

2007 PRAIRIE DOG MONITORING IN THE BUREAU OF LAND MANAGEMENT,
FARMINGTON RESOURCE AREA



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31 December 2007

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EXECUTIVE SUMMARY

From 2003-2006, the Bureau of Land Management (BLM) located and monitored Gunnison's prairie dog (*Cynomys gunnisoni*) colonies in the Farmington Resource Area of northwestern New Mexico. In 2007, we revisited 54 of the 131 prairie dog colonies located in previous years to determine current status for each, identify changes in spatial coverage, and document Burrowing Owls (*Athene cunicularia*). We determined that 41 of the 54 colonies (76%) were either active or probably active in 2007. Most of the 13 inactive colonies were originally visited in 2003 and 2004. Based on the area within the perimeter of colonies, we estimated that active or probably active colonies covered a total of 1,830 acres in 2007, with an average of 44.6 acres per colony. Our average was considerably smaller than the average for these colonies when previously monitored (175.8 acres). Although area estimation is highly influenced by sampling variation, we suggest that the magnitude of apparent declines in colony sizes, and the inactivity of many older colonies, might reflect an actual decline in prairie dog populations in this region. We observed six Burrowing Owls while monitoring prairie dogs in 2007, but we lack information on local trends or reproductive success. Considering the vast resources required to estimate area at prairie dog colonies, and the need for additional information on Burrowing Owl trends and reproductive success, we recommend shifting resources for future monitoring studies from prairie dogs to Burrowing Owls.

INTRODUCTION

Prairie dogs (*Cynomys* spp.) are colonial ground-dwelling herbivores that are considered keystone species throughout shrub-steppe and grassland habitats (Kotliar et al. 1999, Bangert and Slobodchikoff 2000, Hoogland 2001). Prairie dogs are considered keystone species because they create habitat (e.g., burrows and low vegetation structure) or provide a food source for a variety of taxa, including birds. Burrowing Owl (*Athene cunicularia*), Ferruginous Hawk (*Buteo regalis*), and Mountain Plover (*Charadrius montanus*) are examples of species that might be negatively affected by the loss of prairie dog colonies (Cully 1991, Dinsmore et al. 2003).

Although prairie dogs are key components of a healthy shrub-steppe or grassland ecosystem, research indicates that they have declined greatly since the late 1800s and early 1900s (Marsh 1984, Miller and Cully 2001). Declines have been attributed to poisoning, shooting, development, alteration of grazing regimes, and sylvatic plague (*Yersinia pestis*) (Cully and Williams 2001, Miller and Cully 2001). Some species (Utah and Mexican prairie dogs, *C. parvidens* and *mexicanus*) have been listed as threatened or endangered (U.S. Department of Interior 2000, Scott-Morales et al. 2004). Others might be candidates for listing in the future. Black-tailed prairie dog (*C. ludovicianus*) was once widespread and numerous, but only a small portion of historic range is currently occupied (Sidle et al. 2001, Vermeire et al. 2004); this portion is less than 1% by some estimates (Miller and Cully 2001). Gunnison's prairie dog (*C. gunnisoni*) has a more limited range (Colorado, New Mexico, Utah, and Arizona), and has experienced local declines in the past (e.g., Cully 1991, Cully et al. 1997). A recent petition to list Gunnison's prairie dog as endangered was denied by the U.S. Fish and Wildlife Service.

In northwestern New Mexico, Gunnison's prairie dogs reside on widespread short-grass plains managed by the Bureau of Land Management (BLM), particularly in San Juan and Rio Arriba Counties. From 2003-2006, BLM located and estimated the spatial coverage of more than 100 prairie dog colonies. In 2007, BLM contracted Hawks Aloft to monitor prairie dog colonies in the Farmington Resource Area. We revisited as many of the previously documented colonies as possible to determine active or inactive status and estimate current area. Our objectives were to 1) determine the percentage of active colonies, and if that percentage depended on the year they were found, 2) identify any obvious changes in spatial coverage of colonies, and 3) document Burrowing Owls, an associated species for which limited information exists in the region. Current information on prairie dog and Burrowing Owl distribution on the North Unit can help BLM evaluate the health of these populations, and the ecosystem they inhabit.

