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# Burrowing Owl

## *Athene cunicularia*

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Aves — Strigiformes — Strigidae

### CONSERVATION STATUS / CLASSIFICATION

Rangewide: Apparently secure subspecies (G4T4)  
Statewide: Imperiled breeding (S2B)  
ESA: No status  
USFS: Region 1: No status; Region 4: No status  
BLM: Watch list (Type 5)  
IDFG: Protected nongame

### BASIS FOR INCLUSION

Declining population trends and patchy habitat.

### TAXONOMY

Variously placed in the genus *Speotyto* or in *Athene*. It was designated *Athene* in 1983 by the American Ornithologists' Union (AOU), *Speotyto* in 1993 based on karyotypic evidence, then reverted back to *Athene* in 1997 (Haug et al. 1993, AOU 1997). There are 7 subspecies of burrowing owls identified in North and Central America, all of which are geographically distinct and presumably isolated (Haug et al. 1993). Only 2 subspecies are found in the U.S.: *A. c. hypugaea* (western U.S.) and *A. c. floridana* (Florida).

### DISTRIBUTION AND ABUNDANCE

Western burrowing owls breed throughout the western half of North America and Canada from as far north as British Columbia east to south-central Manitoba, and as far south as central Mexico (Haug et al. 1993). Although assessments of population sizes at small scales have been conducted, the size of the U.S. population is unknown. In Idaho, burrowing owls are patchily distributed throughout the southern half of the state (J. Belthoff, Boise State University, pers. comm.), but the population size is unknown.

### POPULATION TREND

Western burrowing owls have declined significantly throughout much of their North American range (Haug et al. 1993, Sheffield 1997), particularly in Canada (Clayton and Schmutz 1999). Breeding Bird Survey (BBS) data indicate a statistically significant decline of 13.3% per year in Canada, but a significant increase of 4.5% per year in the Western BBS Region and 14.3 % per year in Idaho, during the period 1966–2004 (Sauer et al. 2005). BBS data in these regions during the periods 1966–1979 and 1980–2004 show similar trends, although increases in Idaho were much steeper (47.7% per year) during the 1966–1979 period (Sauer et al. 2005). However, because BBS detection rates are quite low in Idaho, and declines are suspected by local researchers (J. Belthoff, Boise State University, pers. comm.), these increases should be interpreted cautiously.

## **HABITAT AND ECOLOGY**

Western burrowing owls breed in open, well-drained grasslands, prairies, farmlands, steppes, and airfields (Haug et al. 1993). In Idaho, burrowing owls typically use natural burrows excavated by American badgers (*Taxidea taxus*; Gleason and Johnson 1985, Rich 1986), and tend to be associated with irrigated agriculture (Leptich 1994, Rich 1986). Burrowing owls also are very responsive to artificial nesting burrows placed in their natural nesting habitats (Olenick 1990; J. Belthoff Boise State University, pers. comm.). This species forages in short-grass, mowed or overgrazed pastures, golf courses, airfields, and irrigated agricultural fields (Haug et al. 1993; Moulton et al., *in press*). As an opportunist, burrowing owls will prey on a wide variety of invertebrates (e.g., crickets, grasshoppers, beetles, scorpions) and vertebrates (e.g., mice, voles, pocket gophers), although the majority of prey items are invertebrates (Haug et al. 1993, Moulton 2003).

