



National Park Service
U.S. Department of the Interior
Hubbell Trading Post National Historic Site
Ganado, Arizona

Provide Pedestrian Trails Environmental Assessment

September 2010



Provide Pedestrian Trails to Enhance Recreational and Interpretive Opportunities

Environmental Assessment

Summary

The National Park Service is proposing to construct pedestrian trails at Hubbell Trading Post National Historic Site to enhance community cohesion, enhance interpretive and recreational opportunities, provide accessible trails, and minimize impacts on park resources from the creation of social trails. Currently, there are no formalized pedestrian trails within the historic site. People using an adjacent trail on Navajo Nation land must stop at the park boundary or cross through the park on informal routes because there is no trail connection available. This proposal includes constructing pedestrian trails and associated amenities to enhance recreational and interpretive opportunities. A pedestrian trail would be constructed to provide a seamless connection with the trail on adjacent Navajo Nation land. A portion of this trail would be accessible to provide opportunities for all visitors and customers of Hubbell Trading Post National Historic Site. An accessible trail to the Hogan in the Lane and a route around the “Big Field” are also being considered. In addition, wayside exhibits would be installed to provide interpretive information to visitors and customers, and benches would be installed along the Wash Trail.

This environmental assessment evaluates three alternatives: a No-Action alternative and two action alternatives. The No-Action alternative describes the current condition with no construction of pedestrian trails. Both action alternatives address the construction of the Wash Trail and associated trail amenities; while Alternative B also includes an accessible trail to the Hogan in the Lane and encouraging access around the “Big Field”. This environmental assessment has been prepared in compliance with the National Environmental Policy Act (NEPA) to provide the decision-making framework that 1) analyzes a reasonable range of alternatives to meet objectives of the proposal, 2) evaluates potential issues and impacts to the historic sites’ resources and values, and 3) identifies mitigation measures to lessen the degree or extent of these impacts. Resource topics included in this document because the resultant impacts may be greater-than-minor include cultural landscapes, archeological resources, and visitor use and experience. All other resource topics were dismissed because the project would result in negligible or minor effects to those resources. No major effects are anticipated as a result of this project. Public scoping was conducted to assist with the development of this document. No comments were received.

Public Comment

If you wish to comment on the environmental assessment, you may post comments online at <http://parkplanning.nps.gov/27346> or mail comments to: Superintendent, Hubbell Trading Post National Historic Site, P.O. Box #150, Ganado, AZ 86505-0150

This environmental assessment will be on public review for 30 days. Before including your address, phone number, e-mail address, or other personal identifying information in your comment, you should be aware that your entire comment – including your personal identifying information – may be made publicly available at any time. Although you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we would be able to do so.

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PURPOSE AND NEED

Introduction

Hubbell Trading Post National Historic Site (Hubbell Trading Post NHS or historic site), a unit of the National Park Service (NPS), is considering constructing pedestrian trails and associated trail amenities within the historic site, to enhance recreational, educational, and interpretive opportunities for customers and visitors at Hubbell Trading Post NHS. Currently, there are no formalized pedestrian trails within the historic site. People using an adjacent trail on Navajo Nation land must stop at the park boundary or cross through the park on informal routes. Recreational, educational, and interpretive opportunities are not being fully realized. The NPS has prepared this EA in accordance with the National Environmental Policy Act (NEPA) of 1969, regulations of the Council on Environmental Quality (CEQ) (40 CFR §1508.9), and the NPS Director's Order (DO)-12 (*Conservation Planning, Environmental Impact Analysis, and Decision-Making*).

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. An impairment analysis for the preferred alternative can be found in Appendix A.

Location

Hubbell Trading Post NHS is comprised of 160 acres and is located in northeastern Arizona within Apache County. The historic site is located just off of Arizona State Highway 264, approximately one mile west of Ganado, Arizona, and fifty five miles northwest of Gallup, New Mexico (Figures 1 and 2). Hubbell Trading Post NHS is entirely surrounded by the Navajo Nation.



Figure 1- Regional Map Showing Location of Hubbell Trading Post NHS

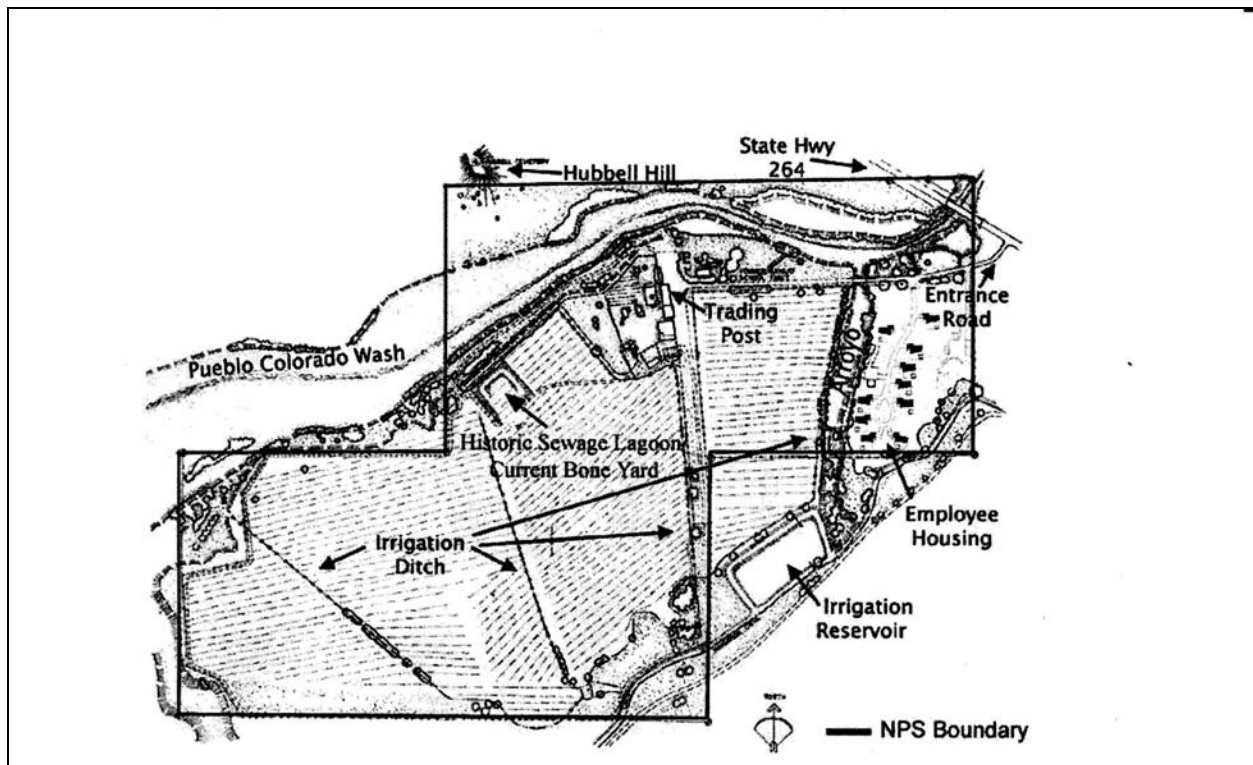


Figure 2- General Layout of Hubbell Trading Post NHS

Background

Hubbell Trading Post is the oldest trading post still in business in the Navajo Nation and is also the oldest continuously operated business in northern Arizona (NPS 1993), offering visitors a chance to experience a piece of real history. In 1878, John Lorenzo Hubbell and C.N. Cotton purchased the Leonard Trading Post and established the future Hubbell Trading Post which continues to operate as an active trading post today. On August 28, 1965, the Hubbell Trading Post was declared a National Historic Site by an Act of Congress, and management of the trading post was transferred from the Hubbell family to the NPS. Guidance for the national historic site's purpose is found in the act's legislative history and in the historic site's administrative history. The park's administrative history thoroughly documents the passage of the House and Senate bills leading to the act and discussions on preserving it as a "living trading post." The historic site's 2002-2005 *Strategic Plan* captures this concept in the mission statement as follows "The mission of Hubbell Trading Post NHS is to preserve, protect, and interpret an original Indian trading post operation and its environs for the benefit and enjoyment of the public. The trading post is to be conserved as a functional, viable establishment, reflecting ongoing, traditional trading relationships" (NPS 2007).

Hubbell Trading Post NHS continues to have a viable presence in the community as a liaison between artisans, surrounding communities, customers, and visitors. Hubbell Trading Post NHS is unique among the NPS sites due to the fact that the majority of people coming to the historic site are customers, rather than visitors. They may be travelling from a considerable distance to purchase artisan works or be coming from a few miles away to shop for groceries.

The trading post operates as a working trading operation and not specifically a “museum” of trading history. It is important to keep this in mind, and although those coming to the historic site would be defined as visitors for this environmental assessment, in actuality a large portion of them are customers.

Purpose and Need

The purpose of the proposed project is to provide educational, informational, and recreational opportunities at Hubbell Trading Post NHS, while minimizing impacts to natural and cultural resources.

The project is needed to accomplish the following objectives:

- Offer community members and visitors a more cohesive way of interacting with the Trading Post and neighboring communities; and, enhance recreational opportunities by providing a seamless trail that connects to the existing trail on adjacent Navajo Nation land.
- Enhance educational and interpretive opportunities about the natural and cultural resources at Hubbell Trading Post NHS.
- Improve accessibility at the site by providing ADA (American with Disabilities Act) accessible trails.
- Create established travel routes to minimize impacts to park resources.

Relationship to Other Plans and Policies

Project objectives identified in this proposal are in concert with the goals and objectives of current plans and policy including the *Centennial Strategy for Hubbell Trading Post NHS* (NPS 2007), the *Foundation for Planning and Management* (NPS 2007), and the 2006 *NPS Management Policies* (NPS 2006). Following is more information on how this proposal meets the goals and objectives of these plans and policies:

- The *Foundation for Planning and Management* document provides the basis upon which all future planning efforts are built. It identifies what is most important to the historic site through an examination of the establishing legislation, development of purpose and significance statements and primary interpretive themes, and identification of the special mandates that affect national historic site management. The proposal in this EA is consistent with the purpose and significance statements identified in that document. One of the four purpose statements identified in the document is to “preserve the intangible elements important to the heritage and relationships found in the American Southwest, such as the links between cultures and traditions; a place for socializing, learning, and exchanging information; and an atmosphere of trust and friendship.” Furthermore, the proposal evaluated in this EA is consistent with the desired conditions and strategies associated with the cultural landscape significance statement which considers the development of a trail that allows people to walk throughout the cultural landscape and wash, to be able to provide the public with more opportunity to explore the cultural landscape.
- The *Centennial Strategy for Hubbell Trading Post NHS* highlights the importance of continuing the Hubbell family’s vision about the value of community participation, welfare, and collectiveness. The document states that, “without community and all that that entails, we are left with only empty buildings of stone and adobe.” The proposed trails add another facet to the historic site’s legacy of maintaining ties with the community, and linking the

community to national and international visitors who visit the Trading Post. The strategy also focuses on “managing the cultural and natural landscapes so that they contribute to the authenticity of the park, and the interpretive story. The trading post and surrounding landscape would be used to educate visitors about the history and culture of the Native Americans, particularly the Navajo, and to educate the local community about broader concepts such as biodiversity, climate change, conservation and historic preservation.” The proposed pedestrian trails and wayside exhibits would help to maintain the community connection to the Trading Post and visitors, and would also enhance the interpretive opportunities available at the historic site.

- The proposal is consistent with the goals and objectives in Section 9 of the 2006 *NPS Management Policies* that state “interpretive trails and walks may be used for purposes of visitor appreciation and understanding of park values.” It also states that “trails will be carefully situated, designed, and managed to allow for a satisfying park experience, allow accessibility by the greatest number of people, and protect park resources.” The proposed trails would provide an opportunity for customers and visitors to enjoy the natural and cultural resources at Hubbell Trading Post NHS, and portions of the trail would be designed to allow accessibility by the greatest number of people, while protecting the historic site’s resources and values.

Appropriate Use

Section 1.5 of *Management Policies* (2006), “Appropriate Use of the Parks,” directs that the NPS must ensure that park uses that are allowed would not cause impairment of, or unacceptable impacts on, park resources and values. A new form of park use may be allowed within a park only after a determination has been made in the professional judgment of the park manager that it will not result in unacceptable impacts.

Section 8.1.2 of *Management Policies* (2006), Process for Determining Appropriate Uses, provides evaluation factors for determining appropriate uses. All proposals for park uses are evaluated for:

- consistency with applicable laws, executive orders, regulations, and policies;
- consistency with existing plans for public use and resource management;
- actual and potential effects on park resources and values;
- total costs to the Service; and,
- whether the public interest will be served

Park managers must continually monitor all park uses to prevent unanticipated and unacceptable impacts. If unanticipated and unacceptable impacts emerge, the park manager must engage in a thoughtful, deliberate process to further manage or constrain the use, or discontinue it.

In Section 8.2 of *Management Policies* (2006), it states that “To provide for enjoyment of the parks, the NPS will encourage visitor use activities that

- are appropriate to the purpose for which the park was established; and
- are inspirational, educational, or healthful, and otherwise appropriate to the park environment; and

-
- will foster an understanding of and appreciation for park resources and values, or will promote enjoyment through a direct association with, interaction with, or relation to park resources; and
 - can be sustained without causing unacceptable impacts to park resources or values.”

Trails are a common means to provide access into areas within most park units. Carefully situated, designed, and managed trails ensure that unacceptable impacts to the historic site’s resources and values would not occur. The proposed trail construction is consistent with Hubbell Trading Post NHS’s *Foundation for Planning and Management* and other related plans and documents. With this in mind, the NPS finds that the construction and use of pedestrian trails is an appropriate use at Hubbell Trading Post NHS.

Scoping

Scoping is a process to identify the resources that may be affected by a project proposal, and to explore possible alternative ways of achieving the proposal while minimizing adverse impacts. Hubbell Trading Post NHS conducted internal scoping with appropriate NPS staff to identify potential issues, impact topics, and alternative ways to meet project objectives. Hubbell Trading Post NHS also conducted external scoping with the public and interested/affected groups.

To initiate external scoping (public involvement), a scoping letter introducing the historic site’s proposal to construct pedestrian trails was posted on the NPS Planning, Environment, and Public Comment (PEPC) website to generate input for consideration in preparation of the EA. The scoping letter was posted to this website on July 28, 2009 and was open for a 30-day comment period. The scoping letter was mailed to the AZ State Historic Preservation Officer (SHPO) and the Navajo Nation Tribal Historic Preservation Officer (THPO). In addition, the scoping letter was posted at the Ganado Chapter House, Ganado Post Office, Hubbell Trading Post NHS Visitor Center, and the Hubbell Trading Post store. No comments were received during the public scoping comment period. On February 21, 2010, the NPS attended the Ganado chapter planning and general meetings, and no initial concerns about the proposal were voiced at that time. NPS staff met with the AZ SHPO and THPO representatives on April 2, 2010 and received general support for the project at that time.

Impact Topics Retained For Further Analysis

In this section and the following section on *Impact Topics Dismissed from Further Analysis*, the NPS closely examines all potential impacts. This is done by considering the direct, indirect, and cumulative effects of the proposed action on the environment, as well as the connected and cumulative actions. Impacts are described in terms of context and duration. “The context or extent of the impact is described as localized or widespread. The duration of impacts is described as short-term, ranging from days to three years in duration, or long-term, extending up to 20 years or longer. The intensity and type of impact is described as negligible, minor, moderate, or major, and as beneficial or adverse. The NPS equates “major” effects as “significant” effects. The identification of “major” effects would trigger the need for an Environmental Impact Statement (EIS).

