

# **Santa Fe Mountains Landscape Resiliency Project: Cultural Resources Specialist Report**

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**For:** Española and Pecos-Las Vegas Ranger Districts, Santa Fe National Forest

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## **Introduction and Previous Consultation**

The Española and Pecos-Las Vegas Ranger Districts of the Santa Fe National Forest (SFNF) propose forest restoration and resiliency treatments for 50,566 acres of forest lands within the Greater Santa Fe Mountains Fireshed as part of the Santa Fe Mountains Landscape Resiliency Project (SFMLRP). The purpose of the Project is to improve the ecosystem resilience of a priority landscape to future disturbances including wildfire, climate change, and insect outbreaks. To meet this purpose, the U.S. Forest Service proposes mechanical and manual vegetation thinning treatments, use of prescribed fire, and riparian restoration on National Forest System lands within the project area. The Project also includes road closure on up to 1.5 miles of National Forest System roads. Initial forest thinning treatments would be conducted over the next 10 to 15 years, and maintenance burning would occur.

This specialist report analyzes how landscape restoration treatments may affect cultural resources located within the SFMLRP area. Cultural resources may also be referred to as archaeological sites or Historic Properties. Cultural resources represent the tangible and intangible evidence of human behavior and past human occupation. Cultural resources may consist of precontact or historic archaeological sites, historic-age buildings and structures, traditional use areas, and cultural places that are important to a group's traditional beliefs, religion, or cultural practices. These resources are non-renewable and, depending on the nature of the resource, can be particularly sensitive to management practices, such as the proposed landscape restoration treatments. Tribal consultation and traditional cultural uses are further detailed in a separate specialist report (Comstock and Jarrett 2021).

The purpose of this report is to identify and disclose effects of the project to cultural resources and to document compliance with Section 106 of the National Historic Preservation Act (NHPA) (54 USC 300101). Federal requirements and previous consultation provide standard mitigation protocols for cultural resources that are listed, eligible, or unevaluated to the National Register of Historic Places, or that are found to be significant to tribes or other traditional communities who depend upon the project area for their lifeways. This specialist report evaluates the direct, indirect, and cumulative effects of the Proposed Action and No Action Alternative to Historic Properties, but it does not serve as a formal compliance document for the purposes of the SFMLRP.

The USDA Forest Service Southwestern Region (Region 3) has a programmatic agreement (PA) with the Advisory Council on Historic Preservation (ACHP) and State Historic Preservation Officers (SHPOs) that stipulates the Forest Service's responsibilities for complying with NHPA (USDA-FS 2010). Region 3 has developed a standard consultation protocol for large-scale fuels reduction, vegetation treatment, and habitat improvement projects via Appendix J of the PA (USDA-FS 2010). Region 3 has also developed a standard consultation protocol for routine road maintenance, road closure, and road decommissioning projects via Appendix E of the PA. By following the procedures of these protocols, the ACHP and the

SHPOs have agreed that the Forest Service will satisfy legal requirements for the identification, evaluation, and treatment of historic properties. The SFNF will comply with the protocols in lieu of standard Section 106 NHPA consultation (36 CFR 800).

The initial compliance document for this project is the *Santa Fe Mountains Landscape Resiliency Project: Phase I Cultural Resources and Inventory Assessment* (Campbell and Comstock 2021). Refer to the Phase I Assessment for details of the culture history of the project area, information on previously documented cultural resources, and previous cultural survey coverage within the SFMLRP. A substantial ethnographic study of the Greater Santa Fe Mountains Fireshed was also completed in support of the SFMLRP (Brown et al. 2018). With the submission of the Phase I Assessment, the SFNF expects to receive SHPO concurrence on a finding of no adverse effect to cultural resources provided adherence to the stipulated standard best management practices, mitigation measures, and design features for cultural resource protection during project implementation.

## **Area of Analysis**

The SFMLRP area is located within the Greater Santa Fe Fireshed, which is a 107,000-acre landscape, along the Santa Fe Mountains near Santa Fe, New Mexico in the southern Sangre de Cristo Mountain Range (Figure 1, excerpted from Draft EA, Figure 1.1). The proposed SFMLRP area covers 50,566 acres of treatment area on the Española and Pecos-Las Vegas Ranger Districts of the SFNF.

The analysis area for potential impacts to cultural resources is the SFMLRP area. Proposed restoration would focus on moving the existing forest conditions towards the desired conditions for various vegetation types within the SFMLRP area. The vegetation communities identified in the analysis area are provided in Table 1 (excerpted from Draft EA, Table 1.1). Cultural resource effects analysis will span the range of these vegetation types, with mitigation measures remaining consistent among them. For this report, the definition of a short-term impact is one to five years because immediate fire effects are expressed during this time period, such as the response of herbaceous plants and shrubs. A long-term impact is observed six years and beyond because the structure and composition of vegetation recover from fire effects by this time, but soil and other erosion effects are often longer lasting.

## **Summary of Alternatives**

### ***No Action Alternative***

Forest Service NEPA regulations allow an EA to document consideration of a no action alternative through the effects analysis by contrasting the impacts of the proposed action with the current condition and expected future conditions if the proposed action was not implemented (CFR 220.7(b)(2)(ii)). The EA will include an analysis of the no action alternative to provide a baseline for comparing the effects of the modified proposed action alternative and a clear description of why the no action alternative would not meet the purpose and need for the project.

Under the no action alternative, current management plans would continue to guide management of the project area. No prescribed burning, vegetation and restoration treatments, or road maintenance, would be implemented to accomplish project goals within the project area, unless approved through a separate NEPA document and decision.