STUDY AREA

Prairie dog colonies found from 2003-2006 were widespread throughout eastern San Juan and western Rio Arriba Counties (Fig. 1). Colonies were grouped in several regions, including the Bloomfield area, along Highway 550 south of Angel Peak, near Navajo Reservoir, and along Blanco and Largo Canyons. Colonies occurred on short-grass mesas and valleys, but also were found in areas with substantial sagebrush. Some sagebrush habitat, particularly at Ensenada Mesa, was treated recently with herbicide for increased grass and forb livestock forage, and perceived benefits to wildlife. BLM, working jointly with New Mexico Department of Game and Fish, released pronghorn (*Antilocapra americana*) in this area approximately 15 years ago.



Some prairie dog colonies were in sage recently treated with herbicide.

METHODS

We based our initial knowledge of prairie dog distribution in the Farmington Resource Area on shapefiles provided by BLM in the spring of 2007. These shapefiles included 131 apparent prairie dog colonies (21 found in 2003, 15 in 2004, 27 in 2005, and 68 in 2006). We used ArcGis to determine the center of each colony and Universal Transverse Mercator (UTM) coordinates (North American Datum 1983) for that center point. We kept the same colony names assigned by BLM, although we merged several adjoining colonies. Several other colonies, though disjunct, had the same name; we treat them as separate colonies but did not rename them. Area coverage, in acres, was provided for each colony, but aside from 2004, we have no information on the status of colonies when they were found and/or last monitored.

All colony visits and area searches were conducted from mid-April through July. We made an effort to visit colonies during the morning or late afternoon, considering that prairie dog activity might be greater during those periods. We determined the current status of each colony as active, probable, or inactive. Colonies were considered active if prairie dogs were detected by sight or sound, and probable if prairie dogs were not detected but evidence of recent activity (e.g., fresh digging or scat) was apparent. If we observed no prairie dogs or indication of recent activity, we considered the colony to be inactive. We watched the colony for at least 15 minutes, from our vehicle if possible, to determine status, count the number of prairie dogs visible, and document Burrowing Owls. We later examined many of the burrows in the colonies for additional evidence of occupancy by prairie dogs or owls. In addition to visual observations of owls, we report any discovery of owl pellets, prey remains, or feces associated with burrows.

To estimate the area covered by active colonies, we collected UTM coordinates around the perceived colony perimeter (i.e., the outermost burrows). If a portion of the outermost burrows appeared inactive, we did not include those locations. We plotted the coordinates on ArcGIS and calculated the number of acres within each colony's polygon of points. We made an effort to collect as many coordinates as possible along the perimeter, but the number of coordinates depended on the number of burrows present. For example, we collected more than 100 perimeter points at a few large colonies, and less than 10 at a few small colonies. We present a cumulative area for colonies monitored in 2007 by adding the areas for each individual active colony. We present an average area for active colonies, and we use 95% confidence intervals to compare the current area with the average area for when the same colonies were last monitored.

RESULTS

We monitored 54 of the 131 prairie dog colonies (41%) in 2007 (Fig. 2, Appendix 1). Of these colonies, we determined that 13 were inactive (24%), 32 were active, and 9 were probably active (i.e., 76% either active or probably active). Colonies that were found most recently were more likely to be active in 2007. Of the 11 older colonies (from 2003 and 2004) we revisited, all were inactive, except for one colony we considered probable. We located burrows for these inactive colonies, but they were either collapsed, obstructed by debris, or otherwise appeared unused. Of the 43 more recent colonies (from 2005 and 2006) we revisited, most were either active (32, 74%) or probable (8, 19%).

Based on the area within the perceived perimeter of prairie dog colonies, we estimated that the 41 active or probable colonies in 2007 covered 1,830 acres, with an average of 44.6 acres (± 22.8 acres) per colony (range <1 to 353.1 acres). Our estimate is smaller than the total acreage provided by BLM for these same colonies when previously monitored. The previous area for these colonies totaled 7,209 acres, with an average of 175.8 acres (± 104.4 acres). We found that the area for 31 colonies was smaller than previous estimates, and the area for 10 colonies was larger than previous estimates. We counted a total of 903 prairie dogs in 2007, with an average of 22 ± 17 per colony.

We observed six Burrowing Owls in 2007 (Table 1, next page). A pair of owls was observed at one colony and single owls were observed at three others. One owl was observed incidentally along Highway 550 and might also have been associated with a prairie dog colony. In addition to the six Burrowing Owls we observed, we encountered evidence of current occupancy (prey bones and fresh pellets) at one colony and evidence of probable past occupancy (dried prey bones and pellets) at two other colonies.

