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Puma concolor

This species is not complete.
January 7, 2014 by Amber Lankford
Author(s) Expertise: **3**
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	2 Medium-Low	2 Poor
Physiology	1 Low	3 Fair
Life History	4 Medium-High	3 Fair
Habitat		3 Fair
Dispersal Ability	2 Medium-Low	3 Fair
Disturbance Regimes	3 Medium	2 Poor
Ecology	1 Low	1 Very Poor
Non-Climatic	2 Medium-Low	2 Poor
Other (weight)		

Sensitivity Score : 24 Low

Sensitivity Score

100 * [(0.5 *(Dispersal Distance + Dispersal Barriers) + Disturbance Regimes + (0.5 * Generalist/Specialist) + Physiology + (0.5 * Life History) + Sensitive Habitats + Ecology + Non-Climatic Stressors + (Other * Weight) / 49 + (7 * 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: 1 Low

Author Expertise:
3

Common Name:
Mountain Lion Puma Cougar

Is this Species completed:
No

Taxonomy

This is a description of the whole group

Scientific Name:
Puma concolor

Geography:
Idaho

Realm:
Terrestrial

Kingdom:
Animal

Phylum:
Chordata

Class:
Mammalia

Order:
Carnivora

Family:
Felidae

Genus:
Puma

Global Rank:
G5 (1996)

Rounded Global Rank:
G5 - Secure

IUCN:
Least Concern ver 3.1 (2008)

Generalist/Specialist

Broadly, where does this species fall on the spectrum of generalist to specialist? :
2

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

Comments:
Mountain lions consume a wide variety of vertebrate prey.

Physiology

Species' physiological sensitivity:
1 low sensitivity

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

Life History

Species' reproductive strategy:
4

Confidence in your assessment of the species' reprodcutive strategy:
3 Fair

Is the species polycyclic, iteroparous, or semelparous?:
Iteroparous (reproduces in successive cycles--characteristic of K-strategists)

Average length of time to reproductive maturity:
2 - 3 years

How many surviving young can an individual produce during a single reproductive event under optimal conditions?:
2 - 4

How many reproductive events can an individual undergo in a single year under optimal conditions?:
1

Comments:
Mountain lions are capable of reproducing in any season, although distinct pulses have been identified. The seasonal timing of reproduction may be affected by climate and/or resources.

Citations:
Pierce, M.B., and V.C. Bleich. 2003. Mountain lion: Puma concolor. In: Wild Mammals of North America: Biology, Management, and Conservation. 2nd Edition. Editors: Feldhamer, G.A., B.C. Thompson, J.A. Chapman. The Johns Hopkins University Press, Baltimore, Maryland.

Sensitive Habitats

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

Level of philopatry:
medium

Comments:
Found throughout a wide variety of habitats. Dens are typically located in rocky or heavily vegetated areas. It is suggested that mountain lions are more strongly associated with topographic complexity, steep slopes, higher elevations, and vegetative cover, while avoiding open agricultural areas (Pierce and Bleich 2003). Dense vegetative or rocky cover may be critical for stalking and catching prey and for providing visual and thermal cover. Females exhibit stronger philopatry than males, depending upon resources.

Citations:
Pierce, M.B., and V.C. Bleich. 2003. Mountain lion: Puma concolor. In: Wild Mammals of North America: Biology, Management, and Conservation. 2nd Edition. Editors: Feldhamer, G.A., B.C. Thompson, J.A. Chapman. The Johns Hopkins University Press, Baltimore, Maryland.

Dispersal Ability

Maximum annual dispersal distance:
>100 km

Confidence in maximum annual dispersal distance:
4 Good

Within the context of dispersal distance above, do barriers to dispersal exist?:
3

Confidence in barriers to dispersal exists:
2 Poor

Specific dispersal distance (if known), and dispersal type (juvenile, adult, etc.):
Males disperse further than females.

Please select the types of barriers relevant to dispersal:
Road (Highway)
Industrial or Urban Development
Suburban or Rural Residential Development
Geologic Features
Arid lands

Please enter any known specific restrictions to dispersal:
Increasing road size correlates with decreased crossing.

Comments:
Mountain lions will cross roads, but as noted in Sweanor et al. (2001). fewer crossings occur across large roads and the number of crossings decreases with road expansion.

Citations:
Pierce, M.B., and V.C. Bleich. 2003. Mountain lion: Puma concolor. In: Wild Mammals of North America: Biology, Management, and Conservation. 2nd Edition. Editors: Feldhamer, G.A., B.C. Thompson, J.A. Chapman. The Johns Hopkins University Press, Baltimore, Maryland. Logan, K.A.m and L.L. Sweanor. 2001. Desert Puma: Evolutionary ecology and conservation of an enduring carnivore. Island Press, Washington, D.C. Sweanor, L.L., K.A. Logan, and M.G. Hornocker. 2000. Cougar dispersal patterns, metapopulation dynamics, and conservation. Conservation Biology 14:798-808.

Disturbance Regimes

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

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

Please check all disturbance regimes upon which the species is sensitive:
Disease
Urbanization

Please describe the disturbance regimes upon which the species is sensitive (frequency, timing, severity, duration):
Mountain lions are susceptible to some diseases and it is unclear whether the intensity, rate of transmission, and severity of these diseases will be affected by climate change. Urbanization creates barriers to movement and removes potential habitat. it also places transient individuals at increased risk of coming into contact with humans.

Citations:
Pierce, M.B., and V.C. Bleich. 2003. Mountain lion: Puma concolor. In: Wild Mammals of North America: Biology, Management, and Conservation. 2nd Edition. Editors: Feldhamer, G.A., B.C. Thompson, J.A. Chapman. The Johns Hopkins University Press, Baltimore, Maryland.

Ecological Relationships

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

How sensitive is this species? ecological relationships to the effects of climate change?:
1 (not sensitive)

Comments:

While this species is a generalist predator, it is unclear how wide spread changes in climate might affect the multiple species they (and other carnivores) depend on. Mountain lions have a niche overlap with many other large predators (wolves, lynx, bobcat, bears, coyotes), but it is unclear how the direct and/or indirect effects of climate change will impact these competitive relationships.

Interacting non-climatic stressors

To what degree do other, non-climate-related threats, to the species make it more sensitive to climate change?:
2

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

Please check all of the stressors that make the species more sensitive to climate change:
habitat loss or degradation
direct human conflict (including harvesting)

Comments:
The intensity of hunting pressure on individual populations should be carefully considered when taking the potential impacts of climate change in to account

Overall User Ranking

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

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