

MOUNTAIN PLOVER OBSERVATIONS IN 2005  
AT EL MALPAIS NATIONAL CONSERVATION AREA, NEW MEXICO



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## EXECUTIVE SUMMARY

El Malpais National Conservation Area in Cibola County, New Mexico hosts a small population of Mountain Plovers (*Charadrius montanus*). Beginning in 2001, Hawks Aloft, Inc., has visited the site annually to document continued presence of plovers. In two visits during 2005, we observed a minimum of three Mountain Plovers along the Chain of Craters Road, two of which might have comprised a pair. Since 2001, the number of plovers found in this area of El Malpais has varied from 1 (in 2002) to 21 (in 2001), although our search effort also varied during this time. In 2005, we observed a Burrowing Owl in the same location as one found in 2004. Our observations indicate that Mountain Plovers are still present at El Malpais, but that the population is small relative to other regions. Although this population represents only a small portion of the New Mexico population, its position near the edge of the Mountain Plover breeding range, as well as recent concern for apparent negative trends, is reason to continue monitoring the persistence of this population.

## INTRODUCTION

Mountain Plovers inhabit short-grass prairies and shrub-steppe areas throughout the western Great Plains and the Colorado Plateau (Knopf 1996). Prime breeding habitat consists of short grasses and shrub vegetation <8 cm tall with a substantial portion of bare ground (Graul 1975, Knopf and Miller 1994, Knopf 1996, Manning and White 2001). Because grazing helps maintain short vegetation structure, Mountain Plover breeding areas are often associated with prairie dog (*Cynomys* spp.) colonies (Knowles et al. 1982, Dinsmore et al. 2003) and livestock (Knopf and Miller 1994, Knopf 1996).

Mountain Plovers showed a range-wide decline of up to 63% from 1966 to 1993 (Knopf 1994). This decline has been attributed to habitat loss, especially in the eastern portion of its range, and to changes in agricultural practices and grazing regimes (Knopf 1994, 1996). Due to these concerns, the U.S. Fish and Wildlife Service proposed listing the Mountain Plover as threatened in 1999 (U.S. Department of Interior 1999); however, they determined that such listing was not warranted because data suggested that the future of the population was not severely at risk (U.S. Department of Interior 2003). Although most research has focused on core populations, little is known about populations of Mountain Plovers on the edge of their breeding range, such as in New Mexico (Sager 1996).

El Malpais National Conservation Area is located in the periphery of the Mountain Plover breeding range in western New Mexico, and a small population has been documented at this site. Hawks Aloft, Inc., under contract with the Bureau of Land Management, Albuquerque Field Office, has visited El Malpais annually since 2001 to document persistence of the plover population. Because the population is relatively

small, our study is designed to document the continued occurrence of birds rather than estimate population size using standardized survey techniques. In this report, we present locations of Mountain Plovers observed during two visits to the site in 2005. We also report incidental locations of Burrowing Owls (*Athene cunicularia*) and Gunnison's prairie dogs (*Cynomys gunnisoni*) found during our visits.

## STUDY AREA

El Malpais National Conservation Area is located in Cibola County, New Mexico, approximately 50 km south of Grants and adjacent to El Malpais National Monument (Fig. 1). We concentrated our search along either side of the Chain of Craters Road, beginning at the junction of Highway 117 and continuing west (about 10 km) to where open habitat merges with pinyon-juniper habitat at a savannah density. Vegetation consisted of blue grama (*Bouteloua gracilis*), winterfat (*Ceratoides lanata*), prickleaf dogweed (*Thymophylla acerosa*), rabbitbrush (*Chrysothamnus* sp.), and scattered patches of juniper (*Juniperus* spp.). Height of vegetation varied throughout the area, ranging from heavily grazed patches of vegetation <0.1 m tall to patches of vegetation >0.5 m tall. The terrain at El Malpais was moderately hilly, containing some flat sections.