The NPS defines “measurable” impacts as moderate or greater effects. It equates “no measurable effects” as minor or less effects. “No measurable effect” is used by the NPS in determining if a categorical exclusion applies or if impact topics may be dismissed from further evaluation in an EA or EIS. The use of “no measurable effects” in this EA pertains to whether

the NPS dismisses an impact topic from further detailed evaluation in the EA. The reason the NPS uses “no measurable effects” to determine whether impact topics are dismissed from further evaluation is to concentrate on the issues that are truly significant to the action in question, rather than amassing needless detail in accordance with CEQ regulations at 1500.1(b).

In this section of the EA, NPS provides a limited evaluation and explanation as to why some impact topics are not evaluated in more detail. Impact topics are dismissed from further evaluation in this EA if:

- they do not exist in the analysis area, or
- they would not be affected by the proposal, or the likelihood of impacts are not reasonably expected, or
- through the application of mitigation measures, there would be minor or less effects (i.e. no measurable effects) from the proposal, and there is little controversy on the subject or reasons to otherwise include the topic.

Due to there being no effect or no measurable effects, there would either be no contribution towards cumulative effects or the contribution would be low. For each issue or topic presented below, if the resource is found in the analysis area or the issue is applicable to the proposal, then a limited analysis of direct and indirect, and cumulative effects is presented. There is no impairment analysis included in the limited evaluations for the dismissed topics because the NPS’s threshold for considering whether there could be impairment is based on “major” effects.

Impact topics for this project have been identified on the basis of federal laws, regulations, and orders; 2006 *Management Policies*; and National Park Service knowledge of resources at the Hubbell Trading Post NHS. Impact topics that are carried forward for further analysis in this environmental assessment are listed below along with the reasons why the impact topic is further analyzed. For each of these topics, the following text also describes the existing setting or baseline conditions (i.e. affected environment) within the project area. This information would be used to analyze impacts against the current conditions of the project area in the *Environmental Consequences* chapter.

Cultural Landscapes

The 1966 National Historic Preservation Act as amended (NHPA, 16 USC 470 et seq.), the 1916 NPS Organic Act, and NPS planning and cultural resource guidelines call for the consideration and protection of cultural landscapes. According to the NPS’s Director’s Order-28 *Cultural Resource Management Guideline*, a cultural landscape is a reflection of human adaptation and use of natural resources, and is often expressed in the way land is organized and divided, patterns of settlement, land use, systems of circulation, and the types of structures that are built. The character of a cultural landscape is defined by both physical materials, such as roads, buildings, walls, and vegetation, and by use reflecting cultural values and traditions.

A Cultural Landscapes Report for Hubbell Trading Post NHS was completed by the NPS (NPS 1998). This report concluded that the cultural landscape associated with the Hubbell Trading Post complex is significant in that it comprises one of the most complete assemblages of landscape resources associated with an early Navajo trading post operation. The entire 160 acres that comprise Hubbell Trading Post NHS fall within the designated boundaries of the cultural landscape and include a vast array of significant, character-defining landscape features as well as significant architectural and archeological resources (NPS 1998). A 2002 Cultural

Landscape Inventory, based on the original report, further confirms this designation. The Hubbell Cultural Landscape has been determined eligible for the National Register of Historic Places under significance criteria A, B, C, and D at the National level of significance by the Navajo Nation Historic Preservation Officer on June 20, 2003. It is considered an important contributing element to the National Historic Landmark status of the site (NPS 1998).

The existing Hubbell Trading Post NHS landscape reveals the evolution of a rural vernacular landscape through a continuum of use that dates from the last quarter of the nineteenth century to the present day, with the period of significance ranging from 1874 through 1967. The primary period of most significance as defined by the Cultural Landscape Report, and signed by the Navajo Nation THPO, is from 1874 through 1930. The period of significance defines the time J.L. Hubbell dies and his heirs undertook full management of the trading post and associated business operations. The NPS does not manage the historic site for a particular time period, but continues to protect the intangible resources and the natural and cultural landscapes. Approximately seven areas of the site reflect patterns of land use by the Hubbell family including the agricultural fields/irrigation features; the trading post and Hubbell's residence; the managers residence/bread ovens/chicken coop/yard area; the barn lot/shed/corrals; the specialty garden plots; the school house/chapter house (now Visitor Center); and the Hubbell Hill (located outside the historic site's boundary). In addition to these areas, the historic circulation patterns, vegetation, cultural traditions, land use, structures, viewsheds, and archeological resources of the site all contribute to the composition of the cultural landscape. The topic of cultural landscapes will be analyzed in further detail, because the proposed pedestrian trails are within the cultural landscape of the Hubbell Trading Post NHS.

Archeological Resources

In addition to the National Historic Preservation Act and the National Park Service 2006 *Management Policies*, the National Park Service's Director's Order-28B *Archeology* affirms a long-term commitment to the appropriate investigation, documentation, preservation, interpretation, and protection of archeological resources inside units of the National Park System. As one of the principal stewards of America's heritage, the National Park Service is charged with the preservation of the commemorative, educational, scientific, and traditional cultural values of archeological resources for the benefit and enjoyment of present and future generations. Archeological resources are nonrenewable and irreplaceable, so it is important that all management decisions and activities throughout the National Park System reflect a commitment to the conservation of archeological resources as elements of our national heritage.

Portions of the historic site have been surveyed at various times in relation to different projects. Two archeological sites have been identified by past inventories that are in the vicinity of the proposed project. The first archeological site, AZ K:6:11 (HUTR #4), the Sand Dune Site, was identified in 1968 as an artifact scatter that contained sherds, lithics, charcoal, and ash. Ceramic evidence indicates that the site had multiple components temporally and culturally. Site AZ K:6:11 was impacted by erosion control measures for Wide Reed Ruin east of the site, heavy equipment, and archeological excavations. By 2002 (Powell et al, 2002), no part of the site remained intact. While the site could normally be considered eligible for the National Register of Historic Places under Criterion D (have yielded, or may be likely to yield information important to history or prehistory), the site has lost integrity through natural forces and NPS research activities and is no longer eligible for the National Register.

The second site is known as the Wide Reed Ruin (AZ K:6;7, or HUTR #5). The site is a prominent feature on the Hubbell Cultural Landscape, and is eligible for the National Register under Criterion D, having yielded through excavation activities initiated in 1972 information important to the prehistory of the area. The site is currently protected by fencing and erosion control devices. The proposed trail would avoid the site entirely.

The NPS Archeologist conducted a survey of the potential area of effect on June 28 and 29 of 2010. No new archeological sites were found during this recent survey; however, due to the proximity of the proposed Wash Trail to two previously identified archeological sites, the potential exists for new surface and subsurface remains to be encountered. In addition, allowing access around the “Big Field” (the “Big Field” consists of agricultural fields 2, 3, and 4) could impact unknown archeological resources. For these reasons, the topic of archeological resources has been carried forward for further evaluation.

Visitor Use and Experience

According to 2006 *Management Policies*, the enjoyment of park resources and values by people is part of the fundamental purpose of all park units (NPS 2006). The National Park Service is committed to providing appropriate, high quality opportunities for visitors to enjoy the parks, and would maintain within the parks an atmosphere that is open, inviting, and accessible to every segment of society. Further, the National Park Service would provide opportunities for forms of enjoyment that are uniquely suited and appropriate to the superlative natural and cultural resources found in the parks. The National Park Service 2006 *Management Policies* also state that scenic views and visual resources are considered highly valued associated characteristics that the National Park Service should strive to protect (NPS 2006).

Hubbell Trading Post NHS, a unit of the NPS, is unique in comparison to other NPS units because the historic site continues to function as a trading post and includes both customers and visitors. Circulation at the historic site is informal and a number of social trails have developed as a result. The historic site receives approximately 70,000 visitors and customers annually. Some of the people interacting at Hubbell Trading Post NHS come to sell, trade, and buy goods ranging from rugs and Katsina dolls to groceries. Other people arrive at the historic site as visitors to see the historic structures, learn about the cultural significance of Hubbell Trading Post NHS, and perhaps make a purchase at the trading post. During exploration of the historic site, a small percentage of these visitors include a visit to the Hogan in the Lane and some venture to the Wash via existing informal routes. In addition, some of the local customers in the area, approximately 1,300 per year, visit the Wash area while they are at the historic site. Visitors using the adjacent trail on Navajo Nation land must stop at the park boundary and utilize the access road and/or informal routes, as there is no continuous trail into the historic site.

The topic of visitor use and experience has been carried forward for further analysis, because the proposed pedestrian trails and wayside exhibits would change the opportunities and dynamics of the present visitor's experience and use of the historic site.

Impact Topics Dismissed From Further Analysis

Ethnographic Resources

National Park Service's Director's Order-28 *Cultural Resource Management* defines ethnographic resources as any site, structure, object, landscape, or natural resource feature assigned traditional legendary, religious, subsistence, or other significance in the cultural system

of a group traditionally associated with it. According to DO-28 and Executive Order 13007 on sacred sites, the National Park Service should try to preserve and protect ethnographic resources.

In consultation with Native American tribes, ethnographic resources are not known to exist in the proposed project area. The NPS sent a letter to the Navajo Nation THPO on July 28, 2009, and no comments were received. The NPS also attended the Ganado chapter planning and general meetings on February 21, 2010, and discussed the project proposal. No initial concerns were voiced at that time. No impacts to ethnographic resources are expected, so this impact topic has been dismissed from further analysis in this document.

Historic Structures

The National Park Service, as steward of many of America's most important cultural resources, is charged to preserve historic properties for the enjoyment of present and future generations. According to the National Park Service's 2006 *Management Policies* and Director's Order-28 *Cultural Resource Management*, management decisions and activities throughout the National Park System must reflect awareness of the irreplaceable nature of these resources (NPS 2006). The National Park Service would protect and manage cultural resources in its custody through effective research, planning, and stewardship and in accordance with these policies and guidelines.

Section 106 of the National Historic Preservation Act requires federal agencies to take into account the effects of their undertakings on historic properties and to afford the Advisory Council on Historic Preservation an opportunity to comment in the consultation process. The term "historic properties" is defined as any site, district, building, structure, or object eligible or listed in the National Register of Historic Places, which is the nation's inventory of historic places and the national repository of documentation on property types and their significance. More information about this consultation can be found in the *Consultation and Coordination* chapter.

Within the park boundaries there are 13 historic buildings and numerous historic structures. The buildings include the Trading Post, Hubbell home, barn, manager's residence, bunkhouse, guest hogan, utility building/chicken house, wareroom extension, sheds, Hogan in the Lane, school/chapter house, pumphouse/restroom, and root cellar/library (NPS 1998). The majority of the buildings are found within three of the seven character areas identified for this historic landscape while the historic structures are located throughout all of the character areas. The historic structures found within the vernacular landscape include numerous stiles, gates and fences; garden features such as the summerhouse and stone planter bed; irrigation structures including head gates, ditches, siphons, and flumes; irrigation reservoir and sewage lagoon; matanzas; and a tree house (NPS 1998).

The main historic structures at Hubbell Trading Post NHS are approximately 700 feet from access to the proposed trails, and would not be directly impacted by construction of the trails; therefore, this topic is dismissed from further analysis in this document.

Museum Collections

According to Director's Order #24: *Museum Collections Management*, the National Park Service requires the consideration of impacts on museum collections (historic artifacts, natural specimens, and archival and manuscript material), and provides further policy guidance, standards, and requirements for preserving, protecting, documenting, and providing access to,

and use of, National Park Service museum collections (NPS 2004b). The proposed project would not disturb any curatorial facilities and is not expected to contribute any additional collections to curatorial facilities. Because the project is not expected to have an effect on museum collections, this topic is dismissed from further analysis in this document.

Topography, Geology, and Soils

According to the National Park Service's 2006 *Management Policies*, the National Park Service would preserve and protect geologic resources and features from adverse effects of human activity, while allowing natural processes to continue (NPS 2006). These policies also state that the National Park Service would strive to understand and preserve the soil resources of park units and to prevent, to the extent possible, the unnatural erosion, physical removal, or contamination of the soil, or its contamination of other resources.

Hubbell Trading Post NHS sits at an elevation of 6324 feet (1928 meters) and is included in the Colorado Plateau physiographic province. The historic site is comprised of 160 acres of land that lies in a shallow valley adjacent to the Pueblo Colorado Wash, a tributary of the Little Colorado River. According to a soil erosion study, the surficial geology is classified as part of the Triassic age Chinle formation, consisting of claystone, clayey sandstone, and ledge forming sandstones (NPS 1998). The soils within the Pueblo Colorado Wash consist of deep loamy, sandy, and clayey soils and immediately adjacent to the floodplains are shallow fine-grained soils overlying the Chinle sandstones and claystones (NPS 1998).

The proposed pedestrian trails would be located on predominately flat terrain with no significant topographical or geological features. Trail construction would occur on relatively stable soils and would utilize social trails and other previously disturbed areas to the greatest extent practicable, thereby minimizing new disturbance. Cut and fill could occur in the location of the proposed stone steps; however, this would occur in a localized area adjacent to an existing stone gabion and the impact on soils is considered negligible to minor. The accessible portion of the trails would be composed of a hardened, soil surface, consistent with ADA accessibility guidelines. Other portions of the trails would be brushed, with minimal disturbance to soils. Given that there are no significant topographic or geologic features in the project area, and that a majority of the project area has been previously disturbed, the proposed actions would result in negligible to minor, short-term and long-term adverse effects to topography, geology, and soils. Because these effects are minor or less in degree, this topic is dismissed from further analysis in this document.

Vegetation

According to the National Park Service's 2006 *Management Policies*, the National Park Service strives to maintain all components and processes of naturally evolving park unit ecosystems, including the natural abundance, diversity, and ecological integrity of plants (NPS 2006). The vegetation present at Hubbell Trading Post NHS is classified as 'Great Basin Microphyll Desert', which includes natural vegetation including pinon-juniper, greasewood, four wing saltbush, sage brush, and rabbitbrush. Existing vegetation patterns within the old field areas, along the Pueblo Colorado Wash and its secondary drainages, and throughout the various building and development complexes reflect the historic land use activities that occurred throughout the developmental history of the Hubbell Trading Post landscape. Much of the natural landscape has been manipulated by humans, especially since the arrival of European settlers in the mid to late 1800s when domestic animals, including horses, cattle, and sheep, were introduced to the region (NPS 2010). These herds heavily grazed the landscape, and introduced non-native plant

species that competed with native vegetation. The removal and treatment of non-native plants, including salt cedar and Russian olive trees from the Pueblo Colorado Wash, and the planting of native willows and cottonwood trees has helped to restore the riparian vegetation.

The proposed pedestrian trails would utilize existing social trails and previously disturbed areas to the greatest extent possible, resulting in negligible to minor impacts on vegetation. Ground-disturbing activities have the potential to introduce and/or spread non-native species to an area. Mitigation measures, such as ensuring that equipment and materials used during trail construction are clean and free of weeds, would be implemented to reduce the potential for the introduction or spread of non-native species. Because these effects are minor or less in degree, this topic is dismissed from further analysis in this document.

Water Resources

National Park Service policies require protection of water quality consistent with the Clean Water Act. The purpose of the Clean Water Act is to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters." To enact this goal, the U.S. Army Corps of Engineers has been charged with evaluating federal actions that result in potential degradation of waters of the United States and issuing permits for actions consistent with the Clean Water Act. The U.S. Environmental Protection Agency also has responsibility for oversight and review of permits and actions, which affect waters of the United States.

