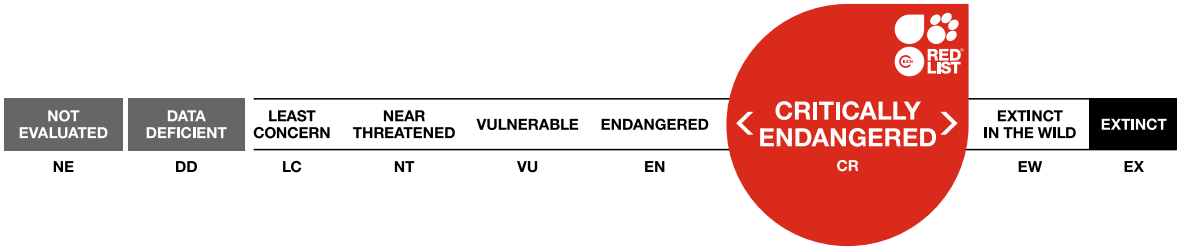
The IUCN Red List of Threatened Species™
ISSN 2307-8235 (online)
IUCN 2020: T5529A111875852
Scope(s): Global
Language: English

Cricetus cricetus, Common Hamster

Assessment by: Banaszek, A., Bogomolov, P., Feoktistova, N., La Haye, M., Monecke, S., Reiners, T. E., Rusin, M., Surov, A., Weinhold, U. & Ziomek, J.



View on www.iucnredlist.org

Citation: Banaszek, A., Bogomolov, P., Feoktistova, N., La Haye, M., Monecke, S., Reiners, T. E., Rusin, M., Surov, A., Weinhold, U. & Ziomek, J. 2020. *Cricetus cricetus*. *The IUCN Red List of Threatened Species* 2020: e.T5529A111875852. https://dx.doi.org/10.2305/IUCN.UK.2020-2.RLTS.T5529A111875852.en

Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Chordata	Mammalia	Rodentia	Cricetidae

Scientific Name: *Cricetus cricetus* (Linnaeus, 1758)

Regional Assessments:

- Mediterranean
- Europe

Common Name(s):

- English: Common Hamster, Black-bellied Hamster, European Hamster
- French: Grand Hamster
- Spanish; Castilian: Hámster Común
- Hungarian: Mezei hörcsög
- Polish: Chomik europejski
- Russian: обыкновенный хомяк

Taxonomic Notes:

The former separation into the Western subspecies *Cricetus cricetus canescens* is no longer valid due to recent genetic studies (Neumann *et al.* 2004, 2005; Stefen 2013; Schroder *et al.* 2014). Several genetic lineages exist within the species (Banaszek *et al.* 2010; Neumann *et al*. 2004, 2005).

Assessment Information

Red List Category & Criteria: Critically Endangered A3c ver 3.1

Year Published: 2020

Date Assessed: June 20, 2019

Justification:

This species is listed as Critically Endangered under criterion A3ac in view of the rapid decline in the reproduction rate of the Common Hamster which indicates a suspected population reduction of 50% per year throughout large portions of the species distribution (equivalent to a reduction of at least 99% over the next ten years). This decline is ongoing and is likely to result in extinction of this species, projected to occur within the period 2020-2050 if nothing changes. The Common Hamster's range has declined in almost all European countries. Local and regional extirpations and extinctions have occurred in 13 European countries and in both the European and Asiatic parts of Russia. These include nearly 67% of the range states for this species. The decline does not affect only West European countries, but also affects the global range with declines in Russia and the eastern part of its range evidenced. From the previous assessment in 2016 there has been an estimated decline in the species area of occupancy of 226,835 km² and a 468,634 km² decline in its extent of occurrence.

