

Little brown myotis

Myotis lucifugus

Class: Mammalia

Order: Chiroptera

Conservation Status

Heritage Agency

G Rank: G5

USFWS/NOAA:

BLM:

AA:

S Rank: S4

SOA: Species of Greatest Conservation Need

USFS:

IUCN: Least Concern

Final Rank		
Conservation category: II. Red		
II = high status and either high biological vulnerability or high action need		
<u>Category</u>	<u>Range</u>	<u>Score</u>
Status:	-20 to 20	6
Biological:	-50 to 50	-21.4
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
<i>Population Trend (-10 to 10)</i>	0
No data (Boland, OSU, personal communication). In the northeastern U.S., white-nose syndrome has caused a severe population decline of little-brown myotis bats, and it is predicted to lead to regional extinctions of this species (Frick et al. 2010). White-nose syndrome has not been detected in bats in Alaska.	
<i>Distribution Trend (-10 to 10)</i>	6
Unknown. However, deforestation in Southeast has most likely reduced forested habitats in Alaska. Activity in second-growth forests rare (Parker and Cook 1996, Parker et al. 1996).	
Status Total:	6

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
<i>Population Size (-10 to 10)</i>	0
Relatively unknown. Apparently widespread but in low numbers. May be relatively common in the narrow belt of temperate forest along the state's southern coasts as far west as Kodiak Island and adjacent Alaska Peninsula. Two-hundred and seventy-nine specimens of <i>M. lucifugus</i> have been collected in 54 locations in Alaska and (Parker 1996). Appears to be uncommon in interior Alaska, but few data are available (Whitaker and Lawhead 1992). Colonies ranging in size from 70 (Salcha River; Whitaker and Lawhead) to 200 (Fairbanks, Rydell et al. 2002) and 461 (White Sulfur Hot Springs, Southeast Alaska, West and Swain 1999) reported in the literature. Abundant relative to other bat species documented in Alaska (Parker 1996).	
<i>Range Size (-10 to 10)</i>	-10
Widely distributed in summer over an extensive range in Alaska as indicated by scattered records. The northernmost specimens are from the vicinity of Fairbanks, the westernmost from near Sleetmute, and the southernmost from Dall Island in Southeast Alaska (Parker 1996, Parker et al. 1997).	
<i>Population Concentration (-10 to 10)</i>	-6
Over 365 documented observations for this species throughout SE and interior Alaska. 46 Element occurrences have been defined from these locations. Concentrates at roost sites and nursery colonies.	
<i>Reproductive Potential</i>	

<u>Age of First Reproduction (-5 to 5)</u>	-4.4
Females produce first young usually in first (Indiana, New Mexico) or second year (British Columbia) (Herd and Fenton 1983). In British Columbia, may delay or forego reproduction in wet years (Grindal et al. 1992).	
<u>Number of Young (-5 to 5)</u>	3
Gives birth to one litter of one young in late spring to early summer.	
<i>Ecological Specialization</i>	
<u>Dietary (-5 to 5)</u>	-5
Invertivore. Prey heavily on insects, including mosquitoes, midges caddisflies, moths, various hoppers, smaller beetles, and sometimes spiders. Large insects preferred. Wide variety of prey; opportunistic	
<u>Habitat (-5 to 5)</u>	1
Roosts in building, trees, under rocks and wood, and caves. Ambient temperature is extremely important to rapid growth of young. Hibernate usually in caves or abandoned mines. High humidity and temperature levels characterize hibernaculums. Availability of roosts may be limiting. Forages near and away from water. Only documented in forested regions of Alaska. Karst system in southeast may be important. In southeast Alaska, availability of suitable maternity roosts may be limiting. Data suggests that the thermal neutral zone for pregnant females ranges between 32 and 38C.	
Biological Total:	-21.4

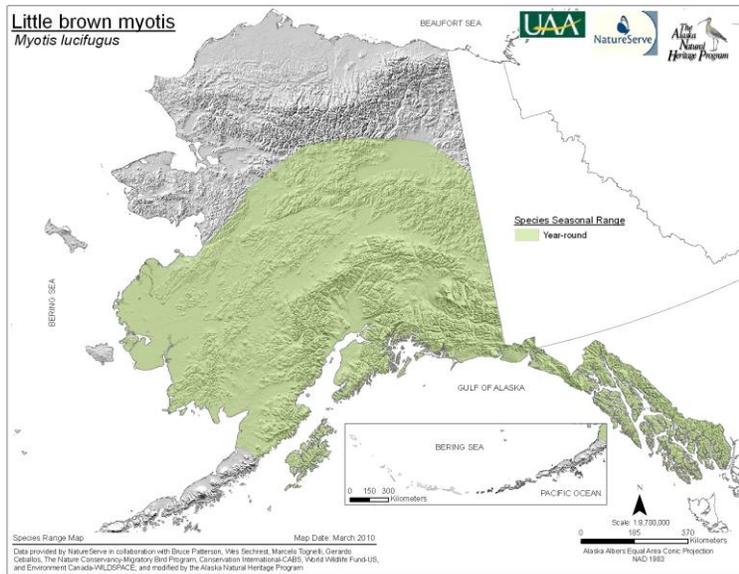
Action - variables measure current state of knowledge or extent of conservation efforts directed toward a given taxon. Higher action scores denote greater information needs due of lack of knowledge or conservation action. Action scores range from -40 (lower needs) to 40 (greater needs).

	Score
<i>Management Needs (-10 to 10)</i>	10
No direct management.	
<i>Monitoring Needs (-10 to 10)</i>	10
Not monitored	
<i>Research Needs (-10 to 10)</i>	6
Hibernating bats are sensitive to human disturbance (Thomas 1995). Disturbance of breeding colonies can cause young to lose their grasp and fall to their death. Disturbance during hibernation can cause bats to use up stored fat reserves and starve to death.	
This species has been documented in forested areas of Southeast Alaska (Parker 1996; Parker et al. 1997; MacDonald and Cook 1999). The extent of past and future timber harvest in southeastern Alaska may have a significant detrimental effect on Myotis species (Parker 1996, Parker et al. 1996). Bat activity is rare in second-growth forests of Southeast Alaska (Parker and Cook 1996).	
Little is known about this species' biology and ecology in Alaska. Research is needed to assess reproductive success, foraging strategies, prey availability, habitat preferences, migration patterns, habitat usage and hibernation ecology. Measure species home range. Measure bat use in forest types and in karst caves to identify important habitats (e.g. for roosting, breeding, foraging).	
<i>Survey Needs (-10 to 10)</i>	-10
According to surveys in 2005, this species was found in every sampled area from Yakutat to Prince of Wales Island (Boland 2007). 253 specimens collected (Arctos 2007).	
Action Total:	16

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

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

Range Map



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Report authors: K. Walton, T. Gotthardt, and T. Fields
Alaska Natural Heritage Program
University of Alaska Anchorage
Anchorage, AK 99501

For details on the development of the ASRS and criteria, please see: Gotthardt, T. A., K. M. Walton, and T. L. Fields. 2012. Setting Conservation Priorities for Alaska's Wildlife Action Plan. Alaska Natural Heritage Program, University of Alaska Anchorage, AK.