The Pueblo Colorado Wash, a tributary of the Little Colorado River, comprises the major drainage system running through the site. The elevation of the Wash is 6332 feet (1930 meters), and the length of this portion of the Wash is approximately 2887 feet (880 meters). Water from snowmelt flows intermittently in springtime, and originates over 15 miles (25 km) to the northeast on the Defiance Plateau. The flow of the Wash varies depending on snowmelt, seasonal monsoons, and annual precipitation rates. The proposed pedestrian trails would be located above the Pueblo Colorado Wash within the historic site boundaries. The potential for erosion could occur from trail construction; however, trail design and construction would adhere to trail standards and incorporate Best Management Practices, resulting in negligible to minor impacts on water resources. The accessible portion of the trails would consist of hardened soil, and would be designed to not impede hydrologic flow in the project area. No paved surfaces are proposed, therefore there would be no increase in impervious surface area at the site. The trails would be situated far enough away from the Wash boundaries that water flow and quality would not be affected. In the rare event that the flood waters would reach the trail, the natural composition of the hardened soil trail would not adversely affect the quality or flow of the water.

For these reasons, the proposed action would result in negligible to minor impacts to water resources ; therefore, this topic is dismissed from further analysis in this document.

Wildlife

According to the National Park Service's *2006 Management Policies*, the National Park Service strives to maintain all components and processes of naturally evolving park unit ecosystems, including the natural abundance, diversity, and ecological integrity of animals (NPS 2006).

The NPS Inventory and Monitoring Program maintains a database of information pertaining to the wildlife at Hubbell Trading Post NHS. Some mammalian wildlife at Hubbell Trading Post NHS includes coyotes, gray foxes, raccoons, skunks, porcupine, deer mice, gophers, prairie dogs, bats, chipmunks, cottontail rabbits, and jackrabbits. Common bird species present at the

historic site include ravens, swallows, kestrels, hummingbirds, robins, roadrunners, sparrows, hawks, doves, and vultures. Reptiles and amphibians including lizards, toads, frogs, turtles, and snakes also occur at the historic site. The Pueblo Colorado Wash increasingly attracts a variety of waterfowl such as Great Blue Herons, mallards, and American coots (NPS 2010).

The location of the proposed pedestrian trails would utilize previously disturbed areas to the greatest extent practicable to minimize new habitat disturbance. It is possible that a minimal increase in human traffic would occur due to the accessibility of the trail, which could result in a negligible to minor adverse impact to the wildlife and wildlife habitat in the immediate vicinity of the trails. These impacts would primarily include increased human visitation in areas along the Wash, as well as any unfortunate cases where visitors decided to interfere or harass any present wildlife. During trail construction activities, the noise level in the area would increase from use of equipment and tools and the presence of work crews. Construction-related noise would be temporary and existing sound conditions would resume following completion of the trails. Because the effects are minor or less in degree, this topic has been dismissed from further analysis in this document.

Special Status Species

The Endangered Species Act of 1973 requires examination of impacts on all federally-listed threatened, endangered, and candidate species. Section 7 of the Endangered Species Act requires all federal agencies to consult with the U.S. Fish and Wildlife Service to ensure that any action authorized, funded, or carried out by the agency does not jeopardize the continued existence of listed species or critical habitats. In addition, the 2006 NPS *Management Policies* and Director's Order-77 *Natural Resources Management Guidelines* require the National Park Service to examine the impacts on federal candidate species, as well as state-listed threatened, endangered, candidate, rare, declining, and sensitive species.

The Southwestern Willow Flycatcher (*Empidonax traillii extimus*), listed as an endangered species by the U.S. Fish and Wildlife, has been surveyed along the Pueblo Colorado Wash area in 2002 and 2004 (Shaw, Woodruff, and Zeedyk 2005), in 2005 (Muroy 2005), and in 2006 (LaRue and Mikesic 2006). These surveys covered the portion of the Pueblo Colorado Wash as it passes through Hubbell Trading Post N.H.S. These reports document occurrences of migrant Southwestern Willow Flycatchers each year, but no nesting pairs. Surveys were also conducted in 2008 and 2009 of the sections of the Pueblo Colorado Wash upstream and downstream of Hubbell (extending from Ganado Reservoir to Greasewood), but again, only migrants were detected. Non- native vegetation, such as salt cedar and Russian olive, has been removed and efforts to establish native riparian vegetation are underway. Southwestern willow flycatchers traditionally nest in willows, but are also almost equally nesting in salt cedar and mixed exotic/native vegetation. The Southwestern Willow Flycatcher requires a broad and dense band of willow to be good habitat and the width of the Wash probably is not wide enough to provide this, even once restoration efforts are eventually completed. Because of these reasons, the NPS has determined that the trail construction will have no effect on southwestern willow flycatcher. The NPS is awaiting concurrence from the U.S. Fish and Wildlife Service and the Navajo Nation Department of Fish and Wildlife that this project will have no effect on the southwestern willow flycatcher.

A colony of the Gunnison's Prairie Dog (*Cynomys gunnisoni*), listed as a species of concern by the U.S. Fish and Wildlife, occur at the historic site, but the colony is located on the agricultural lands above and south of the Wash. The park is currently working on a prairie dog management

plan to address prairie dogs at the historic site. Based upon the open and relatively level habitat requirements of the prairie dog, there is no overlap between the agricultural land occupied by the colony and the Wash area proposed for the pedestrian trail. The routes of the proposed pedestrian trails would utilize previously disturbed corridors to the greatest extent practicable and natural materials would be used in the construction of the trails. Because of this, the NPS has determined that there would be no effect of the pedestrian trail on the Gunnison's Prairie Dog.

Protection under the Migratory Bird Treaty Act makes it unlawful to pursue, hunt, kill, capture, possess, buy, sell, purchase, or barter any migratory bird, including the feathers or other parts, nests, eggs, or migratory bird products. In addition, this act serves to protect environmental conditions for migratory birds from pollution or other ecosystem degradations. Some migratory birds may be potential transients of the Pueblo Colorado Wash, but at this point there are no known nesting sites in this area. It is possible that with the Wash rehabilitation project the number of migratory birds attracted to this area would increase, and in this likelihood the impacts of the trail would be reassessed. Construction-related noise could potentially disturb transient bird species, but these adverse impacts would be 1) temporary, lasting only as long as construction, 2) negligible, because suitable habitat for transient birds is found throughout the region, and 3) negligible, because trail construction would be done mostly by hand and with limited amount of workers.

Because these effects are minor or less in degree, this topic is dismissed from further analysis.

Wetlands

For regulatory purposes under the Clean Water Act, the term wetlands means "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas."

Executive Order 11990 *Protection of Wetlands* requires federal agencies to avoid, where possible, adversely impacting wetlands. Further, §404 of the Clean Water Act authorizes the U.S. Army Corps of Engineers to prohibit or regulate, through a permitting process, discharge or dredged or fill material or excavation within waters of the United States. National Park Service policies for wetlands as stated in 2006 *Management Policies* and Director's Order 77-1 *Wetlands Protection* strive to prevent the loss or degradation of wetlands and to preserve and enhance the natural and beneficial values of wetlands. In accordance with DO 77-1 *Wetlands Protection*, proposed actions that have the potential to adversely impact wetlands must be addressed in a statement of findings for wetlands.

In 1997 an extensive vegetation rehabilitation project was initiated on the Pueblo Colorado Wash around the historic site. This project aimed at re-creating a thriving native riparian zone representative of the Southwest through the removal of invasive species, planting of native species, and stream reconstruction. This included the removal and treatment of invasive salt cedar and Russian olive trees which had overtaken the other vegetation around the Wash. These trees were removed, and replaced with cottonwood and willow trees which were planted to help stabilize the meandering of the stream and to reduce erosion. Monitoring of the Wash area continues to ensure a healthy and sustainable riparian vegetation community and to help guide future riparian-wetland planting efforts (NPS 2008).

The pedestrian trails would be located outside of the wetland area associated with the Pueblo Colorado Wash, and would not pose a threat of adverse impacts on the wetlands in the adjacent channel; therefore, a statement of findings for wetlands would not be prepared and this topic is dismissed from further analysis in this document.

Floodplains

Executive Order 11988 *Floodplain Management* requires all federal agencies to avoid construction within the 100-year floodplain unless no other practicable alternative exists. The National Park Service under 2006 *Management Policies* and Director's Order 77-2 *Floodplain Management* would strive to preserve floodplain values and minimize hazardous floodplain conditions. According to Director's Order 77-2 *Floodplain Management*, certain construction within a 100-year floodplain requires preparation of a statement of findings for floodplains.

A portion of the proposed brushed pedestrian trail near the Wash and Highway 264 would enter the 100-year floodplain. However, the trail would be a brushed trail, the trail would be designed to not impede hydrologic flow, and there would be no paving of trails. For these reasons, the project activities are consistent with the 'Excepted Action' in Director's Order 77-2: *Floodplain Management*, that allows for foot trails in "non-high hazard areas provided that the impacts on floodplain values are minimized". Because the trails would be designed to minimize impacts to floodplain values and the action is consistent with Director's Order 77-2: *Floodplain Management* 'Excepted Actions', no statement of findings would be prepared. Because there would be no adverse impacts to floodplains, this topic is dismissed from further analysis in this document.

Air Quality

The Clean Air Act of 1963 (42 U.S.C. 7401 *et seq.*) was established to promote the public health and welfare by protecting and enhancing the nation's air quality. The act establishes specific programs that provide special protection for air resources and air quality related values associated with National Park Service units. Section 118 of the Clean Air Act requires a park unit to meet all federal, state, and local air pollution standards. Hubbell Trading Post NHS is designated as a Class II air quality area under the Clean Air Act. A Class II designation indicates the maximum allowable increase in concentrations of pollutants over baseline concentrations of sulfur dioxide and particulate matter as specified in §163 of the Clean Air Act. Further, the Clean Air Act provides that the federal land manager has an affirmative responsibility to protect air quality related values (including visibility, plants, animals, soils, water quality, cultural resources, and visitor health) from adverse pollution impacts (EPA 2000).

Hand tools would be used for most of the construction of the proposed pedestrian trails and would not result in any measurable impacts to air quality. There is a possibility that the removal of grasses, forbs, and limited shrubs could stir up dust, but this impact would be negligible. Overall, the project activities would result in a negligible degradation of local air quality, and such effects would be temporary, lasting only as long as trail construction. The Class II air quality designation for Hubbell Trading Post NHS would not be affected by the proposal. Because there would be no effects on air quality, this topic is dismissed from further analysis in this document.

Soundscape Management

In accordance with 2006 *Management Policies* and Director's Order-47 *Sound Preservation and Noise Management*, an important component of the National Park Service's mission is the

preservation of natural soundscapes associated with national park units (NPS 2006). Natural soundscapes exist in the absence of human-caused sound. The natural ambient soundscape is the aggregate of all the natural sounds that occur in park units, together with the physical capacity for transmitting natural sounds. Natural sounds occur within and beyond the range of sounds that humans can perceive and can be transmitted through air, water, or solid materials. The frequencies, magnitudes, and durations of human-caused sound considered acceptable varies among National Park Service units as well as potentially throughout each park unit, being generally greater in developed areas and less in undeveloped areas.

Historically, Hubbell Trading Post NHS was probably not a place of solitude and quiet, as it was a bustling Trading Post and remains that way today. During trail construction, human-caused sounds would likely increase due to use of hand tools and the presence of trail crews. Any sounds generated during trail construction would be localized and temporary, and would cease after trails have been constructed, resulting in a negligible impact on visitors and employees. After the trails are completed, it is anticipated that there would be a slight increase in trail use which would increase the level of human-created sounds in the area. These human-caused sounds would be ephemeral and would not result in any measurable impact on the historic site's soundscape; therefore, this topic has been dismissed from further analysis in this document.

Lightscape Management

In accordance with 2006 NPS *Management Policies*, the National Park Service strives to preserve natural ambient lightscapes, that are considered natural resources and values that exist in the absence of human caused light (NPS 2006). No exterior lighting is proposed for this trail project; therefore, there would be no impact to the lightscape at Hubbell Trading Post NHS. Because there would be no effects on the lightscape, this topic is dismissed from further analysis in this document.

Park Operations

Hubbell Trading Post NHS currently has nine employees who perform a variety of functions at the park including: park management and administration, facility management, maintenance of historic structures and grounds, interpretive operations including providing tours of the historic house and roving the grounds of the historic site giving impromptu interpretive talks to visitors, museum and curatorial duties, and natural and cultural resource management. The proposed pedestrian trails lie within the historic site's boundaries, and the facility management staff at Hubbell Trading Post NHS would be responsible for maintaining the trails and trail amenities. Maintenance of the ADA accessible trails would be on a cyclic maintenance schedule, receiving periodic maintenance. Maintenance of the brushed trails, waysides, and benches would be accomplished as needed. Maintenance of the pedestrian trails and wayside exhibits is expected to be negligible. It is anticipated that more people would be attracted to using the trails and additional staff patrols and visitor contact may be necessary, however, this is not expected to have a measurable effect on park operations. Establishing pedestrian trails would provide additional opportunities for interpretation of the historic site which could have beneficial effects on overall park operations by imparting stewardship of resources to visitors. Because the impacts to park operations would be negligible to minor, this topic is dismissed from further analysis in this document.

Socioeconomics

The proposed action would formalize trails where informal trails currently exist and provide a connection to an existing trail on adjacent Navajo Nation land, resulting in a negligible change to local and regional land use. The proposed action would not appreciably impact local businesses or other agencies. The NPS presented the project at a Ganado chapter meeting, and no concerns were voiced at that time. Implementation of the proposed action would most likely be coordinated with the Arizona Trails Association and their volunteers. Therefore, any increase in workforce and revenue would be temporary and negligible, lasting only as long as trail construction. Because the impacts to the socioeconomic environment would be negligible, this topic has been dismissed from further analysis in this document.

Prime and Unique Farmlands

The Farmland Protection Policy Act of 1981, as amended, requires federal agencies to consider adverse effects to prime and unique farmlands that would result in the conversion of these lands to non-agricultural uses. Prime or unique farmland is classified by the U.S. Department of Agriculture's Natural Resources Conservation Service (NRCS), and is defined as soil that particularly produces general crops such as common foods, forage, fiber, and oil seed; unique farmland produces specialty crops such as fruits, vegetables, and nuts. In a conversation with a representative of the NRCS, the soils at Hubbell Trading Post NHS are in an unmapped status, but that prime and unique farmlands most likely exist at the historic site (NRCS 2010). The proposed project would not occur within the agricultural fields at the historic site and would not impact any prime and unique farmlands; and therefore, this topic is dismissed from further analysis in this document.

Indian Trust Resources

Secretarial Order 3175 requires that any anticipated impacts to Indian trust resources from a proposed project or action by the Department of Interior agencies be explicitly addressed in environmental documents. The federal Indian trust responsibility is a legally enforceable fiduciary obligation on the part of the United States to protect tribal lands, assets, resources, and treaty rights, and it represents a duty to carry out the mandates of federal law with respect to American Indian and Alaska Native tribes. There are no Indian trust resources at Hubbell Trading Post NHS, and the lands comprising the monument are not held in trust by the Secretary of the Interior for the benefit of Native Americans. Therefore, this topic has been dismissed from further analysis in this document.

