

National Park Service
U.S. Department of the Interior



Petrified Forest National Park
Arizona

PETRIFIED FOREST NATIONAL PARK WILDERNESS STEWARDSHIP PLAN / ENVIRONMENTAL ASSESSMENT FINDING OF NO SIGNIFICANT IMPACT

The National Park Service (NPS) has prepared a wilderness stewardship plan / environmental assessment for Petrified Forest National Park. The park wilderness area, designated by Congress in 1970 (84 Stat. 1105, Section 2b), includes two separate units—the north wilderness unit, in the Painted Desert, and the south wilderness unit, located along Puerco Ridge, east of Rainbow Forest and Crystal Forest. The total combined acreage of the two wilderness units is 51,728 acres. The wilderness area exhibits outstanding geological resources with exposed, fossil-rich Chinle Formation layers dating to the Late Triassic period. Archeological resources document more than 10,000 years of human presence in the area. Self-reliant visitors seeking a primitive, unconfined recreational experience encounter an expansive landscape of rugged natural beauty.

The purpose of this wilderness stewardship plan is to guide the preservation, management, and use of park wilderness to ensure that it remains unimpaired for future use and enjoyment. The overarching goal of the plan is to restore, protect, and enhance wilderness character. The plan identifies desired future resource conditions and opportunities for visitor experiences and proposes actions that will help achieve these desired conditions. It also provides a framework for managers to use when making decisions about how to best protect wilderness resources, how to provide high-quality visitor experiences, and how to manage visitor use. The wilderness stewardship plan is needed to replace the park's 1979 backcountry management plan and is consistent with the 1993 general management plan (revised 2004, amended 2010).

Two alternatives were identified for the *Petrified Forest National Park Wilderness Stewardship Plan*. Because of the high level of protection afforded under the Wilderness Act and because there were few viable options for managing the wilderness area, only two alternatives were developed: a no-action alternative and an action alternative.

PREFERRED ALTERNATIVE

Alternative B is the National Park Service's preferred alternative (selected action) as identified in the environmental assessment. Under alternative B, the National Park Service will adopt a proactive, comprehensive approach to wilderness management, employing a variety of strategies to protect and enhance wilderness character. Backcountry management issues will be addressed, particularly with regard to visitor access of the north wilderness unit from locations outside the wilderness boundary. Desired resource conditions and visitor experience for the wilderness area conform to those presented in the 2004 general management plan revision for the "preservation emphasis zone." Natural processes will prevail, natural landscapes and soundscapes will predominate, and evidence of recreational uses will not be readily apparent. Visitors will have opportunities for solitude, independence, and adventure and will rarely

encounter other visitors or park staff. NPS management activities include research and monitoring, occasional administrative use, and protection of natural and cultural resources. Management activities will be consistent with NPS servicewide wilderness management policies.

Key actions and strategies that will be taken under the preferred alternative include the following:

- A trail will be constructed in the backcountry to provide more formalized access into the north wilderness unit.
- Additional public access points may be established into the north wilderness unit from Tiponi Point and Devil's Playground.
- Dispersed camping will be allowed in the backcountry during times when Lithodendron Wash is impassible, during inclement weather, or other circumstances deemed necessary by park managers.
- Interpretive programs and media will be used to increase public education and awareness of wilderness values, safety, and appropriate uses.
- Protocols will be established for paleontological research, inventory, and monitoring in the wilderness areas.
- Programmatic minimum requirement decision guides will be adhered to for maintaining the boundary fence and for conducting research within wilderness with the least impact to wilderness character.
- The boundary fence will be maintained with the least impact to wilderness character and will be wildlife-friendly.
- Optional administrative access points into the wilderness units will be considered for research and monitoring to prevent the establishment of well-defined administrative trails in the wilderness units.
- A wilderness character monitoring and user capacity framework will be implemented to ensure that human impacts to wilderness resources are minimized and wilderness character is protected.
- The park staff will build a constituency by engaging or partnering with interested citizens and encouraging community involvement; partnerships will be sought with the Navajo Nation and other neighbors and with interested citizens and organizations to assist park staff in protecting wilderness values, restoration activities, and conducting scientific research among other tasks.

