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# Flammulated Owl

## *Otus flammeolus*

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Aves — Strigiformes — Strigidae

### CONSERVATION STATUS / CLASSIFICATION

Rangewide: Apparently secure (G4)  
Statewide: Vulnerable breeding (S3B)  
ESA: No status  
USFS: Region 1: Sensitive; Region 4: Sensitive  
BLM: Regional/State imperiled (Type 3)  
IDFG: Protected nongame

### BASIS FOR INCLUSION

Low breeding populations in Idaho; declining regional population trends.

### TAXONOMY

There is no recognized subspecies. Geographic variations have been noted in wing-length/mass proportions and plumage coloration. Wing-length and mass gradually increase from southeast to northwest, possibly correlated to migratory distances (McCallum 1994). Great Basin-Rocky Mountain birds tend to be blackest with the least amount of “flamulated” trim.

### DISTRIBUTION AND ABUNDANCE

The flamulated owl breeds in montane forests from southern British Columbia to southern Mexico, generally west of the Rocky Mountains. Considered 1 of the most highly migratory owls in North America, it winters from central Mexico south to the highlands of Guatemala and El Salvador (McCallum 1994). In Idaho, flamulated owls are widely distributed throughout the montane forested portions of the state. Groves et al. (1997b) considered this species abundant in certain localized habitats of Idaho.

### POPULATION TREND

There are no trend data for Idaho.

### HABITAT AND ECOLOGY

Rangewide breeding habitat combines open, mature montane pine forests for nesting, scattered thickets of saplings or shrubs for roosting and calling, and grassland edge habitat for foraging (Goggans 1986, Reynolds and Linkhart 1987). These habitat features may be required across multiple spatial scales (e.g., microhabitat, home range, landscape) (Wright 1996). In Idaho, Groves et al. (1997b) found flamulated owls occupying mid-elevation old-growth or mature stands of open ponderosa pine, Douglas-fir, and stands co-dominated by these 2 species. Several authors have reported finding flamulated owls in clustered breeding territories across the landscape, with large unoccupied spaces in-between (McCallum 1994). Flamulated owls are obligate cavity nesters, using natural cavities and (more commonly) old woodpecker holes in large trees and snags. They hunt exclusively at night, preying on nocturnal arthropods

(moths, beetles, crickets and grasshoppers), using foraging tactics uniquely adapted for open forest habitats (Goggans 1986).