Table 1. Summary of 2007 Burrowing Owl observations or evidence of suspected previous occupancy at prairie dog colonies monitored in the Bureau of Land Management, Farmington Resource Area. We provide Universal Transverse Mercator (UTM) coordinates in North American Datum 1983.

| Date | Colony | Evidence | Owls Observed | Burrow Found? | Burrow UTM |
|---------|---------|-------------|---------------|---------------|----------------|
| 4/17/07 | bac1 | Old Signs | 0 | Inactive | 233830-4063630 |
| 6/05/07 | - | Visual | 1 | No | NA* |
| 6/05/07 | htac2 | Visual | 2 | Active | 249918-4035944 |
| 6/05/07 | htac16 | Old Signs | 0 | Inactive | Not Collected |
| 6/05/07 | htac17 | Fresh Signs | 0 | Active | 249991-4033793 |
| 7/20/07 | htnwac7 | Visual | 1 | Active | 240664-4036745 |
| 7/25/07 | vcac1 | Visual | 1 | No | NA |
| 7/26/07 | spac1 | Visual | 1 | Active | 281236-4045628 |

*Incidental observation along Highway 550 at 237707-4042675

DISCUSSION

Prairie dog colony sizes varied greatly in the Farmington Resource Area in 2007, and an evaluation of Gunnison's prairie dog status in the region is complicated by the multiple perspectives that are available. We monitored a similar number of prairie dog colonies in the BLM Taos Resource Area from 2004-2006; we found an average colony size of 27.5 acres (± 9.3) there in 2006, and an increasing trend during the study (Hawks Aloft 2006). If we use our Taos observations as a basis for evaluation, we might conclude that prairie dog colony sizes in the Farmington region (average 44.6 acres) are relatively large. However, when compared to previous monitoring results provided by BLM for the Farmington region, we found that colony sizes apparently decreased in the last few years, and some colonies apparently became inactive.

Prairie dog monitoring is subject to substantial sampling variation. Estimation of area, in particular, is complicated by variable perceptions among observers of colony perimeters. Gunnison's prairie dog colonies often contain widely spaced burrows, and

they are not always easily seen from a distance. Many of the colonies in the Farmington region extended into sagebrush habitat, further limiting detectability. Two equally skilled observers could visit the same colony on the same day and map the colony perimeters differently, thereby influencing area estimations. Observers could also have different perceptions of active and inactive burrows. If observers in one year are more likely than observers in another year to include inactive burrows in their estimation of the perimeter, temporal trends could be reported when no actual changes have occurred. Although we recognize the subjective nature of area estimations, we suggest that the magnitude of apparent declines in colony sizes, and the inactivity of many older colonies, might reflect an actual decline in prairie dog populations in this region.

A variety of factors could affect the size of prairie dog colonies, including disease outbreaks, human-caused disturbance (e.g., persecution), habitat changes, and weather patterns. Since the early 20th century, sylvatic plague has affected prairie dog numbers in some years, including Gunnison's prairie dog. Cully and Williams (2001) described the consequences of plague, including "local extirpation of colonies, reduced colony size, increased variance in local population sizes, and increased distances between colonies." We are generally unaware of the history of plague and its effects on prairie dogs in the Farmington region, but we spoke with one landowner who maintained that some local colonies were eliminated due to plague in recent years. Persecution, including poisoning and shooting, is widespread, and the effects on colonies can appear similar to plague. We observed several prairie dog bone remains and numerous collapsed burrows, perhaps indicating that human-caused disturbance occurs in this region. Habitat changes (e.g., sage treatments) and weather patterns could also affect prairie dogs in this region.

We observed Burrowing Owls at approximately 10% of the active (or probable) prairie dog colonies. Burrowing Owls are irregularly distributed. Therefore, combining owl surveys with prairie dog studies is probably more efficient than traditional transect or point count surveys. However, prairie dog monitoring is expensive, and we found that the bulk of our resources went to estimating colony size. Considering the resources required to estimate prairie dog colony sizes and the inherent sampling variation, we recommend that future resources (if available) shift from prairie dog monitoring to Burrowing Owl monitoring. We recommend annual visits to a consistent number of prairie dog colonies to determine active or inactive status, and to conduct a minimum count of prairie dogs and Burrowing Owls. Additional visits to monitor Burrowing Owl reproductive success can be allocated in place of more time-consuming perimeter mapping. Annual Burrowing Owl numbers over a consistent search area, and information on reproductive success, would allow a better evaluation of regional status for this U.S. Fish and Wildlife Service (2002) species of conservation concern. Prairie dog area estimation and additional aerial or ground searches, if desired, could be conducted at greater intervals.

