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on Cultural Resources in Technical Areas 70 and 71,  
Los Alamos National Laboratory, New Mexico.

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**2010 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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**Cultural Resources Report No. XXX  
Survey No. XXX**

Edited by Hector Hinojosa, Group IRM-CAS

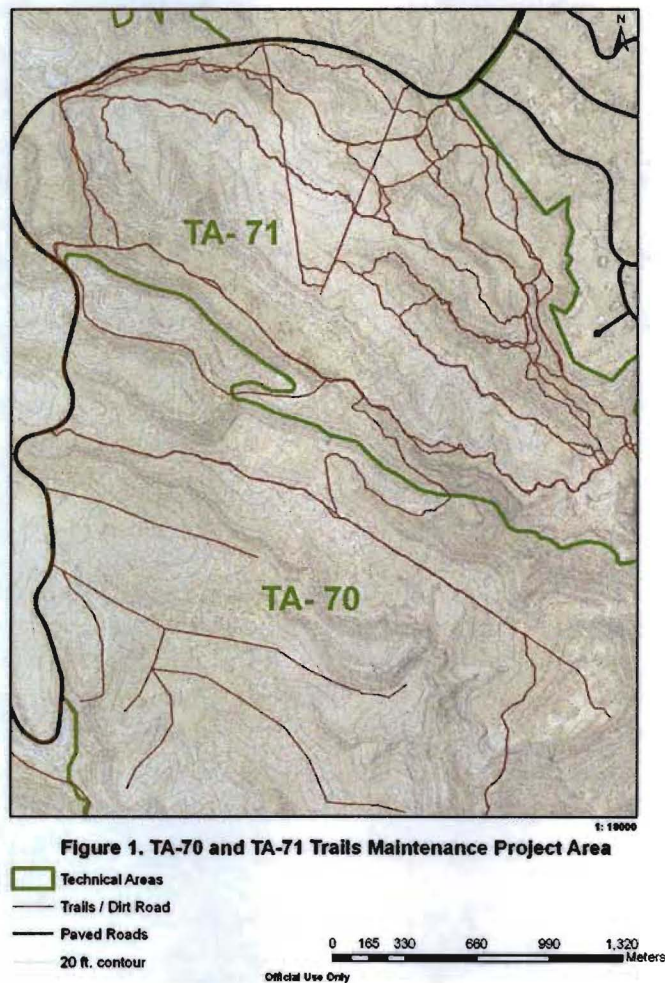
**Cover photo:** Rock outcropping overlooking the Rio Grande in TA-70.

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## Introduction

This report summarizes Fiscal Year (FY) 2010 maintenance performed in and around cultural resources impacted by erosion and recreational trails use in Technical Areas (TA) 70 and 71 at Los Alamos National Laboratory (LANL), New Mexico (Figure 1). The work 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 2003) under the SWEIS mitigation plan (DOE 2008, DOE 2009). Three reports, *An Assessment of the Impact of Social Trails Use on Cultural Resources in Technical Area 71, Los Alamos National Laboratory, New Mexico* (Nisengard et al. 2006), *An Assessment of Social Trails Use on Cultural Resources in Technical Area 70, Los Alamos National Laboratory, New Mexico* (Nisengard and Sherwood 2006) and *A Response to the Impact of Social Trails Use on Cultural Resources in Technical Areas 70 and 71, Los Alamos National Laboratory, New Mexico* (Johnson 2009) recommended mitigations for specific trail segments and associated archaeological sites (Figure 1).



**Figure 1.** TA-70 and 71 trails and cultural resources project area.

## Mitigation Actions

In September 2010, LANL's Resources Management Team, conducted site visits to 17 archaeological sites previously recommended for treatment or monitoring in TA-70 and -71. The objective of these visits was to implement recommendations made in the previous reports and to evaluate and prioritize trail maintenance and erosion control work. Table 1 summarizes the FY 2010 actions and recommendations. Several of the sites were visited with LANL's Water Quality Group and Resource Conservation and Recovery act (RCRA) erosion control expert. Eight sites were evaluated and five sites were recommended for wattle installation to mitigate erosional impacts (Figures 2 and 3).



**Figure 2.** Wattle installation at a site in TA-70.      **Figure 3.** Wattle installation at a site in TA-70.

On September 20, 2010, LANL archaeologists revisited five Ancestral Pueblo sites to install wattles. A trail segment was blocked with slash at an additional site. Hand tools were used for wattle installation and readily available dead trees and other debris from the area were moved to close off the intrusive trail segment and reroute the trail to discourage future use.

