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Circus cyaneus

This species is complete.
July 31, 2014 by Amber Lankford
Author(s) Expertise:
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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	3 Fair
Physiology	3 Medium	3 Fair
Life History	5 High	4 Good
Habitat	7 Extremely High	5 Very Good
Dispersal Ability	4 Medium-High	2 Poor
Disturbance Regimes	2 Medium-Low	3 Fair
Ecology	4 Medium-High	4 Good
Non-Climatic	4 Medium-High	3 Fair
Other (weight)		

Sensitivity Score : 56 Medium

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: 4 Medium-High

Common Name:
Northern harrier

Is this Species completed:
Yes

Taxonomy

This is a description of the whole group

Scientific Name:
Circus cyaneus

Geography:
PNW

Realm:
Terrestrial

Kingdom:
Animal

Phylum:
Chordata

Class:
Aves

Order:
Accipitriformes

Family:
Accipitridae

Genus:
Circus

Global Rank:
G5 (2008)

Rounded Global Rank:
G5 - Secure

IUCN:
Least Concern ver 3.1 - 2014

US Endangered Species Act Code:
Not listed

Species Element Code:
ABNKC11010

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:
3 Fair

Please specify which factors, if any, make the species more of a specialist:
predator/prey relationship

Comments:
Harriers prey on small mammals, birds, and amphibians. Spring abundance of prey species is an important factor in harrier population fluctuations.

Citations:
NatureServe. 2014. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. Available http://explorer.natureserve.org. (Accessed: August 1, 2014). --- Smith, Kimberly G., Sara Ress Wittenberg, R. Bruce Macwhirter and Keith L. Bildstein. 2011. Northern Harrier (Circus cyaneus), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: http://bna.birds.cornell.edu/bna/species/210

Physiology

Species' physiological sensitivity:
3

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

Please specify whether or not this species is physiologically sensitive to one or more of the following:
temperature
precipitation

Please describe any specific physiological sensitivities:
Cool rainy weather may negatively affect reproductive success: increased mortality of nestlings due to exposure, delayed egg laying.

Citations:
NatureServe. 2014. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. Available http://explorer.natureserve.org. (Accessed: August 1, 2014).

Life History

Species' reproductive strategy:
5

Confidence in your assessment of the species' reprodcutive strategy:
4 Good

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

Average length of time to reproductive maturity:
1 year

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:
A greater proportion of females may breed at 1 year if prey populations are high. Asynchronous hatching: the latest hatched young usually die through food competition with older siblings. However if enough food is available to all nestlings, they may all survive. Polygyny also common in years of prey species food abundance.

Citations:
NatureServe. 2014. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. Available http://explorer.natureserve.org. (Accessed: August 1, 2014). --- Smith, Kimberly G., Sara Ress Wittenberg, R. Bruce Macwhirter and Keith L. Bildstein. 2011. Northern Harrier (Circus cyaneus), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: http://bna.birds.cornell.edu/bna/species/210

Sensitive Habitats

Depends on the following sensitive habitat types:
Coastal Lowlands/Marshes/Estuaries/Beaches
Grasslands/balds

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

Comments:
Found in open habitats such as grassland, tundra, open marsh, and cultivated fields. Nests are built on the ground near low shrubs or taller vegetation.

Citations:
NatureServe. 2014. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. Available http://explorer.natureserve.org. (Accessed: August 1, 2014). --- Smith, Kimberly G., Sara Ress Wittenberg, R. Bruce

Macwhirter and Keith L. Bildstein. 2011. Northern Harrier (Circus cyaneus), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: http://bna.birds.cornell.edu/bna/species/210

Dispersal Ability

Maximum annual dispersal distance:
25-50km

Confidence in maximum annual dispersal distance:
2 Poor

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

Confidence in barriers to dispersal exists:
2 Poor

Please select the types of barriers relevant to dispersal:
Road (Highway)
Industrial or Urban Development

Disturbance Regimes

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

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

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

Please describe the disturbance regimes upon which the species is sensitive (frequency, timing, severity, duration):
Harriers that nest in marshes may have nests flooded in high water events. Fire in grasslands may reduce nesting cover, or cover for prey species. It may also create new habitat by opening previously densely vegetated areas.

Citations:
Smith, Kimberly G., Sara Ress Wittenberg, R. Bruce Macwhirter and Keith L. Bildstein. 2011. Northern Harrier (Circus cyaneus), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: http://bna.birds.cornell.edu/bna/species/210

Ecological Relationships

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

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

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

How sensitive is this species? ecological relationships to the effects of climate change?:
4

Comments:
Population fluctuations and nest success have previously been shown to be closely associated with prey abundance in spring.

Citations:
NatureServe. 2014. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. Available http://explorer.natureserve.org. (Accessed: August 1, 2014).

Interacting non-climatic stressors

To what degree do other, non-climate-related threats, to the species make it more sensitive to climate change?:
4

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
direct human conflict (including harvesting)

Overall User Ranking

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

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

3 Fair

Print species as a PDF [1]

Links:
[1] http://climatechangesensitivity.org/printpdf/991