Previously Published Red List Assessments

2016 – Least Concern (LC)
https://dx.doi.org/10.2305/IUCN.UK.2016-3.RLTS.T5529A22331184.en

https://dx.doi.org/10.2305/IUCN.UK.2020-2.RLTS.T5529A111875852.en

2008 – Least Concern (LC)
https://dx.doi.org/10.2305/IUCN.UK.2008.RLTS.T5529A11273957.en

1996 – Lower Risk/least concern (LR/LC)

Geographic Range

Range Description:

Cricetus cricetus has a large global range, extending from Western Europe, through Central and Eastern Europe, Russia and Kazakhstan, reaching as far East as the Yenisey river (Asian Russia). In Europe, it occurs from Belgium, the Netherlands and Eastern France (Alsace) in the West to Russia in the East, and from central Germany, Poland and Russia in the North to Bulgaria in the South (Panteleyev 1998, Weinhold 1999). It is found from sea level to 650 m (Nechay 2000).

Country Occurrence:

Native, Extant (resident): Austria; Belarus; Belgium; Bulgaria; Czechia; France; Germany; Hungary; Kazakhstan; Moldova; Netherlands; Poland; Romania; Russian Federation; Serbia; Slovakia; Slovenia; Switzerland; Ukraine

Native, Presence Uncertain: Bosnia and Herzegovina; China; Croatia; Georgia

Distribution Map

Legend

EXTANT (RESIDENT)

Compiled by:

IUCN SSC Small Mammal Specialist Group 2020

The boundaries and names shown and the designations used on this map do not imply any official endorsement, acceptance or opinion by IUCN.

https://dx.doi.org/10.2305/IUCN.UK.2020-2.RLTS.T5529A111875852.en

Population

Cricetus cricetus has undergone severe range and population declines in Western, Central and Eastern Europe, and now has a highly fragmented distribution in these areas. The decline of the Common Hamster's range and numbers covers its whole distribution range (see Surov *et al*. 2016 for detailed analysis with maps). Extirpations and extinction on local and regional scales have occurred in a number of countries including Belgium, The Netherlands, France, Austria, Germany, Poland, the Czech Republic, Hungary, Slovakia, Ukraine, Belarus and Russia (Ambros *et al*. 2003, Bihari 2003, Demyanchik 2004, Ziomek and Banaszek 2007, Tkadlec *et* al. 2012, Sidorov *et al*. 2011, Rusin *et al*. 2013, Surov *et al*. 2016). The species is extinct in Switzerland (Hediger 1944, Mohr 1954, no recent records) and most probably in Georgia, where it was present in one locality (Vinogradov and Gromov 1952, Bukhnikashvili and Kandaurov 2004). To the best knowledge of the assessors, it was never present in Luxembourg which was listed as country of occurrence in the previous assessment.

In general, decline was shown in each country where monitoring of the species was performed. The relative occurrence of the Common Hamster before and after 1970 was compared in Russian, Belarus and Ukrainian provinces, and Moldova. Before 1970, the Common Hamster was abundant in 28 provinces, common in 37 and rare in 20. Today, the species is abundant only in eight and common in 27 provinces, but it is rare in 42 and extinct in eight provinces. Moreover, the species' range is becoming or is already fragmented, due to it vanishing from more than 75% of its range in Central and Eastern Europe. There are only seven fragments in eastern part of the range where the species is common or abundant: two are in Ukraine, one in Caucasus, two in Volga and Ural area and two in Siberia. Nevertheless, the most important fact is that population decline and fragmentation in general concerns the whole eastern range (Surov *et al*. 2016).

Current Population Trend: Decreasing

Habitat and Ecology **(see Appendix for additional information)**

Its original habitat was fertile steppe and grassland, but it has successfully spread into a variety of anthropogenic habitats including meadows, croplands (especially cereals), and field edges, road verges and scrubby fallow areas on farms. In eastern parts of its range it is found quite often in gardens and orchards, in close proximity to human habitation. It is more abundant in these man-made habitats than it is in natural grassland. It prefers relatively deep, heavy soils, in which it digs extensive burrows. Its diet mainly consists of the green parts of plants and seeds, supplemented by invertebrates and, occasionally, small vertebrates. At high densities it is considered an agricultural pest in some areas (Nechay 2000).

Systems: Terrestrial

Use and Trade

In the past the Common Hamsters were intensively used in fur trade. Tens of millions individuals were harvested annually, but this hunting pressure had ended by 1970s in most of the species' range. Hunting continues only in Hungary (on a very limited scale).