## **ISSUES**

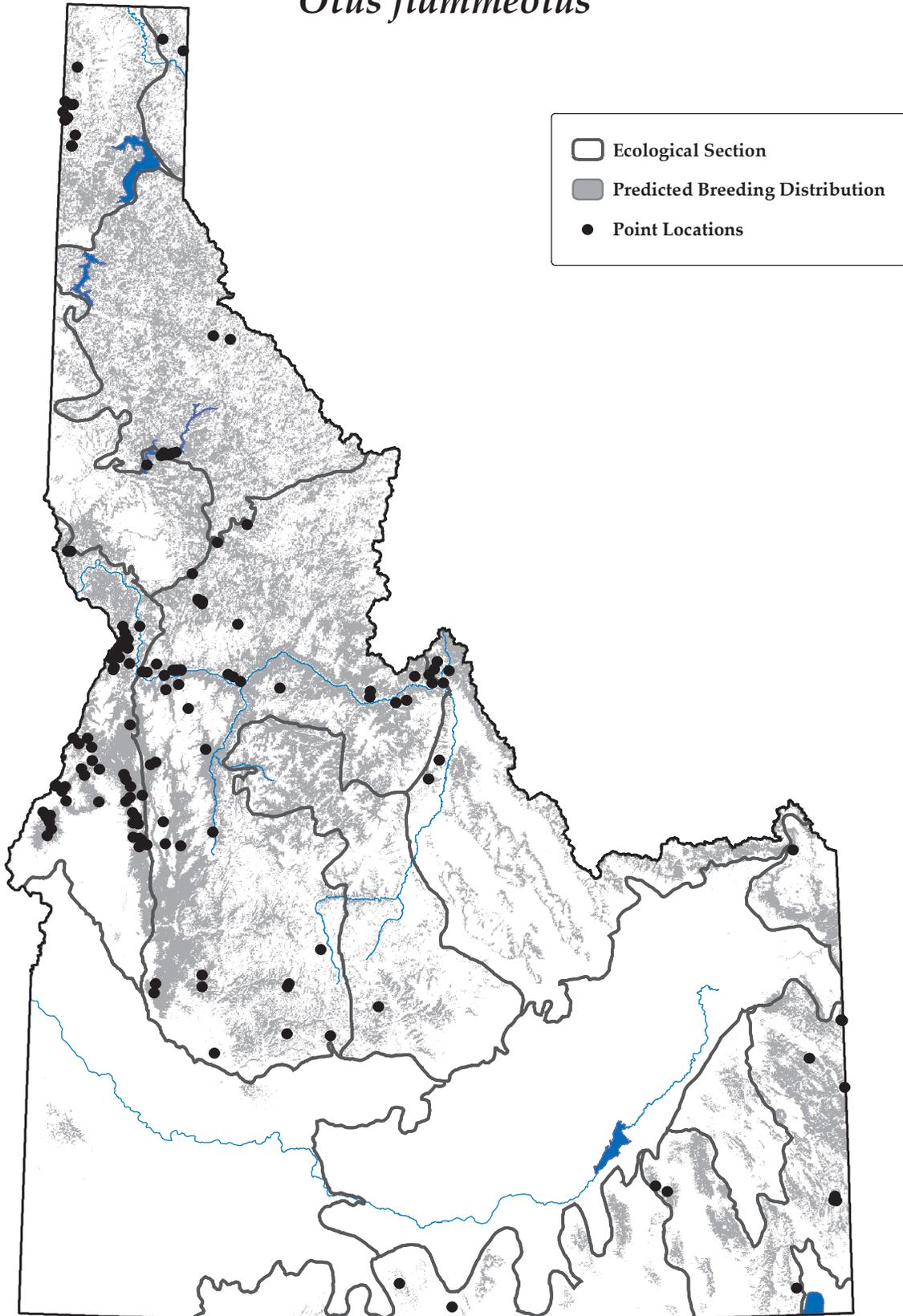
Recognized threats include direct habitat loss from timber harvest practices; fire exclusion resulting in altered forest structure, stocking rates, and species composition; pesticides; and cutting of dead trees for firewood (McCallum 1994, Groves et al. 1997b). These threats are amplified due to the low reproductive potential of this species. Forest practices that remove large-diameter pine and Douglas-fir, manage for even-age stands, and remove snags (including firewood gathering) risk reducing microhabitat and landscape parameters required by this species (McCallum 1994). Lack of fire disturbance has created undesirable high-density vegetation conditions generally unfavorable for owl foraging and conditions favoring stand-replacing fires and insect and disease outbreaks. Changes in stand structure may also impact insect populations and habitat suitability for woodpeckers, a species essential to the conservation of all cavity-nesting owls (McCallum 1994).

## **RECOMMENDED ACTIONS**

Coordinated, statewide, count-based monitoring programs for nocturnal birds are needed to refine population estimates and trend data for this species. Research on factors influencing clustered spatial distribution of breeding sites is warranted to investigate why large areas of presumably suitable habitat remain unoccupied. Research also should focus on this species' behavior, distribution, and potential threats on winter ranges. The U.S. Forest Service (USFS) has completed a conservation assessment for the flammulated owl and developed recommendations for restoring ponderosa pine ecosystems within the framework of the National Fire Plan. Idaho Partners in Flight's Ponderosa Pine Task Force is developing guidelines targeted to private and public land managers for the restoration of ponderosa pine ecosystems that will benefit focal bird species, including the flammulated owl. The USFS, Bureau of Land Management, and Idaho Department of Fish and Game public education programs promoting the value of snags in forest habitats should continue to be funded and implemented.

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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)).

