Short-eared Owl
Asio flammeus

Aves — Strigiformes — Strigidae

CONSERVATION STATUS / CLASSIFICATION

Rangewide:	Secure (G5)
Statewide:	Apparently secure (S4)
ESA:	No status
USFS:	Region 1: No status; Region 4: No status
BLM:	Watch list (Type 5)
IDFG:	Protected nongame

BASIS FOR INCLUSION
Habitat threats and declining population trends.

TAXONOMY
Up to 9 subspecies of short-eared owls have been designated worldwide, 5 or 6 of which are island endemics (Holt and Leasure 1993). All North American birds are within the nominate race *A. f. flammeus* (Johnsgard 2002). This is the most widely distributed subspecies and typically has lighter plumage than other subspecies (Holt and Leasure 1993).

DISTRIBUTION AND ABUNDANCE
The short-eared owl is 1 of the world's most widely distributed owls, occurring throughout much of North America, Europe and Asia, portions of South America, and on several islands including Iceland, the Hawaiian chain, and the Galápagos (Holt and Leasure 1993). In North America, short-eared owls breed from northern Alaska south to northern California and east across all of Canada and the northern approximately 1/3 of the lower 48 United States (Holt and Leasure 1993, Johnsgard 2002). This species winters from southern British Columbia south to central Mexico and east across the entire lower 48 United States (Holt and Leasure 1993, Johnsgard 2002). The short-eared owl is a year-round resident from southern British Columbia south to northern California and east across most of the northern United States to northern New Hampshire (Holt and Leasure 1993, Johnsgard 2002). Because short-eared owl reproduction and population dynamics are closely associated with the density of its primary prey, small mammals, there is often considerable local variation in short-eared owl abundance and reproduction (Holt and Leasure 1993). In addition, the species is often nomadic because of this association.

Based on North American Breeding Bird Survey (BBS) data from 1994–2004 (Sauer et al. 2005), the species is most common in the intermountain west and upper Midwestern states (portions of Washington, Oregon, Idaho, Nevada, Utah, Montana, Wyoming, South Dakota, North Dakota and Minnesota) and the western and central provinces of Canada (portions of British Columbia, Alberta, Saskatchewan, and Manitoba). Although the species is uncommonly encountered on BBS routes, short-eared owls appear

similarly abundant across much of this area (Sauer et al. 2005). There are, however, small pockets in northwest Utah, west-central Idaho, and northeast British Columbia where this species appears to be slightly more abundant (Sauer et al. 2005). The short-eared owl is a confirmed or suspected breeder across nearly all of Idaho, and there are winter records in the northern and southern portions of the state (Stephens and Sturts 1997). The estimate of population size in Idaho is about 32,000 individuals (Rosenberg 2004).

POPULATION TREND

This species' nomadic lifestyle makes assessing population status of the short-eared owl difficult. However, the National Audubon Society Blue List (most recently revised in 1986, the year the list was discontinued) reported that short-eared owl populations were "down in numbers" or "greatly down in numbers" in all 7 North American regions (Holt and Leasure 1993). In addition, BBS data from 1966–2004 show a -3.6% per year downward trend for short-eared owls in Idaho and a -4.8% per year downward trend for the U.S. and Canada combined (Sauer et al. 2005). However, there are deficiencies in the data sets used to calculate these estimates (primarily low sample size and extremely low relative abundance for this species since they are only sporadically detected using standard BBS protocols). Therefore, the authors of these trend estimates warn that they should be interpreted with caution (Sauer et al. 2005).

