity between an earlier identifiable group and a modem day tribe, not a place such as the monuments. A more appropriate term in these contexts is "associated."

Response: The word "affiliated" has been replaced with "associated." See the Errata Sheets for specific locations in the environmental assessment.

Presentation of Preliminary NAGPRA Inventories

Comment: Furthermore, because preliminary NAGPRA inventories have been compiled but Notices of Inventory Completion have not yet been published, and because consultations pursuant to NAGPRA are ongoing, we consider it inappropriate to cite the preliminary inventory information regarding human remains and associated funerary objects in this GMP. Therefore, we request that the Native American Graves Protection and Repatriation Act Inventory Information section on pages 112-113 be deleted from this GMP.

Response: The cited section has been deleted from the environmental assessment.