

***Title***

**An Assessment of the Impact of Social Trails Use  
on Cultural Resources in Technical Area 70,  
Los Alamos National Laboratory, New Mexico**



***Prepared for***

**U.S. Department of Energy  
National Nuclear Security Administration  
Los Alamos Site Office**

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Cover photo: Riparian area at the bottom of Ancho Canyon.

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## **Contents**

<b>INTRODUCTION.....</b>	<b>1</b>
<b>1.0 TRAILS USE AND CULTURAL RESOURCES .....</b>	<b>1</b>
<b>2.0 A BRIEF CULTURE HISTORY OF THE PAJARITO PLATEAU .....</b>	<b>3</b>
<b>3.0 ASSESSMENT METHODOLOGY.....</b>	<b>4</b>
<b>4.0 FINDINGS AND RECOMMENDATIONS.....</b>	<b>5</b>
4.1 GENERAL TRAIL AND SITE IMPACTS.....	5
4.2 TRAIL SEGMENTS RECOMMENDED FOR TREATMENT .....	7
4.3 RECOMMENDATIONS FOR MITIGATION OF IMPACTS TO TRAIL SEGMENTS AND CULTURAL RESOURCES .....	8
<b>5.0 FUTURE RECREATIONAL TRAILS USE AT TA-70.....</b>	<b>18</b>
<b>REFERENCES CITED.....</b>	<b>20</b>
<b>APPENDIX. DETAILED INFORMATION CONCERNING IMPACTS TO CULTURAL RESOURCES AND TRAILS WORKING GROUP RECOMMENDATIONS.....</b>	<b>21</b>

## **List of Figures**

Figure 1. TA-70 trails recommended for treatment.....	2
Figure 2. Revised Trail Cultural Resource Impact Field Record Form.....	4
Figure 3. Severe erosion impacts a Coalition period Ancestral Pueblo site.....	5
Figure 4. A depression in the center and piles of shaped blocks provide evidence for site looting at this Ancestral Pueblo site.....	6
Figure 5. Erosion occurring along a power line road.....	6
Figure 6. LA-12676B-C is a Coalition period pueblo roomblock; Trail Segment 2B runs through the center of the site.....	9
Figure 7. The eastern midden at LA-12676B-C is bisected by the two-track road.....	9
Figure 8. LA 139567, two-track road bisects the Late Archaic site .....	10
Figure 9. LA 21646, two-track road runs through the artifact scatter.....	10
Figure 10. Trail Segment 2B and LA 21647. Trail leads up to site and runs along the southwestern side of the site.....	11
Figure 11. Trail Segment 2C and LA 6786 trail/road run through the site (road is visible in the bottom of the photograph).....	11

Figure 12. Trail Segment 2C and SWEIS 129, a one- to three-room structure, impacted by severe erosion.....	12
Figure 13. Trail Segment 2C and SWEIS 130, a one- to three-room structure, impacted by severe erosion.....	12
Figure 14. Trail Segment 2C and SWEIS 135, an Archaic lithic scatter, impacted by moderate erosion.....	13
Figure 15. Trail Segment 3B and LA 29794, a Coalition period roomblock, impacted by recreational trails use and littering.....	13
Figure 16. Trail Segment 3B and LA 29795, a site impacted by erosion and trails use.....	14
Figure 17. Trail Segment 4A and LA 139553, a Classic period lithic and ceramic scatter, impacted by severe erosion.....	14
Figure 18. Trail Segment 4B and LA 29788, a Coalition period lithic and ceramic scatter, impacted by erosion and possible collection activities .....	15
Figure 19. Trail Segment 3 and LA 29789, a Coalition period roomblock, impacted by trails use, a road that runs through the site, possible looting, and littering .....	15
Figure 20. Trail Segment 4B and LA 29791, an undetermined lithic scatter.....	16
Figure 21. S. Sherwood sits on Trail Segment 4B in the center of LA 29792.....	16
Figure 22. Trail Segment 5C and Ancestral Pueblo roomblock LA 139486. The site has been subject to extensive looting. Recreational trails use has impacted this site. ....	17
Figure 23. Power Line Segment 1 SW and one- to three-room structure (LA 139500) impacted by severe erosion.....	17
Figure 24. Volunteers conduct routine maintenance on the Hidden Canyon Trail as part of the Trails Management Program.....	19

**List of Tables**

Table 1. Temporal Sequence Associated with Sites on the Pajarito Plateau.....	3
Table 2. Trail Segments and Sites Recommended for Treatment. ....	7

## **Introduction**

This document represents an analysis of the impact of social trails use on historically significant cultural resources in Technical Area (TA) 70 at Los Alamos National Laboratory (LANL), New Mexico. TA-70 is situated to the west of Pajarito Acres and TA-71, south of the community of White Rock (Figure 1). The report was prepared in response to the Mitigation Action Plan associated with a LANL environmental assessment produced in 2003, titled *Environmental Assessment for the Proposed Los Alamos National Laboratory Trails Management Program, Los Alamos, New Mexico* (DOE/EA-1431). This project and the report focus on the detrimental effects to specific trail segments, resulting from recreational trails use and LANL mission operations.