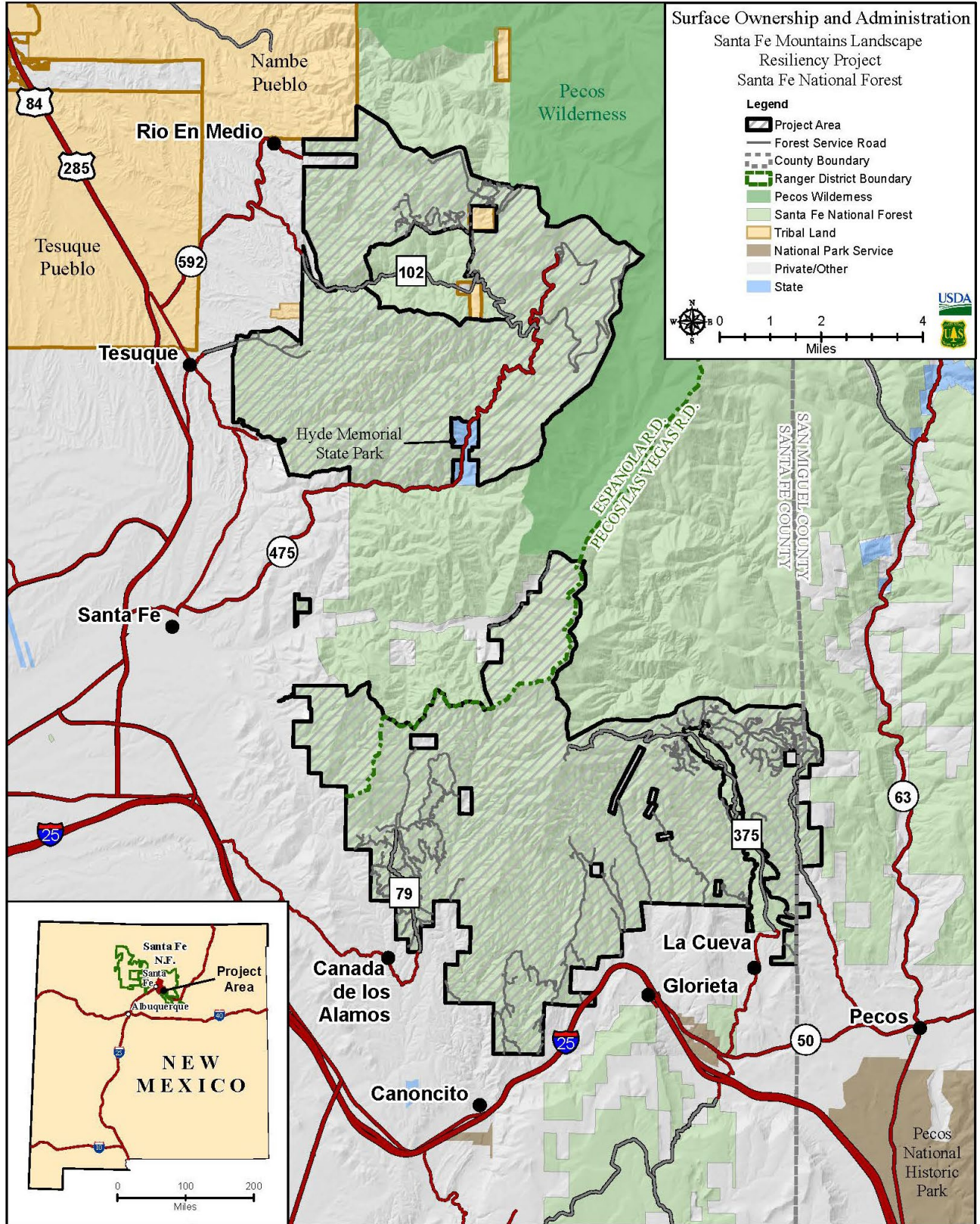


Figure 1. Santa Fe Mountains Landscape Resiliency Project Vicinity Map

**Table 1. Ecological Response Units and Their Approximate Acreage in the SMLRP Project Area**

Ecological Response Unit <sup>1</sup>	Approximate Acres in Project Area	Approximate Acres in Santa Fe National Forest <sup>2</sup>
<b>Mixed Conifer–Frequent Fire Forest</b>	<b>17,875</b>	<b>429,967</b>
<b>Ponderosa Pine Forest</b>	<b>17,347</b>	<b>403,915</b>
<b>Piñon-Juniper Woodland, Pinon-Juniper Grassland, and Juniper Grasslands</b>	<b>8,660</b>	<b>274,864</b>
Spruce-Fir Forest	5,022	250,481
Montane/Subalpine Grassland	491	17,707
Mixed Conifer with Aspen	456	40,174
Riparian: primarily Narrowleaf Cottonwood/ Shrub	503	45,993
Colorado Plateau/Great Basin Grassland	139	41,639
Other (Alpine and Tundra)	63	5,015
<b>Total</b>	<b>50,566</b>	

1. Bolded text indicates those ERUs proposed for treatment, as described in EA Chapter 2.

### ***Proposed Action Alternative***

In response to the purpose and need, the Forest Service proposes to conduct restoration activities on approximately 50,566 acres in the Santa Fe Mountains over the next 10 to 15 years to meet initial project objectives, with additional prescribed fire maintenance treatments beyond 20 years. Restoration activities would occur in multiple ecological response units, including mixed conifer-frequent fire forest, ponderosa pine forest, pinyon-juniper woodlands and grasslands, and riparian areas. Restoration activities would focus on vegetation thinning and prescribed fire treatments to improve forest resiliency by reducing stand density, stand continuity, and stand homogeneity (sameness of forest structure and species composition), and increase heterogeneity (diverse forest structure and species composition) at a landscape scale, mid-scale, and fine scale.

The proposed action is designed to provide a wide range of restoration methods that could be used to achieve desired conditions at the landscape scale, mid-scale, and fine scale. Each restoration method has a related set of tools that may be used on any given location depending on the characteristics of the specific treatment site, such as vegetation type, topography, presence of federally listed species, etc. This approach provides flexibility and is known as conditions-based management. Condition-based management is defined by the Forest Service as a system of management practices based on implementation of specific design elements from a broader proposed action, where the design elements vary according to a range of on-the-ground conditions in order to meet intended outcomes. For the Project, those intended outcomes are the desired conditions presented in the Draft EA, Section 1.3.

Condition-based management stems from the recognition that the environment is dynamic, changing as ecosystems respond to changing natural and human-caused events. The Forest Service would apply the

most appropriate tool or combination of tools to achieve desired results. Before carrying out treatments, project leaders would look at the specific area to be treated and select the appropriate treatment tool(s) using an interdisciplinary resource review process. Treatment tools comprise vegetation thinning treatments, prescribed fire, riparian restoration, and road closure.

### **VEGETATION THINNING TREATMENTS**

Vegetation treatments are proposed to move the existing condition of the project area towards the desired condition. Trees would be thinned to create a mosaic of variable densities and age classes across the project area according to silviculture prescriptions. The proposed action would use a variety of thinning treatments to create and retain sufficient trees of all size classes to assure development of natural stand dynamics.

Manual and mechanical vegetation thinning treatment methods would include but are not limited to the following: the use of chainsaws to cut trees and distribute slash, masticators to thin trees and manipulate slash material, excavators for machine piling of slash and fire-line construction. Other specialized equipment may be used to treat the fuels to meet resource objectives. No mechanical equipment would be used on slopes greater than 40%. Lop and scatter or piling of thinned material would occur depending upon site conditions. Forest products would not be generated as a part of this project with the exception of personal use fuelwood where conditions allow and do not conflict with resource objectives. Vegetation thinning is proposed for use in the following ERUs: mixed conifer-frequent fire, ponderosa pine, pinon-juniper woodland, pinon-juniper grassland, and juniper grasslands. Project-created slash would be lopped and scattered, piled, pile burned or broadcast burned, or retained for soil stabilization or other resource benefits.

### **PRESCRIBED FIRE**

There are two classes of wildland fire: planned (i.e., prescribed fire) and unplanned (wildfire). Prescribed fire (also called controlled or prescribed burning) refers to deliberately burning wildland fuels in either their natural or a modified state and under specified environmental conditions, which allows the fire to be confined to a predetermined area and produces the fire line intensity and rate of spread required to attain planned resource management objectives (Helms 1998).

Broadcast, maintenance, jackpot, and pile burning are all types of prescribed fire activity proposed for the project. Natural and existing features such as rocky slopes and travel routes may be used as prescribed fire containment lines. There is the potential need to construct fire lines via hand tools or mechanized equipment in order to confine fires to predetermined areas. Prescribed fire is proposed for use in the following ERUs: mixed conifer-frequent fire, ponderosa pine, pinon-juniper woodland, pinon-juniper grassland, and juniper grasslands.

### **RIPARIAN RESTORATION**

Riparian restoration treatments within an estimated 100-foot buffer of established waterways are proposed along approximately 4.5 miles and 370 acres of Arroyo Hondo and approximately 12.5 miles and 310 acres of Tesuque Creek to improve watershed conditions. In areas where riparian vegetation is in poor condition, or is being encroached with conifers, vegetation thinning, prescribed burning, and native species plantings, and possible herbicide applications would occur.

### **ROAD CLOSURE**

Approximately 1.5 miles of Forest Road 79W would be gated and closed for public motorized access, although private landowners would maintain access. This proposed road closure would help to reduce resource impacts.

## Summary of Cultural Resources and Inventory within the Project Area

The following discussion provides summaries of the most recent and relevant reports conducted by the SFNF Heritage Program to support the SFMLRP. The original reports should be referenced for details.

### ***SFMLRP Phase I Cultural Resources and Inventory Assessment***

Cultural resource survey and site data within the SFMLRP area are summarized in the *Santa Fe Mountains Landscape Resiliency Project: Phase I Cultural Resources and Inventory Assessment* (Campbell and Comstock 2021). Primary sources of information for this assessment were the SFNF Heritage GIS database and hardcopy reports and site files at the SFNF Headquarters located in Santa Fe. Other records consulted include the New Mexico Historic Preservation Division's New Mexico Cultural Resources Information System (NMCRIIS) online database, the USDA Forest Service's Heritage Natural Resource Manager (NRM) database, and the Bureau of Land Management's General Land Office (GLO) records. This review was completed to determine the amount and validity of previous cultural resource survey in the analysis area and the location and density of previously identified archaeological sites. Site records were reviewed for NRHP eligibility status, current condition, previous disturbance, and fire sensitivity.

The Phase I Assessment identified previous valid cultural resource inventories (surveys) cover a total of 11,933 acres (23.5%) of the project area (Figure 2, excerpted from Campbell and Comstock 2021). This acreage encompasses 34 inventories conducted between 1990 and 2018. These inventories were evaluated against current agency and state of New Mexico standards to determine validity. An additional 76 projects were evaluated and determined to be project types other than inventory or to not meet current standards for valid survey. Types of cultural resource projects that are not inventories include records searches/literature reviews, monitoring or inspection reports, research designs, data recovery (excavation) reports, and site interpretation and stabilization reports.

The Phase I Assessment also identified 93 previously recorded archaeological sites within the SFMLRP area. Table 2, excerpted from Campbell and Comstock (2021), details the number of sites by type. The majority of sites are historic which date from AD 1540 to present. These sites are reflective of general agricultural activities, homesteading and occupation, camping, logging, agency administrative activities, and the Glorieta Mining District. Approximately 39 (42%) of these sites are on the Pecos-Las Vegas Ranger District, and 54 (58%) sites are on the Española Ranger District.

