Cultural Resources

Introduction

The Congress in 1966 declared it to be our National policy that the Federal government "administer Federally owned, administered or controlled prehistoric and historic resources in a spirit of stewardship for the inspiration and benefit of present and future generations (National Historic Preservation Act (NHPA) (16 U.S.C. 470-1(3))." This need was made more explicit when the National Historic Preservation Act was amended in 1980 and Section 110 was added to expand and underscore Federal agency responsibility for identifying and protecting historic properties and avoiding unnecessary damage to them. Many historic properties are fragile and once damaged or destroyed they cannot be repaired or replaced.

Section 106 of the NHPA compels Federal agencies to take into account the effect of its undertakings on any district, site, building, structure or object that is included in or eligible for inclusion in the National Register of Historic Places (36 CFR 60) (Historic Properties). The Travel Management Rule requires that the effects on cultural resources be considered, with the objective of minimizing damage, when designating roads, trails and areas for motor vehicle use on National Forest System lands (36 CFR 212.55(a), 212.55(b)(1)).

Analysis Framework: Statute, Regulation, Forest Plan (LRMP) and Other Direction

Direction relevant and specific to the proposed action as it affects cultural resources includes:

The Forest Service is directed to identify, evaluate, treat, protect and manage historic properties by several laws. However, the National Historic Preservation Act of 1966, as amended (16 U.S.C. 470 et seq.) (NHPA), provides comprehensive direction to Federal agencies about their historic preservation responsibilities. Executive Order 11593, entitled *Protection and Enhancement of the Cultural Environment*, also includes direction about the identification and consideration of historic properties in Federal land management decisions.

The National Historic Preservation Act of 1966 extends the policy in the Historic Sites Act of 1935 (49 Stat. 666; 16 U.S.C. 461-467) to include resources that are of State and local significance, expands the National Register of Historic Places (NRHP) and establishes the Advisory Council on Historic Preservation and State Historic Preservation Officers. NHPA Section 106 directs all Federal agencies to take into account effects of their undertakings (actions, financial support and authorizations) on properties included in or eligible for the National Register. The Advisory Council on Historic Preservation's (ACHP) regulations (36 CFR 800) implements NHPA Section 106. NHPA Section 110 sets inventory, nomination, protection and preservation responsibilities for Federally-owned historic properties.

The Forest Service policy for compliance with Section 106 of the NHPA in travel management with respect to route designation for motor vehicle use was issued in 2005: *USDA Forest Service Policy for Section 106 of the NHPA Compliance in Travel Management: Designated Routes for Motor Vehicle Use* (USDA-FS 2005). This policy was developed in consultation with the Advisory Council on Historic Preservation. It outlines minimal requirements for considering possible effects to historic properties that may be associated with designating routes and areas as part of the NFTS. This policy statement recognizes that forests with programmatic agreements for compliance with Section 106 of the NHPA will follow the terms of those agreements.

Section 106 of the NHPA and ACHP implementing regulations, *Protection of Historic Properties* (36 CFR Part 800), require that Federal agencies take into account the effect of their undertakings

on historic properties and that agencies provide the ACHP with an opportunity to comment on those undertakings. Programmatic agreements (36 CFR 800.14(b)) provide alternative procedures for complying with 36 CFR 800. The Pacific Southwest Region has such an agreement: *Programmatic Agreement among the USD. Forest Service, Pacific Southwest Region, USDA Forest Service, Intermountain Region's Humboldt-Toiyabe National Forest, California State Historic Preservation Officer and Advisory Council on Historic Preservation Regarding the Process for Compliance with Section 106 of the National Historic Preservation Act for Designating Motor Vehicle Routes and Managing Motorized Recreation on the National Forests in California* (USDA-FS 2006) (Motorized Recreation PA). This agreement defines the Area of Potential Effects (APE) (36 CFR 800.4(a)(1)) and includes a strategy outlining the requirements for cultural resource inventory, evaluation of historic properties and effect determinations; it also includes protection and resource management measures that may be used where effects may occur.

Executive Order 11593 - *Protection and Enhancement of the Cultural Environment*, issued May 13, 1971, directs Federal agencies to inventory cultural resources under their jurisdiction, to nominate to the National Register of Historic Places all Federally owned properties that meet the criteria, to use due caution until the inventory and nomination processes are completed and to assure that Federal plans and programs contribute to preservation and enhancement of non-Federally owned properties.

In the Forest Land and Resource Management Plan (LRMP), the SNF has identified three objectives to integrate cultural resource management with other multiple use management (LRMP 3.19):

1. Meet legal requirements for inventory, evaluation and interpretation of cultural resources.
2. Assist local Native American communities in continuation and enhancement of their cultural traditions.
3. Interpret the cultural history of the forest for the public.

In accomplishing these objectives, the forest needs to manage and protect cultural resources by monitoring activities and natural occurrences and taking preventative and mitigative actions. Management direction emphasizes site identification, evaluation and management (LRMP 4.3.18) through a set of Standards and Guidelines (S&G) (LRMP 4.5.2.15):

1. **Identification:** project-specific and forestwide inventories for cultural resources (S&G 193, 194).
2. **Evaluation:** National Register of Historic Places evaluations and nominations (S&G 193, 195, 203).
3. **Management:** programs for contributions to research (S&G 196); coordination with Native Americans (S&G 197, 198); protection and preservation of sites (S&G 199, 200, 201); development of management plans (S&G 202, 204); and interpretation of cultural history (S&G 205).

Effects Analysis Methodology

General Guidelines for Effects Analysis for Cultural Resources

The following factors were considered in making determinations of effect:

1. **Spatial:** The location of the historic property is the unit of spatial analysis when considering effects in action alternatives. For some historic properties (e.g., Traditional

Cultural Property), the setting beyond the historic property's location must also be considered when determining whether an adverse effect will occur.