ACKNOWLEDGMENTS

The Bureau of Land Management, Farmington Field Office, provided funding for prairie dog and Burrowing Owl monitoring. We thank John Kendall, of BLM, for providing logistic support and contributing prairie dog locations. Devin Bosler, Maria Lavender, Sandy Skeba, and Mike Stake monitored prairie dog colonies. This report was written by Mike Stake, with photographs by Sandy Skeba and review by Gail Garber, executive director of Hawks Aloft.

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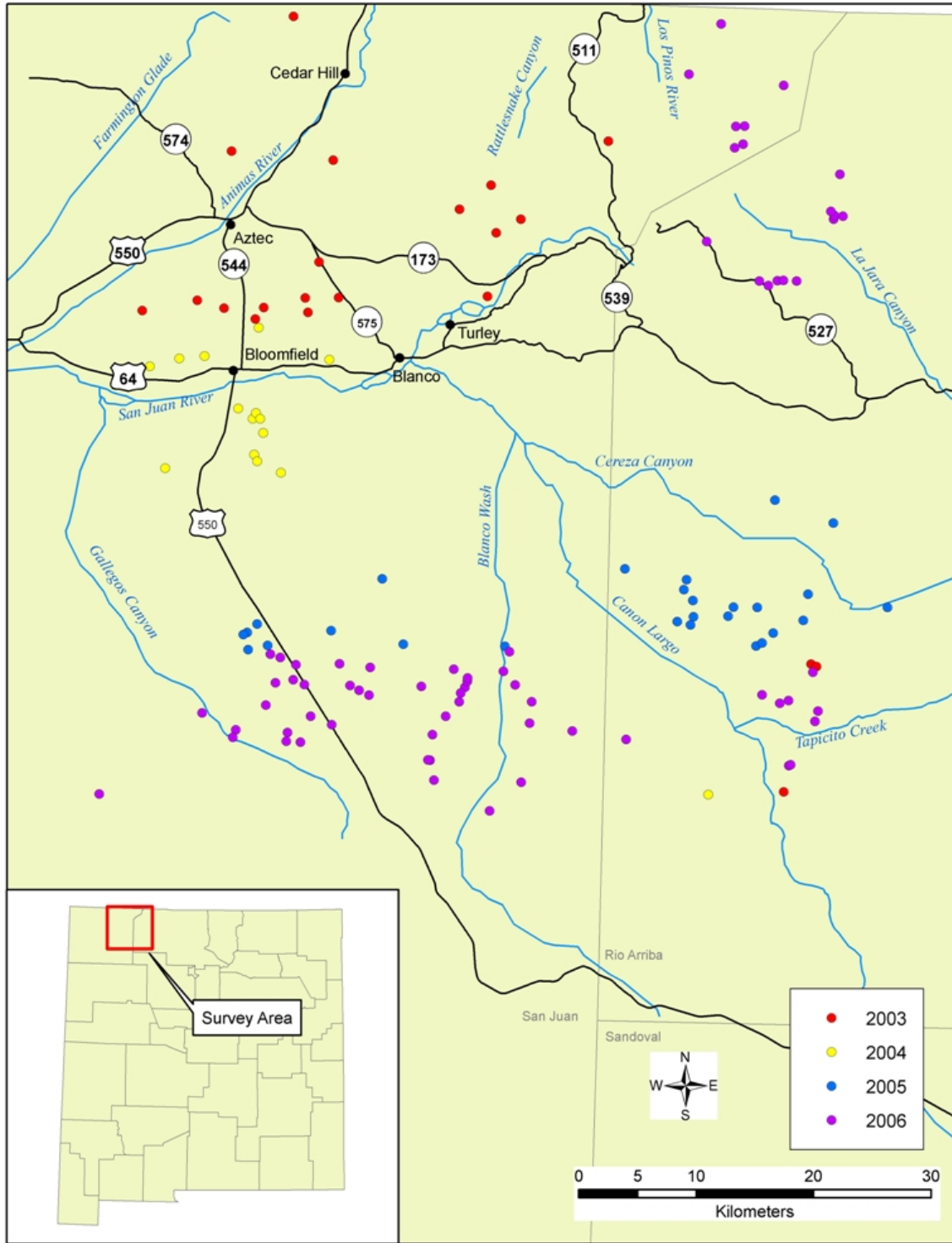


Figure 1. Location of prairie dog colonies found from 2003-2006 in the Bureau of Land Management, Farmington Resource Area.