Eligibility of sites to the NRHP ranges across the site demographic. Of the 93 total previously recorded sites in the project area, sites previously evaluated as Not Eligible account for 15 or 16% of the sites total. Undetermined/Unevaluated sites total 26, or 27% of the site count. Fifty-one sites (54%) have been evaluated as Eligible to the NRHP. Only one site, Glorieta Baldy Lookout, is listed on the NRHP.

Data from each site were analyzed to determine a site's fire sensitivity and treatment recommendation. It should be noted that in many cases, this site data is outdated and incomplete. An accurate assessment of site fire sensitivity will require a ground-truthing exercise to verify fuel loads, fire-sensitive features, and pre-burn treatment needs at individual sites. Approximately 44% (n=47) of the previously recorded archaeological sites in the SFMLRP are considered fire-sensitive, according to the Region 3 PA, Appendix J, Section 3 (USDA-FS 2010).

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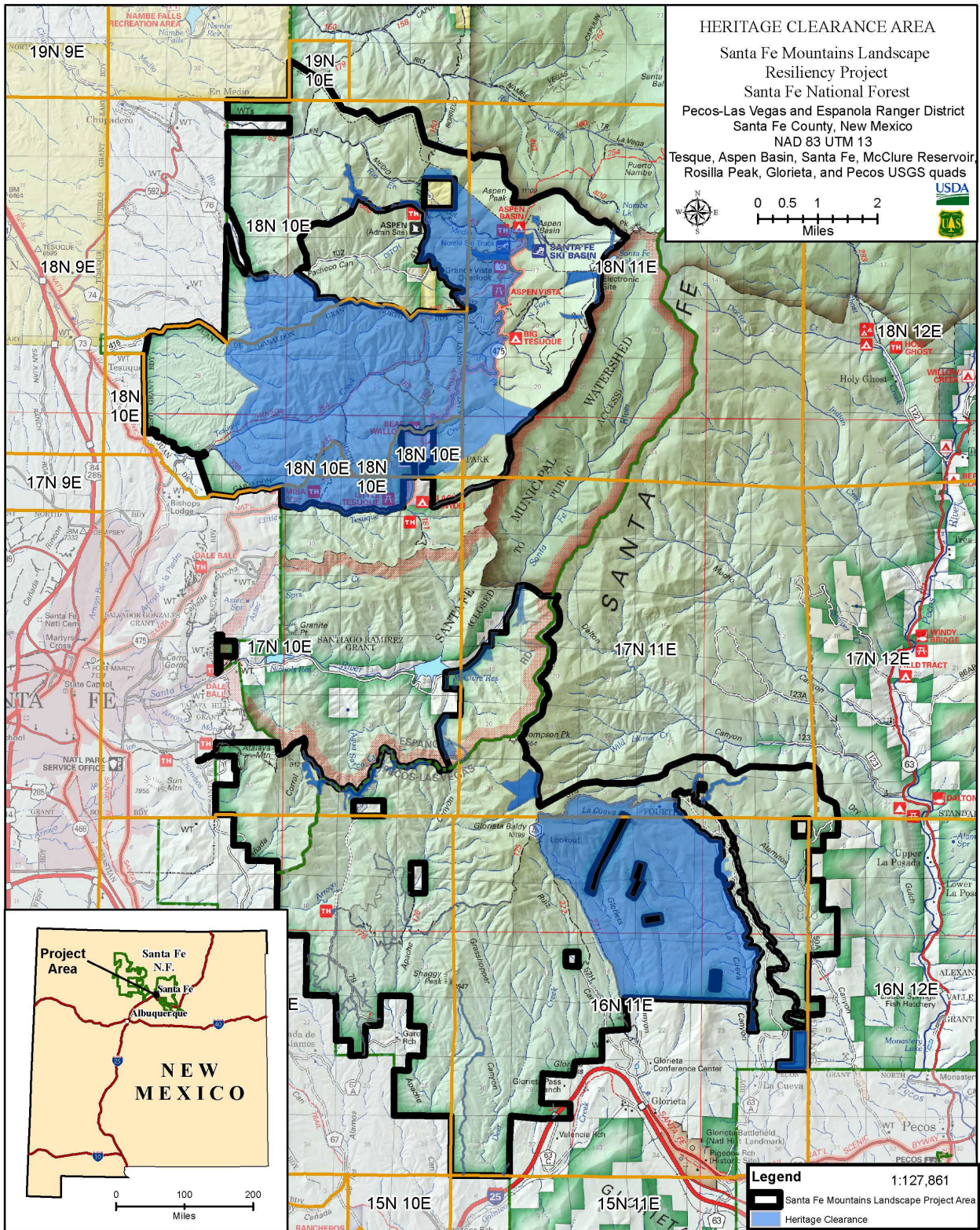


Figure 2. Cultural Resource Clearance in the SFMLRP area provided via the Phase I Assessment

Known fire-sensitive site types in the Southwest Region include:

- Historic sites with standing, or down wooden structure or other flammable features or artifacts.
- Rock art sites (depending on rock art type, exposure, fuel type, and fuel loading)
- Cliff dwellings
- Prehistoric sites with flammable architecture elements and other flammable features or artifacts
- Prehistoric sites with exposed building stone or sot or porous materials such as volcanic tuff
- Culturally modified trees, including aspen art and peeled /scarred trees
- Certain traditional cultural properties (based on consultation with tribes)

Other Project-Specific Fire-Sensitive Sites:

- Other sites, based on local field conditions and Forest-specific concerns
- Other sites, based on consultation with SHPO staff
- Other sites, based on consultation with fire management staff, fire behavior specialists or fire effects researchers.

**Table 2. Previously Recorded Sites in SFMLRP Area by Type**

Site Type	Number	Percent
Historic	51	55%
Prehistoric Artifact Scatter	17	18%
Rock Shelter	10	11%
Shrine/Monument	7	8%
Other	4	4%
Lithic Procurement	3	3%
Structure (Prehistoric)	1	1%
<b>Total</b>	<b>93</b>	<b>100%</b>

***New Cultural Survey – North (Española Ranger District)***

In anticipation of future forest restoration and fuels reduction activities, the Española Ranger District conducted a cultural resources inventory in 2017 in the northern area of the SFMLRP (Cater et al. 2018). The survey and report were completed by the contract company Tierra Right-of-Way Services Ltd. During the survey, five previously recorded archaeological sites were revisited and updated, 18 new sites were documented, and 182 isolated occurrences were documented. Survey was conducted by walking parallel 15-meter (49 foot) transects in areas where slopes had been calculated to be less than 40 percent. Portions of the project area with slopes over 40 percent were either excluded or altered based upon topography. In some deep drainage cuts, for example, surveyors employed wider spacing up to 30 meters (98 feet). The clearance area contained 10,645 acres. A total of 4,268 acres was surveyed, and approximately 60 percent (6,377 acres) was excluded from survey due to slopes of greater than 40 percent.

***New Cultural Survey – South (Pecos-Las Vegas Ranger District)***

In support of the goals of the Greater Santa Fe Fireshed Coalition, the Pecos-Las Vegas Ranger District conducted a cultural resources inventory in 2017 in the southern area of the SFMLRP (Schoonover et al. 2018). The survey and report were completed by the contract company DMG Four Corners Research, Inc.



The inventory discovered 23 new sites, including the Glorieta Mining District. Five previously recorded sites were revisited and documentation updated. A total of 109 isolated occurrences were recorded. Survey was conducted using transects spaced 15 meters apart in areas of less than 40 percent slope. The clearance area contained 5,356 acres. A total of 4,185 acres was surveyed, and approximately 22 percent (1,171 acres) was excluded from survey due to slopes of greater than 40 percent.

### ***Fireshed Ethnographic Study***

An ethnographic assessment of the tribes and traditional communities directly associated with the project area was completed by the contract company Aspen CRM Solutions (Brown et al. 2018) as part of analysis for the SFMLRP. An ethnography is the systematic study and description of people and cultures. The study included a review of the available archaeological, ethnographic, and anthropological sources and consultations with twelve (12) of the Rio Grande Pueblos and the Jicarilla Apache Tribe as well as members of traditional communities regarding past and ongoing traditional cultural use of the project area. These 13 federally recognized tribes were identified as being closely associated with the lands within the Greater Santa Fe Fireshed Project Area: Cochiti, Jemez, Nambé, Ohkay Owingeh, Pojoaque, San Felipe, San Ildefonso, Santa Ana, Santa Clara, Santo Domingo (Kewa), Tesuque, and Zia Pueblos, as well as the Jicarilla Apache Tribe. In addition, descendant communities associated with Hispanic land grants within or adjacent to the project area or associated with the Santa Fe Trail include: Santa Fe/Cerro Gordo/Talaya Hill, Apache Canyon, Tesuque, Chupadero, Glorieta, La Cueva, Pecos, Rio en Medio, and Cañada de los Alamos.