2. **Effects Timeframes:**
   - Short-term effects occur within one year.
   - Long-term effects occur up to 20 years.
   - Cumulative effects should be analyzed at a 20-year interval.
3. **Measurement Indicator and Rationale:** All cultural resources identified within the APE for all alternatives adding facilities to the NFTS are considered historic properties for the purposes of this undertaking, unless they already have been determined not eligible in consultation with the State Historic Preservation Officer (SHPO) or through other agreed on procedures (36 CFR 60.4; 36 CFR 800). When assessing direct, indirect and cumulative effects, base assessments on a historic property possessing at least one of the following NRHP values (36 CFR 60.4(a – d)) unless specific information already exists:
   - Prehistoric archaeological site: Criterion D
   - Historic archaeological sites: Criterion D
   - Historic structures: Criterion C
4. **Identify any additional prospective NRHP values where needed (36 CFR 60.4(a)(b)).** When assessing effect under Section 106 of the NHPA, an undertaking can have no effect, no adverse effect or an adverse effect. An adverse effect to a historic property can occur when an undertaking directly or indirectly causes alterations in its character or use. An adverse effect on a historic property occurs when an undertaking alters its important characteristics and is measured by the degree to which it diminishes its location, design, setting, materials, workmanship, feeling or association (Integrity Measures) (36 CFR 800.5(a)(1)). These integrity measures can also be used to characterize the nature of any potential effects, whether they are direct, indirect or cumulative effects; and their severity, whether they are negligible, minor, moderate or major (Table 74). The degree to which historic property values are diminished will be used to measure the direct, indirect and cumulative effects of motor vehicle use on the NFTS.

Table 74. Severity of Effects

Severity of Effects	Working Definition	Explanatory Notes
Negligible	Use area/ route bisects some portion of the site, but the effect on NRHP values is insignificant	If the integrity measure is determined to be "negligible," there is essentially no measurable effect on the resource; therefore no mitigation measures are prescribed. No distinction is made between "no" disturbance and "negligible" disturbance. These sites are determined to be within the APE of some length of an unauthorized route or use area. Therefore it is more appropriate to describe the most innocuous effects as "negligible" as opposed to "none." In either case, no protection measures are prescribed, so the outcome is identical.
Minor	Effects on historic properties are relatively minor, but not insignificant. Integrity of the NRHP values may diminish if measures are not taken to alleviate the potential adverse effect.	If the severity of effect is determined to be "minor," the nature of the effect is problematic, ambiguous or indeterminate. Monitoring is prescribed to determine whether the severity of effect will increase over time or whether additional degrading effects are likely and if so, whether measures are available to protect properties. The threshold between a "minor" and "moderate" threat is more subjective than others.
Moderate	Effects on historic properties are either localized or noted in multiple areas. Materials associated with NRHP values exhibit some degree of damage or alteration, but NRHP integrity can be retained if the detrimental activity is curtailed.	If the integrity measure is determined to be "moderate," in most cases the preferred treatment measure will be to redesign the route or use area to exclude the site from effect. In some cases, the nature of the site appears to qualify for programmatic treatment through application of the California Archaeological Resource Identification and Data Acquisition Program (CARIDAP). Qualifying resources under CARIDAP programs are not eligible to the NRHP and need no further management consideration.
Major	Effects on historic properties are severe. If that particular route is added to the system without mitigation measures, the action would result in adverse effects to the NRHP values.	If the effect is determined to be "major," more complex and potentially costly mitigation measures are required to prevent an adverse effect to the resource. In some cases, the only viable option may be to close the route or re-route the activity around the resource. NRHP evaluation of some types of properties can be managed using the California Archaeological Resource Identification and Data Acquisition Programs (CARIDAP). Another measure is evaluation of NRHP eligibility (scientific data recovery) and determination of effect. This requires additional consultation under 36 CFR §800.

A direct effect would be caused by motor vehicle use or the consequences of such use, including physical damage resulting in or from erosion, down-cutting, rutting or displacement or damage to cultural features.

Indirect effects are associated with motor vehicle uses but occur outside designated routes and areas, such as adjacent dispersed camping areas or areas where motorized travel off of designated routes or areas may occur. The proximity of sensitive cultural resources, such as rock art, rock shelters, historic structures and Traditional Cultural Properties (TCP), to designated routes or areas is important when determining where resources could be susceptible to greater threats or risks. Indirect effects could include those listed for direct effects, but also include destructive actions like vandalism and looting.

If designation or use of routes and areas may diminish the known or prospective values of a historic property, then there is a direct or indirect effect. The protection and management measures in Appendix B should be used where applicable and feasible to lessen or diminish identified effects. Their use would result in the historic property not being affected (i.e., equivalent of no adverse effect). Direct or indirect effects that cannot be treated using measures in Appendix B of the Motorized Recreation Programmatic Agreement (PA) (found in the project record) may have an adverse effect on historic properties and require consultation with the State Historic Preservation Officer (SHPO). Where these measures are not applicable or feasible, consultation with SHPO is necessary to identify other alternative protection measures or other procedures to comply with 36 CFR 800. Where there is uncertainty about possible direct or indirect effects to properties within or in proximity to the APE, including at risk properties described in the Motorized Recreation PA, monitoring may be prescribed. If cumulative effects are identified, consultation with the SHPO under 36 CFR 800 is required to identify any required mitigation measures. Site specific mitigation measures are disclosed within the applicable alternative.

