

**MONTANA-WIDE BURROWING OWL SURVEYS; A SYNTHESIS OF FIRST AND  
SECOND YEAR EFFORTS, 1999-2000 <sup>TWS</sup>**

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In 1999, we initiated the first statewide survey efforts for Burrowing Owls (*Athene cunicularia*) across Montana with a stratified random inventory of 204 black-tailed prairie

dog (*Cynomys ludovicianus*) colonies yielding an estimate of  $644 \pm 114$  owl pairs inhabiting Montana prairie dog colonies. During 2000, 28 cooperators surveyed 187 prairie dog colonies estimating that  $727 \pm 168$  Burrowing Owl pairs inhabited Montana colonies. Seven hundred seventeen owls were observed including 134 pairs. Of 1353 colonies within the working dataset comprising approximately 67200 acres (27206 ha), we surveyed 15.1 and 13.8 percent by number and 15.0 and 14.3 percent by area (10079 acres, 4081 ha; 9602 acres, 3887 ha) during 1999 and 2000, respectively. Seventy-nine colonies contained owls yielding an occupancy rate slightly higher in 2000 than during 1999 (42.25 vs. 38.24%, respectively). Although surveyors appeared to observe greater numbers of owls during year 2000 (mean  $\pm$  SE;  $3.59 \pm 0.56$  vs.  $2.29 \pm 0.30$ ) the difference was not significant. There was a small tendency to observe greater numbers of adult females, young, and adult males during 2000 but these trends were negligible when adjustments for multiple comparisons were made. No significant difference between years in number of owl pairs per surveyed colony was detected. Analysis of bellweather and random colonies is ongoing for determining trends.