The assessment was intended to provide information regarding traditional landscapes and the distribution and nature of potential Traditional Cultural Properties. It also was intended to provide greater understanding of the potential effects of the project on significant cultural resources including traditional use localities, significant ethnobotanical resources, and visual resources. The results of this report will be used to help guide future project planning. To maintain tribal confidentiality and to respect cultural sensitivity, especially surrounding locations of sensitive areas within the forest, this report is not available for the public and should only be used internally with the upmost discretion. Tribal consultation and traditional cultural uses are further detailed in a separate specialist report (Comstock and Jarrett 2021).

## **Standard Best Management Practices, Mitigation Measures, and Design Features for Cultural Resource Protection**

Cultural resources in the SFMLRP area are vulnerable to impacts from mechanical and manual vegetation thinning treatments, prescribed fire, riparian restoration, road closure, and human disturbance associated with these undertakings. Management activities should promote the protection and preservation of these irreplaceable resources. The desired future conditions for cultural resources include the documentation and evaluation of all sites within the analysis area to current professional standards. All previously recorded sites that have not been adequately documented should be revisited and updated to ensure that locational information and site records are accurate. Desired future conditions of these resources also include resiliency from high-intensity fire. This requires implementation of vegetation management practices intended for the larger project area within archaeological site boundaries to the extent possible to allow low-intensity fire to take place without adverse effect. Thus, the outcome of the management activities should be overall beneficial for this resource class. Project managers will work with archaeologists to ensure there is adequate notification and time to conduct site visits and complete site documentation and mitigations prior to implementation.

## ***All Project Activities***

Standard cultural resource protection measures will be implemented to protect Historic Properties (also referred to as archaeological sites, cultural sites, or cultural resources) and to ensure No Adverse Effect to Historic Properties. These standard protection measures are identified in Appendix J and Appendix E of the Region 3 Programmatic Agreement (USDA-FS 2010). These standard protection measures have been modified for the purposes of this project. Historic Properties *Listed* on the National Register of Historic Places (NRHP), *Eligible* for the NRHP, or *Unevaluated/Undetermined* for the NRHP will be protected during all project activities. Sites determined *Not Eligible* for listing on the NRHP will be documented but not protected. If previously unidentified cultural materials are discovered during implementation, work will cease in the area until a qualified professional archaeologist is notified and has approved restarting work.

### **BEST MANAGEMENT PRACTICES FOR ALL PROJECT ACTIVITIES**

*Purpose: Communicate project and policy requirements to all parties involved in implementing management activities.*

Heritage-1 Allow project activities within site boundaries, provided a qualified professional archaeologist is present to monitor sites (those *Listed*, *Eligible*, or *Unevaluated/Undetermined* for the NRHP) during and following project activities.

### **MITIGATION MEASURES FOR ALL PROJECT ACTIVITIES**

*Purpose: Protect cultural resources and ensure No Adverse Effect to Historic Properties; Compliance with the National Historic Preservation Act (NHPA)*

Heritage-2 No ground disturbance will take place within site boundaries of *Listed*, *Eligible*, or *Unevaluated/Undetermined* sites without SHPO consultation.

*Purpose: Consistency with Appendix E of the Region 3 Programmatic Agreement (USDA-FS 2010)*

Heritage-3 Rubber-tired vehicles may cross through sites only on existing roads and must remain within the existing road prism.

Heritage-4 Utility Terrain Vehicles (UTVs) and All-terrain Vehicles (ATVs) may cross through sites only on existing roads and motorized trails as long as the vehicles remain within the existing road or motorized trail prism.

*Purpose: Consistency with Appendix J of the Region 3 Programmatic Agreement (USDA-FS 2010)*

Heritage-5 Do not use tracked vehicles or other heavy or mechanical equipment within site boundaries.

Heritage-6 Do not stage personnel or equipment within site boundaries.

Heritage-7 Do not pile logs, trees, and other thinned materials (slash) within site boundaries.

Heritage-8 Remove vegetation by hand from within site boundaries.

Heritage-9 Do not drag logs, trees, or thinned material (slash) across or within site boundaries.

*Purpose: Consistency with Forest Plan standards.*

Heritage-10 Reduce dense vegetation within site boundaries.

Heritage-11 Remove dead and down vegetation within site boundaries, especially logs in direct contact with cultural features.

Heritage-12 Qualified professional archaeologists will mark sites with white flagging tape or paint for identification during project activities.

## ***Vegetation Thinning Treatments***

When manual or mechanical vegetation thinning activities will occur, the following mitigations or combination of mitigations will be followed in addition to those listed above in the *All Project Activities* section:

### **DESIGN FEATURES FOR VEGETATION THINNING TREATMENTS**

*Purpose: Protect cultural resources and ensure No Adverse Effect to Historic Properties; Consistency with Appendix J of the Region 3 Programmatic Agreement (USDA-FS 2010)*

Heritage-13 Allow treatments within site boundaries, provided:

- a. Cutting is accomplished using hand tools only (chainsaws or cross-cut saws)
- b. Trees are felled away from all features

### **MITIGATION MEASURES FOR VEGETATION THINNING TREATMENTS**

*Purpose: Protect cultural resources and ensure No Adverse Effect to Historic Properties; Consistency with Appendix J of the Region 3 Programmatic Agreement (USDA-FS 2010)*

Heritage-14 Allow construction of landing zones, skid trails, and staging areas in 100% surveyed areas, with archaeological monitoring as appropriate to ensure sites are avoided by ground-disturbing activities.

Heritage-15 In areas of less than 100% survey, cultural resources survey and clearance is required prior to construction of landing zones, skid trails, and staging areas.

## ***Prescribed Fire Treatments***

Where prescribed burning activities will occur, the following mitigations or combination of mitigations will be followed, in addition to those listed above in the *All Project Activities* section:

### **MITIGATION MEASURES FOR PRESCRIBED FIRE TREATMENTS**

*Purpose: Protect cultural resources and ensure No Adverse Effect to Historic Properties; Consistency with Appendix J of the Region 3 Programmatic Agreement (USDA-FS 2010)*

Heritage-16 No ignition points within site boundaries

Heritage-17 Allow construction of safety zones, helicopter landing and sling sites, staging areas, and additional fire line in 100% surveyed areas, with archaeological monitoring as appropriate to assure sites are avoided.

Heritage-18 In areas of less than 100% survey, cultural resources survey and clearance is required prior to construction of safety zones, helicopter landing and sling sites, staging areas, and additional fire line.

Heritage-19 Site protection measures and fuel reduction treatments will occur prior to implementing prescribed burns.

Heritage-20 Site protection measures and fuel reduction treatments will be monitored by a qualified professional archaeologist.

Heritage-21 Allow prescribed fire to burn through sites with low or moderate fire sensitivity, provided that heavy fuels are removed prior to burning.

Heritage-22 Protect fire-sensitive sites (i.e. sites with combustible features, rock art, rock or cave shelters, or structures comprised of friable stone). Protection measures may include the following:

- a. Exclude from project area, OR
- b. Use hand line, black line or wet line to prevent the spread of fire into sites
- c. Use foam retardant or structural fire shelter directly on fire-sensitive resources to prevent their consumption

- d. Ensure that heavy fuels that cannot be removed from within site boundaries are not ignited
- e. Implement same protective measures for all future maintenance burns
- f. When using aerial ignition, provide pilot with GPS site locations to avoid the sites
- g. A qualified professional archaeologist will monitor fire-sensitive sites during prescribed burning.

## **Road Closure**

Where forest road closure will occur, the following mitigations, or combination of mitigations, will be followed, in addition to those listed above in the *All Project Activities* section:

### **MITIGATION MEASURES FOR ROAD CLOSURE**

*Purpose: Protect cultural resources and ensure No Adverse Effect to Historic Properties; Consistency with Appendix E of the Region 3 Programmatic Agreement (USDA-FS 2010)*

Heritage-23 Sites adjacent to a proposed road closure will be flagged for avoidance.

Heritage-24 Earth-disturbing closure activities (i.e., earthen berm construction, ripping road tread) may take place within site boundaries only if the Forest and the SHPO agree that there will be No Effect or No Adverse Effect to sites.

Heritage-25 Vehicles and equipment using USFS roads must stay on the road prism in areas that bisect heritage sites.

Heritage-26 No new road construction, reconstruction, or modification of the existing road prism within site boundaries.