Environmental Justice

Executive Order 12898 *General Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* requires all federal agencies to incorporate environmental justice into their missions by identifying and addressing disproportionately high and adverse human health or environmental effects of their programs and policies on minorities and low-income populations and communities. The newly constructed pedestrian trails would be available for use by all people regardless of race or income, and the construction workforces would not be hired based on their race or income. A portion of the trail network would be made accessible and adhere to ADA accessibility guidelines, providing additional opportunities for visitors and customers at Hubbell Trading Post NHS. Because the impacts from the proposed project would not result in disproportionate health or environmental effects on minorities or low-income

populations or communities, the topic of environmental justice has been dismissed from further analysis.

Climate Change and Sustainability

Although climatologists are unsure about the long-term results of global climate change, it is clear that the planet is experiencing a warming trend that affects ocean currents, sea levels, polar sea ice, and global weather patterns. Although these changes would likely affect winter precipitation patterns and amounts in the parks, it would be speculative to predict localized changes in temperature, precipitation, or other weather changes, in part because there are many variables that are not fully understood and there may be variables not currently defined. Therefore, the analysis in this document is based on past and current weather patterns and the effects of future climate changes are not discussed further.

ALTERNATIVES

NEPA requires that federal agencies conduct a careful, complete, and analytical study of the impacts resulting from proposals that have the potential to affect the environment and consider alternatives to that proposal, well before any decisions are made. This section describes the alternatives considered, including the No-Action alternative. The description of the action alternative includes mitigation measures and monitoring activities proposed to minimize or avoid environmental impacts. This section also includes a description of alternatives considered early in the process and reasons for their dismissal from further analysis is provided. This section identifies the environmentally preferred alternative and concludes with a comparison of the alternatives considered.

An interdisciplinary team, comprised of employees of Hubbell Trading Post NHS and the Intermountain Regional Support Office of the NPS, developed a list of alternatives and identified potential resource impacts. No public comments were received during the public scoping process to influence the development of alternatives. A total of four action alternatives and the No-Action alternative were originally identified for this project. Two of these action alternatives were dismissed, for reasons provided, leaving two action alternatives and a No-Action alternative that have been retained for discussion.

Alternatives Carried Forward

Alternative A – No-Action

Under this alternative, there would be no formalized pedestrian trails within the historic site (Figure 3). There would be no seamless connection with the existing trail on adjacent Navajo Nation land. Currently, there is no trail connection through the park, so trail users must stop at the park boundary or cut through the park on informal routes. An existing informal route would continue to offer interested visitors' access to the Wash, and access to the Wash would be permissible under the visitors' discretion or until such a time when impacts to resources are evident. The park would determine on a case-by-case basis whether existing informal routes would be rehabilitated or if use would continue as currently exists. There would be no accessible trails constructed under the No-Action alternative. Park staff would continue to maintain the fire break around the perimeter of the "Big Field", but no effort would be made to provide for visitor access on the route created by the fire break. Under this alternative, no wayside exhibits or benches would be installed to provide interpretive opportunities about the natural and cultural resources at the historic site.

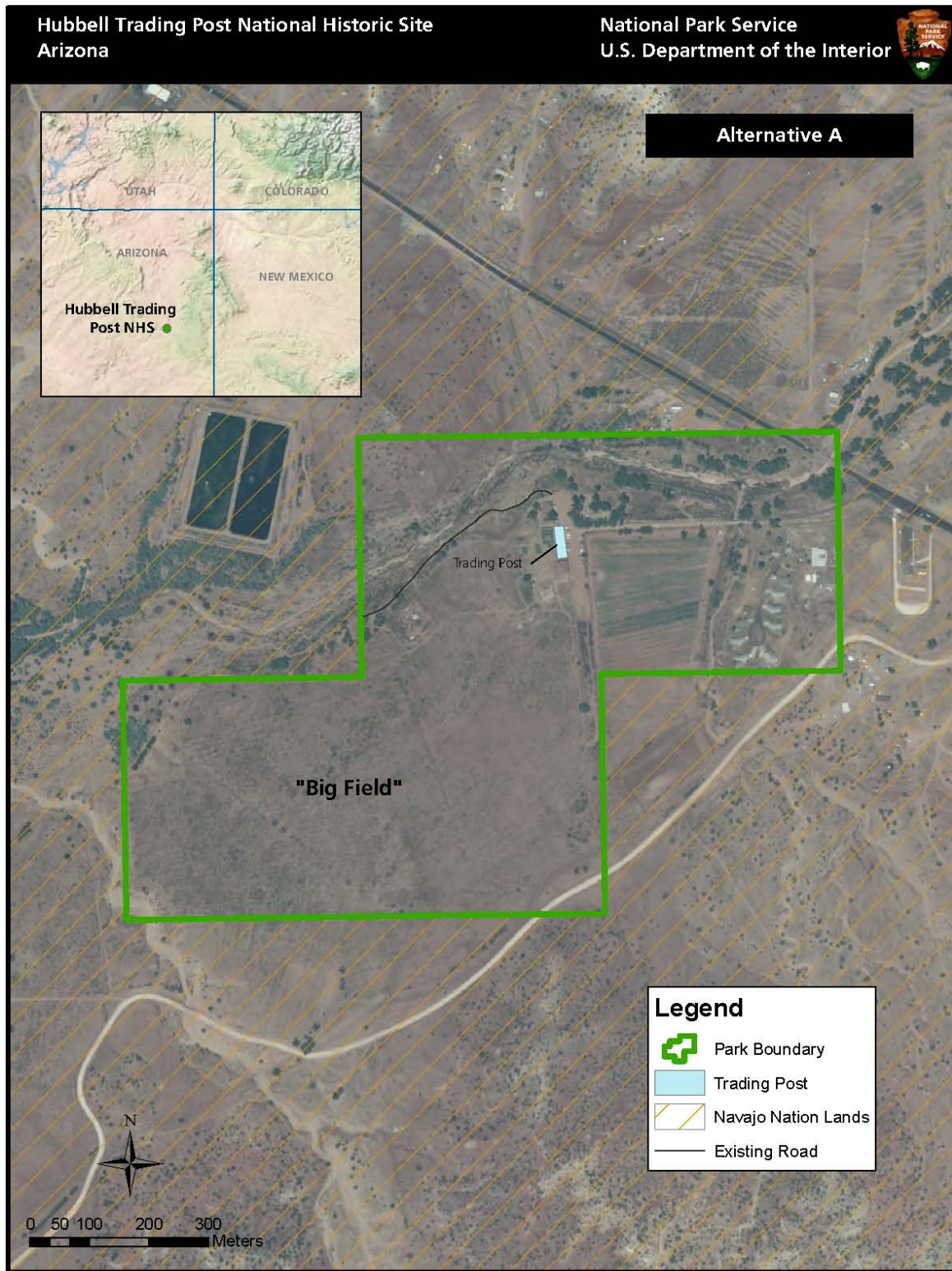


Figure 3- Alternative A- No Action

Alternative B – Provide Multiple Trails

Under this alternative, an accessible trail would be formalized along the Pueblo Colorado Wash and to the Hogan in the Lane, visitor access around the “Big Field” would be encouraged, and waysides and benches would be installed along the Wash trail, to provide recreational and educational opportunities, to protect natural and cultural resources, and to provide a seamless connection with an existing trail on adjacent Navajo Nation lands (Figure 7). This project is designed to enhance community cohesion, provide accessible trails, increase natural resource interpretive opportunities, and minimize adverse impacts on natural and cultural resources from the creation of social trails. By creating a seamless trail connection, the NPS hopes to improve recreational and educational opportunities both in the park and for the community. Components associated with this alternative would occur in phases, as funding and staffing becomes available.

Trail Construction

Pueblo Colorado Wash Trail (Wash Trail)

The Wash Trail would originate at the north end of the parking area near the Trading Post. Approximately 30 feet (9 meters) from the parking lot, the proposed trail would diverge. From the parking lot, the western half of the trail would be designed to meet ADA accessibility standards, and would curve along the base of a small hill and intercept an existing two-track service lane which eventually extends beyond the historic site’s boundary. A portion of the eastern half of the Wash Trail would be accessible, and travel along the bench above the Pueblo Colorado Wash. The accessible portion of the trail would terminate near the location of a proposed wayside exhibit, and a brushed single-track trail would extend east (Figure 4).



Figure 4- Photo of the general area of the proposed accessible portion of the Wash Trail.

The Wash Trail would be approximately 0.6 mile long (1,017 meters), unpaved, and approximately 0.4 mile (698 meters) would be brushed and graded. The brushed trail would follow an existing social trail that is set-back from the historic site’s entrance road, and would cross a side wash via an existing concrete surface atop a gabion structure. From this point, the

trail would split into a northern route and a southern route. The northern route would traverse between an existing gabion structure and the enclosed Wide Reeds Ruin archeological site. Local stone would be used to construct steps to provide access over an existing gabion structure, before meeting up with the southern route on the eastern boundary of the historic site. The southern route would essentially follow an existing social trail between the Wide Reeds Ruin archeological site and the historic site's entrance road. The trails would meet up, continue under the Highway 264 bridge, and connect with the existing trail on Navajo Nation land upstream of the park boundary.

A portion of the trail would be designed to be accessible and would provide all visitors an opportunity to experience the historic site's various resources. The accessible portion of the 0.6 mile trail would be approximately 0.2 mile (320 meters) long and approximately 36" wide. A soil stabilizer would be applied to the accessible portion of the trail alignment, to provide a hardened surface consistent with ADA trail standards, and would emulate the surrounding area. Hand tools would be used to clear the brush and provide a level trail in compliance with ADA accessibility specifications. If funding is available, there is an option to make the entire trail accessible.

Improve Access to the Hogan in the Lane

Native vegetation has overgrown the old highway south of the historic buildings, limiting views of, and access to, the Hogan in the Lane, an original Hogan once used by Hubbell customers. Currently, a dirt service lane extends beyond the Trading Post parking lot, east of the "Big Field", and passes alongside the Hogan. The existing service lane, amidst the brush, is occasionally maintained. Under this alternative, access to the Hogan, approximately 0.3 mile (545 meters) would be improved by removing overgrown brush to reveal the original road to make the Hogan more visible from the Trading Post parking lot and other buildings, thus tying it into the historic site and including it in the historic landscape/viewshed. As funding becomes available, a soil stabilizer may be applied to the trail alignment to provide a hardened surface and meet ADA accessibility standards.

Route around the "Big Field"

Under this alternative, a route, approximately 1.6 miles (2,518 meters), around the "Big Field" would be made available for visitor use. While the park currently does not have the ability to regularly maintain or patrol the route, the park would eventually open this route to visitors to enable views of the historic landscape and provide an opportunity for exercise and recreation. Park staff currently maintains a fuel break that follows the fence line around the perimeter of the "Big Field", which inadvertently creates a route. Park staff would continue to maintain the fuel break and little to no improvements to the route would be made. Pedestrian access would be via an existing metal grate stile over the fence on the eastern edge, and a wooden stump stile on the western edge. The western end of the route joins up with the park-maintained dirt service road alongside the Wash. Activities associated with this action could include replacing the stump stile, and encouraging use of the route by including information of the route on maps, direction from park rangers, mention of a 'recreational opportunity' on the historic site's website, and/or a small NPS directional route sign. If at some point, the "Big Field" is leased for agricultural purposes, use of this route may be terminated. To protect archeological resources, fencing may be installed to protect the archeological sites from livestock (horses), from visitors who would be using the trail, and to prepare the sites for protection should the field be leased for agricultural purposes.

Trail Amenities

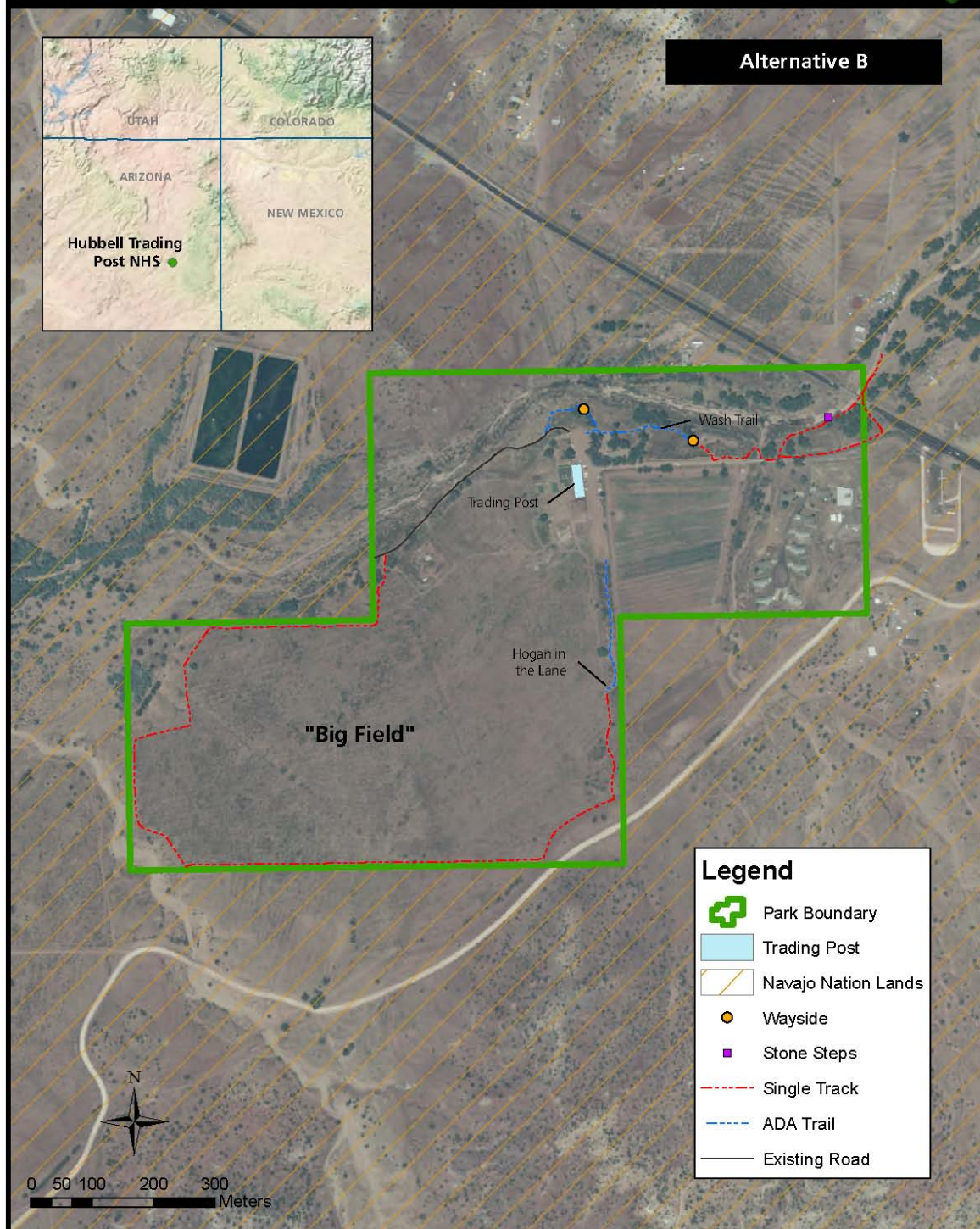
The following project components would occur as funding and staffing becomes available.