Threats **(see Appendix for additional information)**

The causes of the global decline are complex, are not fully understood yet, and there are many

https://dx.doi.org/10.2305/IUCN.UK.2020-2.RLTS.T5529A111875852.en

hypotheses attempting to explain the breakdown of the species. Research to identify the most important factors driving this decline is urgently needed. The decline in Western Europe has been attributed to a combination of persecution and agricultural intensification. Habitat loss and fragmentation due to intensive building of industrial estates, alongside the improvement of road networks and infrastructure, are severely disturbing natural population dynamics and lead to highly endangered "island populations". Habitat fragmentation also causes loss of genetic diversity (Banaszek *et al*. 2011; Banaszek and Ziomek 2012; La Haye *et al*. 2012; Neuman *et al*. 2004, 2005; Reiners *et al*. 2014). Agricultural intensification—specifically the loss of perennial crops, the lack of crop diversity, large scale monocultural farming, and the use of pesticides—are suspected to have a negative impact. Moreover, it was shown in Alsace that body mass of the hamsters at emergence from hibernation decreased by 20% in the last 70 years. It was suggested that maize monocultures and climate change have such adverse effects on body mass (Tissier *et al*. 2016).

The current change in agricultural practices in Central and Eastern Europe is a real threat in the near future (Hegyeli *et al*. 2015). In former times, Common Hamster was trapped and poisoned to prevent damage to crops. The hamsters were also trapped for the fur trade (Nechay 2000). A recent analysis of reproduction parameters revealed a global decrease in the number of litters, embryos and newborns to such an extent that the populations potentially might shrink by 50% each year. The reasons for reproduction breakdown most probably are related to climate change, light pollution, or fur trapping in the past (Surov *et al*. 2016). Light pollution is an often underestimated threat. It acts on the physiology and behaviour of the species through endocrine and neurobiological processes which affect, amongst others, reproduction in birds and mammals (for a review see Navara and Nelson 2007, Gaston *et al*. 2013). For the Common Hamster there is not only a spatial coincidence between highly light polluted areas and areas with the strongest decline but also a temporal coincidence between the period of decline and increasing light intensities (Surov *et al*. 2016). Moreover, light exposure during only two winter nights shifted the onset of its reproductive phase by 3-4 weeks (Monecke *et al*. 2010). The fact that, nevertheless, some populations are doing quite well in a few cities is not a contradiction: good food availability and rain-sheltered areas within a town might override the negative effect of light pollution in these populations.

Conservation Actions **(see Appendix for additional information)**

The species is listed on Appendix II of the Bern Convention and Annex IV of the EU Habitats and Species Directive. Specific conservation recommendations to improve the status of the species in Western Europe are detailed in Stubbe and Stubbe (1998), Nechay (2000), Weinhold (2009) and various other authors. These focus on subsidizing farmers to manage agricultural habitats appropriately, to restore key habitat elements, such as lucerne fields, offering cover and food after harvest, and minimizing the use of pesticides.

In recent years reintroductions have been carried out in France, Belgium, the Netherlands and Germany and this conservation measure seems the most successful so far as it stops local population decrease.

The Standing Committee of the Bern Convention adopted an action plan for the conservation of the European Hamster in 2009 (Weinhold 2009), recommending the urgent need to update population data and trends in the Eastern part of the range as well as the preparation of protection plans in those countries. Conservation measures are currently carried out and monitoring of population trends takes place regularly only in Western Europe (Belgium, France, The Netherlands, Germany and Austria). These

https://dx.doi.org/10.2305/IUCN.UK.2020-2.RLTS.T5529A111875852.en

are four out of 18 countries belonging to the range of *Cricetus cricetus* where it is extant. Monitoring of the species was performed in several other countries (i.e., in Poland, Czech Republic and Ukraine, partially in Belarus, Slovakia, Romania and Russia). Monitoring is urgently needed in remaining range countries. Conservation plans should also be developed for most of the countries from this species' range; such a national plan is currently under development in Poland.