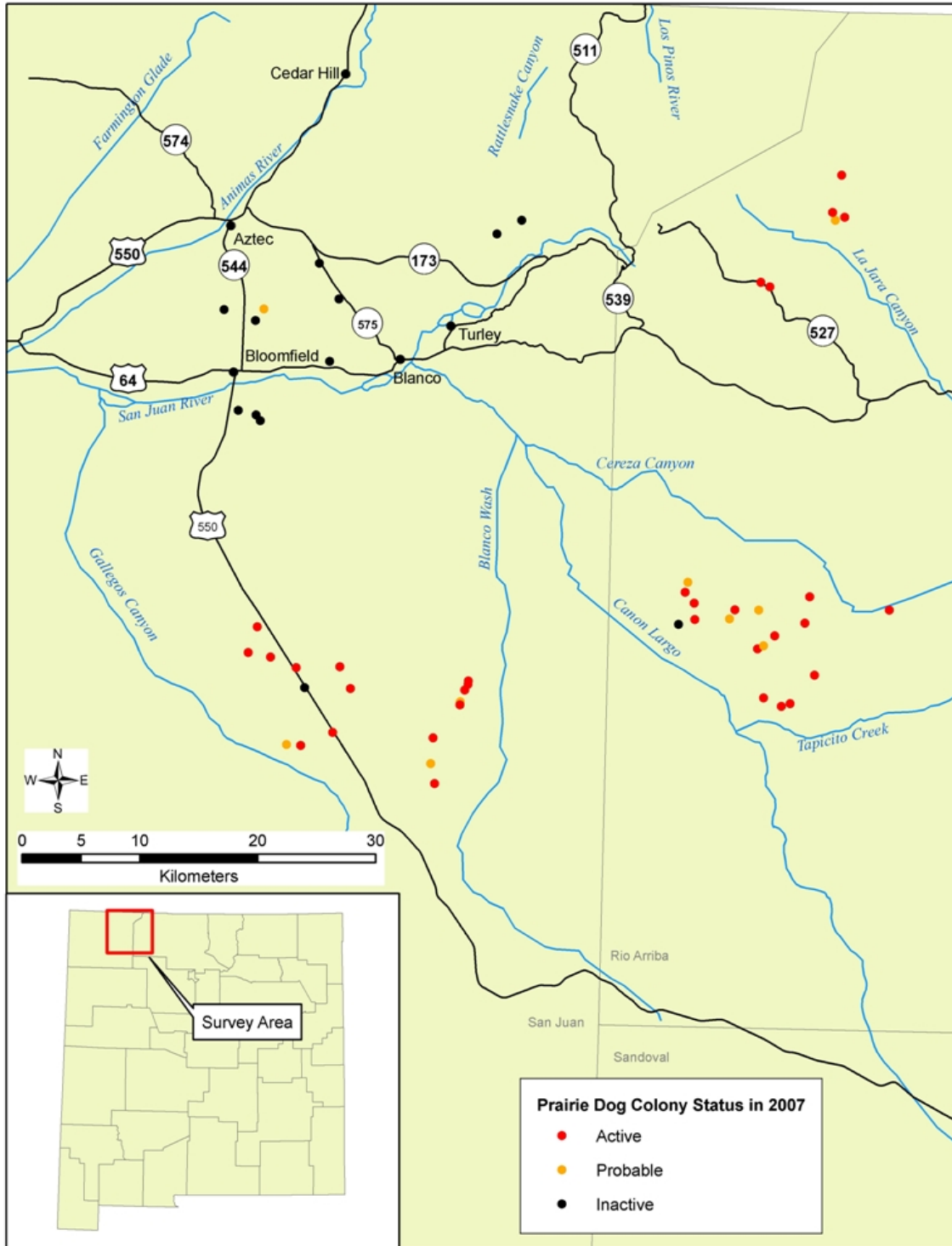


Figure 2. Location of prairie dog colonies monitored by Hawks Aloft in 2007 in the Bureau of Land Management, Farmington Resource Area. We indicate active colonies in red and inactive colonies in black. Colonies that we considered probably active are shown in orange.

