

Short-eared Owl

Asio flammeus

Class: Aves
Order: Strigiformes

Review Status: Peer-reviewed

Version Date: 15 December 2017

Conservation Status

NatureServe:

Agency:

G Rank: G5

ADF&G: Species of Greatest Conservation Need

IUCN: Least Concern

Audubon AK: Watch

S Rank: S4B

USFWS:

BLM: Watch

Final Rank		
Conservation category: II. Red		
high status and either high biological vulnerability or high action need		
Category	Range	Score
Status	-20 to 20	1
Biological	-50 to 50	-34
Action	-40 to 40	4
Higher numerical scores denote greater concern		

Status - variables measure the trend in a taxon's population status or distribution. Higher status scores denote taxa with known declining trends. Status scores range from -20 (increasing) to 20 (decreasing).

Score

Population Trend in Alaska (-10 to 10)

6

Reliable population trends are not available for Alaska. However, short-eared owls have been declining in North America across their range since the mid-1960s (Booms et al. 2014). We therefore rank this question as B- Suspected declines.

Distribution Trend in Alaska (-10 to 10)

-5

Suspected stable (Booms et al. 2014).

Status Total:

1

Biological - variables measure aspects of a taxon's distribution, abundance and life history. Higher biological scores suggest greater vulnerability to extirpation. Biological scores range from -50 (least vulnerable) to 50 (most vulnerable).

Score

Population Size in Alaska (-10 to 10)

-10

PIF (2019) estimates that there are 130,000 individuals in Alaska (95% CI: 54,000 - 250,000).

Range Size in Alaska (-10 to 10)

-10

Widely distributed during breeding season, though less common in southeast and southcoastal (Pitelka et al. 1955a; Campbell 1969; ARCTOS 2016; Savage et al. 2018). Documented on oceanic islands including the Aleutian Islands and St. Lawrence Island (Winker et al. 2002; Gibson and Byrd 2007). Although a few individuals may overwinter in southern Alaska, this species is not considered a winter resident in Alaska (Wiggins et al. 2006; Armstrong 2008). Estimated range size during

breeding is ~950,000 sq. km., calculated in GIS and based on range map from ACCS (2017a).

Population Concentration in Alaska (-10 to 10) -10

Individuals may congregate in large flocks during the non-breeding season; during the breeding season, they may nest close together in areas of high prey densities (Wiggins et al. 2006). However, they do not concentrate at specific sites.

Reproductive Potential in Alaska

Age of First Reproduction (-5 to 5) -5

One year or less (Wiggins et al. 2006).

Number of Young (-5 to 5) 1

In Utqiagvik (Barrow), Pitelka et al. (1955b) reported a mean clutch size of 6.3 eggs (range: 4 to 8, n = 22). Likely only one brood per season at high latitudes (Pitelka et al. 1955b). Clutch sizes are likely smaller in years when prey densities are low (Kessel 1989), but additional data are needed.

Ecological Specialization in Alaska

Dietary (-5 to 5) 5

Specializes on rodents, especially microtine voles (Wiggins et al. 2006). In Wrangell, microtines accounted for 93% of prey items, and *Microtus pennsylvanicus* accounted for 71% (Hughes 1982). In Utqiagvik, Pitelka et al. (1955b) observed short-eared owls preying exclusively on brown lemmings. Has been documented consuming small birds and insects (Wiggins et al. 2006).

Habitat (-5 to 5) -5

During the breeding season, inhabits broad expanses of open land with low vegetation. Habitat types include grasslands, low shrub, and drier sections of marshes (Pitelka et al. 1955b; Wiggins et al. 2006). Nests are often on ridges or mounds if these features are available (Pitelka et al. 1955b; Wiggins et al. 2006). Short-eared owls likely distribute themselves opportunistically based on prey densities (Kessel 1989; Johnson et al. 2017).

Biological Total: -34

Action - variables measure current state of knowledge or extent of conservation efforts directed toward a given taxon. Higher action scores denote greater information needs due of lack of knowledge or conservation action. Action scores range from -40 (lower needs) to 40 (greater needs).

Score

Management Plans and Regulations in Alaska (-10 to 10) -10

Protected under the Migratory Bird Treaty Act (MBTA 1918). Recreational and subsistence harvest is not permitted (AMBCC 2020).

Knowledge of Distribution and Habitat in Alaska (-10 to 10) 2

Broad distribution is known from multi-species inventories and surveys (e.g. Isleib and Kessel 1973; Kessel 1989; Ruthrauff and Tibbits 2009; Liebezeit et al. 2011; Savage et al 2018) and more specific raptor surveys conducted on the Kenai Peninsula, southeast Alaska, and interior Alaska (McIntyre and Ambrose 1999; Kissling and Lewis 2009). Recent studies have investigated migratory movements of individuals breeding on the Seward Peninsula and in interior Alaska (Johnson et al. 2017). Little is known about habitat associations, but see Pitelka et al. (1955b) for northern Alaska.

Knowledge of Population Trends in Alaska (-10 to 10) 10

Not currently monitored. Studying this species is difficult due to large annual variation in numbers, low site fidelity, and nocturnal habits (Alaska Raptor Management Program 2001; Booms et al. 2014).

Knowledge of Factors Limiting Populations in Alaska (-10 to 10) 2

Population numbers fluctuate rapidly in response to prey densities (Pitelka et al. 1955b; Korpimäki and Norrdahl 1991; Johnson et al. 2017). Reproductive rates and territory sizes are also likely to be influenced by prey densities (Wiggins et al. 2006; Johnson et al. 2017). Limited data on survival rates suggest high survival in summer, followed by increased mortality during the fall migration (Johnson et al. 2017). Predation might be an important cause of mortality for migratory birds (Johnson et al. 2017) and for juveniles (Pitelka et al. 1955b; Wiggins et al. 2006), but additional studies are needed. Habitat loss is believed to be a major factor contributing to this species' decline in North America, but this factor is likely less important in Alaska, where most of its habitat remains intact (Booms et al. 2014).

Action Total: 4

Supplemental Information - variables do not receive numerical scores. Instead, they are used to sort taxa to answer specific biological or management questions.

Harvest:	None or Prohibited
Seasonal Occurrence:	Breeding
Taxonomic Significance:	Monotypic species
% Global Range in Alaska:	<10%
% Global Population in Alaska:	<25%
Peripheral:	No

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