Credits

Assessor(s): Banaszek, A., Bogomolov, P., Feoktistova, N., La Haye, M., Monecke, S., Reiners, T. E., Rusin, M., Surov, A., Weinhold, U. & Ziomek, J.

Reviewer(s): Kennerley, R.

Facilitator(s) and Compiler(s): Dando, T.

Authority/Authorities: IUCN SSC Small Mammal Specialist Group

https://dx.doi.org/10.2305/IUCN.UK.2020-2.RLTS.T5529A111875852.en

Bibliography

Ambros, M., Baláž, I. and Janálová, D. 2003. Occurrence of Hamster (*Cricetus cricetus* L., 1758) in western Slovakia. In: Nechay, G. (ed.), Proc 11th meeting of the International Hamster Workgroup. Budapest, Hungary.

Banaszek, A. and Ziomek, J. 2012. Genetic variation and effective population size in an isolated population of the common hamster, *Cricetus cricetus*. *Folia Zoologica* 61: 34-43.

Banaszek, A., Jadwiszczak, K.A. and Ziomek, J. 2011. Genetic variability and differentiation in the Polish common hamster (*Cricetus cricetus* L.) - Genetic consequences of agricultural habitat fragmentation. *Mammalian Biology* 76: 665-671.

Banaszek, A., Jadwiszczak, K.A., Ziomek, J. and Neumann, K. 2010. Population structure, colonization processes and barriers for dispersal in Polish common hamsters (*Cricetus cricetus*). *Journal of Zoological Systematics and Evolutionary Research* 48(2): 151-158.

Bukhnikashvili, A. and Kandaurov, A. 2004. The annotated list of mammals of Georgia. *Zoology of Academy of Sciences of the Georgia, Metsniereba, Tbilisi* 21: 319-340.

Bukhnikashvili, A. and Kandaurov, A. 2004. The annotated list of mammals of Georgia. *Zoology of Academy of Sciences of the Georgia, Metsniereba, Tbilisi* 21: 319-340.

Demyanchik, V.T. 2004. Obyknovenny khomyak [The Common hamster]. *Krasnaya kniga respubliki Belarus Jivotnye Redkie i nakhodyashiesya pod ugrozoy iscjeznovenias vidy dikikh jivotnikh [The Red Book of the Republic of Belarus Animals Rare and endangerous species of wild animals]*, Belaruskaya entziklopedia imeny Petrusya Brovki, Minsk.

Feoktistova, N.Y., Meschersky, I.G., Bogomolov, P.L., Sayan, A.S., Poplavskaya, N.S. and Surov, A.V. 2017. Phylogeographic structure of the Common hamster (Cricetus cricetus L.): Late Pleistocene connections between Caucasus and Western European populations. *PloS one* 12(11): e0187527.

Gaston, K.J., Bennie, J., Davies, T.W. and Hopkins, J. 2013. The ecological impacts of nighttime light pollution: a mechanistic appraisal. *Biological Reviews* 88: 912-927.

IUCN. 2020. The IUCN Red List of Threatened Species. Version 2020-2. Available at: www.iucnredlist.org. (Accessed: 13 June 2020).

La Haye, M., Neumann, K. and Koelewijn, H. 2012. Strong decline of gene diversity in local populations of the highly endangered Common hamster (*Cricetus cricetus/>) in the Western part of its European range. Conservation Genetics* 13(2): 1-12.

Monecke, S., Malan, A., Saboureau, M. and Pévet, P. 2010. Phase shift of the circannual reproductive rhythm in European hamsters by 2 days of long photoperiod. *Neuroendocrinol Lett.* 31: 738-742.

Navara, K.J. and Nelson, R.J. 2007. The dark side of light at night: physiological, epidemiological, and ecological consequences. *Journal of Pineal Research* 43: 215-224.

Nechay, G. 2000. *Status of hamsters:* Cricetus cricetus, Cricetus migratorius, Mesocricetus newtoni *and other hamster species in Europe*. Council of Europe Publishing.