Waysides

Waysides, and required ADA accessibility pullouts or wider areas would occur at strategic points along the trails. The waysides would most likely be low-profile and on pedestals and would be installed at either end of the accessible portion of the Wash trail. One wayside would be installed at the upstream end of the trail in an area with trees, and would describe stream restoration efforts and/or the riparian ecosystem (Figures 5 and 6). This wayside would be hidden from view of visitors traveling along the access road and would be outside the view of the historic district. The other wayside would be located below the crest of the small hill at the end of the parking area and near the old bridge (Figures 5 and 6). This wayside would be outside the view of the main part of the historic district, and would provide information about the old highway and bridge, and/or other historic details. There would be approximately four passing spaces along the accessible portion of the Wash Trail, each one in the shade of a cottonwood tree. The passing spaces would be at least five feet (1.5 meters) wide by five feet long to allow unobstructed passage (USFS 2006). Wooden benches would be installed in the ADA accessibility pullouts or wider areas, and would offer a shady respite for visitors to experience the natural and cultural resources at the historic site. The exact locations of trail amenities may change slightly during construction.



Figures 5 and 6- Proposed locations for wayside exhibits.



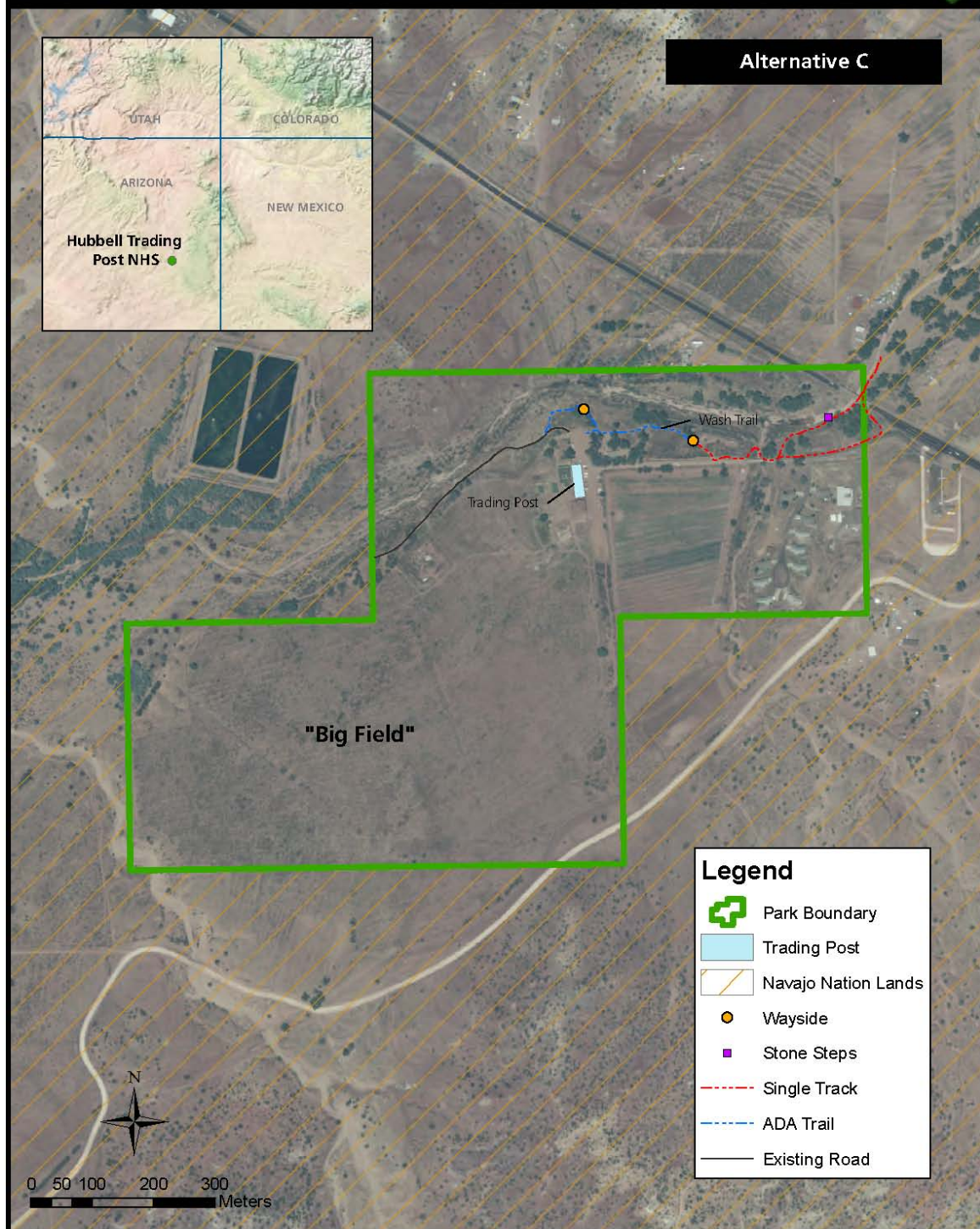
Produced by Intermountain Region Geographic Resources Program

July 2010

Figure 7- Alternative B: Provide Trails to Enhance Recreational and Educational Opportunities

Alternative C- Provide Wash Trail Only

Under this alternative, an accessible trail would be formalized along the Wash, and wayside exhibits and benches would be installed to provide recreational and educational opportunities, to protect natural and cultural resources, and to provide a seamless connection with an existing trail on adjacent Navajo Nation lands (Figure 8). Construction of the Wash Trail would occur as described above under Alternative B. In addition, the installation of wayside exhibits and benches would also occur as described under Alternative B. This project is designed to enhance community cohesion, provide an accessible trail, increase natural resource interpretive opportunities, and minimize adverse impacts on natural and cultural resources from the creation of social trails. By creating a seamless trail connection, the NPS hopes to improve recreational and educational opportunities both in the park and for the community. Alternative C does not include formalizing an accessible trail to the Hogan in the Lane, nor would it encourage access around the perimeter of the “Big Field”.



Produced by Intermountain Region Geographic Resources Program

July 2010

Figure 8- Alternative C: Construct Wash Trail

Mitigation Measures

The following mitigation measures were developed to minimize the degree and/or severity of adverse effects and would be implemented during construction of the action alternative, as needed:

- Construction of the trail would be scheduled with visitor's hours in mind, as well as examining the potential of continued access on the social trail in areas where the new trail has yet to be constructed.
- Supervisors, trail workers and volunteers would be informed about all wildlife and vegetation designated under special status. If a species of special designation was identified during the construction of the trail, work would cease until it was determined whether the continuation of the trail would adversely impact this species in any way.
- The National Park Service would train and guide all workers and volunteers in regards to the handling of soils and vegetation. The trail would be placed with sensitive soils and vegetation in mind, thereby limiting adverse impacts such as erosion or dust pollution.
- All equipment and materials used during trail construction would be cleaned and free of seeds, weeds, and soil that could harbor non-native plant species. Equipment would be cleaned again before taken off-site.
- Known archeological sites will be avoided under each alternative. In the event that cultural resources were unearthed, work on the trails would immediately stop in the area of discovery and the area would be secured. Hubbell Trading Post NHS would then consult with the necessary organizations as dictated in §36 CFR 800.13, *Post Review Discoveries*. In the unlikely event that human remains were discovered during trail construction, provisions outlined in the Native American Graves Protection and Repatriation Act (1990) would be followed. Inadvertently discovered human remains would be treated according to the provisions in the 2008 NPS Programmatic Agreement.
- To protect archeological sites near the perimeter of the "Big Field", fencing would be installed at a minimum, to better protect the archeological sites from livestock (horses), protect the sites from visitors who would be using the trail, and prepare them for protection should the field be leased for agricultural purposes. A monitor would be present when trail and fencing work commences near known archeological site/s.
- Project design would minimize the adverse effects to the cultural landscape by installing wayside exhibits in strategic places that are not highly visible from most historic structures at the site, and by utilizing previously disturbed corridors to the greatest extent practicable. Benches, exhibits, and waysides would be placed along the trail and would be made out of wood, or materials consistent with the materials of many other structures and landscape features at the site.

Alternatives Considered and Dismissed

The following two alternatives were considered, but were ultimately dismissed from further analysis. Reasons for their dismissal are provided in the following alternative descriptions.

- **Trail in the Pueblo Colorado Wash** – This alternative considered placing the trail along the Wash basin, but was dismissed due to the fact that the trail would be periodically covered and destroyed during flood events when water in the Wash increases. This would result in

added maintenance costs and staff time needed to periodically reconstruct the trail. The project objective to provide an accessible trail would be compromised due to the elevated and constantly changing edges bordering the Wash. In addition, the trail would only be seasonally or periodically accessible when there was no threat of flooding. This alternative did not meet the project objectives and was dismissed from further consideration.

- **Trail along the northern side of the Pueblo Colorado Wash** – This alternative considered constructing a pedestrian trail on the northern side of the Wash. This alternative would require construction of a pedestrian bridge in order to allow visitors’ access from the Trading Post to the northern side of the Wash to reach the trail. In addition, numerous gullies and ditches would need to be filled or navigated in order to create a trail on the northern side of the Wash. The actions needed to address the bridge and the terrain would create a substantially larger human footprint on the land, and thereby unnecessarily increasing the adverse environmental impacts associated with those actions. Ultimately, this alternative was dismissed due to economic feasibility and the adverse environmental impacts resulting from project implementation.
- **Construct ADA Accessible Trail around the Perimeter of the “Big Field”** - This alternative considered making the route around the “Big Field” ADA accessible. Sensitive archeological sites exist in the vicinity of the perimeter of the “Big Field”, and using a soil stabilizer or other hardening material to make the trail accessible, could present unnecessary impacts to known and unknown archeological sites. For these reasons, this alternative was dismissed from further consideration.

Alternative Summaries

Table 1 summarizes the major components of Alternatives A, B, and C, and compares the ability of these alternatives to meet the project objectives (the objectives for this project are identified in the *Purpose and Need* chapter). As shown in the following table, Alternative B meets each of the objectives identified for this project, and Alternative C partially meets the objectives identified for this project, while the No-Action Alternative does not fully realize all of the objectives.

Table 1– Summary of Alternatives and How Each Alternative Meets Project Objectives

Alternative Elements	Alternative A – No-Action	Alternative B – Construct Trails	Alternative C- Construct Wash Trail
Construct Wash Trail	Existing informal trails would remain and provide access to the Wash. There would be no connection to the existing trail on Navajo Nation land. No accessible trail would be provided.	A 0.6 mile long trail would be constructed near the Wash and connect to the existing trail on Navajo Nation land. Approximately 0.2 mile of the trail would be accessible.	A 0.6 mile long trail would be constructed near the Wash and connect to the existing trail on Navajo Nation land. Approximately 0.2 mile of the trail would be accessible.
Improve Access to ‘Hogan in the Lane’	The existing dirt service lane would continue to provide access to the Hogan. No improvements to the access would	Access, approximately 0.3 mile, to the Hogan would be improved and would meet ADA accessibility standards.	The existing dirt service lane would continue to provide access to the Hogan. No improvements to the access would occur.

	occur.		
Install Interpretive Waysides and Benches along the Wash Trail	Interpretive waysides would not be installed and would not provide information on the cultural and natural resources. Benches would not be available.	Interpretive waysides would be installed and provide information on the cultural and natural resources of the historic site. Benches would be placed along the trail.	Interpretive waysides would be installed and provide information on the cultural and natural resources of the historic site. Benches would be placed along the trail.
Provide Route Around “Big Field”	Park staff would continue to maintain the fuel break around the “Big Field”. Use of the route, created by the fuel break, would not be encouraged.	Park staff would continue to maintain the fuel break around the “Big Field” and few improvements would be made to the route. Use of the route, approximately 1.6 miles, would be encouraged.	Park staff would continue to maintain the fuel break around the “Big Field”. Use of the route, created by the fuel break, would not be encouraged.
Project Objectives	Meets Project Objectives?	Meets Project Objectives?	Meets Project Objectives?
Offer community members and visitors a more cohesive way of interacting with the Trading Post and neighboring communities; and, enhance recreational opportunities by providing a seamless trail that connects to the existing trail on adjacent Navajo Nation land.	Partially. The Trading Post provides a location where visitors and neighboring communities can interact. This alternative does not fulfill the objective to enhance recreational opportunities by providing a seamless trail that connects to the existing trail on adjacent Navajo Nation land.	Yes. Recreational opportunities would be enhanced from constructing a trail and providing a seamless connection with the historic site and neighboring communities. This would offer a cohesive way for visitors and community members to interact.	Yes. Recreational opportunities would be enhanced from constructing a trail and providing a seamless connection with the historic site and neighboring communities. This would offer a cohesive way for visitors and community members to interact.
Enhance educational and interpretive opportunities about the natural and cultural resources at Hubbell Trading Post NHS.	Partially. Interpretive and educational opportunities would continue to be provided by staff at the site and through reading materials, but would not be enhanced through the installation of wayside exhibits explaining important resources at the historic site.	Yes. Interpretive and educational opportunities would be enhanced from the installation of wayside exhibits providing a means for visitors to explore the site on their own and learn about the important cultural and natural resources at the historic site.	Yes. Interpretive and educational opportunities would be enhanced from the installation of wayside exhibits providing a means for visitors to explore the site on their own and learn about the important cultural and natural resources at the historic site.
Improve accessibility	No. No accessible	Yes. Accessibility at	Partially. Accessibility at

at the site by providing ADA accessible trails.	trails would be provided.	the site would be improved, and two accessible trails would be constructed.	the site would be improved, and one accessible trail would be constructed.
Create established travel routes to minimize impacts to park resources.	No. Established travel routes would not be created and the potential for impacts to park resources from the creation of social trails would persist.	Yes. Established travel routes would be identified and minimize the potential for impacts to park resources.	Yes. An established travel route would be identified along the Wash and minimize the potential for impacts to park resources.

Table 2 summarizes the anticipated environmental impacts for alternatives A, B, and C. Only those impact topics that have been carried forward for further analysis are included in this table. The *Environmental Consequences* chapter provides a more detailed explanation of these impacts.

Table 2 – Environmental Impact Summary by Alternative

Impact Topic	Alternative A – No-Action	Alternative B – Preferred Alternative	Alternative C- Construct Wash Trail
Cultural Landscapes	There would be no change to the existing cultural landscape. No interpretative waysides would be installed informing visitors of the natural and cultural resources comprising the cultural landscape.	The cultural landscape would be minimally changed, although the majority of the Wash Trail would not be visible from the rest of the site, resulting in long-term, minor, adverse impacts to the cultural landscape. Long-term, minor to moderate, beneficial effects would result from providing additional educational opportunities for visitors and community members that would highlight the natural and cultural resources of Hubbell Trading Post NHS's cultural landscape.	The cultural landscape would be minimally changed, although the majority of the Wash Trail would not be visible from the rest of the site, resulting in long-term, minor, adverse impacts to the cultural landscape. Long-term, minor to moderate, beneficial effects would result from providing additional educational opportunities for visitors and community members that would highlight the natural and cultural resources of Hubbell Trading Post NHS's cultural landscape.
Archeological Resources	Continued current use would not introduce new impacts to archeological resources. Currently the known site within the compound is secured by barbed wire fencing. This is meant to provide a means of protection for the site.	Minor impacts to archeological resources are expected of this alternative. No major ground disturbance is expected, but formal trail development along side of a site could allow for unwarranted visitation and thus some impacts.	Negligible to minor impacts to archeological resources are expected of this alternative. No major ground disturbance is expected, but formal trail development along side of a site could allow for unwarranted visitation and thus some impacts
Visitor Use and	There would be no change to the visitor use and	Construction of the new trails would have short-term,	There would be short-term, adverse impacts to visitor

Impact Topic	Alternative A – No-Action	Alternative B – Preferred Alternative	Alternative C- Construct Wash Trail
Experience	experience opportunities. No pedestrian trails would be constructed and there would be no accessible trails providing all visitors access to the natural and cultural resources at the historic site, resulting in minor, adverse impacts to visitor use and experience.	minor, adverse effects to visitors from increased human activity and dust. Long-term, minor to moderate, beneficial effects would result from increased interpretation and recreational opportunities for visitors from the construction of pedestrian trails, accessible trails, wayside exhibits, and benches.	use and experience during construction activities. Long-term, minor to moderate beneficial effects would result from construction of the Wash Trail; and, a long-term, minor, adverse impact from not providing accessible trail to the Hogan in the Lane or encouraging access around the “Big Field”.