Appendix 1. Characteristics of prairie dog colonies in the Bureau of Land Management, Farmington Resource Area. We indicate Universal Transverse Mercator Coordinates in North American Datum 1983. We indicate current status as Active (A), Probable (P), Inactive (I), or Merged (M). Colonies with no status indicated were not visited in 2007. We indicate spatial coverage of monitored colonies in acres and provide the number of prairie dogs counted in 2007.

| Colony | Year Found | Easting | Northing | 2007 Status | Original Acres | 2007 Acres | 2007 Count |
|--------|------------|---------|----------|-------------|----------------|------------|------------|
| aric1 | 2003 | 255145 | 4082634 | - | 8.0 | - | - |
| arph2 | 2003 | 257685 | 4079725 | I | 2.5 | NA | 0 |
| icaz1 | 2003 | 241706 | 4084747 | - | 7.4 | - | - |
| phaz5 | 2003 | 239318 | 4073046 | - | 2.2 | - | - |
| phaz3 | 2003 | 242172 | 4073071 | I | 10.2 | NA | 0 |
| goac1 | 2003 | 280075 | 4031060 | - | 191.1 | - | - |
| icfl1 | 2003 | 225452 | 4071969 | - | 16.5 | - | - |
| gmac3 | 2003 | 282418 | 4041917 | - | 14.6 | - | - |
| phaz4 | 2003 | 239547 | 4071804 | - | 11.9 | - | - |
| phaz1 | 2003 | 235073 | 4071238 | I | 10.5 | NA | 0 |
| acaz1 | 2003 | 235788 | 4072213 | P | 9.1 | 8.2 | 0 |
| phaz2 | 2003 | 240496 | 4076100 | I | 8.5 | NA | 0 |
| acch1 | 2003 | 238320 | 4096978 | - | 8.1 | - | - |
| arph1 | 2003 | 255581 | 4078574 | I | 7.9 | NA | 0 |
| phaz6 | 2003 | 232407 | 4072164 | I | 7.5 | NA | 0 |
| phfl1 | 2003 | 230127 | 4072834 | - | 7.2 | - | - |
| gmac2 | 2003 | 282884 | 4041726 | - | 5.3 | - | - |
| ictu1 | 2003 | 252463 | 4080572 | - | 3.2 | - | - |
| asph1 | 2003 | 265149 | 4086367 | - | 3.1 | - | - |
| phch1 | 2003 | 233052 | 4085524 | - | 2.3 | - | - |
| arac1 | 2003 | 254844 | 4073182 | - | 1.8 | - | - |
| bic4 | 2004 | 241377 | 4067799 | I | 13.4 | NA | 0 |
| bic3 | 2004 | 235359 | 4070510 | - | 11.3 | - | - |
| bac4 | 2004 | 235734 | 4061557 | - | 78.6 | - | - |
| bac5 | 2004 | 234974 | 4059720 | - | 24.0 | - | - |
| bac6 | 2004 | 235221 | 4059163 | - | 18.4 | - | - |
| bic2 | 2004 | 237256 | 4058188 | - | 4.3 | - | - |
| bic1 | 2004 | 234846 | 4062778 | - | 2.9 | - | - |
| bac2 | 2004 | 235137 | 4063253 | I | 37.9 | NA | 0 |
| bac3 | 2004 | 235473 | 4062772 | I | 88.7 | NA | 0 |
| hcic1 | 2004 | 228596 | 4067883 | - | 59.5 | - | - |
| bac1 | 2004 | 233614 | 4063654 | I | 31.1 | NA | 0 |
| hcac1 | 2004 | 227390 | 4058582 | - | 2.8 | - | - |
| smac1 | 2004 | 273644 | 4030834 | - | 607.4 | - | - |
| hcac1 | 2004 | 230746 | 4068097 | - | 17.9 | - | - |
| hcac2 | 2004 | 226077 | 4067228 | - | 0.0 | - | - |
| gpac1b | 2005 | 271005 | 4045524 | I | 239.9 | NA | 0 |