Neumann, K., Jansman, H., Kayser, A., Maak, S. and Gattermann, R. 2004. Multiple bottlenecks in threatened Western European populations of the common hamster *Cricetus cricetus* (L.). *Conservation Genetics* 5: 181-193.

Neumann, K., Michaux, J.R., Maak, S., Jansman, H., Kayser, A., Mundt, G. and Gattermann, R. 2005.

Genetic spatial structure of European common hamsters a result of repente range expansion and demographic bottlenecks. *Molecular Ecology* 14: 1473–1483.

Pacifici, M., Santini, L., Di Marco, M., Baisero, D., Francucci, L., Grottolo Marasini, G., Visconti, P. and Rondinini, C. 2013. Generation length for mammals. *Nature Conservation* 5: 87–94.

Panteleyev, P. A. 1998. *The Rodents of the Palaearctic Composition and Areas*. Pensoft, Moscow, Russia.

Reiners, T.E., Eidenschenck, J., Neumann, K. and Nowak, C. 2014. Preservation of genetic diversity in a wild and captive population of a rapidly declining mammal, the Common hamster of the French Alsace region. *Mammalian Biology* 79(4): 240–246.

Rusin, M., Banaszek, A. and Mishta, A. 2013. The common hamster (Cricetus cricetus) in Ukraine: evidence for population decline. Fol Zool 62: 207-213. *Folia Zoologica* 62: 207-213.

Sato, C.F., Wood, J.T., Schroder, M., Green, K., Michael, D.R. and Lindenmayer, D.B. 2014. The impacts of ski resorts on reptiles: a natural experiment. *Animal Conservation* 17(4): 313-322.

Schröder, O., Astrin, J. and Hutterer, R. 2014. White chest in the west: pelage colour and mitochondrial variation in the common hamster (*Cricetus cricetus*) across Europe. *Acta Theriol* 59: 211–221.

Schröder, O., Astrin, J. and Hutterer, R. 2014. White chest in the west: pelage colour and mitochondrial variation in the common hamster (*Cricetus cricetus*) across Europe. *Acta Theriologica* 59: 211- 221.

Sidorov, G.V., Kassal, B.Yu., Goncharova, O.V., Vakhrushev, A.V. and Frolov, K.V. 2011. *Theriofauna of Omsk oblast: game species of rodents*. Nauka, Amphora, Omsk.

Stefen, C. 2013. Variability and differences in the skulls of the common hamster (*Cricetus cricetus*) from several areas in Central Europe and from different time periods. *Folia Zoologica* 62(2): 155–164.

Stubbe, M. and Stubbe, A. 1998. *Ecology and Protection of the Common Hamster*. Wissenschaftliche Beiträge Martin-Luther-Universität, Halle-Wittenberg.

Surov, A., Banaszek, A., Bogomolov, P., Feoktistova, N. and Monecke, S. 2016. Dramatic global decrease in the range and the reproductive rate of the European hamster (*Cricetus cricetus*). *Endangered Species Research* 31: 119–145.

Tissier, M., Handrich, J., Robin, J-P, Weitten, M., Pevet, P., Kourkgy, C. and Habold, C. 2016. How maize monoculture and increasing winter rainfall have brought the hibernating European hamster to the verge of extinction. *Scientific Reports* 6.

Tkadlec, E., Heroldová, M., Víšková, V., Bednář, M. and Zejda, J. 2012. Distribution of the common hamster in the Czech Republic after 2000: retreating to optimum lowland habitats. *Folia Zoologica* 61(3-4): 246-253.

Weinhold, U. 1999. *Cricetus cricetus*. In: A. J. Mitchell-Jones, G. Amori, W. Bogdanowicz, B. Kryštufek, P. J. H. Reijnders, F. Spitzenberger, M. Stubbe, J. B. M. Thissen, V. Vohralík and J. Zima (eds), *The Atlas of European Mammals*, Academic Press, London, UK.

Weinhold, U. 1999. Cricetus cricetus*. In: Mitchell-Jones, A.J., Amori, G., Bogdanowicz, W., Krystufek, B., Reijnders, P.J.H., Spitzenberger, F., Stubbe, M., Thissen, J.B.M., Vohraland, V. and Zima, J. (eds), The Atlas of European Mammals*, London, UK.