Environmentally Preferred Alternative

“The environmentally preferred alternative is determined by applying the criteria suggested in the National Environmental Policy Act of 1969 (NEPA), which guides the Council on Environmental Quality (CEQ). The CEQ provides direction that “[t]he environmentally preferable alternative is the alternative that would promote the national environmental policy as expressed in NEPA’s §101:

- fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;
- assure for all generations safe, healthful, productive, and esthetically and culturally pleasing surroundings;
- attain the widest range of beneficial uses of the environment without degradation, risk of health or safety, or other undesirable and unintended consequences;
- preserve important historic, cultural and natural aspects of our national heritage and maintain, wherever possible, an environment that supports diversity and variety of individual choice;
- achieve a balance between population and resource use that would permit high standards of living and a wide sharing of life’s amenities; and
- enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.” (NPS EA requirements)

Alternative A, No-Action, meets a portion of the six evaluation factors, but does not fully realize the above criteria. Alternative A does not promote the widest range of beneficial uses of the environment, because the disruption caused by the creation of social trails can result in unintended consequences to natural and cultural resources. The No-Action alternative also does not fully realize the criteria to support diversity and variety of individual choice because there are currently no accessible trails available within the historic site. The objective to provide a seamless connection with the existing trail on adjacent Navajo Nation land would not be achieved, and the criteria to achieve a balance between population and resource use that would permit high standards of living and a wide sharing of life’s amenities would not be fully realized.

Alternatives B and C better address the six evaluation factors. While Alternative C meets the six evaluation factors, Alternative B is the environmentally preferred alternative because it best addresses the six evaluation factors. Alternatives B and C would provide pedestrian trails and accessible trails that would assure a healthful, culturally, and esthetically pleasing surrounding by designing the trails to blend into the surrounding environment, and be consistent with the historic landscape. Alternatives B and C would achieve a balance between population and resource use that would permit high standards of living and a wide sharing of life's amenities, by providing wayside exhibits and a seamless connection with the existing trail on Navajo Nation land, thereby connecting the Hubbell Trading Post NHS, neighboring communities, and visitors. Wayside exhibits and strategically placed benches along the Wash Trail would provide for a wider range of beneficial uses through interpretation and education for all visitors, ranging from local school groups to international guests. Alternative B would attain the widest range of beneficial uses of the environment by utilizing previously disturbed areas to the greatest extent practicable for trail construction, while minimizing impacts to resources. The pedestrian trails and accessible portions of the trails would support diversity and variety of individual choice by providing most visitors with an opportunity to experience the cultural and natural resources at the site, and encouraging access around the "Big Field" and to the Hogan in the Lane.

No new information came forward during the public scoping or consultation with other agencies to require the development of any new alternatives. Because it meets the purpose and need for the project, the project objectives, and is the environmentally preferred alternative, Alternative B is also recommended as the National Park Service Preferred Alternative. Throughout the remainder of the document, Alternative B will be referred to as the Preferred Alternative.

ENVIRONMENTAL CONSEQUENCES

This chapter analyzes the potential environmental consequences, or impacts, that would occur as a result of implementing the proposed project. Topics analyzed in this chapter include cultural landscapes and visitor use and experience. Direct, indirect, and cumulative effects, are analyzed for each of these two resource topics. Potential impacts are described in terms of type, context, duration, and intensity. General definitions are defined as follows, while more specific impact thresholds are given for each resource at the beginning of each resource section.

- **Type** describes the classification of the impact as either beneficial or adverse, direct or indirect:
 - *Beneficial*: A positive change in the condition or appearance of the resource or a change that moves the resource toward a desired condition.
 - *Adverse*: A change that moves the resource away from a desired condition or detracts from its appearance or condition.
 - *Direct*: An effect that is caused by an action and occurs in the same time and place.
 - *Indirect*: An effect that is caused by an action but is later in time or farther removed in distance, but is still reasonably foreseeable.
- **Context** describes the area or location in which the impact will occur. Are the effects site-specific, local, regional, or even broader?
- **Duration** describes the length of time an effect will occur, either short-term or long-term:
 - *Short-term* impacts generally last only during construction, and the resources resume their pre-construction conditions following construction.
 - *Long-term* impacts last beyond the construction period, and the resources may not resume their pre-construction conditions for a longer period of time following construction.
- **Intensity** describes the degree, level, or strength of an impact. For this analysis, intensity has been categorized into negligible, minor, moderate, and major. Because definitions of intensity vary by resource topic, intensity definitions are provided separately for each impact topic analyzed in this EA.

Cumulative Impact Scenario

The Council on Environmental Quality (CEQ) regulations, which implement the National Environmental Policy Act of 1969 (42 USC 4321 et seq.), require assessment of cumulative impacts in the decision-making process for federal projects. Cumulative impacts are defined as “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions” (40 CFR 1508.7). Cumulative impacts are considered for both the No-Action and preferred alternative.

In order to determine the cumulative impacts of the preferred alternative it was necessary to examine past, present, and reasonably foreseeable future actions at Hubbell Trading Post NHS. Because the scope of this project is relatively small, the geographic and temporal scope of the cumulative analysis is similarly small. Understandably actions outside the historic site

boundaries will have impacts to the environment, but for the geographic scope of this project only those actions within the historic site's boundaries have been considered, with exception to consideration of the neighboring trail on Navajo Nation land. The temporal scope includes relevant projects within a range of approximately ten years. Following is a list of some of the trends and actions that factor into the cumulative impact scenario:

- **Treatment and monitoring of non-native plant species (including tamarisk and Russian olive trees) within the Pueblo Colorado Wash, Ongoing-** The historic site will continue to treat and monitor the non-native plant species within the Pueblo Colorado Wash and will continue to monitor the overall functioning of the Wash and riparian habitat;
- **Reintroduction of Agriculture at Hubbell Trading Post NHS, Ongoing-** In 2003, an EA was completed to reintroduce agriculture at Hubbell Trading Post NHS to demonstrate the important role that farming played in supporting Hubbell's trading and freighting operation, which will in turn enrich and enhance the visitor experience to the historic site and contribute significantly to the total story of the site. In 2005, over ten acres were planted in pasture, and in the summer of 2008 efforts began to replace the historic fruit trees.
- **Perform Farmland Preservation, Ongoing-** The NPS will continue to hire local Navajo youth to maintain the park's newly restored agricultural landscape. Through team effort, crews will keep fields irrigated and weeded, water the newly planted orchard, plant and care for the interpretive kitchen garden, and care for the park's livestock. Interns will learn traditional Navajo methods as well as modern farming techniques.
- **Interpretation and Tours, Ongoing-** Hubbell Trading Post NHS staff will continue to offer tours of the historic house and interpreters will continue to rove the grounds providing information about the significance of the historic site.
- **Prairie Dog Management Plan, Future-** The NPS is preparing a prairie dog management plan that would address alternatives in protecting the agricultural fields from damage caused by prairie dogs.
- **Leasing Agricultural Fields, Future-** The fields at Hubbell Trading Post NHS could be leased out for agricultural purposes, if interest is shown. As a result, archeological sites in the "Big Field" would be fenced in an unobtrusive way so that the fencing does not detract from the cultural landscape, but so that sites are protected from potential damage.

Cultural Landscapes

Intensity Level Definitions

Cultural landscapes are the result of the long interaction between people and the land, the influence of human beliefs and actions over time upon the natural landscape. Shaped through time by historical land-use and management practices, as well as politics and property laws, levels of technology, and economic conditions, cultural landscapes provide a living record of an area's past, a visual chronicle of its history. The dynamic nature of modern human life, however, contributes to the continual reshaping of cultural landscapes; making them a good source of information about specific times and places, but at the same time rendering their long-term preservation a challenge.

In order for a cultural landscape to be listed in the National Register, it must meet one or more of the following criteria of significance: A) associated with events that have made a significant contribution to the broad patterns of our history; B) associated with the lives of persons significant in our past; C) embody the distinctive characteristics of a type, period, or method of construction, or represent the work of a master, or possess high artistic value, or represent a significant and distinguishable entity whose components may lack individual distinction; D) have yielded, or may be likely to yield, information important in prehistory or history (*National Register Bulletin, How to Apply the National Register Criteria for Evaluation*). The landscape must also have integrity of those patterns and features - spatial organization and land forms; topography; vegetation; circulation networks; water features; and structures/buildings, site furnishings or objects - necessary to convey its significance (*Secretary of the Interior's Standards for the Treatment of Historic Properties With Guidelines for the Treatment of Cultural Landscapes*). The Hubbell Cultural Landscape has been determined eligible for the National Register of Historic Places under significance criteria A, B, C, and D at the National level of significance by the Navajo Nation Historic Preservation Officer on June 20, 2003. For purposes of analyzing potential impacts to cultural landscapes, the thresholds of change for the intensity of an impact are defined as follows:

Negligible: Impact(s) is at the lowest levels of detection- barely perceptible and not measurable. For purposes of Section 106, the determination of effect would be *no adverse effect*.

Minor: Adverse: The impact would not affect a character defining pattern(s) or feature(s) of a National Register of Historic Places eligible or listed cultural landscape. For purposes of Section 106, the determination of effect would be *no adverse effect*.

Beneficial: The result is preservation of character defining patterns and features in accordance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes*. For purposes of Section 106, the determination of effect would be *no adverse effect*.

Moderate: Adverse: The impact would alter a character defining pattern(s) or feature(s) of the cultural landscape but would not diminish the integrity of the landscape to the extent that its National Register eligibility is jeopardized. For purposes of Section 106, the determination of effect would be *no adverse effect*.

Beneficial: The result is rehabilitation of a landscape or its pattern and feature in accordance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes*. For purposes of Section 106, the determination of effect would be *no adverse effect*.

Major: Adverse: The impact would alter a character defining pattern(s) or feature(s) of the cultural landscape to the extent that it is no longer eligible to be listed in the National Register. For purposes of Section 106, the determination of effect would be *adverse effect*.

Beneficial: The result is restoration of a landscape or its patterns and features in accordance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes*. For purposes of Section 106, the determination of effect would be *no adverse effect*.

Impacts of Alternative A – No-Action

Under the No-Action alternative, there would be no trail construction and no installation of wayside exhibits or benches, resulting in no impact to the cultural landscape. The informal trails at the site would remain and visitors would continue to access areas of the historic site in the same manner as is currently occurring. Interpretive and educational opportunities at the historic site would continue to include tours of the historic house, roving interpretive guides, and through available literature.

Cumulative Effects: Any project that occurs within the historic site has the potential to have an effect on the cultural landscape; therefore, the actions listed in the cumulative scenario in the introduction of this chapter would have some degree of effect on the cultural landscape. Most of these projects would enhance, protect, and reintroduce activities important to the cultural landscape. Interpretation of the cultural landscape and visitation along the social trails would continue in the current manner. There is the possibility that visitors to the historic site could create new social trails in an attempt to access the Wash or connect from the existing trail on Navajo Nation land to the historic site. When considered with other ongoing projects at the historic site, including the reintroduction and maintenance of agriculture, restoration and monitoring of the Wash, potential leasing of agricultural fields, and current interpretive opportunities, the No-Action alternative does not offer supplemental opportunities for visitors to experience the cultural landscape and learn about efforts to reintroduce historic practices to the cultural landscape, resulting in a long-term, minor, adverse impact to the cultural landscape. In addition, the No-Action alternative does not provide an accessible path for all visitors to experience the cultural landscape more intimately. Cumulatively, the No-Action alternative would result in an overall minor, long-term, adverse effect on the cultural landscape.

Conclusion: The No-Action alternative would result in no direct impacts to the cultural landscape because no pedestrian trails would be constructed and no wayside exhibits or benches would be installed. Cumulatively, the No-Action alternative in addition to other past, present, or reasonably foreseeable future actions would have a minor, long-term, adverse effect on the cultural landscape.

Impacts of Alternative B - Provide Multiple Trails (Preferred Alternative)

Under this alternative, pedestrian trails would be constructed and wayside exhibits and benches would be installed. There would be a slight alteration in the cultural landscape from formalizing trails and installing wayside exhibits, and small portions of the trails would be visible from some of the historic structures resulting in a long-term, adverse, minor impact on the cultural landscape. However, the trails would be designed to blend into the landscape and utilize previously disturbed areas to the greatest extent possible, thereby minimizing impacts to the cultural landscape.

A portion of the trails would be constructed to meet ADA accessibility guidelines providing more visitors with opportunities to experience the historic site's cultural landscape, resulting in long-term, minor to moderate, beneficial effects. The accessible portion of the trails would consist of hardened soil, consistent with ADA accessibility guidelines. No asphalt paving would occur. The non-ADA accessible portion of the trails would be brushed and would provide a stable and firm path for most visitors to traverse. The trails would connect the landscape providing a more comprehensive view of the resources included in the cultural landscape. Providing a seamless connection with the existing trail on Navajo Nation land would further enhance the cohesion among the historic site, neighboring communities, and visitors resulting in

long-term, minor to moderate, beneficial effects to the cultural landscape and would promote Hubbell's vision by enhancing access to the Trading Post for local pedestrian traffic. In addition, providing established trails is expected to reduce the creation of social trails at the historic site, thereby better protecting the natural and cultural resources.

Two interpretive wayside exhibits would be installed along the Wash Trail outside the view of the historic district, and would be hidden from view of visitors traveling along the access road. The waysides would provide visitors with supplemental interpretive information about the natural and cultural resources important to the historic site, resulting in beneficial, long-term, minor to moderate effects on the cultural landscape. Benches would be placed along the trail and would be made out of wood, consistent with the materials of many other structures and landscape features at the site, resulting in long-term, adverse, minor impacts on the cultural landscape.

Encouraging access around the perimeter of the "Big Field" would enable views of the historic landscape and provide an opportunity for exercise and recreation. Archeological sites near the perimeter of the "Big Field" would be fenced to protect the sites from potential damage. Unobtrusive fencing would be selected so that it would not detract from the cultural landscape. Little to no improvements would be made to the route, resulting in a negligible impact to the cultural landscape is expected. Activities to improve access to the Hogan in the Lane may include removing overgrown vegetation along the service lane, brushing out the trail, and applying a soil stabilizer to make the route accessible. Removing vegetation along the service lane would reveal the original road to make the Hogan more visible from the Trading Post parking lot and other buildings, thus tying it into the historic site and viewshed, resulting in minor, beneficial, long-term effects to the cultural landscape.

Cumulative Effects: Any project that occurs within the historic site has the potential to have an effect on the cultural landscape; therefore, the actions listed in the cumulative scenario in the introduction of this chapter would have some degree of effect on the cultural landscape. Most of these projects would enhance, protect, and reintroduce activities important to the cultural landscape. The Preferred Alternative would add interpretive, educational, and recreational opportunities for the visitor to more intimately learn about the cultural landscape. The establishment of formalized trails and installation of wayside exhibits would alter the landscape slightly, but project design would minimize the effect by installing wayside exhibits in strategic places that are not highly visible from most historic structures at the site, and by utilizing previously disturbed corridors to the greatest extent practicable to minimize impacts on the cultural landscape. Fencing of archeological sites near the perimeter of the "Big Field" would be done in an unobtrusive way, but this could be additive if leasing of the agricultural fields occurs and additional fencing of archeological sites would be needed, resulting in a potential minor, adverse, cumulative impact on the cultural landscape. When considered with other ongoing projects at the historic site, including the reintroduction and maintenance of agriculture, restoration and monitoring of the Wash, and current interpretive opportunities, the preferred alternative would enhance overall understanding and appreciation of the cultural landscape, resulting in a long-term, minor to moderate, beneficial effect to the cultural landscape. In addition, the Preferred Alternative would provide an accessible path for all visitors to experience the cultural landscape more intimately. Cumulatively, the Preferred Alternative would result in an overall minor to moderate, long-term, beneficial effect; and, long-term, minor, adverse impact on the cultural landscape.