| Colony | Year Found | Easting | Northing | 2007 Status | Original Acres | 2007 Acres | 2007 Count |
|----------------|------------|---------|----------|-------------|----------------|------------|------------|
| gpac1c | 2005 | 272402 | 4045937 | A | 138.5 | 41.2 | 28 |
| gpac1d | 2005 | 272352 | 4047331 | A | 292.0 | 113.5 | 31 |
| gpac1a | 2005 | 275350 | 4046005 | P | 246.9 | 4.4 | 0 |
| gpac1b | 2005 | 275809 | 4046753 | A | 391.0 | 81.2 | 320 |
| spac1 | 2005 | 277838 | 4046727 | P | 43.5 | 9.4 | 0 |
| spac2 | 2005 | 282152 | 4047866 | A | 556.4 | 353.1 | 125 |
| spac1 | 2005 | 281742 | 4045625 | A | 300.7 | 319.1 | 107 |
| spac3 | 2005 | 277734 | 4043467 | A | 15.9 | 2.1 | 2 |
| spac1 | 2005 | 279179 | 4044551 | A | 93.5 | 22.8 | 15 |
| spac2 | 2005 | 278230 | 4043709 | P | 17.6 | 1.7 | 0 |
| spac3 | 2005 | 284307 | 4053920 | - | 0.4 | - | - |
| spac2 | 2005 | 279328 | 4055865 | - | 8.7 | - | - |
| vcac1 | 2005 | 288919 | 4046749 | A | 42.0 | 72.2 | 92 |
| hpac1 | 2005 | 245890 | 4049165 | - | 0.1 | - | - |
| kcac1 | 2005 | 234372 | 4044600 | - | 5.4 | - | - |
| kcac2 | 2005 | 234054 | 4044439 | - | 2.0 | - | - |
| htnw1 | 2005 | 234451 | 4043154 | A | 131.7 | 38.0 | 2 |
| kcac2 | 2005 | 235216 | 4045316 | A | 525.7 | 61.2 | 3 |
| kcac1 | 2005 | 241531 | 4044754 | - | 1.2 | - | - |
| kcac2 | 2005 | 236396 | 4043254 | M* | 263.0 | M* | M* |
| hpac1 | 2005 | 247688 | 4043606 | - | 6.2 | - | - |
| fcac1 | 2005 | 256332 | 4043439 | - | 8.9 | - | - |
| gpac1 | 2005 | 266543 | 4050007 | - | 10.4 | - | - |
| gpac2gp | 2005 | 271584 | 4048237 | A | 52.8 | 21.1 | 1 |
| gpac1 | 2005 | 271798 | 4049086 | P | 195.2 | 0.0 | 0 |
| qpac1a | 2005 | 272129 | 4045251 | - | 190.6 | - | - |
| pdc20060705-01 | 2006 | 276740 | 4087656 | - | 1.6 | - | - |
| pdc20060705-02 | 2006 | 276017 | 4087618 | - | 2.4 | - | - |
| pdc20060707-01 | 2006 | 274739 | 4096324 | - | 1.8 | - | - |
| pdc20060707-02 | 2006 | 276631 | 4086109 | - | 1.4 | - | - |
| pdc20060707-03 | 2006 | 275901 | 4085806 | - | 57.0 | - | - |
| pdc20060711-01 | 2006 | 272000 | 4092052 | - | 1.8 | - | - |
| pdc20060713-01 | 2006 | 280074 | 4091093 | - | 0.4 | - | - |
| pdc20060731-03 | 2006 | 284323 | 4079723 | P | 0.6 | 2.4 | 0 |
| pdc20060731-02 | 2006 | 284414 | 4080038 | M^ | 1.0 | M^ | M^ |
| pdc20060731-01 | 2006 | 284091 | 4080382 | A | 6.9 | 6.7 | 1 |
| pdc20060726-02 | 2006 | 284864 | 4083540 | A | 4.3 | 1.6 | 1 |
| pdc20060726-01 | 2006 | 285134 | 4079982 | A | 29.4 | 18.7 | 6 |
| pdc20060724-01 | 2006 | 273520 | 4077822 | I | 0.3 | NA | 0 |
| pdc20060802-05 | 2006 | 278010 | 4074482 | A | 9.3 | 14.2 | 22 |
| pdc20060802-01 | 2006 | 279536 | 4074509 | - | 3.9 | - | - |
| pdc20060802-02 | 2006 | 280049 | 4074537 | - | 0.6 | - | - |
| pdc20060802-03 | 2006 | 281174 | 4074469 | - | 32.0 | - | - |
| pdc20060802-04 | 2006 | 278766 | 4074086 | A | 1.0 | 1.3 | 3 |