### **1.0 Trails Use and Cultural Resources**

On September 2, 2003, the Los Alamos Site Office of the Department of Energy, National Nuclear Security Administration issued an environmental assessment pertaining to the evaluation and management of social trails at LANL. This document, *Environmental Assessment for the Proposed Los Alamos National Laboratory Trails Management Program, Los Alamos, New Mexico* (DOE/EA-1431), recognized that since the establishment of LANL in 1943, employees and members of the Los Alamos and White Rock communities have unofficially utilized certain portions of LANL for recreational (“social”) purposes. One of the most popular manifestations of this is the use of existing trails, some associated with the ancestors of San Ildefonso and Santa Clara Pueblos and some established by the Los Alamos Ranch School, as well as the development of new trails for walking, jogging, horseback riding, mountain biking, and other forms of recreation.

Jennifer Nisengard and Sherri Sherwood, members of the Trails Working Group and the Environmental Protection (ENV) Division, conducted extensive surveys at TA-70 between September 11 and 20, 2006. The pedestrian surveys included the use of a global positioning system (GPS) unit to gather detailed location data for all identified trail segments in the area. Surveyors, referred to throughout this document as “assessors,” recorded impacts to archaeological sites affected by recreational trails use, as well as to the trails themselves. Some impacts were a result of long-term trails use (e.g., erosion), others were more recent (e.g., the creation and use of two-track roads and utility corridors, modern camping, pot hunting/looting, and vandalism). Specific damage to sites and trail segments is discussed in subsequent sections. The Appendix lists all trail segments and affected sites and provides recommendations for future trails use in this area. Recommendations for future trails use are also presented in this report. In the majority of situations, when mitigation was necessary, assessors suggested rerouting trails or roads, erosion control, and, in a few worst-case scenarios, closure of specific trail segments. Trail segments were recommended for closure when they posed safety threats to users and when substantial threats to cultural resources have or will occur.



