WIKIPEDIA
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Main page
Contents
Featured content
Current events
Random article
Donate to Wikipedia
Wikipedia store

Interaction

Help
About Wikipedia
Community portal
Recent changes
Contact page

Tools

What links here
Related changes
Upload file
Special pages
Permanent link
Page information
Wikidata item
Cite this page

Print/export

Create a book
Download as PDF
Printable version

In other projects

Wikimedia Commons

Languages

Afrikaans
Alemannisch
العربية
Aragonés

Asturianu
Azərbaycanca

Башкортса
Беларуская
Беларуская (тарашкевіца)
Български
Bosanski
Català
Čeština
Cymraeg
Dansk
Eesti
Español
Esperanto
فارسی
Fiji Hindi
Français
Gaeilge
Galego

Endangered species

From Wikipedia, the free encyclopedia

For other uses, see Endangered species (disambiguation).

"Endangered" redirects here. For other uses, see Endangered (disambiguation).

An **endangered species** is a species which has been categorized as likely to become extinct. Endangered (EN), as categorized by the International Union for Conservation of Nature (IUCN) Red List, is the second most severe conservation status for wild populations in the IUCN's schema after Critically Endangered (CR).

In 2012, the IUCN Red List featured 3079 animal and 2655 plant species as endangered (EN) worldwide.[1] The figures for 1998 were, respectively, 1102 and 1197.

Many nations have laws that protect conservation-reliant species: for example, forbidding hunting, restricting land development or creating preserves. Population numbers, trends and species' conservation status can be found in the lists of organisms by population.

Conservation status

by IUCN Red List category

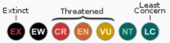
Extinct	
Extinct (EX)	(list)
Extinct in the Wild (EW)	(list)
Threatened	
Critically Endangered (CR)	(list)
Endangered (EN)	(list)
Vulnerable (VU)	(list)
Lower Risk	
Near Threatened (NT)	(list)
Conservation Dependent (CD)	(list)
Least Concern (LC)	
Other categories	
Data Deficient (DD)	(list)
Not Evaluated (NE)	

Related topics

International Union for the Conservation of Nature (IUCN)

IUCN Red List

Lists of organisms by population



v · t · e

Contents [hide]

1 Conservation status
2 IUCN Red List
  2.1 Criteria for 'Endangered (EN)' [7]
3 Endangered species in the United States
  3.1 Endangered Species Act
4 Invasive species
5 Conservation
  5.1 Captive breeding
  5.2 Private farming
6 Gallery
7 See also
8 Notes and references
9 Bibliography
10 External links

Conservation status [edit]

Main article: Conservation status

The conservation status of a species indicates the likelihood that it will become extinct. Many factors are considered when assessing the conservation status of a species; e.g., such statistics as the number remaining, the overall increase or decrease in the population over time, breeding success rates, or known threats.[2] The IUCN Red List of Threatened Species is the best-known worldwide conservation status listing and ranking system.[3]

Over 40% of the world's species are estimated to be at risk of extinction.[4] Internationally, 199 countries have signed an accord to create Biodiversity Action Plans that will protect endangered and other threatened species. In the United States, such plans are usually called Species Recovery Plans.

The Iberian lynx (*Lynx pardinus*), an endangered species.

IUCN Red List [edit]

Though labelled a list, the IUCN Red List is a system of assessing the global conservation status of species that includes "Data Deficient" (DD) species – species for which more data and assessment is required before their status may be determined – as well species comprehensively assessed by the IUCN's species assessment process. Those species of "Near Threatened" (NT) and "Least Concern" (LC) status have been assessed and found to have relatively robust and healthy populations, though these may be in decline. Unlike their more general use elsewhere, the List uses the terms "endangered species" and "threatened species" with particular meanings: "Endangered" (EN) species lie between "Vulnerable" (VU) and "Critically Endangered" (CR) species, while "Threatened" species are those species determined to be Vulnerable, Endangered or Critically Endangered.