HABITAT AND ECOLOGY

Short-eared owls are typically associated with open landscapes such as marshes, grasslands, tundra, and agricultural lands (e.g., pastures, stubble fields, and hay fields). Although they will utilize wooded environments during winter, they rarely breed in forests (except in areas that have been cleared of trees) (Johnsgard 2002). Breeding habitats typically support sufficient vegetation (primarily grasses and forbs) to provide ground nesting and roosting cover and are in close proximity to productive and open hunting areas with abundant supplies of small mammals (Johnsgard 2002). In areas with sparse snowfall, short-eared owls will winter in the same areas as they breed, as long as these areas continue to provide shelter from the weather, support ample populations of small mammals, and have low human disturbance (Holt and Leasure 1993, Johnsgard 2002). Where snows are deep enough that birds become conspicuous when on the ground, short-eared owls often will roost in forest and woodland environments (Holt and Leasure 1993, Johnsgard 2002). This species can be solitary or communal during the nonbreeding season, but often forms loose colonies during the breeding season (Holt and Leasure 1993).

Short-eared owls mature sexually in their first year and there is evidence of breeding by individuals 1 year-old and less (Holt and Leasure 1993, Johnsgard 2002). They form seasonally monogamous pair bonds beginning in late winter and typically have 1 brood per year, but there are reports of second broods and replacement clutches are relatively common if the initial clutch is lost (Holt and Leasure 1993, Johnsgard 2002). Short-eared owls are 1 of the few species of owls that actually construct their own nest, albeit a simple scrape on the ground lined with vegetation (Holt and Leasure 1993, Johnsgard 2002). There is little information on nest site selection for this species, but it is

presumed that females are primarily responsible for nest site selection and construction (Holt and Leasure 1993, Johnsgard 2002). Incubation, brooding, and feeding of nestlings is apparently completed entirely by the female, while the male feeds the female and defends the nest (Holt and Leasure 1993). Nestlings develop remarkably fast, often leaving the nest (on foot) 14–18 days after hatching and 10–18 days prior to fledging (Johnsgard 2002).

The short-eared owl feeds almost exclusively on small mammals with voles (*Microtus* spp.) making up the bulk of their diet (Johnsgard 2002). They hunt on the wing, taking prey during prolonged, coursing flights a few feet above the surface – sometimes hovering over potential prey before striking (Holt and Leasure 1993, Johnsgard 2002). Although known to hunt during all hours of the day, short-eared owls are primarily active during dawn and dusk (crepuscular) with most hunting conducted during late afternoon and early evening hours (Holt and Leasure 1993, Johnsgard 2002).

ISSUES

Because of its nesting habits (ground nesting often in loose colonies) and nomadic lifestyle, the short-eared owl is particularly vulnerable to habitat loss and degradation, and human disturbance (Holt and Leasure 1993). Residential, commercial, transportation, utility, and agricultural development of suitable nesting habitats have been reported as key factors in local short-eared owl population declines (Holt and Leasure 1993). Timing of agricultural activities such as tilling, mowing, burning, etc. can adversely affect short-eared owls breeding in agricultural areas. Because of their low-flying hunting technique and colonial tendencies, populations of short-eared owls in proximity to roads are potentially subject to high mortality due to vehicle collisions.

RECOMMENDED ACTIONS

This species benefits from any actions or projects that protect, enhance, or restore potentially suitable foraging and breeding habitats (e.g., conservation easements, restoration projects). Monitoring for use of agricultural lands prior to ground disturbing actions also would benefit the short-eared owl. This species also has benefited indirectly from enhancement and restoration of waterfowl nesting and foraging habitats, and from reclamation of mines, dikes, and other disturbed lands (Holt and Leasure 1993). Projects designed to benefit other grassland and shrub-steppe species (e.g., sage-grouse sharp-tailed grouse, mule deer) also would benefit short-eared owls. Other management actions that have been suggested include development of a standardized survey protocol, monitoring of human disturbance and predation, and public education (Holt and Leasure 1993).

