

Mountain Plover Population Inventory and Habitat Management Cimarron and Comanche National Grasslands, 2006

Introduction

During 2006, mountain plover surveys were conducted on prairie dog colonies, one prescribed burn, one wildfire, and two allotments where prescribed burns were conducted in previous years. Due to drought conditions during fall of 2005 – spring of 2006, most planned prescribed burns on the Cimarron and Comanche National Grasslands were not implemented. However, one prescribed burn was conducted on the Cimarron NG in shortgrass prairie with potential mountain plover habitat (Elevator burn), and one wildfire occurred on the Comanche NG in potential mountain plover habitat (Richardson fire). These burns and two areas of the Comanche NG which contained high mountain plover nesting densities in 2005 (the Dry Creek burn from 2005 and a large prairie dog colony located on and adjacent to the Carrizo Swing burn from 2004) were surveyed for nesting plovers in spring of 2006. Mountain plovers may also utilize prairie dog colonies during the breeding season. For this reason, a subset of 31 prairie dog colonies distributed across the Carrizo and Timpas Units of the CNG were surveyed for mountain plovers during May and early June of 2006, following the same methods as in 2003 - 2005.

In addition to the surveys conducted by FS staff, a study of burrowing owls was conducted on 11 prairie dog colonies on the Comanche NG by field assistants working for New Mexico State University (Principal Investigators for this project were Martha Desmond, NMSU, and John Sidle, USFS). Because these field assistants conducted intensive, repeated field surveys of the prairie dog colonies during May - July of 2006, they also recorded all mountain plover sightings. The proportion of prairie dog colonies with presence of mountain plovers documented by NMSU field assistants (repeated visits to the colonies over 2 months) was then compared to the proportion of prairie dog colonies with presence of mountain plovers documented by USFS surveys (one-time visit in May/early June).

Fires & Nesting Habitat

One prescribed burn (Cimarron NG) and on wildfire (Comanche NG) occurred in potential mountain plover habitat (shortgrass prairie on loamy soils with slope <5%) during winter/early spring of 2006.

Table 1. Burns providing potential nesting habitat for mountain plover on the Grasslands.

Allotment	Acres Burned	Grazing Association	Comments
Elevator	480	Cimarron	Mid-height and short grass prior to burn; included prairie dog colony
Richardson	70	Campo	Shortgrass prior to burn; included prairie dog colony
Total	550		

Mountain plover population surveys

(1) During May of 2006, a systematic grid of points was surveyed in 4 locations on the Grasslands (see below) with grid points spaced at approximately 0.2 mi intervals (Svingen and Giesen 1999). At each point, the observer would exit the vehicle for several seconds to show a human silhouette (to cause any nearby plovers to move off of the nest) and then re-enter the vehicle and scan with binoculars for 2-3 minutes. In areas with suspected nesting plovers or significant amounts of bare ground, the survey interval was shortened to 0.1 mi in order to more intensively survey the area.

Areas surveyed for nesting plovers using a systematic grid of survey points:

Allotment	Approx. Acres Surveyed	Date	Plovers observed	Habitat/Comments
Elevator	480	5/17/06	3 adults, 2 nests with eggs	Prescribed burn with prairie dog colony; colony active during survey; 12 survey points
Richardson	400	5/16/06	None	Wildfire and adjacent prairie dog colony; 10 survey points
Carrizo Swing	960	5/4/06	1 adult & nest with eggs	Prairie dog colony that expanded in response to 2004 prescribed burn; colony experiencing plague outbreak during spring 2006; 28 survey points
Dry Creek	640	5/13/06	None	Shortgrass prairie burned in spring of 2005; no prairie dogs; 30 surveys points (2 transects used 0.1 mi spacing between points)

Mountain plover on nest in the Elevator Burn, Cimarron NG, 5/17/06



Mountain plover nest on prairie dog colony in the Carrizo Swing Allotment, 5/4/06.



(2) During May and early June, we surveyed prairie dog towns at fixed points in conjunction with burrowing owl surveys (hereafter referred to as systematic plover surveys). These surveys were conducted at previously established points that covered the entire prairie dog town (based on its extent in 2003) and were typically spaced at ~400 m intervals. At each of these points, an observer scanned with binoculars and a spotting scope for 5 min, then waited 5 min, then scanned again for 5 min. A total of 50 survey points located at 20 different prairie dog towns (ranging from 1 – 5 survey points per town) were surveyed on the Carrizo Unit of the Comanche NG, and 16 survey points located at 11 different prairie dog towns (ranging from 1 - 3 survey points per town) were surveyed on the Timpas Unit of the Comanche NG. During 1999 – 2005, prairie dog colonies expanded dramatically on the Carrizo Unit of the Comanche NG. On the Carrizo Unit, the colonies expanded in size dramatically during 2003 - 2005, but most were declining in prairie dog density and distribution in spring of 2006 due to plague.

Surveys of the Carrizo Unit documented plovers on 1 of 20 prairie dog colonies (5%) in 2006, with 6 adult plovers and 1 chick observed at the occupied colony. Surveys of the Timpas Unit did not document any mountain plovers.