## Recommendations

Of the original 17 sites identified for mitigation in 2009, five sites were subject to mitigation in FY 2010. One site was not relocated and it is recommended that it be reassessed as not eligible to the National Register of Historic Places and removed from the archaeological site database. One site requires further mitigation, specifically installed T-bars to restrict trail blazing. The sixteen remaining sites should be monitored periodically. Six sites are good candidates for future erosional control measures, including hydroseeding, installation of geotextile fabric, hand-raking, and perennial seed application to help stabilize them. All seeding should be done in April or May to take advantage of the monsoon season to irrigate re-vegetated areas with care not to impact or disturb the cultural resources.

**Table 1. FY 2010 TA-70 and 71 Activities and Future Recommendations.**

| <b>Site Number</b> | <b>Site Type</b> | <b>Previous Recommendations</b>                          | <b>FY 2010 Activities</b>  | <b>Future Recommendations</b>   |
|--------------------|------------------|--|--|---|
| LA 21661           | Cavates          | Re-route trail.<br>Monitor.                              | Monitored  | Trail re-route not possible due to terrain.   |
| LA 139481          | Artifact Scatter | Trail rerouted.<br>Monitor.                              | Monitored  | Trail remains re-routed.<br>Continue monitoring.  |
| LA 139515          | Rock Shelter     | Close trail segment.<br>Monitor.                         | Monitored  | The site is approximately 30 m away from trail segments. No need to revisit.                                  |
| LA 139572          | Complex Pueblo   | Reroute trail.<br>Monitor old pot hunting activity areas | Monitored  | Trail re-route not possible due to terrain. No recent pot hunting activity was observed. Continue monitoring. |
| LA 21622           | Field House      | Installed wattle FY 2009. Monitor.                       | Monitored  | Wattle installation successful. Continue monitoring.  |
| LA 139566          | Artifact Scatter | Erosion control recommended.<br>Monitor.                 | Monitored  | Due to terrain and road position erosion control is not feasible. Continue monitoring.                        |
| SWEIS 129          | Field House      | Erosion control recommended.<br>Monitor.                 | Installed two wattles above drainage.<br>Monitored.                    | Continue monitoring, install additional wattles.  |
| SWEIS 138          | Artifact Scatter | Erosion control recommended.<br>Monitor.                 | Installed a wattle to divert drainage to east.<br>Monitored.           | Continue monitoring. Implement additional erosion control measures.   |
| LA 139500          | Field House      | Erosion control recommended.<br>Monitor.                 | Installed three wattles above drainage adjacent to site.<br>Monitored. | Continue monitoring. Implement additional erosion control measures.   |
| LA 139557          | Roomblock        | Erosion control recommended.<br>Monitor.                 | Monitored  | Continue monitoring. Implement additional erosion control measures.   |

**Table 1.** FY 2010 TA-70 and 71 Activities and Future Recommendations continued

| <b>Site Number</b> | <b>Site Type</b> | <b>Previous Recommendations</b>                            | <b>FY 2010 Activities</b>  | <b>Future Recommendations</b>  |
|--------------------|------------------|--|--|--|
| LA 139558          | Roomblock        | Erosion control recommended. Monitor old pot hunting area. | Installed three wattles; one to the south and two to the north of site. Monitored. | No recent pot hunting activity observed. Continue monitoring. Implement additional erosion control measures.                                     |
| LA 139486          | Roomblock        | Re-route trail. Monitor old pot hunting area.              | Monitored  | Trail re-route is not possible due to terrain. No recent pot hunting activity observed. Continue monitoring                                      |
| LA 6786            | Roomblock        | Installed two wattles FY 2009. Monitor.                    | Repaired existing wattle, installed a second wattle. Monitored.                    | Continue monitoring, Implement additional erosion control measures.  |
| LA 29795           | Roomblock        | Erosion control recommended. Monitor.                      | Monitored  | Due to terrain and road position erosion control is unfeasible. Continue monitoring.   |
| LA 29794           | Roomblock        | Trail rerouted FY 2009. Monitor.                           | Monitored  | Trail remains re-routed. Continue annual monitoring.   |
| LA 29788           | Artifact Scatter | Relocate/reassess as ineligible. 100% collected by PARP.   | None   | Site could not be relocated. Site ineligible.  |
| LA 29789           | Roomblock        | Trail rerouted FY 2009. Monitor.                           | Replaced slash on trail. Monitored   | Slash was removed since last monitoring. Trail segment closed and re-routed. Add T-bars to permanently block trail segment. Continue monitoring. |

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