MITIGATION MEASURES

As described in the wilderness stewardship plan, the following mitigation measures will be applied to avoid or minimize potential impacts from implementation of the preferred alternative. The construction mitigation measures apply to actions regarding trails and access points adjacent to (but outside) the north wilderness unit.

Natural Resources

General.

- New facilities will be built in disturbed areas whenever feasible. Boardwalks, fences, signs, and similar measures will be used to route people off of or away from sensitive resources such as petrified wood and other fossils while still permitting access.
- Measures to control dust and erosion during construction will be implemented outside of the wilderness area.

Soils.

- Best management practices to prevent soil erosion will be used, such as the use of silt fences during the development of additional access points and the trail through the backcountry to the wilderness boundary.

Paleontological Resources.

- Best management practices will be used during the collection of exposed fossils to ensure that they are not damaged during excavation.
- Park staff will design the trail through the backcountry area for wilderness access and the additional access points away from fossil-rich areas. As part of this approach, paleontological inventories will be conducted before appropriate public access points and routes are determined.

Vegetation and Wildlife.

- Special attention will be devoted to preventing the spread of invasive plant species. Standard operating procedures could include ensuring that park vehicles entering the administrative access areas outside of the wilderness area are free of mud or other seed-bearing material and that appropriate native plant species are used during restoration work.

Cultural Resources

- NPS staff will continue to conduct surveys and other research necessary to effectively document and manage archeological, historic, and ethnographic resources in wilderness. Survey and research activities will be conducted in a fashion consistent with the protection of wilderness values. Identified sites will be evaluated for their eligibility for listing in the National Register of Historic Places. Appropriate resource treatments and research will be carried out in accordance with *The Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation*. As needed, the results of these efforts will be incorporated into site-specific planning and environmental analysis documents.
- Known archeological resources will be routinely monitored to assess and document site conditions and the effects on resources resulting from natural erosional processes and human activities. Archeological resources will be left undisturbed and preserved in a stable condition to prevent degradation and loss of research values unless intervention could be justified based on compelling research or site-protection needs.

- In accordance with section 106 of the National Historic Preservation Act, archeological surveys and investigations will precede any construction- or project-related ground disturbance (e.g., the development of access trails in the backcountry, paleontological research excavations) to ensure that significant archeological resources are avoided to the greatest extent possible. If previously unknown resources are discovered, all work in the immediate vicinity of the discovery will cease until the resources are assessed and documented. An appropriate mitigation strategy will be developed in consultation with the Arizona State Historic Preservation Office and associated American Indian tribes if resources could not be avoided.
- In the event that human remains, funerary objects, sacred objects, or objects of cultural patrimony are discovered, provisions outlined in the Native American Graves Protection and Repatriation Act of 1990 (25 USC 3001) will be followed. If non-Indian human remains were discovered, standard reporting procedures to notify the proper authorities will be followed, as will all applicable federal, state, and local laws.
- NPS staff will continue ongoing consultations with traditionally associated American Indian tribes. Sensitive, sacred, or traditional use areas will be protected to the greatest extent possible by avoiding or mitigating adverse impacts to ethnographic resources, retaining site confidentiality as appropriate, and continuing to provide tribal access to resources and places of cultural importance.
- NPS staff will continue to inform visitors of the importance of respecting and not disturbing archeological or ethnographic resources in wilderness or other areas of the park. Visitors will be informed (through NPS educational and interpretive programs and ranger contacts) of the penalties for illegally collecting artifacts, defacing petroglyphs, or otherwise causing resource damage. Visitors will also be encouraged not to disturb offerings that are customarily placed by culturally associated tribal members at various places in the wilderness area.

Visitor Use and Experiences

- Minimum requirement decision guides will continue to be used to mitigate impacts to visitor experience of solitude and primitive and unconfined types of recreation, especially for fence maintenance, cultural and ethnographic resource inventories and repairs, and activities related to scientific research.
- General minimum requirements guidance will also be applied to mitigate possible impacts from wilderness monitoring activities on visitor experience of solitude and primitive and unconfined types of recreation.
- Visitor safety concerns will continue to be integrated into NPS educational programs and outreach materials. Directional signs and trails will be used in the backcountry zone leading to wilderness to orient visitors, and education programs will continue to promote understanding among visitors.
- The park staff will develop a communications strategy to alert visitors to pertinent elements of the trail construction schedule and fire management schedule.