## METHODS

We visited the site on 7 May and 16 May 2005. We conducted Mountain Plover searches using many of the guidelines suggested by Williams (1997) and the U.S. Fish and Wildlife Service (1999). We conducted searches from a vehicle, stopping periodically to scan open habitat. We conducted searches during the morning, because

horizontal light facilitates the spotting of the white breast of adult plovers (Williams 1997, U.S. Fish and Wildlife Service 1999). Although we stopped periodically to scan for plovers, we did not conduct point counts of a standard duration, as suggested by Williams (1997) and the U.S. Fish and Wildlife Service (1999). We made that modification because plovers occur infrequently at these sites. We considered that increasing the number of stops and shortening the observation time at each would allow us to encounter more plovers and better document occurrence. Throughout the site, we documented the presence of prairie dogs and Burrowing Owls, as these species are often associated with Mountain Plover habitat. We report plover locations in Universal Transverse Mercator coordinates (easting-northing) in North American Datum 27.

## RESULTS

We observed four Mountain Plovers during our visits, which probably represented three different individuals (Fig. 2). On 7 May, we observed two foraging plovers, possibly paired, near a windmill and stock tank (767037-3847078). A Killdeer (*C. vociferous*) and American Pipit (*Anthus rubescens*) were seen nearby. A third Mountain Plover was seen (761553-3845271) among a prairie dog colony along a road branching south from the Chain of Craters Road. We counted about 40 prairie dogs at this colony. During our second visit on 16 May, we observed one Mountain Plover (767119-3847129) close to the location of the apparent pair seen on 7 May.

We observed one Burrowing Owl (767304-3846950) on 7 May associated with a prairie dog town (Fig. 2). This owl was in the same location as a pair of owls observed in 2004. We observed the owl from a distance but did not find evidence of breeding.



Mountain Plover observed at 767037-3847078 on 7 May



Location of Mountain Plover observed at 761553-3845271

## DISCUSSION

Our observations in 2005 indicate that Mountain Plovers still occur at El Malpais during the breeding season; however, the population appears to be relatively small. Recent population studies in Colorado (Wunder et al. 2003) and Wyoming (Plumb et al. 2005) indicate that the rangewide Mountain Plover population might be 11,000 to 14,000 birds. Small populations occur in New Mexico, mostly in the northern part of the state (Sager 1996, Hawks Aloft 2005).

Although the El Malpais population represents only a minute portion of the overall Mountain Plover population, and only a small portion of the New Mexico population, this site might still be important. Rangewide declines (Knopf 1994), and relatively low annual survival estimates (Dinsmore et al. 2003), prompted a proposal to list Mountain Plovers as a threatened species. The proposal was withdrawn (U.S. Department of the Interior 2003), but threats could change or increase in the future. El Malpais is located near the edge of the plover breeding range (Tolle 1976, Knopf 1996). Continued annual observations from this site could indicate an expanding or receding distribution. Also, this site could be used by a greater number of plovers in the future. For example, in California, wintering Mountain Plovers have apparently shifted from the Coastal and Central Valleys to the Imperial Valley, partly because of habitat loss in the Central Valley (Wunder and Knopf 2003). A shift in abundance could also occur at El Malpais, where considerable habitat seems to remain. Finally, the migration potential at El Malpais is unclear. We observed 19 apparent migrants in 2001, but very few in subsequent years. El Malpais could be used during the migration season by Mountain Plovers breeding elsewhere further north.



We recommend that BLM continue annual surveys at El Malpais, including visits early in the season. Because the population is apparently small, standard point count surveys would likely result in limited power for meaningful comparisons among sites and years. Informal surveys during a small number of visits to the site might be the most efficient method for documenting the persistence of Mountain Plovers.

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Figure 1. Location of El Malpais National Conservation Area study site, Cibola County, New Mexico. Black lines indicate Mountain Plover search area boundaries.

Figure 2. Locations of Mountain Plovers and Burrowing Owls observed during surveys at El Malpais National Conservation Area, New Mexico in 2005. Area shown is an enlarged portion of the following New Mexico USGS Quad Maps: York Ranch, La Rendija, Cerro Brillante, and Ice Caves SE.