## **Environmental Consequences**

The intent of this report is to describe the actions that must be taken to identify and protect cultural resources that may be affected by the implementation of the undertaking and what resource protection measures may be implemented to reduce the effects to Historic Properties to “no effect” or “no adverse effect” as defined in 36 CFR 800.5. Impacts to cultural resources, especially archeological sites, can be generally defined as anything that results in the removal of, displacement of, or damage to artifacts, features, and/or stratigraphic deposits of cultural material.

The abbreviated definition of adverse effect to Historic Properties and resources, per 36 CFR 800.5(1) is as follows:

*An adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register of Historic Places in a manner that would diminish the integrity of the property’s location, design, setting, materials, workmanship, feeling, or association. Consideration shall be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property’s eligibility for the National Register of Historic Places. Adverse effects may include reasonably foreseeable effects that may occur later in time, be farther removed in distance or be cumulative.*

*Types of adverse effects to historic properties could include:*

- *Physical destruction of or damage to all or part of the property.*
- *Alteration of a property, including restoration, rehabilitation, repair, maintenance, stabilization, hazardous material remediation, and provision of handicapped access, that is not consistent with the Secretary of the Interior’s Standards for the Treatment of Historic Properties and applicable guidelines.*

- *Change of the character of the property's use or of physical features within the property's setting that contribute to its historic significance.*
- *Introduction of visual, atmospheric, or audible elements that diminish the integrity of the property's significant historic features.*

## ***No Action Alternative Effects Analysis***

### **DIRECT AND INDIRECT EFFECTS OF THE NO ACTION ALTERNATIVE**

Under the no action alternative and without treatment, the current conditions of the SFMLRP analysis area would remain the same in the immediate future. Under this alternative, the landscape would continue to depart from desired conditions. There would not be any direct project impacts to cultural resources. Indirectly, cultural resources would continue to be exposed to the customary and natural threats, such as weathering and erosion. The continuing buildup of vegetation and fuel loads on cultural resources would lead to an increased risk of high-severity wildfire to these irreplaceable resources. Consequently, cultural resources would become less resilient to the effects of wildfire, climate change, and other environmental processes. Many vulnerable archaeological sites, Traditional Cultural Properties, sacred sites, and traditional use areas could be damaged or destroyed, causing a loss of important historic information and research potential as well as places important to cultural continuity for indigenous and traditional communities. This scenario does not meet forest objectives to protect cultural resources. On the whole, this alternative is a net detriment to the protection of cultural resources.

## ***Proposed Action Alternative Effects Analysis***

### **DIRECT AND INDIRECT EFFECTS OF THE PROPOSED ACTION**

Vegetation thinning treatments and prescribed fire would reduce long-term fuel continuity, fuel loading, and wildfire hazard within the SFMLRP area. These treatments would benefit cultural resources within the project area by decreasing the potential for adverse effects caused from high-severity wildfires (Elliott 1999, Lentz et al. 1996, Lissoway and Propper 1990, Oster et al. 2012, Ryan et al. 2012). If the standard best management practices, mitigation measures, and design features discussed above are followed for all project activities, the proposed treatments should have no significant direct or indirect effects on eligible, listed, and unevaluated/undetermined cultural resources.

#### **Effects from Vegetation Thinning Treatments**

The following vegetation thinning treatment effects discussion is excerpted from the recent SFNF Draft Land Management Plan Draft Environmental Impact Statement, Volume 1 (USDA-FS 2019b:376).

*“Mechanical treatments impact cultural resources by compacting the ground in and around archaeological sites and by disturbing the distribution or arrangement of cultural deposits, artifacts, features and structures within sites, which affects the condition and information potential of the cultural resources on sites. Disturbance to these components of sites has the potential to adversely affect the integrity of sites for research purposes and may adversely affect communities with ancestral ties. Machinery used to conduct mechanical treatments may also alter the physical properties of artifacts. These factors challenge our understanding of these areas and degrade qualities that make the sites eligible for inclusion on the NRHP”.*

Mechanical methods would be beneficial in areas where dense vegetation threatens cultural resources due to the potential for wildfire or due to root growth and decay deteriorating the integrity of sub-surface cultural deposits. Manual vegetation thinning would be less likely to adversely affect cultural resources, because chainsaw operators could avoid flagged areas more easily than mechanical equipment operators. With mitigations for both mechanical and manual vegetation treatments, it is anticipated that there would

be no adverse effects to cultural resources. Rather, these resources would benefit from vegetation thinning treatments.

### **Effects from Prescribed Fire**

The following prescribed fire effects discussion is excerpted from the recent SFNF Draft Land Management Plan Draft Environmental Impact Statement, Volume 1 (USDA-FS 2019b:376-377).

*“The cultural resources in the Santa Fe National Forest have persisted through many fire cycles over time, and are generally not highly damaged by low-severity fire that moves quickly across the landscape. Lower severity fires can damage cultural resources by altering their chemical or physical properties, such as charring exterior surfaces or promoting faster decomposition rates. In some cases lower severity fires can completely consume plant fibers, hair, or textiles ruining the important historical data they once held. High-severity fire can be devastating to cultural resources, especially for perishable and fire-sensitive items such as wood, material, basketry, hides, leather, and plant residues or seeds. These extreme temperatures completely destroy or alter the physical characters of artifacts, which significantly alters informational context. These fires also affect the potential for dating features in a historical context by either altering their physical composition as in the realignment of radiometric iron in hearths or the deposition of recent carbon in archaeological contexts with the potential for C14 dating. Furthermore, severe fire damages vegetation and ground cover, often leading to soil hydrophobicity, and thereby increasing erosion and water run-off which can move cultural materials from their origin. Finally, management actions associated with wildfire suppression frequently lead to effects to cultural resources including the construction of fire line through sites, burning of perishable materials resulting from suppression ignition and other effects associated with the suppression of wildfire.”*

If fire is implemented in a low-severity context (low intensity for a short duration) per the proposed action, then the negative direct and indirect effects to cultural resources would occur to a far lesser degree than would those resulting from a high-severity wildfire resulting from the no action alternative. Although unpredictable creeping and spread of prescribed fires has the potential to damage fire-sensitive cultural materials, proper consultation and mitigation between fire managers and archaeologists would decrease or eliminate the likelihood of negative effects. Removing heavy fuels from archaeological sites is the most effective way to protect non fire-sensitive sites from significant fire effects (Elliott 1999; Lentz et al. 1996; Lissoway and Propper 1990). Any type of fire (prescribed or wildfire) may burn more intensely in areas that were not mechanically treated prior to burning. Therefore, it is anticipated that no adverse effects to cultural resources would result from the proposed action.

### **Effects from Riparian Restoration**

The following riparian restoration effects discussion is excerpted from the recent Northern New Mexico Riparian, Aquatic, and Wetland Restoration Project Environmental Assessment (USDA-FS 2020:100-101). Riparian restoration activities

*“include some level of potential ground disturbance either through the actions in the riparian zone, such as earthmoving, channel alterations, diversion and erosion control structures, vegetation removal, or bank lowering, or associated construction support activities, such as construction access, staging areas, and material source borrowing. Any activities that would involve surface-disturbing activities could have direct and indirect impacts on cultural resources, including damaging, destroying, or displacing artifacts and features. [...]*

*Generally, actions within an active river channel occur in a zone where intact cultural resources are not present. However, prehistoric sites tend to be in areas of flat, elevated, drier ground adjacent to stream and/or river channels but are rarely in direct association. Most prehistoric sites would not be affected by instream work, but there can be conflicts in the adjacent drier areas if those are included in the proposed restoration activity.*

*Historic-era features often are associated with rivers and streams. Removing or altering historic-era water control features or structures associated with crossings, livestock watering, grazing, timber harvest, mining, transportation, and Forest Service administration also may be affected by the riparian restoration and would require site-specific consideration. [...]*

*Riparian restoration work [...] may enhance traditional plant and animal resources valued by Native American tribes. These measures would reduce the potential for erosion and direct disturbance of cultural sites, potentially maintain historic settings, and protect water resources for traditional uses.”*

In areas where riparian vegetation is in poor condition or is being encroached with conifers, vegetation thinning treatments, prescribed burning, and native species plantings would occur. These proposed restoration activities would result in healthier and more stable waterways and could reduce erosion and inundations of cultural resources within associated stream channels and flood zones. Therefore, cultural resources would benefit from the proposed action as long as those cultural resources occurring in riparian contexts are excluded from the direct effects of riparian restoration implementation activities.

### **Effects from Road Closure**

Public access of 1.5 miles of Forest Road 79W would occur as part of the proposed action. Access to this area for private in-holders would continue. With this road closure, either incidental or intentional vandalism or looting to cultural resources accessed via this road would be greatly diminished. In addition, damage caused by vehicles, such as reduction of cultural deposits, displacement and damage to artifacts, and loss of soils and vegetation, would also be greatly diminished. Although this 1.5 miles of road closure is a very small length in the context of the forest road system, cultural resources in this area would benefit from this proposed activity.

