

**A Response to the Impact of Social Trails Use
on Cultural Resources in Technical Areas 70 and 71,
Los Alamos National Laboratory, New Mexico**



*Prepared
by*

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Survey No. 697**

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Cover photo: ENV students, under the guidance of the Cultural Resources Team, revisited cultural sites and implemented mitigation actions, including installation of straw wattles. (CRT Photo)

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Introduction

This document summarizes Fiscal Year (FY) 2009 maintenance performed within and around cultural resources impacted by recreational trails use in Technical Areas (TA) 70 and 71 at Los Alamos National Laboratory (LANL), New Mexico (Figure 1). The project was conducted as part of the Trails Working Group implementation of the *Environmental Assessment for the Proposed Los Alamos National Laboratory Trails Management Program, Los Alamos, New Mexico* (DOE 2003a and 2003b). Two LANL reports, *An Assessment of the Impact of Social Trails Use on Cultural Resources in Technical Area 71, Los Alamos National Laboratory, New Mexico* (LA-UR-06-5881) and *An Assessment of Social Trails Use on Cultural Resources in Technical Area 70, Los Alamos National Laboratory, New Mexico* (LA-UR-08-06425) recommended site mitigation for specific trail segments to reduce impacts to cultural resources protected under the National Historic Preservation Act.

Mitigation Actions

In May and June of 2009, staff from the Ecology and Air Quality Group (ENV-EAQ) Cultural Resources Team (CRT) conducted site visits to 42 archaeological sites previously recommended for treatment or monitoring in TA-70 and -71. The objectives of these visits were to implement recommendations made in the two reports (e.g., string removal) and to evaluate and prioritize trail maintenance work. All of the sites included in the 2006 and 2008 reports were revisited in FY 2009 and perimeter string associated with post-Cerro Grande Fire and tree thinning projects was removed from 25 sites. Four Ancestral Pueblo sites (AD 600–1600) and one Archaic period site (5500 BC–AD 600) were prioritized for FY 2009 trail maintenance: erosion control was recommended at two sites, closure of trail segments that crossed through cultural resources was recommended for two other sites, and one trail segment was recommended for rerouting to avoid further impacts to the site. Table 1a and b summarizes the CRT's recommendations.

On July 22, 2009, five ENV students, under the guidance of the CRT, revisited the four Ancestral Pueblo sites and implemented the recommended mitigation actions to the trails. Mitigation actions included installation of straw wattles for erosion control at two sites and closing off various trail segments in and around two sites. Hand tools were used for wattle installation and readily available dead trees and other debris from the area were moved to close off trail segments and discourage future trail use on these segments.

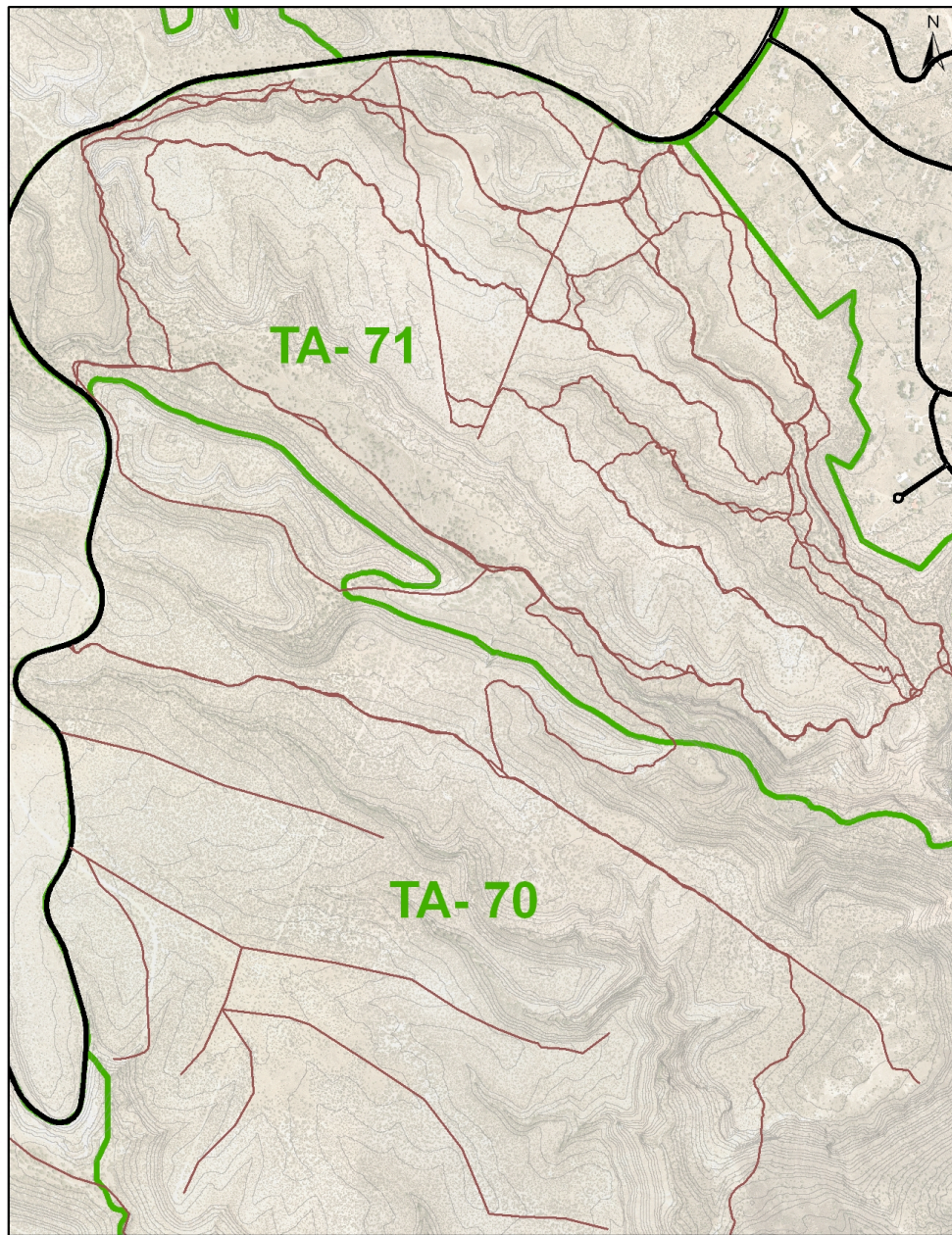
On September 19, 2009, members of the Volunteer Task Force (VTF), the Boy Scouts, and the Rough Riders equestrian club under the guidance of Craig Martin (Los Alamos County Open Space Specialist and member of the Trails Working Group) and oversight by LANL CRT staff member, Bruce Masse, rerouted several trail segments that were impacting an Archaic period archaeological site. The VTF consists of local volunteers that help maintain recreational trails in Los Alamos County and operates at LANL through a memorandum of agreement with the Department of Energy and Los Alamos National Security, LLC. As part of the project, the group created a new trail segment approximately one-third of a mile long outside of the site boundary, and three existing trails within the site were closed to pedestrian and equine access using slash from snags and fallen trees.