| Colony | Year Found | Easting | Northing | 2007 Status | Original Acres | 2007 Acres | 2007 Count |
|------------|------------|---------|----------|----------------|----------------|----------------|----------------|
| gmac7 | 2006 | 280516 | 4033284 | - | 0.1 | - | - |
| gmac8 | 2006 | 280676 | 4033369 | - | 1.6 | - | - |
| smac1 | 2006 | 266667 | 4035511 | - | 7.6 | - | - |
| ctic1 | 2006 | 221781 | 4030891 | - | 4.5 | - | - |
| ctac1 | 2006 | 230547 | 4037773 | - | 9.2 | - | - |
| htnwac1 | 2006 | 233416 | 4036343 | - | 25.4 | - | - |
| htnwac3 | 2006 | 233155 | 4035685 | - | 92.7 | - | - |
| htnwac4 | 2006 | 238913 | 4035274 | A | 256.2 | 76.0 | 11 |
| htnwac5 | 2006 | 237812 | 4036110 | - | 72.3 | - | - |
| htnwac6 | 2006 | 237718 | 4035374 | P | 30.4 | 35.7 | 0 |
| htnwac9 | 2006 | 235975 | 4038450 | - | 1.7 | - | - |
| htnwac10 | 2006 | 237205 | 4042491 | - | 132.3 | - | - |
| htnwac11 | 2006 | 236363 | 4042774 | A | 9.3 | 9.5 | 1 |
| htnwac12 | 2006 | 238293 | 4040595 | - | 89.7 | - | - |
| htnwac13 | 2006 | 239251 | 4040185 | I | 0.1 | NA | 0 |
| htnwac14 | 2006 | 238539 | 4041881 | A | 98.6 | 28.3 | 7 |
| htnwac15 | 2006 | 241569 | 4036772 | - | 18.5 | - | - |
| htac3 | 2006 | 243909 | 4039681 | - | 7.4 | - | - |
| htac4 | 2006 | 243142 | 4040107 | A | 34.5 | 58.9 | 14 |
| htac16 | 2006 | 250279 | 4032048 | A | 17.2 | 18.7 | 5 |
| htac17 | 2006 | 249967 | 4033748 | P | 7.6 | 5.0 | 0 |
| htac2 | 2006 | 250161 | 4035931 | A | 68.6 | 53.9 | 16 |
| htac19 | 2006 | 251286 | 4037490 | - | 17.1 | - | - |
| htac20 | 2006 | 249220 | 4040036 | - | 123.5 | - | - |
| htac23 | 2006 | 252846 | 4039985 | A | 6.5 | 0.2 | 2 |
| htac24 | 2006 | 252471 | 4038986 | P | 22.7 | 6.6 | 0 |
| tmhac1 | 2006 | 255022 | 4029456 | - | 61.1 | - | - |
| tm2 | 2006 | 257705 | 4031868 | - | 65.6 | - | - |
| tmac3 | 2006 | 258434 | 4036895 | - | 60.5 | - | - |
| tmac4 | 2006 | 262082 | 4036224 | - | 128.3 | - | - |
| tmac6 | 2006 | 257208 | 4040165 | - | 0.4 | - | - |
| tmac8 | 2006 | 256711 | 4042974 | - | 83.6 | - | - |
| gmac1 | 2006 | 278227 | 4039314 | A | 21.4 | 16.3 | 22 |
| gmac2 | 2006 | 279738 | 4038585 | A | 65.8 | 34.2 | 20 |
| gmac3 | 2006 | 280502 | 4038809 | A | 1.1 | 3.3 | 7 |
| gmac5 | 2006 | 282744 | 4037045 | - | 12.2 | - | - |
| gmac6 | 2006 | 283009 | 4037922 | - | 2.6 | - | - |
| htnw-htac5 | 2006 | 242258 | 4041947 | A | 867.1 | 101.3 | 12 |
| htac18 | 2006 | 249768 | 4033779 | M [#] | 3.6 | M [#] | M [#] |
| htnwac7 | 2006 | 241644 | 4036400 | A | 1917.5 | 116.7 | 9 |
| htac1 | 2006 | 244750 | 4039292 | - | 16.5 | - | - |
| htac6 | 2006 | 252442 | 4038709 | A | 97.7 | 14.3 | 4 |
| tmac5 | 2006 | 258605 | 4038722 | - | 61.4 | - | - |
| htac21 | 2006 | 251978 | 4041493 | - | 28.3 | - | - |

| Colony | Year Found | Easting | Northing | 2007 Status | Original Acres | 2007 Acres | 2007 Count |
|---------|------------|---------|----------|-------------|----------------|------------|------------|
| htnwac8 | 2006 | 236798 | 4040323 | - | 3.1 | - | - |
| gmac4 | 2006 | 282557 | 4041233 | A | 572.6 | 55.5 | 12 |
| htac25 | 2006 | 244863 | 4041641 | - | 273.8 | - | - |
| htac26 | 2006 | 253132 | 4040473 | A | 7.3 | 0.9 | 1 |
| htac22 | 2006 | 253146 | 4040738 | A | 2.6 | 0.8 | 1 |
| tmac7 | 2006 | 256212 | 4041315 | - | 3.2 | - | - |

* Merged htnwac11 and kcac2

^ Merged pdc20060731-02 and pdc20060731-03

Merged htac17 and htac18