The Motorized Recreation PA allows for the addition of unauthorized routes (roads, trails and areas) to the NFTS and their use by the public within historic properties provided such use has been considered by a professional archaeologist (i.e., there is no additional impact to the property expected through managed use of the route or area). Information about past or current effects to historic properties, documented in cultural resource records or obtained during the archaeological inventory, provide a baseline for assessing effects. This baseline can also be a good indicator of effects that will continue, unless measures are employed to avoid, minimize or mitigate them. It also provides a basis for estimating the severity of effects if use increases after addition to the NFTS.

For adding or changing routes or areas to the NFTS, the following factors were considered when determining whether such actions could have a direct, indirect or cumulative effect on historic properties.

Defined route or area: Is use restricted or confined to the established prism? Is route well-defined with established routes vs. interweaving, multiple routes and/or otherwise confined to established imprint by vegetation or other limiting physical features?

Stability of ground surface: Are soils loose or friable and subject to erosion; or stable consisting of natural pavement or other hardened surface?

Potential subsurface cultural deposits: Does the archaeological or historical site have known subsurface cultural deposits or is it a type that is likely to have such deposits?

Public use: Is there evidence of parking on the archaeological or historic site or people visiting or walking on the site?

Visibility or public attraction: Is the archaeological or historic site visible to the public or does it possess cultural or natural features attractive to the public?

Assumptions Specific to Cultural Resources Analysis

1. Unauthorized routes and areas have already affected historic properties within route/area prisms.
2. Under the action alternatives, use will continue at current levels or increase over time on the designated system with the prohibition of cross-country motorized travel. Analysis of effects focuses on the potential for any effect associated with current or increased use levels.

See the Chapter 3 Introduction for a list of common assumptions.

Data Sources

1. Site specific cultural resource inventories were conducted as required under the Motorized Recreation PA and information about the location of historic properties and the nature of past or current effects, is available for those unauthorized routes and areas being considered for addition to the NFTS, as documented in the cultural resource inventory reports for the Bass Lake Ranger District (Mogge 2008) and the High Sierra Ranger District (Marsh 2008). For each cultural resource, one of the following management options is proposed: 1) the route was considered and the effects of adding the route to the NFTS will not be adverse (routine maintenance is assumed); 2) the route was considered and site specific mitigation is prescribed to reduce the effects to less than adverse; or 3) the route was considered and a determination was made that the effects would be adverse and evaluation is required per the Motorized Recreation PA.
2. Existing information from cultural resource records, historic archives, maps and GIS spatial layers was reviewed to provide specific information about historic properties or the likelihood that unidentified properties might exist in non-inventoried areas and is documented in the cultural resource inventory reports for the Bass Lake Ranger District (Mogge 2008) and the High Sierra Ranger District (Marsh 2008).

Cultural Resources Indicators

- Degree to which the integrity of historic property values are diminished.
- Number of historic properties within unauthorized routes at risk from ongoing use.
- Average number of historic properties per acre at risk if new routes or areas are created.

Cultural Resources Methodology by Action

1. Direct/Indirect effects of the prohibition of cross-country motor vehicle travel.

Short-term timeframe: 1 year.

Long-term timeframe: 20 years.

Spatial boundary: Sierra National Forest scale where motor vehicle use is not already prohibited by law (e.g., wilderness).

Indicator(s): (1) Number of historic properties within unauthorized routes at risk from ongoing use; and (2) Average number of historic properties per acre at risk if new routes or areas are created.

Methodology: GIS analysis to identify: (1) the number of historic properties at risk within existing unauthorized routes (estimate of on-going direct/indirect effects curtailed); and (2) the average number of historic properties per acre that would be protected from any new routes created in the future without a prohibition (estimate of indirect effects).

Rationale: Motorized Recreation PA.

2. Direct/Indirect Effects of adding facilities (presently unauthorized roads, trails and/or areas) to the NFTS, including identifying seasons of use and vehicle class.

Short-term timeframe: 1 year.

Long-term timeframe: 20 years.

Spatial boundary: Location of historic property.

Indicator(s): Degree to which the integrity of historic property values are diminished, related to: location, design, setting, materials, workmanship, feeling or association.

Methodology: Use existing data from cultural resource site atlas, historic archives, maps, site record files and GIS spatial layers and information obtained from cultural resource inventories of unauthorized routes to identify cultural resources in the APE that may have direct, indirect or cumulative effects.

Rationale: Motorized Recreation PA.

3. Changes to the existing NFTS (changing season of use and year round prohibitions).

None of these actions are considered an undertaking subject to NHPA Section 106 compliance (USDA-FS Policy for Section 106 of the NHPA Compliance in Travel Management: Designated Routes for Motor Vehicle Use (2005)). Motor vehicles can already use NFTS roads. Allowing or prohibiting non-highway vehicle use will have no direct, indirect or cumulative effect on cultural resources.

4. Cumulative Effects

Short-term timeframe: Not applicable; cumulative effects analysis will be done only for the long-term time frame.

Long-term timeframe: 20 years.

Spatial boundary: SNF administrative boundary (outside of designated wilderness). The geographic scope of the cumulative effects analysis is the project boundary. It was selected because impacts to cultural resources accumulate at the specific location of the cultural resources, irrespective of actions in surrounding areas. Due to this fixed nature of cultural resource sites, the geographical scope is limited to the forest's administrative boundary (outside of designated wilderness).

Indicator(s): Degree to which the integrity of historic property values are diminished, related to: location, design, setting, materials, workmanship, feeling or association.

Methodology: The cumulative effects of each alternative (all actions) will describe the additive impact of the alternatives to the existing forest situation.

Rationale: Motorized Recreation PA.

Affected Environment Common to All Analysis Units

All throughout the SNF are the remnants of past cultures that illustrate the centuries-old relationships between people and the land. These cultural resources hold clues to past ecosystems and human adaptations to them, provide links between living communities and the forest's unique prehistoric and historic land uses and help transform a visit to the woods into an encounter with history. These cultural resources comprise an irreplaceable and non-renewable resource record of past human life and land use. This record is contained in properties with archaeological, historical and other values recognized in the criteria for listing on the National Register of Historic Places and locations of cultural importance to local Native American groups.