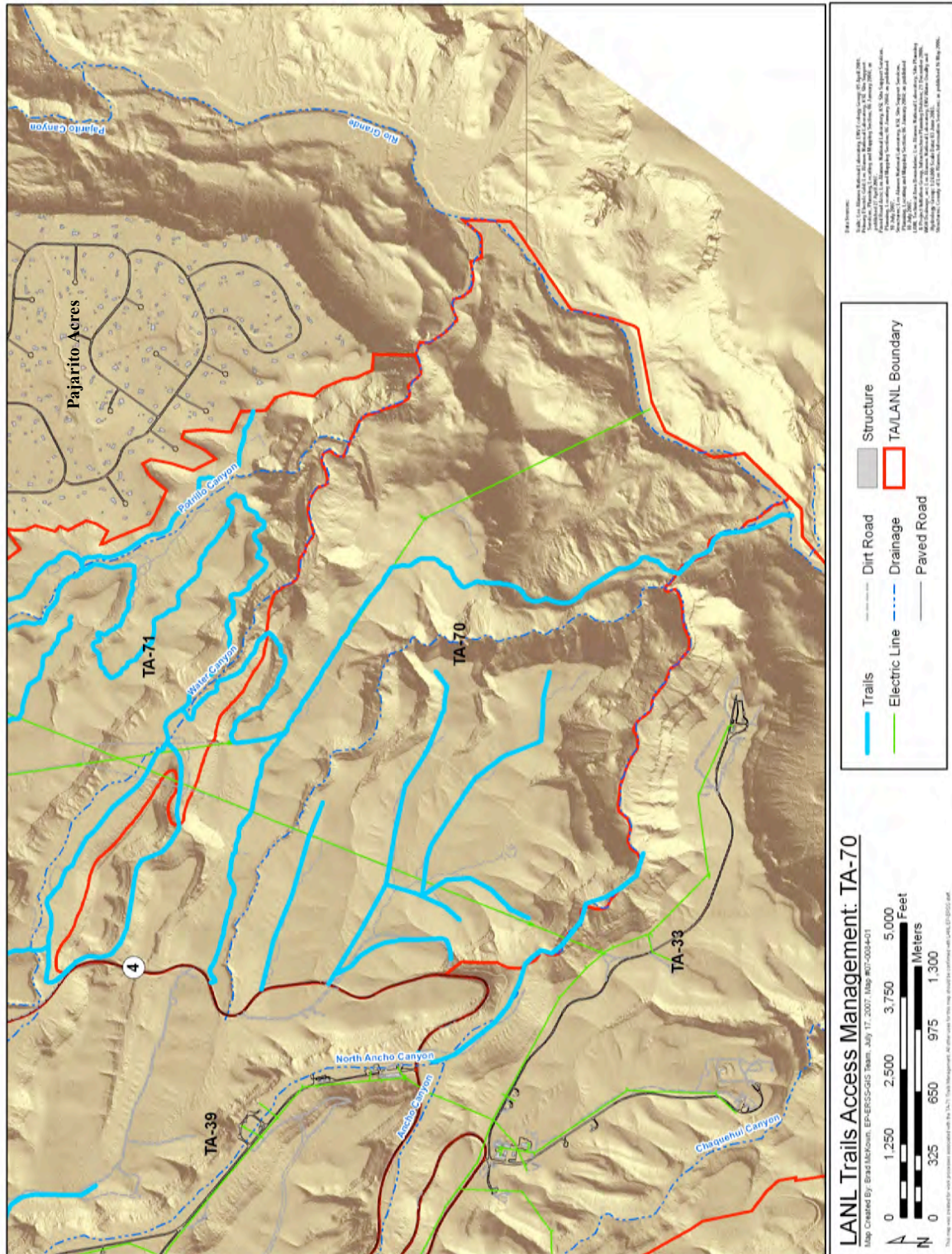


Figure 1. TA-70 trails recommended for treatment.

## **2.0 A Brief Culture History of the Pajarito Plateau**

LANL manages more than 2000 heritage resources in accordance with Federal laws; these sites date as far back as 5500 BC, during a period referred to as the Archaic period, up to the 1940s and 1950s, which are associated with the Manhattan Project and the Cold War (Table 1). Sites at LANL include large lithic and/or ceramic scatters, rock shelters, pueblo roomblocks, cavates, and Manhattan Project buildings (Vierra and Hoagland 2000; Vierra et al. 2002). After the Archaic period, the Plateau was home to Ancestral Pueblo people whose descendants still live in the area today. The TA-70 area was occupied as early as the Archaic period and more recently by Ancestral Pueblo peoples. Pueblo sites date to as early as AD 900 and as late as AD 1500. Ancient trail segments, one- to three-room fieldhouses, pueblo roomblocks dating to the Coalition and Classic periods, and historic artifact scatters have been identified during previous surveys of TA-70. These sites provide cultural resource managers with a better understanding of the lives of Ancestral Pueblo peoples (see Powers and Orcutt 1999; Vierra and Hoagland 2000). In particular, ancient trail segments provide archaeologists with information regarding ancient travel and trade routes as well as about inter-site relationships among people living on the Pajarito Plateau. For this reason, the archaeological record provides information about the ways in which people that lived in this area interacted and moved across the landscape.

**Table 1. Temporal Sequence Associated with Sites on the Pajarito Plateau**

<b>Cultural Affiliation</b>	<b>Period</b>	<b>Dates</b>
Paleoindian	Clovis	9500–9000 BC
	Folsom	9000–8000 BC
	Late Paleoindian	8000–5500 BC
Archaic	Jay	5500–4800 BC
	Bajada	4800–3200 BC
	San Jose	3200–1800 BC
	Armijo	1800–800 BC
	En Medio	800 BC–AD 400
	Trujillo	AD 400–600
Ancestral Pueblo	Early Developmental	AD 600–900
	Late Developmental	AD 900–1150
	Coalition	AD 1150–1325
	Classic	AD 1325–1600
Native American, Hispanic, and Euro-American	Spanish Colonial	AD 1600–1821
	Mexican	AD 1821–1846
	U.S. Territorial	AD 1846–1912
	Statehood to World War II	AD 1912–1945
	Recent	AD 1945–present

### 3.0 Assessment Methodology

The survey team included members of the Trails Working Group and the Ecology and Air Quality Group. As previously stated, the assessors used GPS units, forms, and digital camera pictures to record site impacts and trail use issues. Assessors used the Trail Cultural Resource Impact Field Record Form (Figure 2) to document findings. The form includes an area for notes to record information about Ancestral Pueblo trail segments used continually for hundreds of years.

TRAIL CULTURAL RESOURCE IMPACT FIELD RECORD FORM	
TECH. AREA: ___ DATE: _____ TRAIL/SEGMENT: _____	
RECORDERS: _____; Collection: ___ No; ___ Yes(#)	
GENERAL DESCRIPTION OF TRAIL SEGMENT: _____	
Number of Impacted Archaeological Sites along Trail Segment: _____	
DESCRIBE TRAIL IMPACTS BY INDIVIDUAL ARCHAEOLOGICAL SITE(S):	
SITE #: LA _____ Temp or other No: _____ Site Type: _____	
Period: _____	
Erosion: ___; Vandalism: ___; Modern Trash: ___; Camping: ___; Pot-hunting: ___; Other: _____	
General Comments: _____	
Photos: (Camera Name) _____; Photo Numbers: _____	
GPS: (Unit) _____	
Recommendations: Reroute Trail ___; Erosion Control: ___; Close Trail Segment: ___; Other: _____	
Discussion: _____	
SITE #: LA _____ Temp or other No: _____ Site Type: _____	
Erosion: ___; Vandalism: ___; Modern Trash: ___; Camping: ___; Pot-hunting: ___; Other: _____	
General Comments: _____	
Photos: (Camera Name) Christopher Robin; Photo Numbers: _____	
GPS: (Unit) _____	
Recommendations: Reroute Trail ___; Erosion Control: ___; Close Trail Segment: ___; Other: _____	
Discussion: _____	

Figure 2. Revised Trail Cultural Resource Impact Field Record Form.



