

Myotis lucifugus

This species is complete.

October 6, 2009 by Michael Case

Author(s) Expertise:

[Print species as a PDF](#) ^[1]

Sensitivity Factor	Sensitivity 1 - 7 (one being least sensitive, seven being most sensitive)	Confidence 1 - 5 (one being least sensitive, five being most sensitive)
Generalist/Specialist	6 High	1 Very Poor
Physiology	7 Extremely High	5 Very Good
Life History	5 High	4 Good
Habitat	7 Extremely High	4 Good
Dispersal Ability	3 Medium	3 Fair
Disturbance Regimes	1 Low	3 Fair
Ecology	6 High	3 Fair
Non-Climatic	5 High	3 Fair
Other (weight)		

Sensitivity Score : 70 High

Sensitivity Score

$100 * [(0.5 * (\text{Dispersal Distance} + \text{Dispersal Barriers}) + \text{Disturbance Regimes} + (0.5 * \text{Generalist/Specialist}) + \text{Physiology} + (0.5 * \text{Life History}) + \text{Sensitive Habitats} + \text{Ecology} + \text{Non-Climatic Stressors} + (\text{Other} * \text{Weight}) / 49 + (7 * \text{Weight})]$

Note: if Sensitive Habitats are identified, this factor automatically gets a value of seven, otherwise it remains zero.

Confidence Score : 2 Poor

Confidence Score

The Confidence Score is an average of the Confidence column above.

Overall User Ranking: 6 High

Common Name:

Little brown bat

Is this Species completed:

Yes

Taxonomy

This is a description of the whole group

Scientific Name:

Myotis lucifugus

Geography:

Olympics

Realm:

Terrestrial

Kingdom:

Animal

Phylum:

Craniata

Class:

Mammalia

Order:

Chiroptera

Family:

Vespertilionidae

Genus:

Myotis

Global Rank:

G5 (2008)

Rounded Global Rank:

G5 - Secure

IUCN:

Least Concern ver 3.1 - 2008

US Endangered Species Act Code:

Species of Concern

Species Element Code:

AMACC01010

Generalist/Specialist**Broadly, where does this species fall on the spectrum of generalist to specialist? :**

6

Confidence in your assessment of the degree to which the species is a generalist or specialist:

1 Very Poor

Please specify which factors, if any, make the species more of a specialist:

predator/prey relationship

phenology dependency

Please further describe the relationships that make the species more of a specialist:

Very tightly linked to timing and abundance of insect/invertebrate prey. Changes in abundance of insect prey during active period for all Olympic Peninsula forest dwelling bats that hibernate could have dramatic effects on their energy budget.

Citations:

Ormsbee, P.C. 2009. Personal communications. NatureServe. 2009. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. Available <http://www.natureserve.org/explorer>. (Accessed: October 19, 2009).

Physiology**Species' physiological sensitivity:**

7 high sensitivity

Confidence in how physiologically sensitive the species is to climate change:

5 Very Good

Comments:

Bats are very sensitive to changes in microclimate, especially during periods of torpor or winter hibernation. This would be especially true for forest dwelling bats on the Oly Pen that hibernate and do not migrate, such as this species. Higher temperatures that alter the timing or length of winter hibernation could result in bats becoming metabolically active at a time when insect prey are not available.

Citations:

Ormsbee, P.C. 2009. Personal communications.

Life History**Species' reproductive strategy:**

5

Confidence in your assessment of the species' reproductive strategy:

4 Good

Average length of time to reproductive maturity:

730

How many surviving young can an individual produce during a single reproductive event under optimal conditions?:

1

How many reproductive events can an individual undergo in a single year under optimal conditions?:

1

Citations:

NatureServe. 2009. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. Available <http://www.natureserve.org/explorer>. (Accessed: October 19, 2009).

Sensitive Habitats

Depends on the following sensitive habitat types:

Ecotones (not including above)

Confidence in whether the species depends on the listed sensitive habitat types:

4 Good

Level of philopatry:

low

Citations:

NatureServe. 2009. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. Available <http://www.natureserve.org/explorer>. (Accessed: October 19, 2009).

Dispersal Ability

Maximum annual dispersal distance:

5-25km

Confidence in maximum annual dispersal distance:

2 Poor

Within the context of dispersal distance above, do barriers to dispersal exist?:

1 None

Confidence in barriers to dispersal exists:

4 Good

Disturbance Regimes

How sensitive is this species to one or more disturbance regimes:

1 not sensitive on the nature of any disturbance regime

Confidence in how sensitive is this species on one or more disturbance regimes:

3 Fair

Ecological Relationships

Please specify which of the following (if any) are sensitive to climate change for this species:

predator/prey relationship

habitat

Confidence in how sensitive the species is to other effects of climate change on its ecology:

3 Fair

Which types of climate and climate-driven changes in the environment affect these aspects of the species' ecology?:

precipitation

How sensitive is this species? ecological relationships to the effects of climate change?:

6

Comments:

If habitat and prey change with climate change this species will be impacted.

Interacting non-climatic stressors

To what degree do other, non-climate-related threats, to the species make it more sensitive to climate change?:

5

Confidence in the degree to which non-climate-related threats affect the species' sensitivity to climate change:

3 Fair

Please check all of the stressors that make the species more sensitive to climate change:

habitat loss or degradation

invasive/exotic species

Overall User Ranking

In your opinion, how would you rank the overall sensitivity of this species to climate change?:

6

Confidence in your overall assessment of the sensitivity of this species to climate change:

3 Fair

Comments:

In conversations with Pat Ormsbee, USFS R6 bat specialist, it was felt that any of the forest dwelling bats on the Olympic Peninsula that do not migrate would be sensitive to climate change due to potential changes in microclimate and timing and abundance of insect prey.

[Print species as a PDF](#) ^[1]

Source URL (retrieved on 2013-05-21 15:08): <http://climatechangesensitivity.org/node/526>

Links:

[1] <http://climatechangesensitivity.org/printpdf/526>