Figure 1. Trends in number of MPLO observed and % of black-tailed prairie dog colonies with MPLO present on the Carrizo Unit of Comanche NG based on surveys conducted annually at 50 permanent sampling points located on 20 prairie dog colonies (1-5 points per colony) during 2003 – 2006.

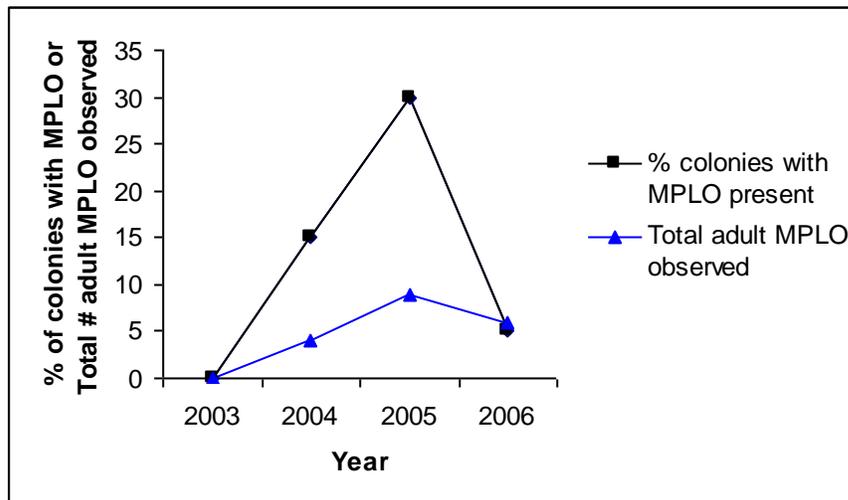


Table 3. Prairie dog colony surveys on the Carrizo Unit of the Comanche NG, 2006

Colony		Allotment #	# of Survey	Plover Observations	
ID	Allot Name		Points	# Adults	# Chicks
1	Arlington	14Ge	4	6	1
2	Lonestar	14D	1	0	0
3	3 awn	8K	3	0	0
4	Liberty	14G	1	0	0
5	Antelope	8H	2	0	0
6	Joycoy	4I	3	0	0
7	Coyote	4C-South	3	0	0
8	Coyote North	4C-North	3	0	0
9	Vega	8D	2	0	0
10	Vienna	7A	4	0	0
11	North Fork	17C	4	0	0
12	Pintata	16Ae	2	0	0
13	Galleta	16Fs-S	1	0	0
14	Long Ridge	11F	3	0	0
15	Cholla/Kirkwell	3B	5	0	0
16	Reader Lake	5F	2	0	0
17	Galleta	16Fs-N	3	0	0
18	South Fork	5C	1	0	0
19	Shadel Picture	4U	1	0	0
20	Canyon	2A	2	0	0

(3) During May and June, 2 field assistants from New Mexico State University conducted repeated surveys of 11 prairie dog colonies on the Carrizo Unit of the Comanche NG for burrowing owl nests and nesting success rates. These 11 colonies were visited at least once per week during the last 2 weeks of May, all of June, and the first 2 weeks of July. During these surveys, they documented mountain plovers on 5 of the 11 prairie dog colonies (45%; see attached map). An adult plover observed in the Prairie Star allotment in mid-July is the westernmost observation of mountain plovers on the Carrizo Unit in recent years. The most repeated observations of mountain plovers and chicks were in a large prairie dog colony on the 3-awn allotment, where adults with chicks were also observed by USFS staff. The 5 colonies with mountain plovers present were also the 5 largest of the 11 colonies surveyed. The 6 colonies without mountain plovers were all less than 300 acres in size.

Overall, survey results from 2006 indicate:

- 1) Prescribed burns continue to provide nesting habitat for mountain plovers on the Grasslands, but the density of nesting plovers on burns during 2004 - 2006 (1.2 – 9 nests per square mile on the Elevator, Dry Creek and Vienna burns) is still lower than densities documented on burns during 1998 – 1999 (Svingen and Giesen 1999) .
- 2) Nesting plovers continue to be documented on prairie dog colonies on the Comanche NG, but the proportion of colonies with plovers based on the systematic surveys declined in 2006 compared to 2004 and 2005. Decreased use of prairie dog colonies on the Comanche NG in 2006 may be related to the severe drought during fall 2005 – spring 2006, which led to extensive failures of winter wheat in Baca County and hence extensive areas of bare ground on private lands intermingled with the Comanche NG. Many of these failed wheat fields were plowed during the plover nesting season, and lack of information on nesting success on private land in Baca County continues to be a source of uncertainty for the mountain plover population. High nesting success documented on the Comanche NG during 2005 indicates that management to provide nesting habitat on the Grasslands, particularly during years with average or above-average rainfall, will continue to be important for sustaining the mountain plover population.

Literature Cited

Svingen, D. and K. Giesen (1999). Mountain Plover (*Charadrius montanus*) response to prescribed burns on the Comanche National Grassland. Journal of the Colorado Field Ornithologists **33**(4): 208-212.