In general, archaeological site locations have been recorded previously as part of other projects (e.g., Hoagland et al. 2000; Nisengard et al. 2002; Vierra 2000). Many of the archaeological sites located at TA-70 were mapped in 2001 and 2002 using a GPS unit during the Laboratory's post Cerro Grande Fire remediation project that included tree thinning. A majority of the sites in TA-70 were marked with string and flagging tape to make them visible to tree thinners, protecting them from damage during mechanized tree falling and other thinning activities. In recent years, TA-70 has been closed during certain times of the year because of fire restrictions and wildfire danger.

## **4.0 Findings and Recommendations**

### **4.1 General Trail and Site Impacts**

The three primary impacts related to cultural resources in TA-70, caused or exacerbated by recreational trails use, are erosion (Figure 3), looting (Figure 4), and vandalism and/or modern disturbances, some of which are recent and some of which are historic (Figure 5). Natural erosion, primarily from wind and water, accounts for the majority of site and trail impacts. Areas of TA-70 have been impacted by severe erosion, with tree roots visible at many sites along the trail routes; the location of this TA, atop a mesa, accounts for some of the erosion in the area. An additional cause of the severe erosion in the TA is that grazing and wildfire prevention efforts have allowed piñon and juniper to establish in areas that were previously grasslands. These trees are able to out compete the understory for water and nutrients so the grasses die off, leaving the soils unprotected and subject to increased erosion (Sam Loftin, personal communication).



**Figure 3. Severe erosion impacts a Coalition period Ancestral Pueblo site (arrows indicate the shaped tuff blocks used to construct the roomblock).**





**Figure 4. A depression in the center and piles of the shaped blocks provide evidence for site looting at this Ancestral Pueblo site.**



**Figure 5. Erosion occurring along a power line road.**

In some cases, recreational and LANL mission activities, including the construction and use of two-track roads, fire roads, and new trail segments, intensify the impacts of natural erosion. Figure 5 illustrates increased damage from erosion to a trail segment and an artifact scatter

resulting from construction of a power line in TA-70. The effects of erosion on trail segments and cultural resources can be mitigated to some degree with better land management methods (e.g., tree and grass planting as well as other erosion controls included in LANL projects). Recreational trails users and LANL mission activities sometimes impact archaeological resources unintentionally; however, results of these activities are detrimental to these resources.

#### **4.2 Trail Segments Recommended for Treatment**

Members of the Trails Working Group visited 10 trail segments, 30 areas were recommended for some form of treatment, including closure, future monitoring, erosion control, site excavation, and string removal (Table 2). Details concerning site and trail impacts are presented below with photographs of damage. Specific locations of the segments are not illustrated in this report to protect cultural resources.

**Table 2. Trail Segments and Sites Recommended for Treatment**

<b>Trail Segment</b>	<b>Impacts</b>	<b>Site Number</b>	<b>Recommendations</b>
1	None	LA 139562	Remove string
2A	Erosion and modern trash	LA 12679	Remove string
2A	Erosion	LA 139569	Remove string
2B	Trail runs through site; road dissects midden	LA 12676B-C	Divert road
2B	Erosion and modern trash	LA 139567	Close road
2B	Erosion and all-terrain vehicle (ATV) traffic	LA 21646	Site protection actions
2B	Erosion and road impacts midden	LA 21647	Close road
2C	Erosion and vandalism	LA 139557	Remove string
2C	Erosion	LA 139566	Remove string
2C	Severe erosion and modern trash	LA 6786	Protect, erosion controls
2C	Erosion	SWEIS 129	Erosion controls, data recovery
2C	Erosion	SWEIS 130	Erosion controls, remove string
2C	Erosion	SWEIS 135	Erosion controls
2C	Erosion	SWEIS 138	Remove string
3B	Erosion and modern trash	LA 29794	Erosion controls, divert road
3B	Erosion and modern trash	LA 29795	Erosion controls
4A	Severe erosion	LA 139553	Erosion controls
4A	Heavily eroded	SWEIS 12	Remove string
4B	Severe erosion	LA 29788	Erosion control, determine site eligibility
4B	Erosion and looting	LA 29789	Data collection, reroute road/trail