客家語/Hak-kâ-ngî
한국어

Hrvatski
Ilokano
Bahasa Indonesia
Interlingua
Íslenska
Italiano
עברית
Basa Jawa

Қазақша
Kiswahili
Kreyòl ayisyen
Kurdî
Latina
Latviešu
Lietuvių
Magyar

Bahasa Melayu
Монгол

Nederlands
日本語
Norsk bokmål
Norsk nynorsk
Occitan

پنجابی
Polski
Português
Română
Русский
Scots
Simple English
Slovenčina
Slovenščina
کوردیی ناوەندی
Српски / srpski
Srpskohrvatski / српскохрватски
Suomi
Svenska
Tagalog

Татарча/tatarça

ไทย
Тоҷикӣ
Türkçe
Türkmençe
Українська
اردو
Tiếng Việt
Winaray
ייִדיש
粵語
中文

Edit links

The Siberian tiger is an Endangered (EN) tiger subspecies. Three tiger subspecies are already extinct (see List of carnivorans by population).[5]

The IUCN categories, with examples of animals classified by them, include:

Extinct (EX)

Examples: aurochs · Bali tiger · blackfin cisco · Caribbean monk seal · Carolina parakeet · Caspian tiger · dodo · dusky seaside sparrow · eastern cougar · golden toad · great auk · Japanese sea lion · Javan tiger · Labrador duck · passenger pigeon · Schomburgk's deer · Steller's sea cow · thylacine · toolache wallaby · western black rhinoceros · California Grizzly Bear

Extinct in the wild (EW)

Captive individuals survive, but there is no free-living, natural population.

Examples: Barbary lion · Hawaiian crow · Père David's deer · scimitar oryx · Socorro dove · Wyoming toad

Blue-throated macaw, an endangered species

Critically endangered (CR)

Faces an extremely high risk of extinction in the immediate future.

Examples: addax · African wild ass · Alabama cavefish · Amur leopard · Arabian leopard · Arakan forest turtle · Asiatic cheetah · axolotl · Bactrian camel · black rhino · blue-throated macaw · Brazilian merganser · brown spider monkey · California condor · Chinese alligator · Chinese giant salamander · Cross River gorilla · Florida panther · gharial · Hawaiian monk seal · Imperial woodpecker · Ivory-billed Woodpecker · Javan rhino · kakapo · Leadbeater's possum · Mediterranean monk seal · mountain gorilla · Northwest African cheetah · northern hairy-nosed wombat · Philippine eagle · red wolf · saiga · Siamese crocodile · Malayan tiger · Spix's macaw · southern bluefin tuna · South China tiger · Sumatran elephant · Sumatran orangutan · Sumatran rhinoceros · Sumatran tiger · vaquita · Yangtze river dolphin · northern white rhinoceros · West African lion · western lowland gorilla · hawksbill sea turtle · Kemp's ridley sea turtle

Brown spider monkey, an endangered species

Endangered (EN)

Faces a high risk of extinction in the near future.

Examples: African penguin · African wild dog [a] · Amur tiger · Asian elephant · Asiatic lion · Australasian bittern · blue whale · bonobo · Bornean orangutan · common chimpanzee · dhole · eastern lowland gorilla · Ethiopian wolf · Flores crow · hispid hare · giant otter · Goliath frog · green sea turtle · loggerhead sea turtle · Grevy's zebra · hyacinth macaw · Humblot's heron · Iberian lynx · Japanese crane · Japanese night heron · Lear's macaw · Malayan tapir · markhor · Malagasy pond heron · Persian leopard · proboscis monkey · purple-faced langur · pygmy hippopotamus · red-breasted goose · Rothschild's giraffe · snow leopard · South Andean deer · Sri Lankan elephant · takhi · Toque macaque · Vietnamese pheasant · volcano rabbit · wild water buffalo · white-eared night heron · fishing cat · tasmanian devil · red panda · whale shark

Vulnerable (VU)

Faces a high risk of endangerment in the medium term.