- Measures to reduce adverse effects of trail construction on visitor safety and experience will be implemented, including scheduling the use of equipment during nonpeak visitation times. A construction work schedule will be prepared by the trail crew to minimize the effects on visitors. This work schedule will be submitted for park review and approval prior to construction.
- Trail construction equipment and materials will be stored with consideration to the scenic values and the sense of place that visitors associate with the wilderness landscape. To mitigate impacts to the visitor experience, construction equipment and materials will be consolidated in staging areas at the end of each work day to limit the visual intrusion of construction equipment during nonwork hours.
- Outdoor lighting for new or rehabilitated facilities will be the minimum amount required to provide for visitor safety. Lights will also be shielded and/or directed downward to minimize impacts on visitor experience of the dark night sky while camping in wilderness.
- Standard noise abatement measures will be implemented, as appropriate, during park operations and construction activities to reduce impacts to visitor opportunities for solitude and primitive and unconfined types of recreation.
- The park staff will continue to collect and use visitation data, communication with landowners, and other information to identify user conflicts and landowner concerns related to public use. Actions will then be implemented to reduce or eliminate conflicts according to the wilderness stewardship plan.

ALTERNATIVES CONSIDERED

One other alternative besides the preferred alternative was considered for the *Petrified Forest National Park Wilderness Stewardship Plan*. The no-action alternative (alternative A) provides a baseline against which to compare alternative B. Under alternative A the National Park Service would continue its current approach to managing the wilderness area, with no major changes in current actions, programs, and plans. Natural resources, cultural resources, visitor use and experience, operations, and partnerships would continue without a comprehensive approach to wilderness management. Wilderness management would continue to be conducted in compliance with various federal and state laws, NPS *Management Policies 2006*, and the existing general management plans (1993, revised 2004, amended 2010) and backcountry management plan (1979).

THE ENVIRONMENTALLY PREFERABLE ALTERNATIVE

According to Council on Environmental Quality regulations implementing the National Environmental Policy Act (43 CFR 46.30), the environmentally preferable alternative is the alternative "that causes the least damage to the biological and physical environment and best protects, preserves, and enhances historical, cultural, and natural resources. The environmentally preferable alternative is identified upon consideration and weighing by the responsible official of long-term environmental impacts against short-term impacts in evaluating what is the best protection of these resources. In some situations, such as when different alternatives impact different resources to different degrees, there may be more than one environmentally preferable alternative."

Alternative B was identified to be the environmentally preferable alternative in the *Petrified Forest National Park Wilderness Stewardship Plan/EA*. Compared to alternative A, alternative B will cause the least damage to the biological and physical environment and best protects, preserves, and enhances historical, cultural, and natural resources, thereby making it the environmentally preferable alternative. Alternative B provides proactive, comprehensive management of the wilderness units. The alternative provides for enhanced protection and management of wildlife, vegetation, and special status species in wilderness areas. The development of protocols for paleontological research and monitoring within wilderness will better ensure that fragile paleontological resources are protected, that excavated specimens are recovered in a timely manner, and that research activities result in minimal environmental disturbance. The alternative provides for continuing cultural resource surveys and investigations, while further ensuring that cultural resource management is conducted in a manner that protects wilderness character. Implementation of a comprehensive monitoring program will enhance the ability of the park staff to track trends and assess progress regarding preservation of wilderness character. The emphasis on expanding and improving partnerships with park neighbors, stakeholders, and volunteers will improve the ability of the park staff to carry out comprehensive resource protection. Improved resource protection is expected from limitations on the size of overnight camping groups, other camping restrictions, limits on horse use, implementation of human waste management measures, and formalizing visitor access into the north wilderness unit. Park operational activities (e.g., maintenance of wilderness area boundary fencing and selection of optional access points into wilderness units for research and monitoring) will be conducted that best protect resources and wilderness character.

In contrast, alternative A would not provide a comprehensive strategy for resource protection in a manner that fully considers preservation of wilderness character and values. Although resource management would proceed under existing laws and policies, ongoing research, operations, and visitor use activities would be expected to continue without the benefit of coordinated monitoring strategies, protocols, or minimum requirement decision guides to ensure resource protection and preservation of wilderness character. The ability of the park staff to effectively manage the wilderness units under provisions of the outdated backcountry management plan (1979) would continue to be limited, and without the benefits and assistance provided by enhanced partnerships with stakeholders and improved educational outreach. Thus, alternative A would probably result in more adverse impacts to wilderness resources and values than alternative B.