**Table 2. continued**

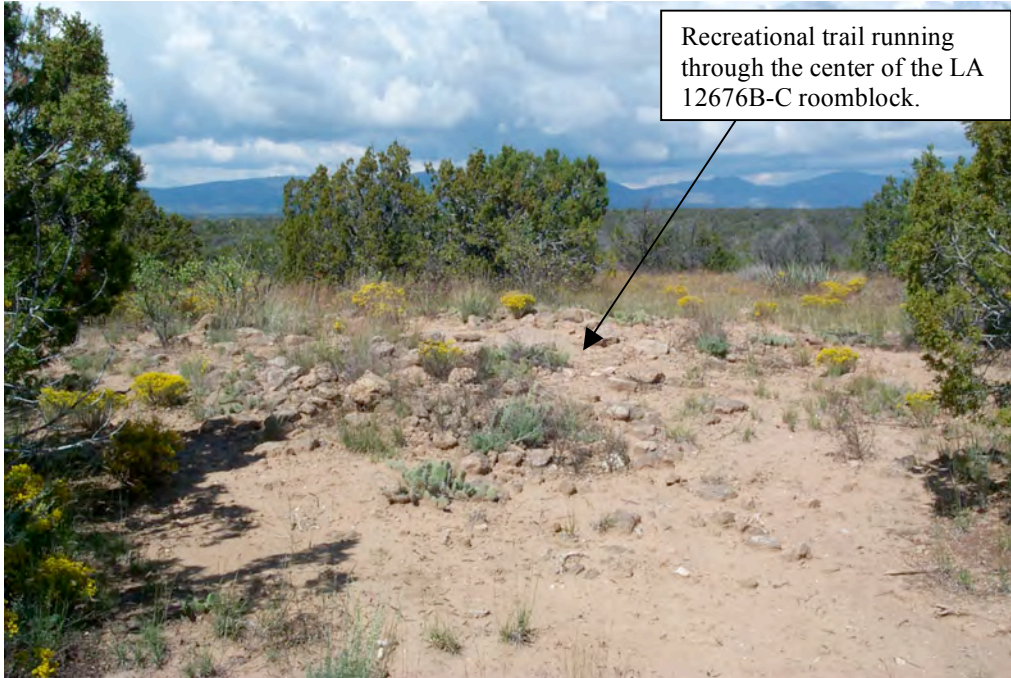
<b>Trail Segment</b>	<b>Impacts</b>	<b>Site Number</b>	<b>Recommendations</b>
4B	Erosion	LA 29791	Remove site from database
4B	Heavy erosion	LA 29792	Artifacts 100% collected; 60% slope, remove site from database
5C	Erosion	LA 139485	Remove string
5C	Erosion/Pot hunting	LA 139486	Remove string, reroute trail
Power Line Segment 1 NE	Erosion and vandalism	LA 139554	Remove string
Power Line Segment 1 NE	None	LA 139556	Remove string
Power Line Segment 1 NE	Severe erosion, modern trash, looting	LA 139558	Remove string
Power Line Segment 1 NE	Heavily eroded	LA 139559	Remove string
Power Line Segment 1 NE	Erosion	SWEIS 14	Remove string
Power Line Segment 1 SW	Heavily eroded	LA 139500	Remove string, erosion control

#### **4.3 Recommendations for Mitigation of Impacts to Trail Segments and Cultural Resources**

The trail segments and associated cultural resources included in this section have been recommended for some treatment. A general treatment recommendation for each is summarized in Table 2; descriptions that are detailed and information regarding site conditions are provided here. String removal was recommended for 15 sites (Table 2) and these sites are not discussed specifically in the following sections unless they have additional impacts. Treatment at other sites ranges from erosion control to additional protection measures to rerouting of trails and road segments to minimize future impacts to cultural resources in TA-70. In one case, a site was situated on a 60 percent slope, and all artifacts from the site had been previously collected by the Pajarito Archaeological Research Project (PARP). In this case, and in the case of LA 29791, which appears to have been mistaken for a site, it is suggested that the site be removed from the Cultural Resource Management database. The following section provides a brief description of the trail segments and of the impacted sites along with treatment recommendations.

LA 12676B-C is a Coalition period roomblock impacted by erosion and the use of a road and Trail Segment 2B. Erosion at the site is minor when compared with other sites in TA-70. The road and trail have created the primary site impacts. However, many artifacts, including ceramics, chipped stone, and ground stone, were visible in the road bed, so casual collection activities do not appear to be impacting the site's integrity (Figure 6). The two-track road runs through the eastern midden area associated with the site (Figure 7). During the site visit, assessors recommended diverting the road away from the midden to minimize future impacts to the site. Because the area is relatively flat with few trees, the road running through the site should be blocked and could be rerouted with minimal effort.