Conclusion: The construction of the proposed pedestrian trails, benches, and waysides would result in both adverse and beneficial impacts on the cultural landscape. Trails and waysides would present a more formalized way of experiencing the historic site, resulting in long-term, minor, adverse impacts. The trails would be designed to blend into the landscape, waysides would be hidden from the historic viewscape, and the opportunity to supplement interpretive information about the historic site, would have long-term, minor to moderate, beneficial effects on the cultural landscape. For purposes of Section 106 under the National Historic Preservation Act, the determination of effect is anticipated to be “no adverse effect”. Cumulatively, the Preferred Alternative would result in a long-term, minor to moderate, beneficial effect on the cultural landscape from increased interpretive and community cohesion opportunities, and a potential minor, adverse impact from the fencing of archeological sites, when considered with other past, present and reasonably foreseeable future actions.

Impacts of Alternative C - Provide Wash Trail Only

This alternative is similar to Alternative B in the construction of the Wash Trail, but excludes improving access to the Hogan in the Lane and encouraging use around the perimeter of the “Big Field”. Under Alternative C, a pedestrian trail would be constructed and wayside exhibits and benches would be installed along the Wash Trail. There would be a slight alteration in the cultural landscape from formalizing trails and installing wayside exhibits, and a small portion of the trail would be visible from some of the historic structures resulting in a long-term, adverse, minor impact on the cultural landscape. However, the trail would be designed to blend into the landscape and utilize previously disturbed areas to the greatest extent possible, thereby minimizing impacts to the cultural landscape.

A portion of the trail would be constructed to meet ADA accessibility guidelines providing more visitors with opportunities to experience the historic site’s cultural landscape, resulting in long-term, minor to moderate, beneficial effects. The accessible portion of the trail would consist of hardened soil, consistent with ADA accessibility guidelines. No asphalt paving would occur. The non-ADA accessible portion of the trail would be brushed and would provide a stable and firm path for most visitors to traverse. The trail would connect the landscape providing a more comprehensive view of the resources included in the cultural landscape. Providing a seamless connection with the existing trail on Navajo Nation land would further enhance the cohesion among the historic site, neighboring communities, and visitors resulting in long-term, minor to moderate, beneficial effects to the cultural landscape and would promote Hubbell’s vision by enhancing access to the Trading Post for local pedestrian traffic. In addition, providing an established trail is expected to reduce the creation of social trails at the historic site, thereby better protecting the natural and cultural resources.

Two interpretive wayside exhibits would be installed along the Wash Trail outside the view of the historic district, and would be hidden from view of visitors traveling along the access road. The waysides would provide visitors with supplemental interpretive information about the natural and cultural resources important to the historic site, resulting in beneficial, long-term, minor to moderate effects on the cultural landscape. Benches would be placed along the trail and would be made out of wood, consistent with the materials of many other structures and landscape features at the site, resulting in long-term, adverse, minor impacts on the cultural landscape.

This alternative does not realize the opportunity to improve access to the Hogan in the Lane and thereby revealing the original road and connecting the structure to the rest of the cultural

landscape, nor does it encourage access around the “Big Field” to enable views of the historic setting.

Cumulative Effects: Any project that occurs within the historic site has the potential to have an effect on the cultural landscape; therefore, the actions listed in the cumulative scenario in the introduction of this chapter would have some degree of effect on the cultural landscape. Most of these projects would enhance, protect, and reintroduce activities important to the cultural landscape. The Preferred Alternative would add interpretive, educational, and recreational opportunities for the visitor to more intimately learn about the cultural landscape. The establishment of a formalized trail and installation of wayside exhibits would alter the landscape slightly, but project design would minimize the effect by installing wayside exhibits in strategic places that are not highly visible from most historic structures at the site, and by utilizing previously disturbed corridors to the greatest extent practicable to minimize impacts on the cultural landscape. When considered with other ongoing projects at the historic site, including the reintroduction and maintenance of agriculture, restoration and monitoring of the Wash, and current interpretive opportunities, the preferred alternative would enhance overall understanding and appreciation of the cultural landscape, resulting in a long-term, minor to moderate, beneficial effect to the cultural landscape. In addition, the Preferred Alternative would provide an accessible path for all visitors to experience the cultural landscape more intimately. Cumulatively, this alternative would result in an overall minor to moderate, long-term, beneficial effect on the cultural landscape.

Conclusion: The construction of the proposed pedestrian trail, benches, and waysides would result in both adverse and beneficial impacts on the cultural landscape. A trail and waysides would present a more formalized way of experiencing the historic site, resulting in long-term, minor, adverse impacts. The trail would be designed to blend into the landscape, waysides would be hidden from the historic viewscape, and the opportunity to supplement interpretive information about the historic site, would have long-term, minor to moderate, beneficial effects on the cultural landscape. For purposes of Section 106 under the National Historic Preservation Act, the determination of effect is anticipated to be “no adverse effect”. Cumulatively, the Preferred Alternative would result in a long-term, minor to moderate, beneficial effect on the cultural landscape from increased interpretive and community cohesion opportunities, when considered with other past, present and reasonably foreseeable future actions.

Archeological Resources

Intensity Level Definitions

Certain important research questions about human history can only be answered by the actual physical material of cultural resources. Archeological resources have the potential to answer, in whole or in part, such research questions. An archeological site(s) can be eligible to be listed in the National Register of Historic Places if the site(s) has yielded, or may be likely to yield, information important in prehistory or history. An archeological site(s) can be nominated to the National Register in one of three historic contexts or level of significance: local, state, or national (see National Register Bulletin #15, *How to Apply the National Register Criteria for Evaluation*).

The National Historic Preservation Act requires agencies to take into account the effects of their actions on properties listed or eligible for listing on the National Register of Historic Places. The process begins with an identification survey and evaluation of cultural resources for

National Register eligibility, followed by an assessment of effect on those eligible resources, and concludes after a consultation process. If an action (undertaking) could change in any way the characteristics that qualify the resource for inclusion on the National Register, it is considered to have an effect. No adverse effect means there could be an effect, but the effect would not be harmful to those characteristics that qualify the resource for inclusion on the National Register. Adverse effect means the effect could diminish the integrity of the characteristics that qualify the resource for the National Register.

As noted above, effects to archeological resources can be beneficial or adverse, direct or indirect, or short- or long- term. For the purposes of this analysis, levels of impact to archeological resources were defined as follows:

- Negligible:*** The impact on archeological sites is at the lowest levels of detection, barely perceptible and not measurable.
- Minor:*** The impact on archeological sites is measurable or perceptible, but it is slight and localized within a relatively small area of a site or a group of sites. The impact does not affect the character defining features of a National Register of Historic Places eligible or listed archeological site and would not have a permanent effect on the integrity of any archeological sites.
- Moderate:*** The impact is measurable and perceptible. The impact changes one or more character defining feature(s) of an archeological resource but does not diminish the integrity of the resource to the extent that its National Register eligibility is jeopardized.
- Major:*** The impact on archeological site(s) is substantial, noticeable, and permanent. The impact is severe or of exceptional benefit. For National Register eligible or listed archeological sites, the impact changes one or more character defining feature(s) of an archeological resource, diminishing the integrity of the resource to the extent that it is no longer eligible for listing in the National Register.

Impacts of Alternative A – No-Action

Under the No-Action alternative, there would be no trail construction and no installation of wayside exhibits or benches, resulting in no direct impact to archeological resources.

Currently a social trail exists along side of the Wide Reed Ruin that could potentially be impacted if visitors veered off the trail; however, the site does have a barbed wire fence around it providing some protection. Continued use of the social trail would not cause new unknown impacts to archeological resources because this is what is occurring now, but this alternative does not provide for interpretation of the site nor does it keep visitors on a specified route. This means that visitors are currently allowed to wander where they wish and could impact areas close to the site, thus having a potential minor impact to this site.

Cumulative Effects: Any project that occurs within an archeological context has the potential to have an adverse effect on archeological resources. This alternative would not formalize trails or install wayside exhibits which could alter the landscape slightly; therefore, when considered with other ongoing projects at the historic site, including the reintroduction and maintenance of agriculture, restoration and monitoring of the Wash, and current interpretive opportunities, this alternative would not contribute to the overall cumulative effect. The overall cumulative effect to archeological resources would be adverse, negligible to minor , and long-term.

Conclusion: The No-Action alternative would result in no direct impacts to the archeological resources because no pedestrian trails are going to be constructed and no wayside exhibits or benches will be installed. Cumulatively, this alternative would not contribute to the overall adverse, negligible to minor, long-term effect on archeological resources.

Impacts of Alternative B - Provide Multiple Trails (Preferred Alternative)

Trail construction and installation of wayside exhibits or benches would not impact known archeological resources. Project design would position the trails and trail amenities in areas outside of known archeological resources. Ground disturbance still has the potential to reveal unknown archeological resources; however, mitigation measures, including having a monitor on site during construction, would further lessen the potential to disturb unknown archeological sites.

The new trails would allow visitors greater access to more areas of the historic site, which could potentially have minor adverse effects to known archeological sites if visitors were to veer off the trails and enter and disturb the sites. However, even though visitors have greater access around the historic site, formalizing the trails would likely keep visitors from wandering in open areas and disturbing archeological resources, thus having a minor beneficial effect to archeological resources.

This alternative provides the opportunity to improve interpretive and educational opportunities at the historic site which would educate visitors to the importance of protecting archeological resources, which would help minimize the disturbance of archeological resources to a minor degree.

Cumulative Effects: Any project that occurs within an archeological context has the potential to have an effect on archeological resources. The establishment of formalized trails and installation of wayside exhibits would alter the landscape slightly, but project design would minimize the effect by installing wayside exhibits in strategic places that are not highly visible from most historic structures at the site, and by utilizing previously disturbed corridors to the greatest extent possible to minimize impacts on the archeological resources. Fencing of archeological sites near the perimeter of the “Big Field” would be done in an unobtrusive way, but this could be additive if leasing of the agricultural fields occurs and additional fencing of archeological sites would be needed, resulting in a potential minor, adverse, cumulative impact on the archeological resources. When considered with other ongoing projects at the historic site, including the reintroduction and maintenance of agriculture, restoration and monitoring of the Wash, and current interpretive opportunities, the preferred alternative would enhance overall understanding and appreciation of the archeology, resulting in a long-term, minor to moderate, beneficial effect to the archeological resources. In addition, the Preferred Alternative would provide an accessible path for all visitors to experience the archeological resources more intimately. A more defined trail system would also keep visitors off areas that could be sensitive, which would reduce current impacts. Cumulatively, the Preferred Alternative would result in an overall minor to moderate, long-term, beneficial effect; and, long-term, minor, adverse impacts on the archeological resources.

Conclusion: Trail construction and installation of wayside exhibits or benches would not impact known archeological resources. The new trails would allow visitors greater access to more areas of the historic site, which could potentially have minor adverse effects to known archeological sites if visitors were to veer off the trails and enter and disturb the sites, but formalizing the trails would likely help keep visitors from wandering and additional interpretive

opportunities would help educate the public about protecting archeological resources. Cumulatively, the Preferred Alternative would result in a long-term, minor to moderate, beneficial effect on the archeological resources from increased interpretive and the development of specific trail routes, when considered with other past, present and reasonably foreseeable future actions.

Impacts of Alternative C - Provide Wash Trail Only

Trail construction and installation of wayside exhibits or benches would not impact known archeological resources. Project design would position the trails and trail amenities in areas outside of known archeological resources. Ground disturbance still has the potential to reveal unknown archeological resources; however, mitigation measures, including having a monitor on site during construction, would further lessen the potential to disturb unknown archeological sites. This alternative involves less ground disturbance than Alternative B, so it has less likelihood of impacting unknown archeological deposits.

The new trail would allow visitors greater access to more areas of the historic site, which could potentially have negligible to minor adverse effects to known archeological sites if visitors were to veer off the trail and enter and disturb the sites; however, this alternative provides less access to the historic site than Alternative B, thereby slightly minimizing this potential. While visitors have greater access around the historic site under this alternative than what currently exists, formalizing the trail would likely keep visitors from wandering in open areas and disturbing archeological resources, thus having a negligible to minor beneficial effect to archeological resources.

This alternative provides the opportunity to improve interpretive and educational opportunities at the historic site which would educate visitors to the importance of protecting archeological resources, which would help minimize the disturbance of archeological resources to a minor degree.

Cumulative Effects: Any project that occurs within an archeological context has the potential to have an effect on archeological resources. The establishment of formalized trails and installation of wayside exhibits would alter the landscape slightly, but project design would minimize the effect by installing wayside exhibits in strategic places that are not highly visible from most historic structures at the site, and by utilizing previously disturbed corridors to the greatest extent possible to minimize impacts on the archeological resources. Fencing of archeological sites near the perimeter of the “Big Field” would be done in an unobtrusive way, but this could be additive if leasing of the agricultural fields occurs and additional fencing of archeological sites would be needed, resulting in a potential minor, adverse, cumulative impact on the archeological resources. When considered with other ongoing projects at the historic site, including the reintroduction and maintenance of agriculture, restoration and monitoring of the Wash, and current interpretive opportunities, the preferred alternative would enhance overall understanding and appreciation of the archeology, resulting in a long-term, minor to moderate, beneficial effect to the archeological resources. In addition, the Preferred Alternative would provide an accessible path for all visitors to experience the archeological resources more intimately. A more defined trail system would also keep visitors off areas that could be sensitive, which would reduce current impacts. Cumulatively, this alternative would result in an overall minor to moderate, long-term, beneficial effect; and, long-term, minor, adverse impacts on the archeological resources.

Conclusion: Trail construction and installation of wayside exhibits or benches would not impact known archeological resources. The new trail would allow visitors greater access to more areas of the historic site, which could potentially have negligible to minor adverse effects to known archeological sites if visitors were to veer off the trail and enter and disturb the sites, but formalizing the trail would likely help keep visitors from wandering and additional interpretive opportunities would help educate the public about protecting archeological resources. Cumulatively, this alternative would result in a long-term, minor to moderate, beneficial effect on the archeological resources from increased interpretive and the development of specific trail routes, when considered with other past, present and reasonably foreseeable future actions.

Visitor Use and Experience

Intensity Level Definitions

Hubbell Trading Post NHS was established to preserve, protect, and interpret the historic Hubbell complex, and an original Indian Trading Post operation and its environs for the benefit and enjoyment of the public. Hubbell Trading Post NHS is unique among the NPS sites due to the fact that a number of people coming to the historic site are customers, rather than visitors. It is important to keep this in mind, and although those coming to the historic site would be defined as visitors for this environmental assessment, in actuality a large portion of them are customers. The methodology used for assessing impacts to visitor use and experience is based on how the pedestrian trails would affect the visitor, customers, and surrounding communities. The thresholds for this impact assessment are as follows:

- Negligible:** Visitors would not be affected or changes in visitor use and/or experience would be below or at the level of detection. Any effects would be short-term. The visitor would not likely be aware of the effects associated with the alternative.
- Minor:** Changes in visitor use and/or experience would be detectable, although the changes would be slight and likely short-term. The visitor would be aware of the effects associated with the alternative, but the effects would be slight.
- Moderate:** Changes in visitor use and/or experience would be readily apparent and likely long-term. The visitor would be aware of the effects associated with the alternative, and would likely be able to express an opinion about the changes.
- Major:** Changes in visitor use and/or experience would be readily apparent and have substantial long-term consequences. The visitor would be aware of the effects associated with the alternative, and would likely express a strong opinion about the changes.