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

Implementing the preferred alternative will have both long-term beneficial and adverse impacts on natural resources (geological resources and soils, vegetation and wildlife), cultural resources (archeological and ethnographic resources), visitor use and experience, and park operations. The alternative will mostly have beneficial impacts, including those affecting visitor use and experience and the socioeconomic environment. Most of the adverse impacts will be negligible to minor in magnitude, with some minor to moderate adverse impacts to geological resources and soils and moderate adverse impacts on park operations. None of these impacts will meet the threshold of significant impacts.

Degree of Effect on Public Health or Safety

The actions in the preferred alternative will have a long-term, negligible to moderate beneficial impact on visitor safety. Visitors take inherent risks when they enter the wilderness area, especially during the summer season when the lack of shade and extreme temperatures can pose risks to hikers if they do not come prepared for this environment. Because there are no signs, no trails, no permanent water sources, and no facilities, visitors must come prepared to be entirely self-reliant. Under the preferred alternative there will be beneficial impacts on visitor safety due to

- the implementation of new policy and education for sanitation and waste management in backcountry or wilderness
- development of a trail register, allowing the emergency response team access to information and whereabouts of day use visitors
- allowing dispersed camping in the backcountry during times when Lithodendron Wash is impassible, during inclement weather, or other circumstances deemed necessary by park management
- improved media for communicating wilderness values, safety, and appropriate uses to the public

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

As described in the environmental assessment, impacts to natural and cultural resources will be negligible to moderate in magnitude. Wetlands in the wilderness area are few and generally associated with rivers or washes. No actions are being proposed that will adversely affect these wetlands; the proposed trail that terminates near Lithodendron Wash will be designed and built to avoid wetlands. The wilderness area has no prime farmlands, wild and scenic rivers, or ecologically critical areas.

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 of public comments received during the scoping period and 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

None of the actions proposed in the preferred alternative pose uncertain, unique, or unknown risks. The actions are all straightforward, similar to actions taken in other wilderness areas, and are consistent with NPS wilderness management policies and with the park's purpose. There is no uncertainty about the short- or long-term effects on the human environment or about whether the actions pose 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

All of the actions proposed in the preferred alternative are consistent with the NPS Organic Act, Wilderness Act, Petrified Forest National Park's enabling legislation, and NPS management policies. The preferred alternative will result in trail improvements and resource management efforts that are consistent with law and policy. There is no potential that the actions in the preferred alternative will set any NPS precedent for future actions with significant effects or represents a decision in principle that will influence future considerations.

Whether the Action is Related to Other Actions with Individually Insignificant But Cumulatively Significant Impacts

No major (significant) adverse or beneficial cumulative effects were identified due to the preferred alternative. Alternative B has the potential for moderate adverse cumulative impacts on park operations, minor to moderate adverse cumulative impacts on archeological resources and ethnographic resources, and negligible to minor adverse cumulative impacts on vegetation and wildlife as well as visitor use and experience. There also will be minor to moderate beneficial cumulative impacts on paleontological resources and vegetation and wildlife. None of these cumulative impacts meet the threshold of a significant impact.

Degree to Which the Action May Adversely Affect Districts, Sites, Highways, Structures, or Objects Listed in the National Register of Historic Places or May Cause Loss or Destruction of Significant Scientific, Cultural, or Historical Resources

The National Park Service concluded that the proposed actions outlined in the preferred alternative will have a few negligible to minor adverse impacts on archeological and ethnographic resources. None of these impacts will be a significant effect. The adverse impact will neither diminish the overall integrity of the park's cultural resources nor compromise their potential for listing in the national register.

Degree to Which the Action May Adversely Affect an Endangered or Threatened Species or Its Critical Habitat

Fourteen federally listed and candidate species may occur in the wilderness area, including mammals, birds, amphibians, reptiles, and vascular plants. The National Park Service determined that the preferred alternative will not affect these species. None of the species have been observed in areas proposed for trail or access point development, and no critical habitat has been identified.

