

Silver-haired bat

Class: Mammalia

Order: Chiroptera

Lasionycteris noctivagans

Review Status: Peer-reviewed

Version Date: 19 December 2017

Conservation Status

NatureServe:

Agency:

G Rank: G3G4

ADF&G: Species of Greatest Conservation Need

IUCN: Least Concern

Audubon AK:

S Rank: S4

USFWS:

BLM:

Final Rank		
Conservation category: IV. Orange		
unknown status and high biological vulnerability and action need		
<u>Category</u>	<u>Range</u>	<u>Score</u>
Status	-20 to 20	0
Biological	-50 to 50	-7
Action	-40 to 40	16
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)

0

Unknown.

Distribution Trend in Alaska (-10 to 10)

0

Unknown. Additional research is needed to determine the impacts of deforestation on distribution and habitat availability (Parker 1996).

Status Total: 0

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)

-2

Unknown, but recent passive and active monitoring documented the silver-haired bat throughout most of southeast AK, sometimes in large numbers along driving transects (Blejwas et al. 2014; K. Blejwas, ADF&G, pers. comm.). Estimated population size is between 3,001 and 10,000 individuals (K. Blejwas, pers. comm.).

Range Size in Alaska (-10 to 10)

-2

Although specimens are limited, it is considered widely distributed throughout southeast Alaska, from Revillagigedo Island north to Haines and Yakutat (K. Blejwas, pers. comm.). Wintering distribution is unknown. Acoustic recordings from November to March suggest that the silver-haired

bat (unconfirmed, may be *Eptesicus fuscus*) overwinters southeast Alaska (Blejwas et al. 2014). Estimated range size is between 10,001 and 100,000 sq. km.

Population Concentration in Alaska (-10 to 10) -8

Roosts alone or in small groups (Barclay et al. 1988; Mattson et al. 1994). In South Dakota, Mattson et al. (1994) reported maternity colonies ranging from 6 to 55 individuals, though groups of ~20 females are more common (Mattson et al. 1994; Hayes and Wiles 2013). Males and non-reproductive females are mostly solitary. Very little is known about migration and winter ecology in Alaska. Given population size and distribution, number of sites is likely >25 and potentially >250. We therefore rank this question as $0.5 * C + 0.5 * D$.

Reproductive Potential in Alaska

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

Can potentially give birth within their first year if they are in good enough body condition (Parsons et al. 1986), but reproduction may be delayed until their second year in colder climates (Nagorsen and Brigham 1993; Frick et al. 2010b).

Number of Young (-5 to 5) 4

Females have a single litter of one or two pups, with twins being more common (Parsons et al. 1986). However, females may not reproduce every year if resources are scarce or if they are in poor body condition (Nagorsen and Brigham 1993; Frick et al. 2010b). The proportion of females that forego reproduction in a given year is unknown. To reflect this uncertainty, we rank this question as $0.5 * A + 0.5 * B$.

Ecological Specialization in Alaska

Dietary (-5 to 5) 1

Consumes aerial insects. Within this niche, *L. noctivagans* is an opportunistic and flexible forager (Barclay 1985). Several insect groups have been reported from diet analyses including Lepidoptera, Hemiptera, Coleoptera, and Diptera (Barclay 1985; Reimer et al. 2010). Because invertebrates are an ephemeral and potentially unpredictable food source, we rank this question as B- Moderately adaptable with key requirements common.

Habitat (-5 to 5) 5

Found in mixedwood and coniferous forests (Patriquin and Barclay 2003). Foraging habitats includes forest edges and open forests including old-growth and clear-cuts (Fenton 1990; Campbell et al. 1996; Crampton and Barclay 1998; Patriquin and Barclay 2003). Requires cavities or crevices for roosting. Maternity colonies are usually in crevices of large, tall, early-decaying trees in mature forests stands (Parsons et al. 1986; Vonhof and Barclay 1996; Betts 1998; Crampton and Barclay 1998). Little is known about the wintering ecology of *L. noctivagans* in Alaska.

Biological Total: -7

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) 2

Bats may be intentionally killed by humans when they are perceived as nuisance or disease-carrying species. In Alaska, state laws prohibit the killing of nuisance animals unless a permit is obtained (5 AAC 92.420. Taking nuisance wildlife).

<i>Knowledge of Distribution and Habitat in Alaska (-10 to 10)</i>	2
This species is regularly detected acoustically throughout southeast Alaska (Boland et al. 2009a; K. Blejwas, pers. comm.; ADF&G survey map available online: https://www.adfg.alaska.gov/index.cfm?adfg=citizenscience.batsacousticresults) and general habitat associations are known. Further research is needed to determine seasonal habitat preferences, migratory movements, and overwintering distribution.	
<i>Knowledge of Population Trends in Alaska (-10 to 10)</i>	2
Bats in southeast Alaska are currently being monitored by ADF&G using road surveys and acoustic monitoring stations, but current data are insufficient for monitoring statewide population trends.	
<i>Knowledge of Factors Limiting Populations in Alaska (-10 to 10)</i>	10
Little is known about this species' biology and ecology in Alaska. Research is needed to assess ecological requirements, demographic parameters, winter ecology, and vulnerability to white-nose syndrome. Because this species is closely associated with large-diameter trees and snags, timber harvest may affect habitat availability and behavior (Parker 1996). During migration, this species is highly susceptible to mortality from wind turbines (Hayes and Wiles 2013; Thompson et al. 2017).	
Action Total:	16

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:	Year-round
Taxonomic Significance:	Monotypic species
% Global Range in Alaska:	<10%
% Global Population in Alaska:	<25%
Peripheral:	Yes

References

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Alaska Center for Conservation Science
Alaska Natural Heritage Program
University of Alaska Anchorage
Anchorage, AK