Examples: African grey parrot · African bush elephant [b] · African leopard · African lion[b] · American paddlefish · common carp · clouded leopard · cheetah [c] · dugong · Far Eastern curlew · fossa · Galapagos tortoise [d] · gaur · giraffe · blue-eyed cockatoo · golden hamster · Great slaty woodpecker · hippopotamus · Humboldt penguin · Indian rhinoceros · Komodo dragon [e] · lesser white-fronted goose · mandrill · maned sloth · mountain zebra · Hawaiian goose · polar bear · sloth bear · takin · yak · great white shark · American crocodile · white-necked crow · dingo · king cobra

Siamese crocodile, an endangered species

Near-threatened (NT)

May be considered threatened in the near future.

Examples: American bison · Asian golden cat · blue-billed duck · emperor goose · emperor penguin · Eurasian curlew · jaguar · Larch Mountain salamander · Magellanic penguin · maned wolf · narwhal · margay · montane solitary eagle · Pampas cat · Pallas's cat · reddish egret · white rhinoceros · striped hyena · tiger shark · white eared pheasant

American burying beetle, an endangered species

Least concern (LC)

No immediate threat to species' survival.

Examples: American alligator · American crow · Indian peafowl · olive baboon · bald eagle · brown bear · brown rat · brown-throated sloth · Canada goose · cane toad · common wood pigeon · cougar · common frog · grey wolf · house mouse · wolverine [6] · palm cockatoo · mallard · meerkat · mute swan · platypus · red-billed quelea · red-tailed hawk · rock pigeon · scarlet macaw · southern elephant seal · milk shark · red howler monkey

Criteria for 'Endangered (EN)' [7] [edit]

A) Reduction in population size based on any of the following:

1. An observed, estimated, inferred or suspected population size reduction of **≥ 70% over the last 10 years or three generations**, whichever is the longer, where the **causes of the reduction are clearly reversible AND understood AND ceased**, based on (and specifying) any of the following:
    1. direct observation

    2. an index of abundance appropriate for the taxon
    3. a decline in area of occupancy, extent of occurrence or quality of habitat
    4. actual or potential levels of exploitation
    5. the effects of introduced taxa, hybridisation, pathogens, pollutants, competitors or parasites.
2. An observed, estimated, inferred or suspected population size reduction of ≥ **50% over the last 10 years or three generations**, whichever is the longer, where the reduction or its **causes may not have ceased OR may not be understood OR may not be reversible**, based on (and specifying) any of (a) to (e) under A1.
3. A population size reduction of ≥ 50%, projected or suspected to be met within the next 10 years or three generations, whichever is the longer (up to a maximum of 100 years), based on (and specifying) any of (b) to (e) under A1.
4. An observed, estimated, inferred, projected or suspected population size reduction of ≥ 50% over any 10 year or three generation period, whichever is longer (up to a maximum of 100 years in the future), where the time period must include both the past and the future, and where the reduction or its causes may not have ceased OR may not be understood OR may not be reversible, based on (and specifying) any of (a) to (e) under A1.

Kemp's ridley sea turtle, an endangered species

B) Geographic range in the form of either B1 (extent of occurrence) OR B2 (area of occupancy) OR both:

1. Extent of occurrence estimated to be **less than 5,000 km²**, and estimates indicating at least two of a-c:
    1. **Severely fragmented** or known to exist at no more than five locations.
    2. **Continuing decline**, inferred, observed or projected, in any of the following:
        1. extent of occurrence
        2. area of occupancy
        3. area, extent or quality of habitat
        4. number of locations or subpopulations
        5. number of mature individuals
    3. **Extreme fluctuations** in any of the following:
        1. extent of occurrence
        2. area of occupancy
        3. number of locations or subpopulations
        4. number of mature individuals
2. Area of occupancy estimated to be **less than 500 km²**, and estimates indicating at least two of a-c:
    1. **Severely fragmented** or known to exist at no more than five locations.
    2. **Continuing decline**, inferred, observed or projected, in any of the following:
        1. extent of occurrence
        2. area of occupancy
        3. area, extent or quality of habitat
        4. number of locations or subpopulations
        5. number of mature individuals
    3. **Extreme fluctuations** in any of the following:
        1. extent of occurrence
        2. area of occupancy
        3. number of locations or subpopulations
        4. number of mature individuals

C) Population estimated to number fewer than 2,500 mature individuals and either:

1. An estimated continuing **decline of at least 20% within five years or two generations**, whichever is longer, (up to a maximum of 100 years in the future) OR
2. A continuing decline, observed, projected, or inferred, in numbers of mature individuals AND at least one of the follow (a-b):
    1. Population structure in the form of one of the following:
        1. no subpopulation estimated to contain more than 250 mature individuals, OR
        2. at least 95% of mature individuals in one subpopulation
    2. Extreme fluctuations in number of mature individuals

D) Population size estimated to number fewer than 250 mature individuals.