Whether the Action Threatens a Violation of Federal, State or Local Environmental Protection Law

The preferred alternative violates no federal, state, or local environmental protection laws.

PUBLIC INVOLVEMENT, AGENCY CONSULTATION, AND COMMENTS ON THE ENVIRONMENTAL ASSESSMENT

The environmental assessment was made available for public review and comment during a 30-day period ending March 31, 2013. A total of two written responses were received, from the Arizona Game and Fish Department and the Sierra Club's Grand Canyon Chapter. (See the errata sheet for their comments and NPS responses.) The Finding of No Significant Impact will be sent to the commenters.

American Indian Coordination

In letters dated November 17, 2011, the park staff notified various offices of the Hopi Tribe, the Pueblo of Zuni, and the Navajo Nation that work had begun on the wilderness stewardship plan. The tribes were invited to consult and participate in the planning process on a government-to-government basis. Tribal representatives met with park staff and concurred with NPS management efforts to keep the wilderness area as pristine as possible. The protection of archeological resources was of particular concern to the tribal representatives. They also encouraged the park staff to monitor resource conditions and to undertake suitable measures to prevent resource damage and unauthorized access into wilderness.

Copies of the *Petrified Forest National Park Wilderness Stewardship Plan / Environmental Assessment* and an accompanying transmittal letter were sent to the tribes on February 15, 2013. The park staff followed up with the tribes in April 29, 2013, and the tribes did not have any comments on the plan at that time. The park staff will continue to consult during implementation of the plan and as part of its ongoing commitment to maintain open tribal / NPS communications. Information and recommendations conveyed to the park by associated tribes with regard to wilderness management or other concerns will be considered and addressed as appropriate, and the park staff will undertake measures to protect (and maintain traditional access to) culturally important resources and places.

Section 106 Consultation with the Arizona State Historic Preservation Office

The park staff notified the Arizona State Historic Preservation Officer of the commencement of the wilderness stewardship plan in a letter dated June 27, 2011, and invited him to participate in the consultation and planning process to assist with the preservation management of cultural resources in the park's wilderness areas. A copy of the plan / environmental assessment and transmittal letter were sent to the Arizona State Historic Preservation Office for review and comment on February 15, 2013. The park staff followed up with the State Historic Preservation Office in April 29, 2013, and they stated that they not have comments on the plan. However, the park and the State Historic Preservation Office agreed to consult on the implementation of the plan as needed. Specifically, the park staff will consult with the State Historic Preservation Office in accordance with section 106 of the National Historic Preservation Act with regard to specific undertakings that may arise from the wilderness stewardship plan to assess potential effects on cultural resources (particularly archeological and ethnographic resources) and to seek ways to avoid or limit adverse effects as necessary.

CONCLUSION

As described above, the preferred alternative (alternative B) does not constitute an action meeting the criteria that normally require preparation of an environmental impact statement. The preferred alternative will not have a significant effect on the human environment. Environmental impacts that could occur are limited in context and intensity, with generally adverse impacts that are localized and range from short- to long-term, and negligible to moderate. There are no unmitigated adverse effects on public health and

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 action will not violate any federal, state, or local environmental protection law.

Based on the foregoing, it has been determined that an environmental impact statement is not required for this plan and thus will not be prepared.

Recommended: Bradley Strain 6/3/13
Superintendent Date

Approved: James E. Joss 6/10/13
Intermountain Regional Director Date
Acting

Errata Sheet

Petrified Forest National Park Wilderness Stewardship Plan/Environmental Assessment

Corrections and revisions to the *Petrified Forest National Park Wilderness Stewardship 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 *Petrified Forest National Park Wilderness Stewardship Plan / Environmental Assessment*.

TOPIC: MANAGEMENT OF WILDLIFE IN THE WILDERNESS AREA

Comment:

The Arizona Game and Fish Department requested that consideration be given in the environmental assessment to ensure the agency is able to fulfill its public trust responsibilities through "active wildlife management" in the wilderness area.

Response:

On page 38, the following new bullet is being added:

- The National Park Service will continue to collaborate with the Arizona Game and Fish Department to protect and manage wildlife in the park's wilderness area, while also ensuring that the area's wilderness character is maintained.