### **Effects from Proposed Forest Plan Amendments**

Forest Plan amendments would provide specific guidelines regarding how vegetation would be manipulated within Mexican Spotted Owl (MSO) and Goshawk habitats (see Draft EA, Chapter 2). Proposed Forest Plan amendments comprise four types: (1) amendments that allow vegetation treatment related to Mexican Spotted Owl (MSO) protected activity centers; (2) amendments that adopt aspects of the new proposed MSO recovery plan; (3) amendments that clarify activity restrictions during MSO breeding seasons; (4) amendments that clarify the need for interspaces for Goshawk habitat. These guidelines are not expected to result in significantly different effects to cultural resources from those effects likely by the proposed actions themselves. Effects from the forest plan amendments would be beneficial to cultural resource, because the amendments would help to move vegetation toward the desired condition and reduce the likelihood of high-severity wildfire.

### ***Cumulative Effects of the Proposed Action***

The cumulative effects on cultural resources should take into account all ground surface-altering actions that have occurred or are likely to occur within the SFMLRP area. Forest Service management activities, public resource procurement and recreational use, and natural processes have impacted cultural resources. However, through the use of standard best management practices, mitigation measures, and design features, these impacts are substantially diminished.

Past, present, or reasonably foreseeable future projects within or adjacent to the analysis area may affect cultural resources (Table 3, excerpted from Draft EA, Table 3.1). These projects include routine road and trail maintenance, aquatic habitat restoration, road and trail decommissioning, invasive species removal, and additional vegetation thinning and prescribed fire projects. Projects on SFNF lands would comply

with the Region 3 PA (USDA-FS 2010), and impacts to cultural resources would either be avoided or mitigated through this process.

Increasing the scale of restoration treatments would provide long-term protection for the entire landscape and all of the cultural resources within it from disturbances such as high-intensity wildfire. Cumulatively, the projects within and adjacent to the project area would improve long-term protection of cultural resources. Therefore, the potential cumulative effects on cultural resources are not considered to be adverse.

**Table 3. Actions that May Have Cumulative Impacts to Resources within the Study Area**

<b>Action</b>	<b>Summary of Action</b>
Pacheco Canyon Forest Resilience Project	<p>The scope of the project is to thin and use prescribe fire on approximately 2,042 acres northeast of the City of Santa Fe, near several popular recreation sites, including the Big Tesuque Campground, Aspen Vista Picnic Area, and the Santa Fe Ski Basin. Tesuque Pueblo lands are within and northeast of the project area. The purpose of the project is to change stand conditions in predominantly ponderosa pine forests in the Pacheco Canyon area. The actions proposed to accomplish this change would be thinning and burning about 2,042 acres.</p> <p>Decision signed on June 1, 2018.</p>
La Cueva Fuelbreak Project	<p>The purpose of the project is to change fire behavior in treated areas to reduce the risk of a large-scale, high intensity wildfire spreading to or from the communities of La Cueva, Dalton Canyon, and the Santa Fe Watershed. This project proposes creation of a shaded fuelbreak by thinning 995 acres and conducting prescribed burns (pile and broadcast burning) on approximately 1,100 acres.</p> <p>Decision signed on February 4, 2005</p>
County Line Fuel Wood Treatments	<p>The purpose of the project is to improve forest health and wildlife habitat through a combination of thinning and prescribed burning across approximately 900 acres on Borrego Mesa.</p> <p>Decision signed on August 6, 2010</p>
Southern Rowe Mesa Restoration Project	<p>The purpose of this project is to promote a mosaic of healthy forest stands and natural grasslands through thinning and prescribed burning activities on approximately 17,500 acres on Rowe Mesa.</p> <p>Decision signed on February 21, 2013.</p>
Hyde Park Wildland Urban Interface Project	<p>The scope of the project is to thin and use prescribe fire on up to 1,840 acres. The project area is dominated by dense stands of ponderosa pine forests with a lesser component of mixed conifer and pinon-juniper. The project area is located in forests east of the community of Hyde Park Estates, near Hyde Memorial State Park, and adjacent to Black Canyon campground. The purpose of this project is to reduce the risk of uncharacteristic, stand-replacing wildfire and reduce the risk for insect and disease related tree mortality within the project area.</p> <p>Decision signed on March 21, 2018.</p>



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<b>Action</b>	<b>Summary of Action</b>
Santa Fe Municipal Watershed	<p>The scope of the project is to use a combination of tree thinning and prescribed burning on up to 7,270 acres of national forest and city lands in the Santa Fe Municipal Watershed. The proposal is designed to reduce the risk of a severe crown fire and to restore sustainable forest and watershed conditions in the Watershed.</p> <p>Record of Decision signed in October 2001.</p>
Santa Fe Municipal Watershed Pecos Wilderness Prescribed Burn Project	<p>The project proposes to perform prescribed burns of between 200 and 2,100 acres at one time in ponderosa pine and mixed conifer stands within an approximately 2,900-acre, mid elevation (8,500 – 10,000 ft) treatment area within the Pecos Wilderness.</p> <p>Decision signed on April 28, 2015.</p>
Rowe Mesa II (U.S. Forest Service n.d.)	<p>Fuel treatment to promote a mosaic of healthy forests stands and natural grasslands by thinning and prescribed burning in pinon/juniper, and ponderosa pine trees that have encroached into the understory of woodlands and into meadows of Rowe Mesa.</p> <p>Project initiation 12/19/2018; expected implementation 4/2020.</p>
Century Link/PNM Santa Fe to Los Alamos Fiber Optic Project (U.S. Forest Service n.d.)	<p>Proposal to bury a fiber optic line along Forest Road 24 on Santa Fe National Forest land to a PNM transmission line where it will be carried to DOE facilities to improve service to Los Alamos National Lab and Los Alamos community.</p> <p>Notice of initiation 10/1/2018.</p>
Issuance of Forest-wide Temporary and Priority Special Use Permits (SUPs) for Non-Motorized Over-Snow Activities (U.S. Forest Service n.d.)	<p>Proposal to approve issuance of temporary and priority SUPs for outfitter and guides throughout the Santa Fe National Forest to conduct guided recreation activities related to over-snow uses, including but not limited to cross country skiing and snow shoeing.</p> <p>Notice of initiation 12/1/2019.</p>
Rio Chama Aquatic and Wetland Habitat Restoration Project (U.S. Forest Service n.d.)	<p>Species habitat improvement project to increase diversity and quality of aquatic habitat for fish and invertebrates in Rio Chama downstream from Abiquiu Dam approximately 5.6 miles between Santa Fe and Carson National Forests to point 1.34 miles upstream of Highway 84 bridge.</p> <p>Notice of initiation 10/1/2019; expected implementation 4/2020.</p>
Comexico Jones Hill Exploration (U.S. Forest Service n.d.)	<p>Exploratory drilling operation on unpatented mining claims in Pecos/Las Vegas Ranger District of SFNF. Proposal will cause approximately 5-7 acres of surface disturbance in an area that has been previously disturbed by earlier exploration date. All activities will occur within 1 year of the state date.</p> <p>Scoping was conducted in December 2019; expected implementation 10/2020.</p>
Pecos Bike Trails (U.S. Forest Service n.d.)	<p>Project to develop trail system and impress access and promote visitor safety in Canada de Los Alamos/Glorieta area.</p> <p>Notice of initiation 11/1/2019; expected implementation 2/2020.</p>
Pecos Rio Grande Cutthroat (RGCT) Trout Restoration (U.S. Forest Service n.d.)	<p>Project to restore RGCT populations to Willow Creek and upper Cow Creek by adding 9 miles of stream to currently occupied distribution.</p> <p>Scoping occurred February 2019.</p>