## **ISSUES**

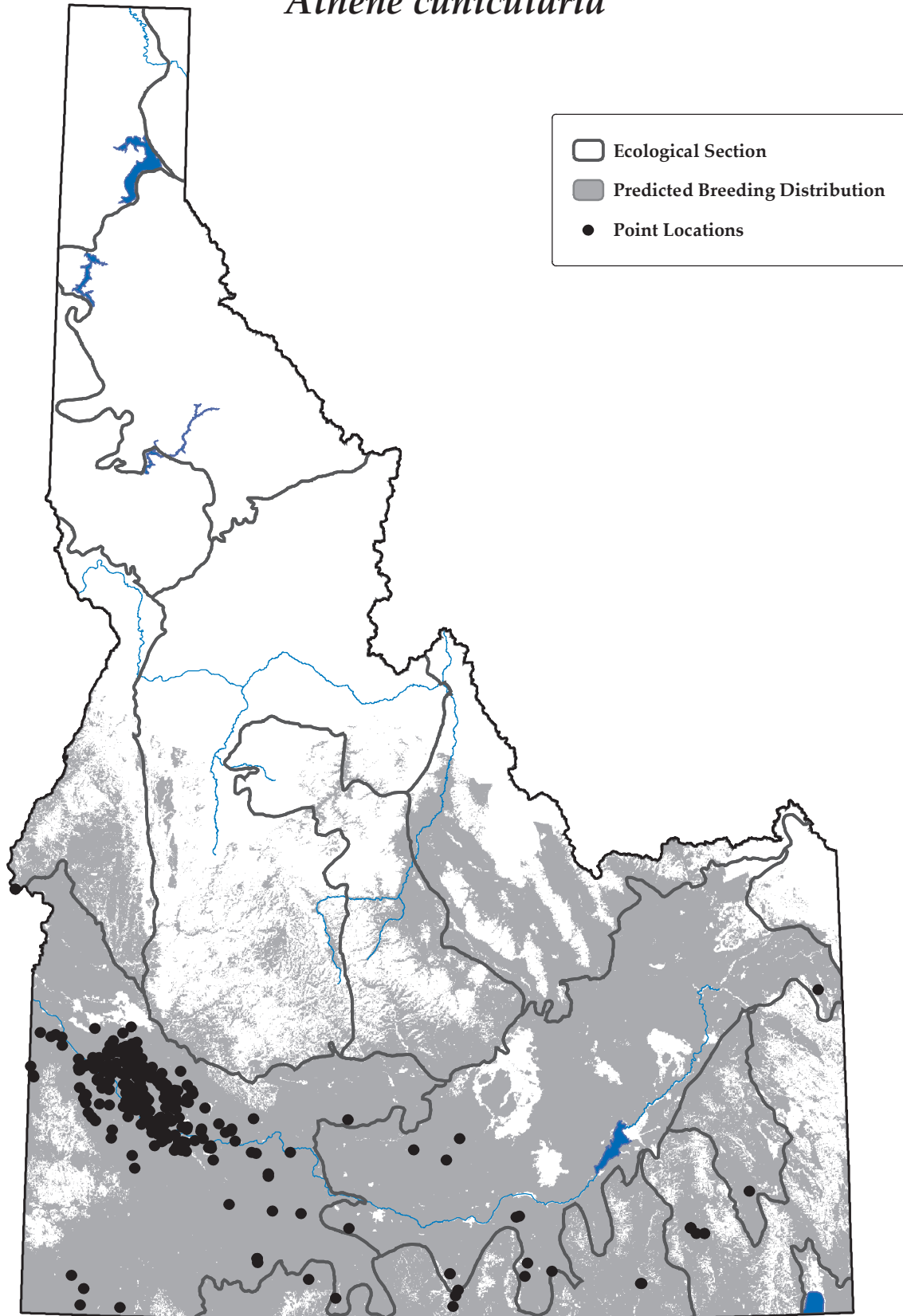
Loss of nesting habitat through urbanization and agricultural conversion is a serious threat throughout this species' range, including Idaho (Haug et al. 1993, Smith and Belthoff 2001). Illegal shooting of nesting burrowing owls has been prevalent in the past (Haug et al. 1993), and has been observed occasionally in Idaho in recent years (J. Belthoff, Boise State University, pers. comm.). Pesticides are a potentially significant threat to this species (e.g., James and Fox 1987), either through direct contact with overspray or consuming prey that has been sprayed, as it nests so close to agricultural fields in this state. Finally, reliable data for population sizes and trends in Idaho are lacking.

## **RECOMMENDED ACTIONS**

Because burrowing owls rely on pre-existing burrows for nesting, protection of American badger populations, as well as deployment of artificial nest structures in appropriate habitat, should be explored (Haug et al. 1993). Prevalence of illegal shooting should be investigated to determine whether this is indeed a problem in Idaho. Monitoring of impacts of pesticide spraying on nesting burrowing owls should be implemented. A statewide population assessment should be conducted, and ongoing statewide monitoring of this species should be established to enable tracking of population trends.

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Map created on September 22, 2005  
and prepared by Idaho Conservation Data Center.  
Sources: Point data are from Idaho Conservation Data Center,  
Idaho Department of Fish and Game (2005). Predicted distribution  
is from the Wildlife Habitat Relationships Models (WHR),  
A Gap Analysis of Idaho: Final Report. Idaho Cooperative Fish  
and Wildlife Research Unit, Moscow, ID (Scott et al. 2002).  
Predicted distribution is approximate (for more information, go to  
[http://www.wildlife.uidaho.edu/idgap/idgap\\_report.asp](http://www.wildlife.uidaho.edu/idgap/idgap_report.asp)).