Archaeological and Historic Values: Cultural resources are the buildings, sites, areas, architecture and properties that bear evidence of human activity and use and have scientific, historic and cultural importance. As of 2008, about 4,500 archaeological and historical properties have been recorded on the SNF, as a result of about 600 mostly project-related cultural resource surveys for compliance with the provisions of the National Historic Preservation Act. Over 500,000 acres have been inventoried for archaeological and historical properties, out of the total forest area of almost 1.3 million acres. This inventory includes much of the 560,000 acre timber land base, but very little of the 527,000 acres in the five designated wildernesses. The cultural resources are not distributed equally across this acreage, but clustered according to the natural resources that were being used (e.g. acorn groves, timber stands, water, mineral locations). With new discovery upon almost every new survey effort, there continue to be many undiscovered cultural resources in the SNF.

The SNF has one property, the Dinkey Creek Bridge, listed on the National Register of Historic Places. Many other sites have had their National Register eligibility determined, including most of the historic recreation residence tracts, fire lookouts and the Big Creek Hydroelectric System Historic District, which includes reservoirs, dams, powerhouses, tunnels and other features of the hydroelectric system in the upper San Joaquin River watershed. Other locations important to the past and ongoing traditional cultural and religious practices of local Indian tribes and groups are also significant cultural resources.

Physical remains of over 10,000 years of human history are found throughout the SNF. Except for the last century and a half of written history, the only record of this long human use is the remains left by the original native people and their descendants. The processes of subsistence, the hunter-gatherer lifestyle and the resulting indigenous land use are seen in the archaeological record with features common to the material culture of the native people of the Sierra Nevada (e.g. village sites, bedrock mortars, stone tool artifacts, pictographs). Prehistoric sites within the SNF are primarily associated with Western Mono tribes of the western side of the Sierra Nevada, but some sites are associated with Chukchansi Yokuts or Southern Sierra Miwok and their predecessors. Some of these sites have ethnographic documentation that indicates a fairly recent history of tribal use; in some cases, tribal use continues at sites that have an occupational history that spans thousands of years.

Historic-era cultural resources reflect particularly the cultural and economic products of the rapid pace of technological achievement in the last 150 years imposed on the terrain of the Sierra Nevada. These resources often reflect environmental changes resulting from industrial and technological advances in resource extraction, landscape use and management. Sites include remnants of Forest Service administration, exploration and settlement, grazing/range management, mining, water/hydropower manipulation, transportation, travel, tourism and recreation and the forest products industry. Each of these themes has an array of associated sites and features. For example, features associated with railroad logging operations may be work camps, refuse dumps, railroad grades, trestles and discarded equipment.

Hydroelectric power development in the 20th century has had the most profound overall effect on the landscape and the cultural resources within the affected area. For the most part, this development took place prior to enactment of Federal laws requiring environmental and archaeological assessments. The creation of Bass Lake, Redinger Lake, Kerckhoff Lake, Shaver Lake, Huntington Lake, Florence Lake, Lake Thomas Edison, Pine Flat Lake, Mammoth Pool, Courtright Reservoir and Wishon Reservoir has dramatically affected the landscape and pattern of forest recreational use. Hundreds of cultural resources were impacted during these massive reservoir construction projects. Roads associated with these projects followed Native American travel routes and opened wide expanses of the forest to recreational use. Historic sites associated with hydroelectric power abound and include work camps, refuse dumps, roads, bridges, electric transmission and distribution lines, pipes, tunnels and even towns. Many other types of sites can be directly or indirectly attributed to construction and maintenance of hydroelectric power in the high Sierras.

Prior to the 1974 Forest and Rangeland Renewable Resources Planning Act (RPA), effects to cultural resources were not considered during planning or implementation. Consequently, cumulative impacts of varying degrees occurred from various land management actions, including mining, timber management, road construction, livestock grazing, recreation development and hydroelectric development. Natural environmental processes and general use of the forest by the public have also contributed to effects to cultural resources, including dispersed recreation, looting, vandalism, unauthorized trail construction, wildfires, erosion and exposure. Some sites would be affected by continued and evolving use at the locations over long periods of time. Existing roads bisect or allow access to sites and locations with sensitive archaeological features or locations of concern to Native Americans. Many sites show only the effects of natural weathering and time, with no adverse human influence to their current condition. All of the cultural resources in the project area are in varying states of integrity. Project-specific condition monitoring has been an ongoing part of the cultural resource management program to identify adverse effects to known resources. In the past decade there has been an effort to increase cultural resource management programs that are unrelated to Forest Service projects, to identify, evaluate and manage significant sites

Many cultural resources have been protected during past project activities by avoidance measures. These measures have resulted in a large number of sites that have not been evaluated for eligibility to the National Register of Historic Places, resulting in forest management of hundreds of sites that may not be eligible for inclusion in the National Register. All reasonably foreseeable actions (i.e. projects) have been or will be subject to NHPA Section 106 compliance for consideration of effects to cultural resources.

Native American Cultural Values: Federally recognized tribal governments associated with the SNF, as elsewhere in the United States, have a special political and legal relationship with the U.S. Government. Recognized tribes are also beneficiaries of a trust relationship with the Federal government. Federal agencies, such as the Forest Service, consult with tribes as with other governments and are responsible for protecting tribal interests. The Forest Service also consults with non-recognized tribes.