**Figure 6. LA 12676B-C is a Coalition period pueblo roomblock; Trail Segment 2B runs through the center of the site (see inset).**



**Figure 7. The eastern midden at LA 12676B-C is bisected by the two-track road.**

LA 139567 is a Late Archaic lithic scatter bisected by an infrequently used two-track road (Figure 8). The road has formed a channel that runs through the site and there is some modern trash at the site. Assessors recommend closing this portion of the road to prevent future impacts to the site as it does not appear that the road is heavily used.





**Figure 8. LA 139567, two-track road bisects the Late Archaic site.**

LA 21646 is a lithic and ceramic scatter of undertermined age. A two-track road runs through the site, which is heavily eroded. It appears that vehicles, possibly ATVs, have been driven through the site (Figure 9). There are very few artifacts visible at the site, which may be a result of erosion, collection, or both. Assessors recommend that site protection measures be taken by installing protective fencing, rerouting the road, or posting signs to encourage preservation of the cultural resources characteristic of the area.



**Figure 9. LA 21646, two-track road runs through the artifact scatter.**

LA 21647 is an Ancestral Pueblo period roomblock impacted by Trail Segment 2B. The trail/road leads up to the site and a trail runs along the southwest side of the site while use of the



road is impacting the associated midden (Figure 10). Assessors recommend closing the road before it reaches the site to prevent future impacts to the roomblock and the midden.



**Figure 10. Trail Segment 2B and LA 21647. Trail leads up to site and runs along the southwestern side of the site.**

Trail Segment 2C, a two-track road, runs through LA 6786, a Coalition period one- to three-room structure (Figure 11). There are artifacts on the surface of the site, however, not as many as would be expected if the site were less accessible. Some modern trash, including broken glass, was identified at the site. While mild to moderate erosion impacts the site, the structure itself is severely eroded. Erosion controls would benefit the site.



**Figure 11. Trail Segment 2C and LA 6786 trail/road run through the site (road is visible in the bottom of the photograph).**

SWEIS 129 is a one- to three-room structure impacted by severe erosion as shown in Figure 12. This site is one of the examples of the extreme erosion that has impacted several sites situated in TA-70, tree roots are exposed and the integrity of the cultural resources in the area has been compromised. While the site is not impacted by the road or Trail Segment 2C, it would benefit from some erosion controls and/or data recovery activities.



**Figure 12. Trail Segment 2C and SWEIS 129, a one- to three-room structure, impacted by severe erosion.**

SWEIS 130 is very similar to SWEIS 129, it is a one- to three-room structure situated along Trail Segment 2C that has been, and continues to be, impacted by severe erosion. Erosion controls would likely benefit the site—if any of the trees that have exposed roots fall over they will further damage the site (Figure 13). Assessors also suggest removing the string from the site.



**Figure 13. Trail Segment 2C and SWEIS 130, a one- to three-room room structure, impacted by severe erosion.**



SWEIS 135 is an Archaic lithic scatter that is not impacted by the trail segment or the road, but again has been impacted by severe erosion in the TA-70 area (Figure 14). Assessors note that the erosion identified at this site is not as extreme as at other sites, but will continue to impact site integrity.



**Figure 14. Trail Segment 2C and SWEIS 135, an Archaic lithic scatter, impacted by moderate erosion.**

LA 29794 is a Coalition period roomblock situated in an easily accessible area of TA-70 with a trail/two-track road that runs through the site (Figure 15). The site is littered with broken glass and cans and continues to be impacted by the trail/road. Assessors recommend that the trail/road be rerouted with the old road fenced off and some reseeding and other erosion control measures undertaken to protect the site from further damage.



**Figure 15. Trail Segment 3B and LA 29794, a Coalition period roomblock, impacted by recreational trails use and littering.**

Trail Segment 3B adjacent to LA 29795 is well used, but does not appear to impact the site because it is on bedrock. The site consists of a Coalition period pueblo and an associated midden. However, the proximity of the recreational trail to the site has likely increased casual collection activities, as few artifacts were encountered during the site visit. Erosion is also impacting the site and some erosion controls would benefit this Coalition period pueblo roomblock (Figure 16).



**Figure 16. Trail Segment 3B and LA 29795, a site impacted by erosion and trails use.**

LA 139553 is a Classic period lithic and ceramic scatter that has been subject to severe erosion (Figure 17). Trail Segment 4A does not appear to be impacting the site, but assessors have recommended erosion controls at the site.



**Figure 17. Trail Segment 4A and LA 139553, a Classic period lithic and ceramic scatter, impacted by severe erosion.**



LA 29788 was identified as a Coalition period lithic and ceramic scatter situated on bedrock within the vicinity of Trail Segment 4B (Figure 18). The lack of deposits within the site area caused assessors to question the accuracy of the site characterization. It is possible that all of the artifacts initially associated with the site have been collected; however, assessors recommend an additional site visit to determine whether or not the site is eligible.



