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BURROWING OWL ECOLOGY AND SUGGESTIONS FOR MINIMIZING IMPACTS OF PRAIRIE DOG CONTROL

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Abstract: Burrowing owls (*Athene cunicularia*) are declining throughout much of their range. They were placed on the Audubon Society's Blue List in 1971 and were listed as a Species of Special Concern in 1986. Little information exists on burrowing owl population sizes and causes of population declines appear to be mostly speculation. Although considerable research has been done on burrowing owls in the Western United States, relatively little is known of the burrowing owl population in the Great Plains. In the Great Plains, burrowing owls will nest in abandoned badger (*Taxidea taxus*) burrows but are most commonly associated with black-tailed prairie dog (*Cynomys ludovicianus*) towns. The burrowing owl-prairie dog association has not been well studied, and active prairie dog towns appear to be an important component of burrowing owl nesting ecology.

Burrowing owls are present in the Great Plains from April through October of each year. In the Nebraska Panhandle, burrowing owls typically initiate nests in May. During this period, owls are extremely

secretive and difficult to detect. Burrowing owls will often conspicuously line their nest chamber, tunnel, and burrow entrance with shredded cow dung, horse dung, and other material such as badger and coyote scat and corn cobs. This material, however, is not always obviously present and should not be used as a means of identifying all nests in an area. Once the chicks emerge from the nest burrow they will spread out and utilize several burrows in the area; during this period they are extremely vulnerable to fumigation. It is therefore, recommended that fumigation not be used as a means of prairie dog control during the months of May, June, and July.

In prairie dog communities burrowing owls often nest in aggregations but appear to prefer a distance of 100 to 160 m between nest burrows. Abandoned prairie dog towns do not support as many nesting pairs of burrowing owls as active towns due to burrow deterioration. Over time abandoned towns will be of no use to burrowing owls. Lastly, preliminary data suggests birds nesting in larger prairie dog towns (>20 ha) have higher fledgling success.