There is a deep and abiding concern with many Indian people about what occurs in their aboriginal territory. The SNF honors the traditional ties that many tribal communities and Indian people have to this portion of the Sierra Nevada. Access to and use of the SNF and other public lands is critical for many Indian people, as community identity and cultural survival are dependent on continued access to ceremonial and sacred places, cemeteries, traditional gathering areas, archaeological sites and resources at a variety of locations on forest land. Certain plants, animals and locations provide for many needs, including food, medicine, utilitarian type materials and ceremonial items. Specific resources insure that significant cultural traditions, such as basket

weaving, survive and continue. These areas contribute to the tribal communities' way of life, their identity, their traditional practices and cohesiveness.

Consultation with tribes, the local Native American communities and other interested parties to identify other cultural values, including contemporary Native American interests, was initiated in accordance with the Motorized Recreation PA and Section 106 of the NHPA and other laws and regulations. Consultation has consisted of meetings, letters and presentations and is documented in the project record.

Cultural Resource Management: The project area is managed for cultural resources in accordance with the direction of the Motorized Recreation PA, specifically Appendix C, *Heritage Resources Strategy for the Designation of Motor Vehicle Routes on the National Forests in California*. The stipulations of the Motorized Recreation PA satisfy the SNF responsibilities for route designation under the National Historic Preservation Act (NHPA) of 1966, as amended and take into account the potential effects of undertakings on historic properties in lieu of the procedures of 36 CFR 800.

In accordance with the Motorized Recreation PA, a cultural resource identification effort was conducted of the project area by professional archaeologists. The goal was to identify cultural resources at risk of adverse effects from motor vehicle use. The inventory consists of a combination of existing record reviews, on-the-ground survey and monitoring. Results of this investigation are reported in *Travel Management, Heritage Resource Inventory and Assessment, High Sierra Ranger District, Sierra National Forest, Archaeological Reconnaissance Report R2008051553002* (Marsh 2008) and *Travel Management, Heritage Resource Inventory and Assessment, Bass Lake Ranger District, Sierra National Forest, Archaeological Reconnaissance Report R2008051551001* (Mogge 2008). These reports, which describe the location and components of the archaeological sites, are kept administratively confidential under the provisions of ARPA, 36 CFR 296. These reports document cultural resource survey for the entire area of potential effect (except in minor cases where survey was deferred under the stipulations of the Motorized Recreation PA) (Table 75).

Table 75. Status of Cultural Resources Survey within APE

Item	Miles of Routes	Acres of Motorized Use Areas
Previously Surveyed	94.9	116.8
Surveyed for this project	6.6	0
Unsurveyed (deferred per Motor Vehicle Proposed Action)	2.6	0
Total	**104.1**	**116.8**

In the area of potential effect, the results of almost 50 years of cultural resource surveys and investigations have identified numerous cultural resource properties that are associated with themes of SNF history. Most sites represent prehistoric lifeways; other sites represent historic-era land uses. Thirty-five cultural resource sites were documented in the area of potential effect of proposed additions to the NFTS. All of the cultural sites at risk were monitored to determine their current condition and risk of adverse effects.

The SNF manages those cultural resources which are eligible for listing on the National Register of Historic Places (NRHP). The SNF does not manage or protect ineligible properties in project activities, unless there is local interest in preservation. NRHP eligibility has not been determined for every cultural resource in the project area. Unevaluated sites are considered potentially eligible and managed as if eligible. The Motorized Recreation PA allows for deferred NRHP

evaluation if the property would not be affected by the project, usually through application of Standard Protection Measures (Motorized Recreation PA, Appendix B).

Contemporary Native American interests can include Traditional Cultural Properties (sites associated with cultural practices or beliefs that are rooted in history and important in maintaining cultural identity) and plant gathering sites for basket materials, medicines and food resources. The SNF manages such known sites as cultural resources under the provisions of the NHPA, but where the interests of native people are considered to achieve a mutually beneficial outcome during project implementation. The location of these sites is also kept administratively confidential. The SNF will maintain appropriate access under the special use permitting process to sacred and ceremonial sites and to tribal traditional use areas. The SNF has consulted with affected tribes and tribal communities (see Society, Culture and Economic section for discussion and documentation).

Proposed route designations would be managed according to the provisions of the Motorized Recreation PA for no effect to cultural resources, including both archaeological values and contemporary Native American values. The nature and scope of this project are such that the potential effects of project activities to archaeological research values and contemporary cultural values can be reasonably predicted and appropriate measures can be taken to ensure the significant values of these cultural resources are not adversely affected. Not every proposed route would avoid cultural resources.

Environmental Consequences Common to All Analysis Units

See the effects methodology section above regarding how this analysis was conducted.

Alternative 1 – No Action

Direct and Indirect Effects

This alternative has the greatest potential for continued direct and indirect adverse effects on cultural resources since it continues the availability of unrestricted cross-country travel (see Figure 1) without site specific analysis. Despite the prohibition of motorized cross-country travel in the area closed by the 1977 Forest ORV Plan, unauthorized motor vehicle travel off of NFTS roads and motorized trails continued (note: SNF law enforcement actions based on Forest Order 15-77-3 in this area are likely to have deterred a percentage of the possible use). There are 236 sites currently at risk of adverse effects from use of the 479 miles of 2,559 unauthorized routes across the ten analysis units on the SNF or one site for every 2 miles of route and almost one site for every ten routes. The effects under this alternative would result in a ‘status quo’, in that present random and unmanageable impacts to cultural resources would continue, resulting in irretrievable losses of integrity and National Register values. The creation of new routes would have the potential for adverse effects on additional cultural and archaeological resources, including direct effects from motor vehicle use on sensitive sites, indirect effects of increased erosion potential, motor vehicle camping on sites and damage to historic structures and archaeological features. There is greater risk to the preservation of the SNF irreplaceable cultural heritage for future generations under this alternative than in the action alternatives. One-year and 20-year effects would be similar but compounded with time, with potential unauthorized effects continuing on some sites.