**Non-Forest Service Projects**

<b>Action</b>	<b>Summary of Action</b>
Aztec Springs, Phase 2 & 3 (City of Santa Fe, The Nature Conservancy, New Mexico State Forestry)	150 acres of thinning, piling, and prescribed burning activities.
Aspen Ranch (Pueblo of Tesuque)	160 acres of thinning, piling, and prescribed burning activities in ponderosa pine and mixed conifer.
Vigil Grant (Pueblo of Tesuque)	158 acres of thinning, piling, and prescribed burning activities in ponderosa pine and mixed conifer.
Hyde Memorial State Park (New Mexico State Forestry)	Thinning, piling, and prescribed burning across 276 acres in Hyde Memorial State Park.
City of Santa Fe Planned Communities and Infrastructure Projects	<p>Three master planned communities that is projected to absorb most of Santa Fe's growth through 2030</p> <ul style="list-style-type: none"> <li>• Tierra Contenta Master Plan (1995) approved as many as 5,200 housing units and to date is 50% completed with up to 2,500 homes and apartment units completed. The western portion of Phase 2 and Phase 3 await construction and includes 400 acres of developable land and 100 acres of open space/parks.</li> <li>• Las Soleras Master Plan (2008) covers 400 acres with most of the land along I-25 slated for commercial and mixed use. Internal portion of master plan are reserved for residential units which could be developed with 1,000-1,500 housing units.</li> <li>• Northwest Quadrant (2010) covers approximately 160 acres of 2,000 acres the city owns in the northwest corner of the city. The Master Plan calls for 750 housing units to the southeast of Highway NM 599.</li> </ul> <p>Roadway improvements, trails and urban mixed use and parks (Southwest Activity Node, Las Soleras Park, and South Meadows Park) (City of Santa Fe 2017).</p> <p>Multiple drainage projects are proposed by City of Santa Fe in Council Districts 1, 2, 3, and 4 to be completed in three phases between 2019 and 2022 (City of Santa Fe n.d.).</p>
Santa Fe River Greenway R&PP Lease Project	EA (released 11/21/19) for the conveyance of 23.5 acres of BLM-administered public lands to Santa Fe County under the Recreation and Public Purpose Act (R&PP) for the construction and maintenance of a short segment of the greenway and for bank stabilization of the Santa Fe River. The proposed project will create a greenway of public parks and multi-use recreational trails along the Santa Fe River from Two-mile Reservoir in eastern Santa Fe west to the Santa Fe County wastewater treatment plant, which is located just west of New Mexico Highway 599 (BLM 2019a).

Note: Projects that are listed as on hold in the January 2020 through March 2020 Schedule of Proposed Action (SOPA) were not included in this table.

## **Consistency with Relevant Laws, Regulations, and Policy**

### ***Land and Resource Management Plan***

The analysis in this specialist report is required in order to ensure proposed activities are consistent with NEPA and the goals, objectives, and standards, and guidelines of the SFNF Land Management Plan, as amended (Forest Plan) (USDA-FS 1987a). As of the writing of this report, the Forest Plan is under

revision and is anticipated to be finalized and implemented in 2021. The updated Draft Forest Plan (USDA-FS 2019a) and associated Draft Environmental Impact Statement (USDA-FS 2019b) were issued in June 2019. Due to the ongoing Forest Plan revision process, and the need to update desired conditions for the forest since the Forest Plan was written, many of the SFMLRP desired conditions reflect the desired conditions characterized in the 2019 Draft Forest Plan. This report acknowledges that content within the 2019 Draft Forest Plan may be revised prior to finalizing, and the proposed action analyzed in the SFMLRP Environmental Assessment remains consistent with the current Forest Plan.

The proposed action is consistent with the cultural resources management direction in the current Forest Plan. This plan directs the “identification, protection, and maintenance of the historical, cultural and religious sites found within the Forest” (USDA-FS 1987a:17) with the goal to “inventory, protect, evaluate, nominate [to the National Register], interpret, and enhance cultural resources” (USDA-FS 1987a:19). The Forest Plan further stipulates, “inventory and site marking will be at sufficient level to protect sites from resource activities,” (USDA-FS 1987a:8). Therefore, inventory or survey of cultural resources within the SFMLRP area followed by site protections as outlined in the Region 3 PA (USDA-FS 2010) account for the protection of cultural resources in the context of forest project implementation.

The Forest Plan identifies areas of the forest with a high density of archaeological sites eligible for the National Register as “Management Area I”. The direction for Management Area I includes additional standards and guidelines concerning recreation, timber, fire, grazing, mineral extraction, lands, and facilities in order to protect these high value resources across the forest. The SFMLRP area does not intersect with Management Area I. Therefore, these additional standards and guidelines do not apply to the SFMLRP.

The Forest Plan clarifies the forest will coordinate cultural resource management with the SHPO, other State and Federal agencies, and Native American groups (USDA-FS 1987a:19). Details concerning tribal consultation for the SFMLRP are in the Tribal and Traditional Uses Specialist Report (Comstock and Jarrett 2021) and the Phase I Assessment (Campbell and Comstock 2021). Implementation of subsequent restoration activities for the SFMLRP will undergo consultation with the New Mexico SHPO, and Native American tribes as needed and as clarified in the Forest Plan.

The 2019 Draft Forest Plan revises the desired conditions and standards for cultural resources. (USDA-FS 2019a:110-113). The revisions include addressing the ecological resiliency of landscapes that surround cultural resources. Desired conditions for cultural resources provided by the 2019 Draft Forest Plan follow.

*“Cultural and historic resources (including archaeological sites, historic buildings and structures, traditional cultural properties) are stable and are maintained in a manner that does not adversely affect their integrity, including:*

- *Visual and aesthetic integrity and physical association with culturally significant landscapes*
- *Surrounding landscapes that are resilient to natural ecological processes*
- *Long-term stability with other forest uses and the absence of vandalism, looting, or other human impacts*
- *Dual roles with administrative, recreational, or infrastructure facilities.”* (USDA-FS 2019a:111)

In addition, the 2019 Draft Forest Plan standards for cultural resources emphasize the application of mitigation measures and design features to limit adverse effects.

*“Cultural and historic resources must be protected during projects through mitigation measures and design features. In cases where the protection of cultural and historic resources is not possible or when the benefits of a project are deemed by administrative decision to be greater than the adverse*

*effects to the cultural and historic resources, adverse effects to those resources will be resolved or mitigated.*” (USDA-FS 2019a:111)

### ***Other Relevant Law, Regulation, or Policy***

The primary legislation governing cultural resource management is the National Historic Preservation Act (NHPA) of 1966 (amended in 1976, 1980, and 1992). Section 106 of NHPA requires that federal agencies take into consideration the effects of their undertakings on historic properties, which are defined in 36 CFR 800.16(l) as “any district, site, building, structure, or object that is included in or eligible for inclusion in the NRHP”. The “Section 106 review process,” entails five steps:

1. determining whether the proposed action is an undertaking that has the potential to affect historic properties);
2. identifying historic properties;
3. evaluating the significance of historic properties;
4. assessing effects; and
5. consulting with interested parties (including affiliated Native American tribes), the SHPO, and the ACHP.

Section 110 of the NHPA provides direction to federal agencies to establish programs and activities to identify and nominate historic properties to the NRHP and to consult with tribes. Federal Regulations 36 CFR 800 contains procedures for implementing Section 106 of NHPA.

Important laws and their accompanying regulations that affect the forest’s management and treatment of cultural resources include the following:

- Organic Act of 1897 (Title 16, United States Code (U.S.C.), section 473-478, 479-482, 551)
- Antiquities Act of 1906 (34 Statute 225, 16 U.S.C. 431-433), Uniform regulations at 43 CFR part 3 implement the act.
- National Historic Preservation Act (NHPA) of 1966, as amended, (54 U.S.C. 300101) Uniform and departmental regulations at 36 CFR part 800 implement the act.
- National Environmental Policy Act of 1969 (NEPA) (42 U.S.C. 4321-4346). The act is implemented by the Council on Environmental Quality (CEQ) regulations at 40 CFR 1500-1508.
- Archaeological Resources Protection Act of 1979 (ARPA) (16 U.S.C. 470aa *et seq*). Uniform regulations and departmental regulations at 36 CFR part 296 implement ARPA.
- Archeological and Historic Preservation Act of 1974 (16 U.S.C. 469-469c-2)
- Federal Land Policy and Management Act of 1976 (FLPMA), (43 U.S.C. 1701)
- American Indian Religious Freedom Act of 1978 (AIRFA) requires federal agencies to consider the impact of their actions on tribal traditional cultural practices and access to cultural sites.
- Executive Order 11593, Protection and Enhancement of the Cultural Environment (13 May 1971)
- Executive Order 13007, Indian Sacred Sites (24 May 1996)
- Executive Order 13175, Consultation and Coordination with Indian Tribal Governments (6 November 2000)
- Secretary of the Interior’s Standards and Guidelines for Archeology and Historic Preservation (48 CFR 44716)

The project treatments and associated activities will be conducted in compliance when applicable with the above laws and regulations. In addition, the USDA Forest Service Heritage Program Management Manual (USDA-FS 2008) and Handbook (USDA-FS 2015) and the Region 3 Heritage Program Manual (USDA-FS 1999) and Handbook (USDA-FS 1987b) all provide the basis for specific Forest Service cultural resource management practices.