Table 1a. TA-70 Site Work, Sites Maintained in RED

Site Number	FY 2009 Mitigations	Future Recommendations
LA 6786	Erosion control, installation of two wattles.	Continue monitoring
LA 12676B-C	Site Monitored	Road rerouting assessment needed. Revisit with a subject matter expert.
LA 12679	String Removed	none
LA 21646	Site Monitored	none
LA 21647	Site Monitored	Need to assess closure or rerouting road. Revisit with a subject matter expert.
LA 29788	Could not relocate site.	Assess removing site from database.
LA 29789	Intrusive trail segment blocked.	Continue monitoring
LA 29794	Intrusive trail segment blocked.	Continue monitoring
LA 29795	Site Monitored	Possible erosion control needed. Road rerouting assessment needed. Revisit with a subject matter expert.
LA 139485	String Removed	none
LA 139486	String Removed	Trail rerouting needed. Revisit with a subject matter expert.
LA 139500	String Removed	Possible erosion control needed. Revisit with a subject matter expert.
LA 139553	Site Monitored	none
LA 139554	String Removed	none
LA 139556	String Removed	none
LA 139557	String removed	Possible erosion control needed. Revisit with a subject matter expert.
LA 139558	String Removed	Possible erosion control needed. Revisit with a subject matter expert.
LA 139559	String Removed	none
LA 139562	String Removed	none
LA 139566	String Removed	Add wattles to control erosion.
LA 139567	Site Monitored	Need to assess closure or rerouting road. Revisit with a subject matter expert.
LA 139569	String Removed	none
SWEIS 12	String Removed	none
SWEIS 14	String Removed	none
SWEIS 129	String Removed	Add wattles to control erosion.
SWEIS 130	String Removed	Add wattles to control erosion.
SWEIS 138	String Removed	none

Table 1b. TA-71 Site Work, Sites Maintained in RED

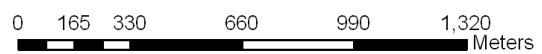
Site Number	FY 2009 Mitigations	Future Recommendations
LA 21622	Site stabilized with one 30-foot wattle.	Continue monitoring
LA 21661	Site Monitored	Need to revisit with a subject matter expert to assess trail reroute.
LA 139463	Site Monitored	none
LA 139471	String Removed	none
LA 139472	String Removed	none
LA 139477	String Removed	none
LA 139478	String Removed	none
LA 139479	String Removed	none
LA 139481	Trail Rerouted	Continue monitoring
LA 139510	String Removed	none
LA 139515	Site Monitored	Revisit with subject matter expert to assess closure for certain trail segments.
LA 139517	String Removed	none
LA 139571	Site Monitored	none
LA 139572	Site Monitored	Possible erosion control needed. Revisit with a subject matter expert. Monitor old pot hunting holes.
JAM-1	Site Recorded	none



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Figure 1. TA-70 and TA-71 Trails Maintenance Project Area

- Technical Areas
- Trails / Dirt Road
- Paved Roads
- 20 ft. contour



Official Use Only



Volunteer Task Force, September 19, 2009



LA 6786 before wattle installation



LA 6786 after wattle installation



LA 29789 before trail closure



LA 29789 after trail closure



LA 21622 before wattle installation



LA 21622 after wattle installation

Recommendations

Of the original 42 sites identified for mitigation in LA-UR-06-5881 and LA-UR-08-06425, 22 sites require no additional work, five sites should be monitored in FY 2010 for deterioration, 11 sites should be assessed by subject matter experts to determine the need for further erosion control measures and/or trail rerouting, and three sites require installation of wattles for erosion control. Finally, based on recommendations made in the 2006 and 2008 reports, one site should be assessed to determine National Register eligibility.

References Cited

Department of Energy.

2003a *Environmental Assessment for the Proposed Los Alamos National Laboratory Trails Management Program, Los Alamos, New Mexico*. DOE/EA 1431.

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