Cumulative Effects

The cumulative effects of this action would result in the continued creation of unauthorized routes, opening up new areas that may subject cultural resources to potential impacts and

vandalism that have been as yet unaffected due to present inaccessibility of motor vehicles. More cultural resources would be at risk of adverse effects to integrity and National Register values than in the action alternatives.

Alternative 2 – Proposed Action

Direct and Indirect Effects

Prohibition of cross-country travel

This action would reduce the potential for adverse impacts to cultural resources by prohibiting cross-country travel, effectively reducing the miles available for motorized use. It would limit new effects to cultural resources not currently associated with a route. This potential effect is difficult to measure in that sites are not distributed equally across acres accessible to motor vehicles, but are generally clustered around specific natural resources. There is significantly less than one known site per acre across the ten analysis units. However, it is the experience of forest cultural resources staff that where modern recreation activities take place, like motor vehicle use, those areas are generally likely to include remains of historic or prehistoric users attracted to the same resources (e.g. water, camping areas, viewsheds). For example, the majority of developed campgrounds on the SNF have cultural resources in or adjacent to them. Prohibiting cross-country travel would limit the likelihood of new adverse effects to sites from motor vehicle use. Compared to Alternative 1, this action would have a beneficial effect on cultural resources throughout the forest. One-year and 20-year effects would be similar, with some unauthorized effects continuing on designated routes; those sites associated with routes not added to the NFTS would see curtailed impacts. All future permitted or other authorized motor vehicle travel off designated roads, trails and areas (e.g. vegetation treatment, special use permitted activities, etc.) will be subject to NHPA Section 106 compliance, with potential effects to cultural resources identified at that time.

Addition of Facilities

This action would reduce the potential for adverse effects to cultural resources, as compared to Alternative 1, through the identification of actual effects and the implementation of measures to mitigate those effects, if necessary. Table 76 summarizes the effects on cultural resources by this action. Seven cultural resources associated with the APE of eleven roads, trails or areas proposed for inclusion in the NFTS are potentially affected by this action. Five sites are identified with moderate direct effects where the integrity of the site has been adversely affected. For these five sites a protection/mitigation action derived from the Motorized Recreation PA and described in the Cultural Resources Reports in the project record, will be implemented that will reduce the effects to less than adverse. Three sites are identified as having negligible effect, where although motorized use is occurring, the integrity of the site has not been adversely affected and no mitigation is required.

Mitigation measures prescribed for other resources at risk (as described in Appendix B, Table B-1) have been assessed for the potential effect on cultural resources and protection/mitigation actions derived from the Motorized Recreation PA will be implemented to reduce any potential effect to less than adverse.

Specifying periods of use for certain motor vehicle facilities (roads, trails, areas) may reduce or prevent damage to cultural sites from displacement and disturbance of soils.

This alternative reduces the potential for adverse effects from motor vehicles by reducing the number of route miles and use area acres available for use, as compared to Alternatives 1, 4 and 5.

One-year and 20-year effects would be similar.

Changes to the Existing NFTS

These actions are not considered undertakings. Actions allowing or prohibiting non-highway vehicle use will have no direct, indirect or cumulative effect on cultural resources. Establishing wet weather closure periods for NFTS facilities may reduce or prevent damage to cultural sites from displacement and disturbance of soils.

Cumulative Effects

This action would reduce potential impacts to cultural resources by prohibiting cross-country travel. Overall, this alternative should reduce negative effects to cultural resources across the forest, as compared to Alternatives 1, 4 and 5. This alternative, when added to the past, present and reasonably foreseeable future actions, is not expected to cumulatively lead to increased impacts to cultural resources.

Table 76. Alternative 2 – Effects to Cultural Resources

Route/Area ID	Site Number	Type of Effect[1]	Nature of Effect[2]	Severity of Effect[3]	Protection/ Mitigation
KD-19	05155400497	Direct	Disturbance	Negligible	None
JH-90	05155400596	Direct	Displacement	Moderate	Avoidance with demarcation; Monitoring
JM-36	05155100463	Direct	Erosion, displacement	Moderate	Avoidance
JM-7ay	05155101243	Direct	Displacement	Moderate	Padding
JM-20y	05155700121	Direct	None	Negligible	None
JM-36	05155700212	Direct	Erosion, displacement	Moderate	Avoidance
JM-21y JM-23 JSM107 TH-41y	05155700287	Direct	Disturbance	Negligible	None
SV35	05155700287	Direct	Down-cutting, rutting	Moderate	Wet season closure monitoring

[1]Type of Effect: None, Direct, Indirect, Cumulative;
[2]Nature of Effect: erosion, down-cutting, rutting, displacement, disturbance, damage, deteriorate, vandalism, looting, removal/alteration of historic structure, visual/audible/atmospheric to historic setting or cultural landscape/Traditional Cultural Property, (specify others);
[3]Severity of Effect: negligible, minor, moderate or major.

Alternative 3

Direct and Indirect Effects

Prohibition of Cross-country Travel

Effects are the same as in the discussion in Alternative 2, above.

Addition of Facilities

No facilities would be added under this alternative; therefore, there are no cultural resources associated with this action and there would be no direct, indirect or cumulative effects of this action.

Changes to the Existing NFTS

These actions are not considered undertakings. Actions allowing or prohibiting non-highway vehicle use will have no direct, indirect or cumulative effect on cultural resources. Establishing wet weather closure periods for NFTS facilities may reduce or prevent damage to cultural sites from displacement and disturbance of soils.