**Figure 18. Trail Segment 4B and LA 29788, a Coalition period lithic and ceramic scatter, impacted by erosion and possible collection activities.**

LA 29789 is a Coalition period pueblo roomblock and is impacted by the two-track road/trail that bisects the site (Figure 19). There are artifacts scattered throughout the surface of the site. There is some evidence of looting at the site, although not to the same degree that is evidenced at other sites situated within TA-70. Broken glass was also identified during the site visit. Assessors recommend data collection and rerouting the road/trail away from the site, as it appears to promote erosion, artifact collection, and littering.



**Figure 19. Trail Segment 3 and LA 29789, a Coalition period roomblock, impacted by trails use, a road that runs through the site, possible looting, and littering.**

LA 29791 was identified as an undetermined Ancestral Pueblo lithic scatter. Trail Segment 4B runs through the site (Figure 20). No artifacts were encountered during this site visit and assessors recommend that this site be removed from the cultural resources database and/or listed as ineligible.



**Figure 20. Trail Segment 4B and LA 29791, an undetermined lithic scatter.**

LA 29792 was identified as an undetermined Ancestral Pueblo lithic and ceramic scatter. Trail Segment 4B runs through the center of the site (Figure 21). Assessors found that the sixty percent slope of the location and one hundred percent collection of the site's artifacts by the PARP make the site questionable and suggest removal from the database.



**Figure 21. S. Sherwood sits on Trail Segment 4B in the center of LA 29792.**



LA 139486 is an Ancestral Pueblo roomblock that has been subject to extensive looting within the last couple of years (Figure 22). A tree has recently fallen into the center of the rubble mound. There are artifacts present on the surface of the site, but recent looter's pits and evidence of other collection activities suggest that the site has been impacted because of its accessibility and characteristics. Assessors recommend string removal and rerouting of the trail away from the site and some revegetation of the area to increase site protection.



**Figure 22. Trail Segment 5C and Ancestral Pueblo roomblock LA 139486. The site has been subject to extensive looting. Recreational trails use has impacted this site.**

LA 139500 is a one- to three-room structure that has been impacted by severe erosion more than any other activity (Figure 23). The site is adjacent to LA 12677, another one- to three-room structure. The trail leading to the site is not well used and is not visible any longer as a result of the erosion. Assessors recommended removal of the remaining string at the site.



**Figure 23. Power Line Segment 1 SW and a one- to three-room structure (LA 139500) impacted by severe erosion.**

## **5.0 Future Recreational Trails Use at TA-70**

As previously stated, a majority of impacts to the trail segments and cultural resources located within TA-70 result from natural erosion. This impact can be mitigated to some degree with erosion control methods and better land management in the area, some of which could be done as a part of LANL missions, others of which will be done at the grassroots level. Other kinds of impacts, including modern disturbances, camping, looting, and vandalism, are relatively rare and TA-70 and other areas accessible to the public are subject to self-monitoring by those who use them. Recreational trails users, in general, treat areas where they have public access to LANL lands, like TA-70, with a great deal of respect. In addition, grassroots trails maintenance in TA-70 is done by the recreational trails users (e.g., hikers, bikers, horseback riders) in hopes of preserving their access to these areas and protecting associated resources. Trail users, including LANL employees, have a documented history of notifying LANL's ENV Division when they witness vandalism, safety issues, and/or misuse of natural and cultural resources.

In some cases, it is not realistic to reroute road and trail segments, as doing so could further jeopardize cultural resources and user safety. LANL's Trails Working Group includes representatives from LANL, Los Alamos County, San Ildefonso and Santa Clara Pueblos, and the public in an on-going effort to understand the concerns of trail users and those of the descendants of Ancestral Pueblo peoples.

In the past, specific trail segments have been closed in response to security concerns and to protect and preserve archaeological resources (e.g., Mortandad Cave Kiva trail). However, trail closures are not the only option. In fact, places like TA-70 provide examples of recreational trails use that is beneficial to all parties (Nisengard 2008). Such use contributes to the maintenance and preservation of natural and cultural resources and provides opportunities for LANL workers and local residents to better understand and appreciate these kinds of resources. Currently, National Park Service officers from Bandelier National Monument patrol TA-70 as part of an agreement with the Department of Energy's Los Alamos Site Office. This monitoring should continue in the future as it benefits all parties and limits the amount of damage that can occur in this area. In addition, the Trails Working Group, with a great deal of help from Craig Martin of Los Alamos County, the State Historic Preservation Office, and other groups at LANL, has been developing management plans for organized trails maintenance (Nisengard 2008). An Institutional Agreement between Los Alamos National Security, LLC and the Volunteer Task Force is in place and routine trails maintenance began in the 2007 (Figure 24). Maintenance activities will continue on a regular basis, with an Eagle Scout project to be conducted in TA-71 in October of 2008. These kinds of efforts are beneficial to all participants, as they create an atmosphere for open communication, education, and participation.