OTHER COMMENTS AND RESPONSES

Arizona Game and Fish Department Comments

Concern: The Arizona Game and Fish Department expressed concern about its ability to manage wildlife in the wilderness area and a "hands-off" approach to maintenance of biological diversity and long-term species viability. They requested the ability to conduct active wildlife management activities, such as low-level aerial wildlife surveys, wildlife capture, and reintroduction of native wildlife species.

Response: The National Park Service respects the state's public trust responsibilities to maintain wildlife populations in Petrified Forest National Park and the wilderness area. We also are bound by the requirements of the Wilderness Act, which limits management activities that can occur in all wilderness areas. We have, and will continue to, collaborate with the Arizona Game and Fish Department to protect and manage wildlife in the park while also ensuring that the area's wilderness character is maintained. (This statement has been added to the plan—see above.) As described on pages 45–46 and appendix D in the wilderness stewardship plan / environmental assessment, the park staff will apply the minimum requirements concept to determine if any specific future proposals by the state would affect wilderness character, and if so, how impacts can be minimized.

Sierra Club's Grand Canyon Chapter Comments

Concern: Use of motorized vehicles to maintain the wilderness boundary fence. This action should not occur. The environmental assessment should analyze the impacts of regular use of motorized vehicles to maintain boundary fences.

Response: We agree that the maintenance of the fence should be done as much as possible through the use of horses or on foot. That is our preferred method for maintaining the fence, as noted on page 47. The programmatic minimum requirements decision guide does not allow for routine motorized vehicle use to maintain fences (see appendix D for the minimum requirement decision guide for maintenance of the boundary fence). However, if extensive damage occurs to the fence and extensive repairs are necessary, the use of a motorized vehicle may be necessary. Constraints on the use of motorized vehicles are noted on page 47. In addition, as stated on page 41 the programmatic minimum requirements decision guide would be followed to ensure the least impact to wilderness character. Because this would be a highly infrequent activity, not a regular use, we do not believe the environmental assessment needs to analyze the impact of this activity on visitor use and the natural setting—the programmatic minimum requirements decision guide provides an analysis of the beneficial and adverse impacts of different options on wilderness character.

Concern: The fence should only be built where it is necessary to reduce other degradations of wilderness character, such as trespass by grazing stock and off-highway vehicles.

Response: We agree that the fence should only be built and maintained where it is necessary. The boundary fence is primarily located on the northeast corner of the north wilderness unit, which is adjacent to Navajo tribal lands and where there is the potential for trespass by livestock. These lands are not within the expansion areas of the park, so unless landownership or uses change this boundary fence will probably need to remain in place.

Concern: Use of mechanized equipment and motorized vehicles to remove paleontological specimens in wilderness. The group is opposed to granting programmatic use of these techniques, noting it is not necessary for administration of the area as wilderness.

Response: Section 4(a)(3) of the Wilderness Act states that a wilderness designation “shall in no manner lower the standards evolved for the use and preservation of such park” as identified in other acts of Congress. One of the purposes of Petrified Forest National Park is to preserve and protect its paleontological resources. As noted on page 16 of the environmental assessment, paleontological resources are an “other feature” that comprises the park’s wilderness character. This quality is of equal weight to the other wilderness character qualities, and therefore, should be equally protected. Thus, we believe that the removal of select paleontological specimens for their protection is necessary for administration of the wilderness area.

The vast majority of paleontological specimens can be removed from the wilderness without mechanized or motorized equipment. However, if the specimen is too heavy, mechanized equipment and/or a motor vehicle will probably be needed to transport the specimen (via dry washes only). It should be stressed that we are not giving carte blanche approval for the use of mechanized equipment or motorized vehicles by including the programmatic minimum requirements decision guide in this plan. The minimum requirements decision guide is intended to ensure that if this equipment is necessary, we will ensure that the minimum tool is used, affecting the smallest area of the wilderness, and thus protecting as much as possible the other wilderness qualities.

Concern: Allowing commercial services in wilderness. They recommended the plan say there will be no commercial visitor services in this wilderness.

Response: This plan is not proposing commercial services in wilderness, as noted on page 40. Although there have been no commercial visitor services in this wilderness, it is possible in the future that a guide or provider may seek permission to offer this activity. Commercial services have both potential benefits and drawbacks. If and when a commercial service is proposed in the wilderness area, before it is approved the National Park Service would evaluate the service to determine if it is appropriate and meets existing NPS criteria and would prepare an extent necessary determination, as called for under section 4(d)(6) of the Wilderness Act.