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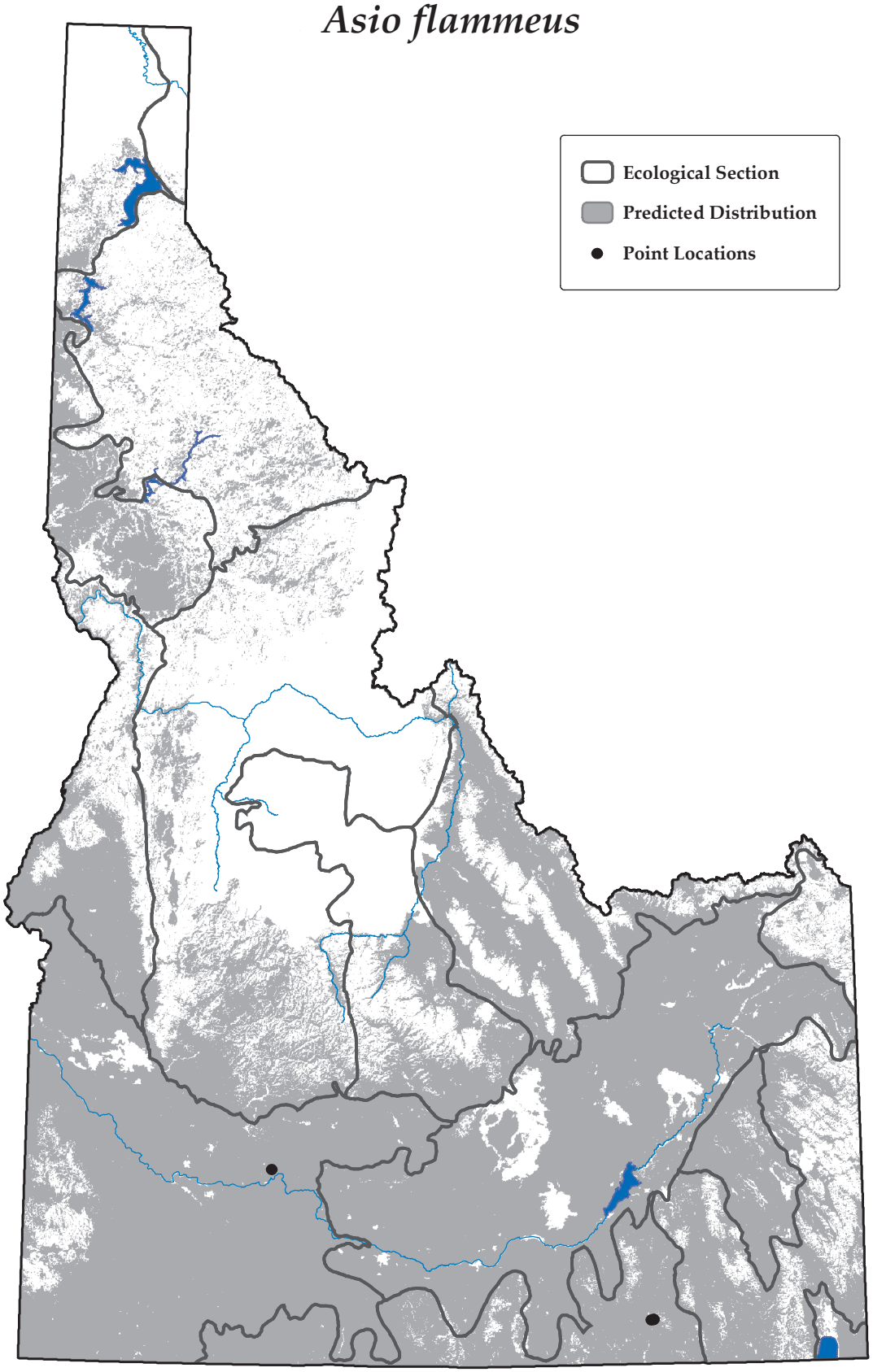

Map created on September 22, 2005
and prepared by Idaho Conservation Data Center.
Sources: Point data are from Idaho Conservation Data Center, Idaho Department of Fish and Game (2005). Predicted distribution is from the Wildlife Habitat Relationships Models (WHR), A Gap Analysis of Idaho: Final Report. 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).

0 20 40 80 Kilometers

0 20 40 80 Miles