Ziomek, J. and Banaszek, A. 2007. The common hamster, *Cricetus cricetus* in Poland: status and current range. *Folia Zoologica* 56: 235–242.

Citation

Banaszek, A., Bogomolov, P., Feoktistova, N., La Haye, M., Monecke, S., Reiners, T. E., Rusin, M., Surov, A., Weinhold, U. & Ziomek, J. 2020. *Cricetus cricetus*. *The IUCN Red List of Threatened Species* 2020: e.T5529A111875852. https://dx.doi.org/10.2305/IUCN.UK.2020-2.RLTS.T5529A111875852.en

Disclaimer

External Resources

For Supplementary Material, and for Images and External Links to Additional Information, please see the Red List website.

Appendix

Habitats

(http://www.iucnredlist.org/technical-documents/classification-schemes)

Habitat	Season	Suitability	Major Importance?
3. Shrubland -> 3.4. Shrubland - Temperate	-	Suitable	-
4. Grassland -> 4.4. Grassland - Temperate	-	Suitable	-
14. Artificial/Terrestrial -> 14.1. Artificial/Terrestrial - Arable Land	-	Suitable	-
14. Artificial/Terrestrial -> 14.2. Artificial/Terrestrial - Pastureland	-	Marginal	-
14. Artificial/Terrestrial -> 14.4. Artificial/Terrestrial - Rural Gardens	-	Marginal	-
14. Artificial/Terrestrial -> 14.5. Artificial/Terrestrial - Urban Areas	-	Marginal	-

Use and Trade

(http://www.iucnredlist.org/technical-documents/classification-schemes)

End Use	Local	National	International
Wearing apparel, accessories	Yes	No	No
Research	Yes	No	No
Fibre	Yes	No	No

Threats

(http://www.iucnredlist.org/technical-documents/classification-schemes)

Threat	Timing	Scope	Severity	Impact Score
1. Residential & commercial development -> 1.1. Housing & urban areas	Ongoing	Majority (50-90%)	Unknown	Unknown
2. Agriculture & aquaculture -> 2.1. Annual & perennial non-timber crops -> 2.1.1. Shifting agriculture	Ongoing	Whole (>90%)	Very rapid declines	High impact: 9
	Stresses:	1. Ecosystem stresses -> 1.2. Ecosystem degradation 2. Species Stresses -> 2.3. Indirect species effects		
2. Agriculture & aquaculture -> 2.1. Annual & perennial non-timber crops -> 2.1.3. Agro-industry farming	Ongoing	Unknown	Unknown	Unknown
2. Agriculture & aquaculture -> 2.3. Livestock farming & ranching -> 2.3.3. Agro-industry grazing, ranching or farming	Ongoing	Unknown	Unknown	Unknown

4. Transportation & service corridors -> 4.1. Roads & railroads	Ongoing	Whole (>90%)	Causing/could cause fluctuations	Medium impact: 7
	Stresses:	2. Species Stresses -> 2.1. Species mortality		
5. Biological resource use -> 5.1. Hunting & trapping terrestrial animals -> 5.1.1. Intentional use (species is the target)	Past, unlikely to return	Whole (>90%)	Very rapid declines	Past impact
	Stresses:	2. Species Stresses -> 2.1. Species mortality 2. Species Stresses -> 2.2. Species disturbance 2. Species Stresses -> 2.3. Indirect species effects		
5. Biological resource use -> 5.1. Hunting & trapping terrestrial animals -> 5.1.2. Unintentional effects (species is not the target)	Ongoing	Minority (50%)	Negligible declines	Low impact: 4
	Stresses:	2. Species Stresses -> 2.1. Species mortality 2. Species Stresses -> 2.2. Species disturbance 2. Species Stresses -> 2.3. Indirect species effects		
5. Biological resource use -> 5.1. Hunting & trapping terrestrial animals -> 5.1.3. Persecution/control	Ongoing	Majority (50-90%)	Very rapid declines	High impact: 8
	Stresses:	2. Species Stresses -> 2.1. Species mortality 2. Species Stresses -> 2.2. Species disturbance 2. Species Stresses -> 2.3. Indirect species effects		
9. Pollution -> 9.3. Agricultural & forestry effluents -> 9.3.3. Herbicides and pesticides	Ongoing	Majority (50-90%)	Unknown	Unknown
	Stresses:	2. Species Stresses -> 2.2. Species disturbance		
9. Pollution -> 9.6. Excess energy -> 9.6.1. Light pollution	Ongoing	Minority (50%)	Unknown	Unknown
	Stresses:	2. Species Stresses -> 2.2. Species disturbance		
11. Climate change & severe weather -> 11.1. Habitat shifting & alteration	Ongoing	Unknown	Unknown	Unknown
	Stresses:	2. Species Stresses -> 2.1. Species mortality 2. Species Stresses -> 2.3. Indirect species effects		