Concern: Visual intrusions, light pollution, and noise from activities and developments outside the park are impacting the wilderness areas. It was recommended that the park acquire lands within the expanded boundary as soon as possible to address these impacts.

Response: Land acquisition within the expanded park boundary is beyond the scope of this wilderness stewardship plan. But as noted on page 44 of the document, the National Park Service would build partnerships with neighbors to help protect wilderness values along the edge of the wilderness area.

Concern: Air tours are adversely affecting the wilderness area and should not be allowed, even over nonwilderness portions of the park.

Response: At this time, the National Park Service does not have reliable information regarding the exact number of air tours being conducted over the Petrified Forest Wilderness. However, the total Interim Operating Authority for the park is fewer than 50 commercial air tour operations per year, which makes the park exempt from the requirement to prepare an air tour management plan under the National Parks Air Tour Management Act of 2000 (P.L. 91-181 as amended by the FAA Modernization and Reform Act of 2012). If the NPS Director decides to withdraw the Petrified Forest exemption or if the annual number of air tours exceeds 50, then the Federal Aviation Administration, in cooperation with the National Park Service, will develop voluntary agreements with the air tour operators or prepare an air tour management plan pursuant to the act.

Concern: The wilderness character monitoring measures and standards may need to be modified over time. There is a concern about the public being informed if changes are made to the measures and standards.

Response: As stated on page 51, the wilderness monitoring framework shown in table 3 illustrates measures, standards, and management actions. The text further states that after initial monitoring, the measures and standards may need to be revised. If conditions change appreciably, new measures may be needed to ensure that wilderness character conditions are maintained. The text specifically states: "Information on the NPS monitoring efforts and any changes to the measures and standards will be shared with the public."

APPENDIX – NONIMPAIRMENT FINDING

The National Park Service's *Management Policies 2006* requires 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. NPS 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 parks, 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 NPS 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. 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
- 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

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

Impairment may result from NPS 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.

NATURAL RESOURCE TOPICS

Soils

The wilderness area generally contains four soil associations. Sensitive biological crusts also occur, which provide soil stability and resistance to wind and water erosion. The soils and biological crusts are key resources, helping determine where native vegetation communities occur, which in turn affects wildlife populations. The soils affect the area's productivity, drainage patterns, and erosion. The soils and biological crusts are also susceptible to trampling, compaction, and erosion by people.

Intact, functional, resilient soils are important for the natural integrity of the wilderness area. Although the preferred alternative will have some long-term, minor to moderate adverse impacts on wilderness area soils, primarily due to visitors trampling and compacting soils and the development of new formalized access points, these impacts will be localized, and will not affect the soils' viability or result in the loss of large amounts of soil. In addition, the preferred alternative will also have beneficial impacts due to better management of visitors, confining visitor impacts with the development of a backcountry trail and access points, improved efforts to educate the public on how to use the wilderness area to minimize their impacts, and the implementation of a proactive monitoring framework. Also, changes in park operations will have beneficial impacts on soils. Thus, the preferred alternative will not result in impairment to the wilderness area's soils.

Paleontological Resources

One of the purposes of Petrified Forest National Park is to "preserve, protect, and provide opportunities to experience globally significant Late Triassic paleontological resources." The Late Triassic fossil floras and faunas preserved at Petrified Forest National Park, including the wilderness area, are globally significant. In particular, the wilderness area includes a substantial portion of the fossil-bearing Chinle Formation. The area also contains one of the largest and most colorful deposits of mineralized wood in the world. There is high potential for discovering fossilized remains of early dinosaurs, amphibians, insects, fish, and other plants and animals.

Protecting and maintaining paleontological resources is necessary to fulfill the purposes for which the park was established. The preferred alternative will have a beneficial impact on the paleontological resources due to the establishment of protocols for paleontological research and

monitoring, implementation of a programmatic minimum requirements decision guide for conducting research, efforts to inventory, monitor and document conditions of paleontological sites in the wilderness area, designating appropriate administrative access points, and the proactive implementation of a monitoring framework to avoid impacts to these resources. The preferred alternative will result in no adverse impacts to paleontological resources. Thus, the preferred alternative will not result in impairment to paleontological resources.