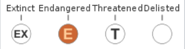
E) Quantitative analysis showing the probability of extinction in the wild is at least 20% within 20 years or five generations, whichever is the longer (up to a maximum of 100 years).

a. ^ Near-critically endangered.
b. ^ *a* *b* Particularly sensitive to poaching levels.
c. ^ Near-endangered due to poaching.
d. ^ May vary according to levels of tourism.
e. ^ Varies according to female populations.

Endangered species in the United States [edit]

There is data from the United States that shows a correlation between human populations and threatened and endangered species. Using species data from the Database on the Economics and Management of Endangered Species (DEMES) database and the period that the Endangered Species Act (ESA) has been in existence, 1970 to 1997, a table was created that suggests a positive relationship between human activity and species endangerment.[8]

Endangered Species Act [edit]



"Endangered" in relation to "threatened" under the ESA.

Under the Endangered Species Act in the United States , species may be listed as "endangered" or "threatened". The Salt Creek tiger beetle (*Cicindela nevadica lincolniana*) is an example of an endangered subspecies protected under the ESA. The US Fish and Wildlife Service as well as the National Marine Fisheries Service are held responsible for classifying and protecting endangered species, and adding a particular species to the list can be a long, controversial process (Wilcove & Master, 2008, p. 414).

Some endangered species laws are controversial. Typical areas of controversy include: criteria for placing a species on the endangered species list and criteria for removing a species from the list once its population has recovered; whether restrictions on land development constitute a "taking" of land by the government ; the related question of whether private landowners should be compensated for the loss of uses of their lands; and obtaining reasonable exceptions to protection laws. Also lobbying from hunters and various industries like the petroleum industry , construction industry, and logging , has been an obstacle in establishing endangered species laws.

The Bush administration lifted a policy that required federal officials to consult a wildlife expert before taking actions that could damage endangered species. Under the Obama administration , this policy has been reinstated.[9]

Being listed as an endangered species can have negative effect since it could make a species more desirable for collectors and poachers.[10] This effect is potentially reducible, such as in China where commercially farmed turtles may be reducing some of the pressure to poach endangered species.[11]

Another problem with the listing species is its effect of inciting the use of the "shoot, shovel, and shut-up" method of clearing endangered species from an area of land. Some landowners currently may perceive a diminution in value for their land after finding an endangered animal on it. They have allegedly opted to silently kill and bury the animals or destroy habitat, thus removing the problem from their land, but at the same time further reducing the population of an endangered species.[12] The effectiveness of the Endangered Species Act – which coined the term "endangered species" – has been questioned by business advocacy groups and their publications but is nevertheless widely recognized by wildlife scientists who work with the species as an effective recovery tool. Nineteen species have been delisted and recovered[13] and 93% of listed species in the northeastern United States have a recovering or stable population.[14]

Currently, 1,556 known species in the world have been identified as near extinction or endangered and are under protection by government law. This approximation, however, does not take into consideration the number of species threatened with endangerment that are not included under the protection of such laws as the Endangered Species Act. According to NatureServe's global conservation status, approximately thirteen percent of vertebrates (excluding marine fish), seventeen percent of vascular plants, and six to eighteen percent of fungi are considered imperiled.[15]:415 Thus, in total, between seven and eighteen percent of the United States' known animals, fungi and plants are near extinction.[15]:416 This total is substantially more than the number of species protected in the United States under the Endangered Species Act.