Cumulative Effects

This action would allow for the continued reduction of potential effects to cultural resources by prohibiting cross-country travel. Overall, this alternative should reduce more negative effects to cultural resources across the forest, as compared to Alternatives 1, 2, 4 and 5, as fewer cultural sites are at risk from motorized use. This alternative, when added to the past, present and reasonably foreseeable future actions, is not expected to cumulatively lead to increased impacts to cultural resources.

Alternative 4

Direct/Indirect Effects

Prohibition of Cross-country Travel

Effects are the same as in the discussion in Alternative 2, above.

Addition of Facilities

This action would reduce the potential for adverse effects to cultural resources, as compared to Alternative 1, through the identification of actual effects and the implementation of measures to mitigate those effects, if necessary. Table 77 summarizes the effects on cultural resources by this action. Twelve cultural resources associated with fourteen routes or areas proposed for inclusion in the NFTS are potentially affected by this action. Through implementation of the protection/mitigation actions identified in the table and derived from the Motorized Recreation PA, the effects will be mitigated. No sites are identified with the effect severity of ‘major’ or ‘moderate’; that is, the integrity of the site has been adversely affected. Four sites are identified as having minor direct effects, where the nature and origin of the effect is ambiguous and may not be direct effects of motor vehicle use. For these sites, monitoring per the Motorized Recreation PA is recommended to determine if mitigation measures will be needed in the future. Eight sites are identified as having negligible effect, where although motorized use is occurring, the integrity of the site has not been adversely affected and no mitigation is required.

Mitigation measures prescribed for other resources at risk (as described in Appendix B) have been assessed for the potential effect on cultural resources and protection/mitigation actions derived from the Motorized Recreation PA will be implemented to reduce any potential effect to less than adverse.

This alternative is similar to Alternative 2 in that it reduces the potential for adverse effects from motor vehicles by reducing the number of route miles and use area acres available for use, as compared to Alternatives 1 and 5, as this alternative specifically responds to issues of impacts to natural and cultural resources.

One-year and 20-year effects would be similar.

Changes to the Existing NFTS

These actions are not considered undertakings. Actions allowing or prohibiting non-highway vehicle use will have no direct, indirect or cumulative effect on cultural resources. Establishing wet weather closure periods for NFTS facilities may reduce or prevent damage to cultural sites from displacement and disturbance of soils.

Cumulative Effects

This action would reduce potential impacts to cultural resources by prohibiting cross-country travel. Overall, this alternative should reduce negative effects to cultural resources across the SNF, as compared to Alternatives 1 and 5, as fewer cultural sites are at risk from motorized use and those sites have minor or negligible effects from that use. This alternative, when added to the past, present and reasonably foreseeable future actions, is not expected to cumulatively lead to increased impacts to cultural resources.

Table 77. Alternative 4 – Effects to Cultural Resources

Route/Area ID	Site Number	Type of Effect[1]	Nature of Effect[2]	Severity of Effect[3]	Protection/ Mitigation
TH-28z	05155100630	Direct	Disturbance	Negligible	None
TH-20u	05155500309	Direct	Disturbance	Negligible	None
JSM50	05155500596	Direct	Displacement	Minor	Monitoring
TH-56y	05155500820	Direct	Disturbance	Negligible	None
TH-56y	05155500821	Direct	Disturbance	Negligible	None
TH-20u	05155500852	Direct	Displacement	Minor	Monitoring
JSM63	05155501026	Direct	Displacement	Minor	Monitoring
PUB-18	05155501048	Direct	Disturbance	Negligible	None
JG61 JSM54 JSM56	05155501077	Direct	Disturbance	Negligible	None
TH-09	05155700219	Direct	Displacement	Minor	Monitoring
JM-23a	05155700287	Direct	Disturbance	Negligible	None
TH-41y	05155700433	Direct	Disturbance	Negligible	None

[1]Type of Effect: None, Direct, Indirect, Cumulative
[2]Nature of Effect: erosion, down-cutting, rutting, displacement, disturbance, damage, deteriorate, vandalism, looting, removal/alteration of historic structure, visual/audible/atmospheric to historic setting or cultural landscape/Traditional Cultural Property, (specify others)
[3]Severity of Effect: negligible, minor, moderate or major

Alternative 5

Direct/Indirect Effects

Prohibition of Cross-country Travel

Effects are the same as in the discussion in Alternative 2, above.

Addition of Facilities

This action would reduce the potential for adverse effects to cultural resources, as compared with Alternative 1, through the identification of actual effects and the implementation of measures to mitigate those effects, if necessary. Table 78 below summarizes the effects on cultural resources by this action. Twenty-seven cultural resources associated with the APE of thirty-six routes or

areas proposed for inclusion in the NFTS are potentially affected by this action. Eleven sites are identified with moderate direct effects where the integrity of the site has been adversely affected and one site is identified with the effect severity of 'major'; that is, the integrity of the site has been adversely affected to a significant degree. For these sites a protection/mitigation measure per the stipulations of the Motorized Recreation PA and described in the Cultural Resources Reports in the project record, will be implemented that will reduce the effects to less than adverse. Nine sites are identified as having minor direct effects, where the nature and origin of the effect is ambiguous and may not be direct effects of motor vehicle use. For eight of these sites, monitoring per the Motorized Recreation PA is recommended to determine if mitigation measures will be needed in the future. The other requires a standard protection measure. Ten sites are identified as having negligible effect, where although motorized use is occurring, the integrity of the site has not been adversely affected and no mitigation is required.

Mitigation measures prescribed for other resources at risk (as described in Appendix B) have been assessed for the potential effect on cultural resources and protection/mitigation actions derived from the Motorized Recreation PA will be implemented to reduce any potential effect to less than adverse.

This alternative reduces the potential for adverse effects from motor vehicles by reducing the number of miles available for use, compared to Alternative 1, as this alternative responds to issues regarding motorized access.

One-year and 20-year effects would be similar.