Conservation Actions in Place

(http://www.iucnredlist.org/technical-documents/classification-schemes)

Conservation Action in Place
In-place species management
Successfully reintroduced or introduced benignly: Yes

Conservation Actions Needed

(http://www.iucnredlist.org/technical-documents/classification-schemes)

Conservation Action Needed
1. Land/water protection -> 1.2. Resource & habitat protection
2. Land/water management -> 2.1. Site/area management

Conservation Action Needed
2. Land/water management -> 2.3. Habitat & natural process restoration
3. Species management -> 3.2. Species recovery
3. Species management -> 3.3. Species re-introduction -> 3.3.1. Reintroduction
3. Species management -> 3.4. Ex-situ conservation -> 3.4.1. Captive breeding/artificial propagation
3. Species management -> 3.4. Ex-situ conservation -> 3.4.2. Genome resource bank
4. Education & awareness -> 4.1. Formal education
4. Education & awareness -> 4.3. Awareness & communications
5. Law & policy -> 5.1. Legislation -> 5.1.1. International level
5. Law & policy -> 5.1. Legislation -> 5.1.2. National level
5. Law & policy -> 5.1. Legislation -> 5.1.3. Sub-national level
5. Law & policy -> 5.2. Policies and regulations
5. Law & policy -> 5.3. Private sector standards & codes
5. Law & policy -> 5.4. Compliance and enforcement -> 5.4.1. International level
5. Law & policy -> 5.4. Compliance and enforcement -> 5.4.2. National level
6. Livelihood, economic & other incentives -> 6.4. Conservation payments
6. Livelihood, economic & other incentives -> 6.5. Non-monetary values

Research Needed

(http://www.iucnredlist.org/technical-documents/classification-schemes)

Research Needed
1. Research -> 1.2. Population size, distribution & trends
1. Research -> 1.3. Life history & ecology
1. Research -> 1.5. Threats
1. Research -> 1.6. Actions
2. Conservation Planning -> 2.1. Species Action/Recovery Plan
2. Conservation Planning -> 2.2. Area-based Management Plan
3. Monitoring -> 3.1. Population trends
3. Monitoring -> 3.4. Habitat trends

Additional Data Fields

Distribution
Estimated area of occupancy (AOO) (km²): 7695614
Continuing decline in area of occupancy (AOO): Yes
Estimated extent of occurrence (EOO) (km²): 8426035
Continuing decline in extent of occurrence (EOO): Yes
Lower elevation limit (m): 0
Upper elevation limit (m): 650
Population
Population severely fragmented: No
Habitats and Ecology
Generation Length (years): 1.28

https://dx.doi.org/10.2305/IUCN.UK.2020-2.RLTS.T5529A111875852.en

The IUCN Red List Partnership

The IUCN Red List of Threatened Species™ is produced and managed by the IUCN Global Species Programme, the IUCN Species Survival Commission (SSC) and The IUCN Red List Partnership.

The IUCN Red List Partners are: Arizona State University; BirdLife International; Botanic Gardens Conservation International; Conservation International; NatureServe; Royal Botanic Gardens, Kew; Sapienza University of Rome; Texas A&M University; and Zoological Society of London.