Ever since mankind began hunting to preserve itself, over-hunting and fishing has been a large and dangerous problem. Of all the species who became extinct due to interference from mankind, the dodo , passenger pigeon , great auk, Tasmanian tiger and Steller's sea cow are some of the more well known examples; with the bald eagle , grizzly bear , American bison , Eastern timber wolf and sea turtle having been hunted to near-extinction. Many began as food sources seen as necessary for survival but became the target of sport. However, due to major efforts to prevent extinction, the bald eagle, or *Haliaeetus leucocephalus* is now under the category of Least Concern on the red list.[16] A present-day example of the over-hunting of a species can be seen in the oceans as populations of certain whales have been greatly reduced. Large whales like the blue whale, bowhead whale, finback whale, gray whale, sperm whale and humpback whale are some of the eight whales which are currently still included on the Endangered Species List. Actions have been taken to attempt reduction in whaling and increase population sizes, including prohibiting all whaling in United States waters, the formation of the CITES treaty which protects all whales, along with the formation of the International Whaling Commission (IWC). But even though all of these movements have been put in place, countries such as Japan continue to hunt and harvest whales under the claim of "scientific purposes".[17] Over-hunting, climatic change and habitat loss leads in landing species in endangered species list and could mean that extinction rates could increase to a large extent in the future.

Bald eagle

American bison

Invasive species [edit]

Main article: Introduced species

The introduction of non-indigenous species to an area can disrupt the ecosystem to such an extent that native species become endangered. Such introductions may be termed alien or invasive species. In some cases the invasive species compete with the native species for food or prey on the natives. In other cases a stable ecological balance may be upset by predation or other causes leading to unexpected species decline. New species may also carry diseases to which the native species have no resistance.[18]

Conservation [edit]

Captive breeding [edit]

Main article: Captive breeding

The dhole, Asia's most endangered top predator, is on the edge of extinction.

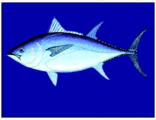
Captive breeding is the process of breeding rare or endangered species in human controlled environments with restricted settings, such as wildlife reserves, zoos and other conservation facilities. Captive breeding is meant to save species from extinction and so stabilize the population of the species that it will not disappear.[19]

This technique has worked for many species for some time, with probably the oldest known such instances of captive mating being attributed to menageries of European and Asian rulers, an example being the Père David's deer. However, captive breeding techniques are usually difficult to implement for such highly mobile species as some migratory birds (e.g. cranes) and fishes (e.g. hilsa). Additionally, if the captive breeding population is too small, then inbreeding may occur due to a reduced gene pool and reduce immunity.

In 1981, the Association of Zoos and Aquariums (AZA) created a Species Survival Plan (SSP) in order to help preserve specific endangered and threatened species through captive breeding. With over 450 SSP Plans, there are a number of endangered species that are covered by the AZA with plans to cover population management goals and recommendations for breeding for a diverse and healthy population, created by Taxon Advisory Groups. These programs are commonly created as a last resort effort. SSP Programs regularly participate in species recovery, veterinary care for wildlife disease outbreaks, and a number of other wildlife conservation efforts. The AZA's Species Survival Plan also has breeding and transfer programs, both within and outside of AZA - certified zoos and aquariums. Some animals that are part of SSP programs are giant pandas, lowland gorillas, and California condors.[20]

Private farming [edit]

Black rhino



Southern bluefin tuna

Whereas poaching substantially reduces endangered animal populations, legal, for-profit, private farming does the opposite. It has substantially increased the populations of the southern black rhinoceros and southern white rhinoceros. Dr Richard Emslie, a scientific officer at the IUCN, said of such programs, "Effective law enforcement has become much easier now that the animals are largely privately owned... We have been able to bring local communities into the conservation programmes. There are increasingly strong economic incentives attached to looking after rhinos rather than simply poaching: from Eco-tourism or selling them on for a profit. So many owners are keeping them secure. The private sector has been key to helping our work."[21]

Conservation experts view the effect of China's turtle farming on the wild turtle populations of China and South-Eastern Asia – many of which are endangered – as "poorly understood".[22] Although they commend the gradual replacement of turtles caught wild with farm-raised turtles in the marketplace – the percentage of farm-raised individuals in the "visible" trade grew from around 30% in 2000 to around 70% in 2007[23] – they worry that many wild animals are caught to provide farmers with breeding stock. The conservation expert Peter Paul van Dijk noted that turtle farmers often believe that animals caught wild are superior breeding stock. Turtle farmers may, therefore, seek and catch the last remaining wild specimens of some endangered turtle species.[23]

In 2009, researchers in Australia managed to coax southern bluefin tuna to breed in landlocked tanks, raising the possibility that fish farming may be able to save the species from overfishing.[24]

Gallery [edit]

The endangered (near threatened) island fox.