Changes to the Existing NFTS

These actions are not considered undertakings. Actions allowing or prohibiting non-highway vehicle use will have no direct, indirect or cumulative effect on cultural resources. Establishing wet weather closure periods for NFTS facilities may reduce or prevent damage to cultural sites from displacement and disturbance of soils.

Cumulative Effects

This action would reduce potential impacts to cultural resources by prohibiting cross-country travel. Overall, this alternative should reduce negative effects to cultural resources across the forest, as compared to Alternative 1, although not as much as Alternatives 2, 3 and 4, as it responds to issues of motorized access. This alternative, when added to the past, present and reasonably foreseeable future actions, is not expected to cumulatively lead to increased impacts to cultural resources.

Table 78. Alternative 5 – Effects to Cultural Resources

Route/Area ID	Site Number	Type of Effect[1]	Nature of Effect[2]	Severity of Effect[3]	Protection/ Mitigation
JH-90	05155400596	Direct	Displacement	Moderate	Avoidance with demarcation; Monitoring
ES10	05155300505	Direct	Displacement	Minor	Monitoring
AE-23, BLUCYN4, BLUCYN6	05155400356	Direct	Displacement	Minor	Monitoring
BLUCYN6	05155400259	None	None	None	None
BLKRCK78	05155400744	Direct	Displacement	Minor	Monitoring
JM-36	05155100463	Direct	Erosion, displacement	Moderate	Avoidance

Route/Area ID	Site Number	Type of Effect[1]	Nature of Effect[2]	Severity of Effect[3]	Protection/ Mitigation
JM-14x	05155100607	Direct	Displacement	Moderate	Avoidance
TH-28z	05155100630	Direct	Disturbance	Negligible	None
TH-29z	05155100635	Direct	Disturbance	Negligible	None
TH-20u	05155500309	Direct	Disturbance	Negligible	None
JSM50	05155500596	Direct	Displacement	Minor	Monitoring
TH-56y	05155500820	Direct	Disturbance	Negligible	None
TH-56y	05155500821	Direct	Disturbance	Negligible	None
TH-20u	05155500852	Direct	Displacement	Minor	Monitoring
RCKCRKSPR391	05155500985	Direct	Displacement, damage	Moderate	Avoidance with physical demarcation, monitoring
RCKCRKSPR391	05155501003	Direct	Displacement, damage	Moderate	Avoidance with physical demarcation, monitoring
JSM63	05155501026	Direct	Displacement	Minor	Monitoring
PUB-18	05155501048	Direct	Disturbance	Negligible	None
BP21 JG61 JM-4z JSM54 JSM56	05155501077	Direct	Disturbance	Negligible	None
JG10	05155501077	Direct	Displacement, disturbance, damage, removal/alteration of historic structure	Major	Barrier to restrict use to existing prism
RCKCRKSPR391	05155501102	Direct	Displacement, damage	Moderate	Avoidance with physical demarcation, monitoring
JM-13x	05155700124	Direct	Displacement, erosion, damage	Moderate	Avoidance
JM-14x	05155700124	Direct	Displacement, down-cutting, erosion, damage	Moderate	Avoidance
JM-36	05155700212	Direct	Erosion, displacement	Moderate	Avoidance
TH-07	05155700218	Direct	Displacement	Minor	Monitoring
TH-09	05155700219	Direct	Displacement	Minor	Monitoring
ML115	05155700242 –historic component	Direct	Disturbance	Negligible	None
ML115	05155700242 – prehistoric component	Direct	Displacement	Moderate	Padding

Route/Area ID	Site Number	Type of Effect[1]	Nature of Effect[2]	Severity of Effect[3]	Protection/ Mitigation
JM-21 JM-22y JM-23 JM-23a JSM107 TH-41y	05155700287	Direct	Disturbance	Negligible	None
SV35	05155700287	Direct	Down-cutting, rutting	Moderate	Wet season closure, monitoring
TH-51z	05155700433	Direct	Displacement	Minor	Remove boulders blocking route

[1]Type of Effect: None, Direct, Indirect, Cumulative
[2]Nature of Effect: erosion, down-cutting, rutting, displacement, disturbance, damage, deteriorate, vandalism, looting, removal/alteration of historic structure, visual/audible/atmospheric to historic setting or cultural landscape/Traditional Cultural Property, (specify others)
[3]Severity of Effect: negligible, minor, moderate or major

Summary of Effects Analysis across All Alternatives

Alternative 3 provides the least risk of adverse effects, as cross-country travel is prohibited and no new facilities are added. Alternative 1 has the most risk for adverse effects, as cross-country travel continues, opening more sites to potential effects. Of the action alternatives, Alternative 5 has the most risk of adverse effects, as more sites are within the area of potential effect. Alternatives 2 and 4 are similar and although Alternative 4 has a few more sites at risk in the area of potential effect, none of those sites have moderate or major effects.

In regards to the cultural resource indicator of the degree to which site integrity is diminished, Alternative 1 holds the most risk, while Alternative 3 the least. The action alternatives are rated in the table below based on the number of sites in the area of potential effect, even though measures derived from the Motorized Recreation PA will serve to mitigate or lessen identified effects. As to the indicator of the number of sites at risk, the alternatives are rated similarly. For the indicator of the average number of sites per acre protected from new route creation, Alternative 1 is the only alternative proposing the continuance of cross-country travel; all of the other alternatives prohibit cross-country travel and would have the same effect on this indicator.

Compliance with the Forest Plan (LRMP) and Other Direction

All proposed alternatives would be in compliance with LRMP standards and guidelines for inventory, evaluation, protection and management of cultural resources. All alternatives would be in compliance with historic preservation law, policy and regulation, as this project meets the stipulations of the Motorized Recreation PA.