Vegetation and Wildlife

The wilderness area supports a diversity of vegetation and wildlife, including grasslands, desert plant communities, and shrublands. Characteristics of three ecological regions are found in the area: Great Basin, Sonoran, and Great Plains. The area includes the largest example of recovering native grassland in the southern Colorado Plateau region. The wilderness area also is part of the migration corridor for pronghorn, which is a species of particular public and management interest.

Healthy plant and wildlife populations are fundamental resources and values, key to the natural integrity of the wilderness area, and are necessary for fulfilling the purposes for which the park was established. The preferred alternative will result in negligible to minor, short-term, adverse impacts to vegetation and wildlife due to the development of new access points and a trail through the backcountry, and the establishment of a new dispersed backcountry camping area. But these impacts will be localized. None of these adverse impacts will affect the viability of species' populations in the wilderness area, nor affect the distribution or abundance of the park's native plant and wildlife populations, or the migration of wildlife. In addition, the preferred alternative will have a number of beneficial impacts due to the implementation of a proactive monitoring framework, which will help avoid/minimize impacts, increased public outreach efforts to minimize impacts of visitors on vegetation and wildlife, the development of new wilderness access points, which will reduce dispersed visitor impacts, increased efforts to work with neighbors to manage invasive plant species, and the implementation of protocols to properly conduct park operations in wilderness. Because there only will be localized, negligible to minor adverse impacts, the preferred alternative will not result impairment to vegetation and wildlife.

CULTURAL RESOURCES

Archeological Resources

Archeological resources in Petrified Forest National Park span thousands of years of prehistoric use and settlement associated with American Indian populations. More than 700 prehistoric sites have been recorded in the park, including the wilderness area, representing the Paleoindian, Archaic, Basketmaker, and ancestral Puebloan cultural periods. Historic Navajo sites have also been identified. A variety of site types exist in the wilderness area. More sites are continually being discovered and additional sites are likely to be discovered. Several of the sites documented in the wilderness area are potentially eligible for listing in the National Register of Historic Places.

Preserving, protecting, and providing opportunities to experience the significant archeological resources are among the purposes of the park. The preferred alternative will have long-term, negligible to minor adverse impacts on archeological resources due to visitor use and other potential ground-disturbing activities (e.g., new development in the backcountry zone). The impacts will be localized and none of the impacts are anticipated to substantially diminish the overall integrity of the resources. In addition, the preferred alternative will have several beneficial impacts due to enhanced public outreach and partnerships to avoid/minimize visitor use impacts,

adoption of minimum requirements decision guide protocols, and proactive monitoring to help avoid or reduce the impacts from visitors and possible impacts from natural processes. Because there will only be localized, negligible to minor adverse impacts, the preferred alternative will not result in impairment to archeological resources.

Ethnographic Resources

Portions of the park, including the wilderness area, can be considered to be an ethnographic landscape, retaining complex cultural importance for several regional tribes. Many of the defining elements of ethnographic landscapes are found or are likely to exist throughout the wilderness area, reinforcing contemporary tribal connections to the environment and landscape. The cultural significance of this landscape extends from ancestral peoples through modern-day native peoples (Hopi, Zuni, and Navajo) and relates to concepts of homeland and ancestral territory.

The preferred alternative will have both beneficial and adverse impacts on the ethnographic resources in the wilderness area. There will be long-term, negligible to minor adverse impacts due to visitor use. But these impacts will be localized and will not likely affect the integrity of the resources or the ability of the tribes to conduct ceremonies and access culturally important places and other resources. In addition, the preferred alternative will have beneficial impacts due to enhanced public outreach and partnerships to avoid/minimize impacts of visitors and proactive monitoring to avoid impacts from visitors and possible impacts from natural processes. Because there only will be localized, negligible to minor adverse impacts, the preferred alternative will not result in impairment to ethnographic resources.

SUMMARY

In the *Petrified Forest National Park Wilderness Stewardship Plan / Environmental Assessment*, wilderness character was integrated into the natural and cultural resource topics. Wilderness character is dependent upon resources. Because no resources have been determined to be impaired by the preferred alternative, wilderness character is not impaired.

In conclusion, as guided by this analysis, good science and scholarship, advice from subject matter experts, tribal representatives, 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.