Though endangered, the sea otter has a relatively large population.

1870s photo of American bison skulls. By 1890, overhunting had reduced the population to 750.

Immature California condor.

Loggerhead sea turtle

Asian arowana

Hawksbill sea turtle

Cantor's giant softshell turtle

See also [edit]

- ARKive
- Biodiversity

- Cobthorn Trust
- critically endangered
- endangered plants of Europe
- Endangered Species Act
- Ex-situ conservation
- extinction
- Holocene extinction
- Habitat fragmentation
- Hawaiian honeycreeper conservation
- In-situ conservation
- *The Last paradises: On the Track of Rare Animals* (1967 film)
- List of endangered species in India
- List of endangered species in North America
- List of National Wildlife Refuges established for endangered species
- Overexploitation
- NatureServe conservation status
- Rare species
- Red Data Book of the Russian Federation
- red-listed / blue-listed
- threatened species
- United States Fish and Wildlife Service list of endangered species
- World Conference on Breeding endangered Species in Captivity as an Aid to their Survival (WCBESCAS)
- World Conservation Union (IUCN)
- World Wide Fund for Nature (WWF)

IUCN Red List

- Lists of IUCN Red List endangered species
- List of endangered amphibians
- List of endangered arthropods
- List of endangered birds
- List of endangered fishes
- List of endangered insects
- List of endangered invertebrates
- List of endangered mammals
- List of endangered molluscs
- List of endangered reptiles
- List of Chromista by conservation status
- List of fungi by conservation status

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External links [edit]

- Endangered species profiles from Earth's endangered Creatures
- List of species with the category Endangered as identified by the IUCN Red List of Threatened Species
- Endangered Species from *UCB Libraries GovPubs*
- Endangered Species & Wetlands Report Independent print and online newsletter covering the ESA, wetlands and regulatory takings.
- USFWS numerical summary of listed species in US and elsewhere
- https://worldwildlife.org/species

V · T · E **Threatened species** [hide]

Template: Threatened species by region

IUCN Red List	**Categories**[1]	Extinct	Extinct (EX) · Extinct in the Wild (EW)	
		Threatened	Critically Endangered (CR) · **Endangered (EN)** · Vulnerable (VU)	
		Lower risk	Near Threatened (NT) · Least Concern (LC) · *Lower Risk (LR)* · *Conservation Dependent (LR/cd)*	
		Not fully assessed	Data Deficient (DD) · Not Evaluated (NE)	
	Species	Lists	Extinct · Extinct in the Wild · Critically Endangered · Endangered · Vulnerable · Near Threatened · Least Concern · Data Deficient	
		WP categories	Extinct · Extinct in the Wild · Critically Endangered · Endangered · Vulnerable · Near Threatened · Least Concern · Data Deficient	
By taxa	Endangered arthropods / spiders · Threatened *Banksia* / rays / sharks / sturgeons · The World's 25 Most Endangered Primates · The world's 100 most threatened species			
Conservation	Biodiversity action plan · Biodiversity threats · Conservation biology · CITES · ARKive · Bird conservation · Conservation status · Conservation-reliant species · Ecoregion conservation status · Habitat destruction · Latent extinction risk · Rare species · Vulnerability and susceptibility			

[1] Pre-2001 categories and subcategories shown in *italics*.

V · T · E **Threatened species by region** [show]

- Endangered Species

Ecology portal **Environment portal** **extinct and endangered species portal**

V · T · E **Zoos, aquariums and aviaries** [show]

Categories : Endangered species | Biota by conservation status | IUCN Red List | Environmental conservation | Habitat | IUCN Red List endangered species

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