Impacts of Alternative A – No-Action

Under the No-Action alternative, there would be no change to the existing recreational, educational, and interpretive opportunities at the historic site. No pedestrian trails would be constructed and there would be no accessible trails providing all visitors access to the natural and cultural resources at the historic site, resulting in minor, adverse, long-term, impacts to visitor use and experience. People using the adjacent trail on Navajo Nation land would continue to stop at the boundary and enter the historic site via the access road, or would create informal trails to enter the historic site. The objective to offer community members and visitors a more cohesive way of interacting with the Trading Post and neighboring communities, while

providing a seamless trail connecting the existing trail on adjacent Navajo Nation lands to the historic site would not be realized, resulting in long-term, minor, adverse impacts to visitor use and experience.

The social trails leading to the Wash would continue to be used by visitors at their own volition. There would be no attempt to direct visitors to a defined path near the Wash, and those who are hesitant to navigate an informal path alone may not experience the riparian habitat and Wash rehabilitation efforts. An established travel route would not be created, and the potential for impacts to park resources would continue, thereby negatively affecting the visitor experience.

Interpretive and educational opportunities would continue to be provided by staff at the site and through reading materials, but there would be no enhancement of these opportunities through the installation of wayside exhibits for visitors that want to explore the historic site on their own. The absence of strategically placed wayside exhibits about the natural and cultural resources at the historic site does not fully realize the interpretive and educational opportunities.

Visitors accessing the Hogan in the Lane would continue to do so via the dirt service lane. There would be no improvements made to the access to the Hogan, and no accessible trail would be provided, resulting in minor, long-term, adverse impacts on visitor use and experience. In addition, the route encircling the “Big Field” would continue to be maintained by park staff, however, no effort would be made to provide for visitor access on the route created by maintaining the fuel break.

Cumulative Effects: Park operations have the potential to affect visitor use and experience. Activities such as treatment and monitoring of non-native plant species in the Wash, reintroduction of agriculture and maintaining the cultural landscape, and performing interpretive functions result in beneficial effects on visitor use and experience because of the long-term improvements to the visual and natural environment, interpretive opportunities, and overall functionality of the historic site. Under the No-Action alternative, visitors’ able to use the informal trails would continue to do so and access different areas of the historic site. Hubbell Trading Post NHS staff would continue to offer tours of the historic house and interpreters will continue to rove the grounds and provide information to visitors. Under this alternative, visitor functions in at the historic site are not expected to change, and past actions have had beneficial effects on the visitor use and experience. Therefore, cumulatively, visitor use and experience would not appreciably change when considered with other past, present, and reasonably foreseeable future actions.

Conclusion: Under this alternative, no pedestrian trails would be constructed and there would be no accessible trails providing all visitors access to the natural and cultural resources at the historic site, resulting in minor, adverse, long-term, impacts to visitor use and experience. The objective to offer community members and visitors a more cohesive way of interacting with the Trading Post and neighboring communities, while providing a seamless trail connecting the trail on adjacent Navajo Nation lands to the historic site would not be realized. Cumulatively, the No-Action alternative would not appreciably affect visitor use and experience when considered with other past, present, and reasonably foreseeable future actions.

Impacts of Alternative B - Provide Multiple Trails (Preferred Alternative)

Under the Preferred Alternative, recreational, educational, and interpretive opportunities would be enhanced at the historic site. Pedestrian trails, including accessible trails, would be

constructed, to provide access to important natural and cultural features at the historic site. A key component of the Centennial Strategy and the vision of the historic site is to adhere to the Hubbell family's vision of creating a healthy and cohesive community through ethical business practices. The Preferred Alternative would support this vision by providing a seamless trail that would travel through Hubbell Trading Post NHS and connect with the adjacent community trail, offering members and visitors a more cohesive way of interacting with the Trading Post and neighboring communities, resulting in a long-term, moderate, beneficial effect to visitor use and experience.

Benches and interpretive waysides would be installed to offer additional information about the historic site. Dust, noise, and area closures during construction activities would result in a temporary, negligible to minor, localized, adverse impact on visitor use and experience, but these impacts would be ephemeral and the overall visitor use and experience would be enhanced from the project.

Currently, few visitors take the opportunity to view the riparian habitat and wash rehabilitation efforts occurring in the Pueblo Colorado Wash. Under this alternative, a pedestrian trail would be constructed along the Wash, and would eventually connect with the existing trail on Navajo Nation land, providing a seamless trail. A portion of this trail would be made accessible, providing all visitors with an opportunity to experience the historic site's resources, resulting in a moderate, beneficial, long-term effect on visitor use and experience. The creation of established pedestrian trails would help minimize potential adverse impacts to natural and cultural resources resulting from the creation of social trails.

The preferred alternative would serve as a valuable educational tool for the approximately 30 groups of school children that visit the historic site each year. Benches and wayside exhibits would be installed in strategic places to provide the visitor with a place to relax and reflect, and provide important information about the natural and cultural resources at the historic site, resulting in long-term, minor to moderate, beneficial effects on visitor use and experience.

Access to the Hogan in the Lane would be improved, and an accessible trail would be constructed, resulting in long-term, minor, beneficial effects on visitor use and experience. The route around the perimeter of the "Big Field" would continue to be maintained by park staff as a fuel break, and efforts would be made to provide visitor access on this route. Efforts may include replacing the stump stile to provide a safe access point, and encouraging visitor use by including information on maps, direction from park rangers, and mention of this recreational opportunity on the park's internet website.

Cumulative Effects: Park operations have the potential to affect visitor use and experience. Activities such as treatment and monitoring of non-native plant species in the Wash, reintroduction of agriculture and maintaining the cultural landscape, and performing interpretive functions result in beneficial effects on visitor use and experience because of the long-term improvements to the visual and natural environment, interpretive opportunities, and overall functionality of the historic site. When considered with other ongoing projects at the historic site, the preferred alternative would enhance the recreational, educational, and interpretive opportunities available at the historic site, and accessible trails would be provided. Cumulatively, the Preferred Alternative would result in an overall minor to moderate, long-term, beneficial effect on visitor use and experience.

Conclusion: The construction of the proposed pedestrian trails, benches, and waysides would result in short-term, adverse, impacts, and long-term, beneficial effects. During construction

activities, there would be a temporary, negligible to minor, localized, adverse impact on visitor use and experience from dust, noise, and area closures. Under the Preferred Alternative, the recreational, educational, and interpretive opportunities at the historic site would be enhanced by the construction of pedestrian trails, accessible trails, wayside exhibits, and benches, resulting in a long-term, minor to moderate, beneficial effect on visitor use and experience. Cumulatively, the Preferred Alternative would result in an overall minor to moderate, long-term, beneficial effect on visitor use and experience.

Impacts of Alternative C - Provide Wash Trail Only

This alternative is similar to Alternative B in the construction of the Wash Trail, but excludes improving access to the Hogan in the Lane and encouraging use around the perimeter of the “Big Field”. A pedestrian trail would be constructed along the Wash Trail, providing exposure to important natural and cultural features at the historic site. A key component of the Centennial Strategy and the vision of the historic site is to adhere to the Hubbell family’s vision of creating a healthy and cohesive community through ethical business practices. Alternative C would support this vision by providing a seamless trail that would travel through Hubbell Trading Post NHS and connect with the adjacent community trail, offering members and visitors a more cohesive way of interacting with the Trading Post and neighboring communities, resulting in a long-term, moderate, beneficial effect to visitor use and experience.

Benches and interpretive waysides would be installed to offer additional information about the historic site. Dust, noise, and area closures during construction activities would result in a temporary, negligible to minor, localized, adverse impact on visitor use and experience, but these impacts would be ephemeral and the overall visitor use and experience would be enhanced from the project.

Currently, few visitors take the opportunity to view the riparian habitat and wash rehabilitation efforts occurring in the Pueblo Colorado Wash. Under this alternative, a pedestrian trail would be constructed along the Wash, and would eventually connect with the existing trail on Navajo Nation land, providing a seamless trail. A portion of this trail would be made accessible, providing all visitors with an opportunity to experience the historic site’s resources, resulting in a moderate, beneficial, long-term effect on visitor use and experience. The creation of an established pedestrian trail would help minimize potential adverse impacts to natural and cultural resources resulting from the creation of social trails.

Alternative C would serve as a valuable educational tool for the approximately 30 groups of school children that visit the historic site each year. Benches and wayside exhibits would be installed in strategic places to provide the visitor with a place to relax and reflect, and provide important information about the natural and cultural resources at the historic site, resulting in long-term, minor to moderate, beneficial effects on visitor use and experience.

This alternative does not realize the opportunity to improve access to the Hogan in the Lane and thereby revealing the original road and connecting the structure to the rest of the cultural landscape, nor does it encourage access around the “Big Field” to enable views of the historic setting, resulting in a long-term, minor, adverse impact on visitor use and experience.

Cumulative Effects: Park operations have the potential to affect visitor use and experience. Activities such as treatment and monitoring of non-native plant species in the Wash, reintroduction of agriculture and maintaining the cultural landscape, and performing interpretive functions result in beneficial effects on visitor use and experience because of the

long-term improvements to the visual and natural environment, interpretive opportunities, and overall functionality of the historic site. When considered with other ongoing projects at the historic site, the preferred alternative would enhance the recreational, educational, and interpretive opportunities available at the historic site, and an accessible trail would be provided. Cumulatively, Alternative C would result in an overall minor, long-term, beneficial effect on visitor use and experience.

Conclusion: The construction of a pedestrian trail, benches, and wayside exhibits would result in short-term, adverse, impacts, and long-term, beneficial and adverse effects. During construction activities, there would be a temporary, negligible to minor, localized, adverse impact on visitor use and experience from dust, noise, and area closures. The recreational, educational, and interpretive opportunities at the historic site would be enhanced by the construction of a pedestrian trail with an accessible portion, wayside exhibits, and benches, resulting in a long-term, minor to moderate, beneficial effect on visitor use and experience. Alternative C would not improve access to the Hogan in the Lane, nor would it encourage access around the perimeter of the “Big Field”, resulting in a long-term, minor, adverse impact on visitor use and experience. Cumulatively, the Preferred Alternative would result in an overall minor, long-term, beneficial effect on visitor use and experience.

CONSULTATION AND COORDINATION

Internal Scoping

Internal scoping was conducted by an interdisciplinary team of professionals from Hubbell Trading Post NHS and the Intermountain Regional Support Office. Interdisciplinary team members spoke on July 8, 2009 about the purpose and need for the project; various alternatives; potential environmental impacts; past, present, and reasonably foreseeable projects that may have cumulative effects; and possible mitigation measures. The team also gathered background information and discussed public outreach for the project. Over the course of the project, team members have conducted individual site visits and coordinated with other resource and technical specialists for additional information.

External Scoping

Public scoping was conducted to inform the public about the proposal to construct pedestrian trails at Hubbell Trading Post NHS and to generate input on the preparation of this EA. To initiate external scoping, a scoping letter was posted on the NPS PEPC website encouraging comments on the proposal. The scoping letter was also posted at the Ganado Chapter house, Ganado post Office, Hubbell Trading Post NHS Visitor Center, and the Hubbell Trading Post store. The 30-day comment period began on July 28, 2009, and no comments were received and no initial concerns were voiced during this period.

Agency Consultation

On July 7, 2010 the NPS consulted with a representative of the U.S. Fish and Wildlife Service to evaluate the potential impacts of this project on threatened or endangered species and their habitat. The U.S. Fish and Wildlife had no specific concerns about the project at the time. However, upon receipt of species occurrence data from the Navajo Nation Department of Fish and Wildlife the NPS will further evaluate potential project impacts and continue consultation with the U.S. Fish and Wildlife Service. It is believed at this time that the project will have no effect on any listed threatened or endangered species or habitat, including the endangered Southwestern Willow Flycatcher or on the Gunnison's Prairie Dog (a species of concern).

The NPS consulted with the AZ SHPO and a representative of the Navajo Nation (tribal) Historic Preservation Office on April 2, 2010, in regards to the proposed construction of the Wash Trail. Neither group had specific concerns about the project at that time. The NPS will continue to consult with both groups as design and formal planning of project components move forward.

Native American Consultation

A scoping letter introducing the proposed project was sent to the Navajo Nation THPO on July 28, 2009, and no initial comments were received. On February 21, 2010, the NPS attended the Ganado chapter planning and general meeting to discuss the proposed project, and no initial concerns about the project were voiced at that time.

Environmental Assessment Notification and Review

The environmental assessment will be released for a 30-day public review. To inform the public of the availability of the environmental assessment, the NPS will publish and distribute a letter

or press release to interested parties and individuals. A copy of the EA notification letter will be posted at the Ganado Chapter House, Ganado Post Office, Hubbell Trading Post NHS Visitor Center, and the Hubbell Trading Post store for further outreach. A copy of the environmental assessment is available for review at the historic site or are available upon request. The EA will also be made available for review and comment on the NPS PEPC website at <http://parkplanning.nps.gov/hutr>.

The EA is subject to a 30-day public review and comment period. During this time, the public is encouraged to submit their written comments to the National Park Service address provided at the beginning of this document or online at the PEPC website. At the close of the public review and comment period, all public comments will be reviewed and analyzed with appropriate changes made, prior to the release of a decision document. The NPS will issue responses to substantive comments received during the public comment period, and will make appropriate changes to the environmental assessment, as needed.

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APPENDIX A - 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

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- 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 cultural landscapes and archeological resources.

Fundamental resources and values for Hubbell Trading Post National Historic Site are identified in the *Foundation for Management and Planning* (NPS 2007). According to that document, of the impact topics carried forward in this environmental assessment, only cultural landscapes are considered 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. As such, the following analysis evaluates whether this resource would be impaired by the preferred alternative.

- **Cultural Landscapes** – Hubbell Trading Post National Historic Site was established as a living trading post, to preserve and interpret an original Indian trading post operation and its environs . The construction of the proposed pedestrian trails, benches, and waysides would result in both adverse and beneficial impacts on the cultural landscape. Trails and waysides would present a more formalized way of experiencing the historic site, resulting in long-term, minor, adverse impacts. The trails would be designed to blend into the landscape, waysides would be hidden from the historic viewscape, and the opportunity to supplement interpretive information about the historic site, would have long-term, minor to moderate, beneficial effects on the cultural landscape. Although cultural landscapes are a fundamental resource at the park, the preferred alternative would result in only minor, long-term, adverse impacts to cultural landscapes; therefore, there would be no impairment to cultural landscapes.

In addition, mitigation measures for these resources would further lessen the degree of impact to and help promote the protection of cultural landscapes. Project design would minimize the adverse effects to the cultural landscape by installing wayside exhibits in strategic places that are not highly visible from most historic structures at the site, and by utilizing previously disturbed corridors to the greatest extent practicable. Benches, exhibits, and waysides would be placed along the trail and would be made out of wood, or materials consistent with the materials of many other structures and landscape features at the site.

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 would be no impairment of park resources and values from implementation of the preferred alternative.