## **Conclusion**

This report summarizes the cultural resource specialist analysis and initial compliance for the SFMLRP on the Española and Pecos-Las Vegas Ranger Districts of the SFNF. The analysis area contains 93 previously documented Historic Properties: 41 archaeological sites considered eligible to the NRHP; 25 sites unevaluated or undetermined until further testing; and 13 sites determined not eligible. Only one site, Glorieta Baldy Lookout, has been listed on the NRHP.

All listed, eligible, and unevaluated/undetermined Historic Properties will be flagged and avoided by mechanical treatments. Hand-thinning and prescribed burning may occur within site boundaries provided the standard best management practices, mitigation measures, and design features specified in this report are followed. Sites with combustible material will be protected during prescribed fire. Listed, eligible, and unevaluated/undetermined sites will be monitored after the proposed treatments to assess whether the sites were adequately avoided and the extent to which the treatments had indirect effects (i.e. damage from increased erosion) on the sites.

This project meets the policies and standards set forth in the National Historic Preservation Act of 1966, as amended (54 U.S.C. 300101) and its regulations (36 CFR 800) and the USDA Forest Service Region 3 Programmatic Agreement (USDA-FS 2010). Furthermore, the project adheres to direction in the USDA Forest Service Heritage Program Management Manual (USDA-FS 2008) and Handbook (USDA-FS 2015) as well as the Region 3 Heritage Program Manual (USDA-FS 1999) and Handbook (USDA-FS 1987).

This report determines that the only means by which to achieve the desired condition for cultural resource protection is the proposed action alternative. The no action alternative further decreases the resiliency of the cultural resources of the SFMLRP and puts these irreplaceable resources at greater risk of destruction. Given the nature of potential effects and the application of standard best management practices, mitigation measures, and design features, the finding of this specialist report is that the proposed action will have no adverse effect on cultural resources.

## References Cited

- 54 U.S.C. 300101 et seq. (National Historic Preservation Act of 1966, as amended). United States Code; Title 54 (National Park Service and Related Programs); Subtitle III (National Preservation Programs); Division A (Historic Preservation).
- 36 CFR 800.1-800.16 (Protection of Historic Properties). Code of Federal Regulations; Title 36 (Parks, Forests, and Public Property); Chapter VIII (Advisory Council on Historic Preservation); Part 800 (Protection of Historic Properties).
- Brown, E.J., Stewart, T.J., and Carey, A. 2018. An Ethnographic Evaluation of the Greater Santa Fe Fireshed. USDA Forest Service Cultural Resources Report 2017-03-10-007B, NMCRIS Activity 144849. Report on file, Santa Fe National Forest Headquarters, Santa Fe, NM.
- Bureau of Land Management. 2020. General Land Office Records Automation Website. Available at: <https://glorerecords.blm.gov/>. Accessed [January 2020].
- Campbell, A.J. and J.M. Comstock. 2021. Santa Fe Mountains Landscape Resiliency Project: Phase I Cultural Resources and Inventory Assessment. USDA Forest Service Cultural Resources Report 2017-03-10-007D, NMCRIS Activity 145586. Report on file, Santa Fe National Forest Headquarters, Santa Fe, NM.
- Cater, J., J.D. Lyon, and C.W. Merriman. 2018. Cultural Resources Inventory for the Fireshed North Fuel Reduction and Restoration Project, Española Ranger District, Santa Fe National Forest, Santa Fe County, New Mexico. USDA Forest Service Cultural Resources Report Number 2017-03-10-007, NMCRIS Activity 140489. Report on file, Santa Fe National Forest Headquarters, Santa Fe, NM.
- Elliott, M.L. 1999. The Dome Fire Archeology Project of 1996-1997: A Summary Report. Los Alamos, NM: National Park Service, Bandelier National Monument.
- Comstock, J.M. and J.E. Jarrett. 2021. Santa Fe Mountains Landscape Resiliency Project: Tribal and Traditional Uses Specialist Report. USDA Forest Service Cultural Resources Report 2017-03-10-007E, NMCRIS Activity (N/A). Report on file, Santa Fe National Forest Headquarters, Santa Fe, NM.
- Lentz, S.C., Gaunt, J.K., and Willmer, A.J. 1996. Fire Effects on Archaeological Resources, Phase 1: The Henry Fire, Holiday Mesa, Jemez Mountains, New Mexico. USDA Forest Service, Rock Mountain Forest and Range Experimental Station. Ft. Collins, CO.
- Lissoway, J. and J. Propper. 1990. Effects of Fire on Cultural Resources. In General Technical Report RM-GTR-191, Effects of Fire Management of Southwestern Natural Resources: Proceedings of the Symposium, November 15-18, 1988, Tucson, AZ. Krammes, J.S., ed. USDA Forest Service Rocky Mountain Research Station. Fort Collins, CO. Pp. 1-10.
- New Mexico Historic Preservation Division. n.d. New Mexico Cultural Resource Information System (NMCRIS) Database. Data on file, State of New Mexico, Department of Cultural Affairs, Historic Preservation Division, Archaeological Records Management Section, Santa Fe, NM.

- Oster, E.A., S. Ruscavage-Barz, and M.L. Elliott 2012. The Effects of Fire on Subsurface Archeological Materials. In Wildland Fire in Ecosystems: Effects of Fire on Cultural Resources and Archeology. K.C. Ryan, A.T. Jones, C.L. Koerner, and K.M. Lee, eds. USDA Forest Service Rocky Mountain Research Station. Ft. Collins, CO. Pp. 143-156.
- Ryan, K.C., A.T. Jones, C.L. Koerner, K.M. Lee, eds. 2012. *Wildfire in Ecosystems: Effects of Fire on Cultural Resources and Archaeology*. USDA Forest Service Rocky Mountain Research Station. Ft. Collins, CO.
- Schoonover, T., M. Basham, H. Blanton, and L.J. Jackson. 2018. The Santa Fe Fireshed Cultural Resources Survey, Santa Fe National Forest, Pecos/Las Vegas Ranger District, Santa Fe County, New Mexico. USDA Forest Service Cultural Resources Report Number 2017-03-10-007C, NMCRIS Activity 140618. Report on file, Santa Fe National Forest Headquarters, Santa Fe, NM.
- USDA Forest Service (USDA-FS). n.d. Santa Fe National Forest Heritage Program, Heritage Natural Resource Manager (NRM) Database. Data on file, Santa Fe National Forest Supervisors Office. Santa Fe, NM.
- USDA Forest Service (USDA-FS). n.d. Santa Fe National Forest Heritage Program, File Code 2360. Records on file, Santa Fe National Forest Supervisors Office, Santa Fe, NM.
- USDA Forest Service (USDA-FS). 1987a. Santa Fe National Forest Plan. On file, Santa Fe National Forest Supervisors Office. Santa Fe, NM.
- USDA Forest Service (USDA-FS). 1987b. Forest Service Handbook (FSH) 2309.24 – Region 3 Cultural Resources Handbook. USDA Forest Service, Southwestern Region (Region 3), Albuquerque.
- USDA Forest Service (USDA-FS). 1999. Forest Service Manual (FSM) 2360 – Region 3 Cultural Resources Manual. USDA Forest Service, Southwestern Region (Region 3), Albuquerque.
- USDA Forest Service (USDA-FS). 2008. Forest Service Manual (FSM) 2360 – Heritage Program Management. USDA-Forest Service, National Headquarters (WO), Washington, D.C.
- USDA Forest Service (USDA-FS). 2010. First Amended Programmatic Agreement Regarding Historic Property Protection and Responsibilities Among New Mexico Historic Preservation Officer and Arizona State Historic Preservation Officer, Oklahoma State Historic Preservation Officer, Texas State Historic Preservation Officer, and The Advisory Council on Historic Preservation and United States Department of Agriculture Forest Service Region 3. USDA Forest Service, Southwestern Region (Region 3), Albuquerque, NM.
- USDA Forest Service (USDA-FS). 2015. Forest Service Handbook (FSH) 2309.12 – Heritage Program Management Handbook. USDA-Forest Service, National Headquarters (WO), Washington, D.C.
- USDA Forest Service (USDA-FS). 2019a. Santa Fe National Forest Draft Land Management Plan. On file, Santa Fe National Forest Supervisors Office. Santa Fe, NM.

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Santa Fe National Forest, NM

USDA Forest Service (USDA-FS). 2019b. Santa Fe National Forest Draft Land Management Plan Draft Environmental Impact Statement, Volume 1. On file, Santa Fe National Forest Supervisors Office. Santa Fe, NM.

USDA Forest Service (USDA-FS). 2020. Northern New Mexico Riparian, Aquatic, and Wetland Restoration Project Environmental Assessment. On file, Santa Fe National Forest Supervisor's Office. Santa Fe, NM.