**Figure 24. Volunteers conduct routine maintenance on the Hidden Canyon Trail as part of the Trails Management Program.**

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**Appendix. Detailed Information Concerning Impacts to Cultural Resources and  
Trails Working Group Recommendations**

Trail Segment	Site Number	Impacts	Recommendations	Notes
1	LA 12676A	Erosion	None	
1	LA 139562	None	Remove string	
2A	LA 12679	Erosion and modern trash	Remove string	
2A	LA 139563	Erosion	None	
2A	LA 139569	Erosion	Remove string	
2A	LA 39547	Erosion	None	
2B	LA 12676B-C	Trail runs through site; road dissects midden	Divert road	
2B	LA 139567	Erosion and modern trash	Close road	
2B	LA 21646	Erosion and ATV traffic	Site protection actions	
2B	LA 82601	Erosion	None	
2B	LA 21647	Erosion and road impacts midden	Close road	
2B	SWEIS 137	Erosion	None	
2B	SWEIS 140	Erosion	None	
2C	L152	Erosion	None	Artifacts present; moderate erosion; trail/road does not run through site.
2C	LA 139546	Erosion	Roomblock not relocated	Artifacts present, heavy erosion; trail impacts northern portion of scatter.
2C	LA 139557	Erosion and vandalism	Remove string	
2C	LA 139566	Erosion	Remove string	Artifacts present; moderate to severe erosion.
2C	LA 21618	Heavily eroded	None	Site is on bedrock, trail does not impact site.
2C	LA 21619	Erosion	None	
2C	LA 2161B	Erosion	None	
2C	LA 6786	Severe erosion and modern trash	Protect site and erosion controls	Artifacts present, some broken glass, mild to moderate erosion across site, roomblock is severely eroded. Trail impacts northernmost portion of site.
2C	SWEIS 129	Erosion	Remove string	Scatter of lithics; severe erosion; trail does not impact site.
2C	SWEIS 130	Severe erosion	Remove string, erosion controls	Trail does not impact site.

Trail Segment	Site Number	Impacts	Recommendations	Notes
2C	SWEIS 138	Erosion	Remove string	Trail does not impact site.
2C	SWEIS 142	Erosion	None	Some artifacts present, site is on bedrock, trail does not impact site.
2C	SWEIS 143	Erosion	None	Mild to moderate erosion; trail does not impact site.
3A	LA 139561	Erosion	None	Trail does not impact site.
3B	LA 139560	Heavy erosion and modern trash	None	Artifacts present; broken glass on site; trail does not impact site.
3B	LA 29790	Erosion	None	Trail bisects site, but no impact.
3B	LA 29794	Erosion and modern trash	Divert road	Site littered with broken glass and cans; trail/road adversely affects site. Site should be fenced off and road should be rerouted.
3B	LA 29795	Erosion and modern trash	Erosion controls	Artifacts present; site impacted more by erosion than by trail.
4A	LA 12695	Erosion	None	
4A	LA 139462	Vandalism	None	
4A	LA 139553	Severe erosion	Erosion controls	
4A	LA 29786	Erosion	None	
4A	LA 29787	None	None	
4A	LA 29796	Trail/road runs along western edge of site	None	
4A	LA 29797	Erosion	None	
4A	LA 82593	Trail/road bisects site	None	
4A	LA 82612	Erosion	None	
4A	SWEIS 12	Heavily eroded	Remove string	
4A	SWEIS 13	Erosion	None	
4B	LA 29788	Severe erosion	Erosion control	Artifacts not identified at site, may have been collected, no impact from trail use, questionable site.
4B	LA 29789	Erosion and looting	Data collection	Artifacts present; trail and road bisect site; possible looting at site; broken glass scattered across site; road appears to promote erosion of site.
4B	LA 29791	Erosion	Remove site from database	Artifacts 100% collected by PARP, remove site from database.



Trail Segment	Site Number	Impacts	Recommendations	Notes
5C	LA 139484	None	None	
5C	LA 139485	Erosion	Remove string	
5C	LA 139486	Erosion/Pot hunting	Remove boundary string from site, reroute trail	
5C	LA 139487	Erosion	None	
5C	SWEIS II 1	Erosion	None	
Power Line Segment 1 NE	LA 139554	Erosion and vandalism	Remove string	
Power Line Segment 1 NE	LA 139555	Erosion	None	
Power Line Segment 1 NE	LA 139556	None	Remove string	
Power Line Segment 1 NE	LA 139558	Severe erosion, modern trash, looting	Remove string	
Power Line Segment 1 NE	LA 139559	Heavily eroded	Remove string	
Power Line Segment 1 NE	SWEIS 14	Erosion	Remove string	
Power Line Segment 1 SW	LA 12677	None	None	
Power Line Segment 1 SW	LA 139500	Heavily eroded	Remove string, possible erosion control	





