Endangered species

DEFINITION

Any species that is in danger of extinction throughout all or part of its range.

Specially Protected Areas Protocol (Protocol of the Barcelona Convention)[2]

'Endangered' in relation to a particular migratory species means that the migratory species is danger of extinction throughout all or a significant portion of its range.

Convention on Migratory Species Article 1 (Interpretation)[3]

NOTES ON DEFINITION

The most commonly used and recognised definition of an endangered species is that used in the IUCN Red List of Threatened Species. However, the term is also defined in two convention texts, primarily for clarification of the term's use within each Convention's application. IUCN provide detailed criteria and thresholds to define an Endangered species under their threat classification systems. The Conventions have different criteria for identifying what is an endangered species. Endangered is often considered in conventions to mean an elevated risk of extinction, a distinction that IUCN would apply to all threatened species criteria (Vulnerable, Endangered and Critically Endangered species, as classified by the IUCN).

FURTHER DEFINITIONS

Endangered (EN) is a category on the IUCN Red List of Threatened Species which indicates a taxon is considered to be facing a very high risk of extinction in the wild.

Adapted from International Union on Conservation of Nature (IUCN) 2012 [1]

KEY POINTS

- Endangered species are at risk of extinction.
- The IUCN Red List of Threatened Species is a global approach for evaluating the conservation status of plant and animal species, including those that are endangered.
- The IUCN Red List is does not, nor it is intended to, provide assessments of all species known to science.
- There are a variety of contest within which a species as 'endangered' and these assessment methods are not always aligned.
- The fact that a species is threatened does not imply that it is always legally protected.

INTRODUCTION

Species are one element of biodiversity. There has been growing realisation over the last hundred years that humanity is influencing the natural world and is responsible for the extinction of numerous species. Highlighting that a species is endangered is often the first step to identifying the threats that it is facing and possibly implementing a conservation action.

ENDANGERMENT

Endangerment is the exposure to risk. When it comes to living organisms, and used in the context of 'endangered species', it generally means the risk of the species becoming extinct [4]. The exact origin of the concept is ambiguous. In the late 19th century there were a number of books published about the decline in British species [5, 6, 7]. The first American piece of legislation for endangered species, the Lacey Act, was established in 1900, written in response to growing public concern over the decline of the passenger pigeon [8]. Mounting concern over the loss of species over subsequent decades resulted in widespread enactment of associated national legislation across the world.

IUCN RED LIST OF THREATENED SPECIES

The International Union for Conservation of Nature (IUCN) Red List of Threatened Species is a global approach for evaluating the conservation status of plant and animal species, developed by the International Union for Conservation of Nature (IUCN). The IUCN was set up in 1948 and the IUCN Red List System was first conceived in 1963 [9]. The Red List is a list of species which have been evaluated against quantitative criteria, introduced in 1994, to identify the extinction risk of species. Currently, less than 5% of all described species have been evaluated [10]. There is no intention to make the Red List comprehensive of all species, but the IUCN does aim to make it representative [11, 12]. Limited scientific knowledge on many species also makes it impossible to accurately evaluate all known species. As of 2013, all known species of mammals, birds and horseshoe crabs have been assessed plus over 90% of amphibians and gymnosperms. In all other groups, many species are yet to be assessed falling as low as 1% for invertebrates [10]. Status according to the Red List is articulated through threat categories, which include those highlighting where assessments have not yet been conducted or where scientific knowledge is limited. (Not Evaluated (NE) and Data Deficient (DD)). Evaluated species considered to be 'threatened', and therefore at risk of extinction, are assigned one of three categories; Vulnerable (VU), Endangered (EN) or Critically Endangered (CR) with risk of extinction increasing through these [1]. Evaluated species which do not meet the criteria to be listed as Threatened can be listed as Near Threatened (NT) or Least Concern (LC). Therefore species which are not currently at risk of extinction can also be found on the IUCN Red list within these latter two categories.

IUCN RED LIST AND NATIONAL LEGISLATION

The goal of the IUCN Red List is to provide information and analyses on the status, trends and threats to species in order to inform and catalyse action for biodiversity conservation. Identifying species at risk of extinction is often the first step in their protection [13] and lists of endangered species are produced to help inform conservation priorities [14]. However, it should be noted that any term used to refer to an 'endangered species' will mean different things depending on which list or legislative instrument is being referred to. For example "Threatened" within the American Endangered Species Act [15] is roughly equivalent to "Vulnerable" within the IUCN Red List [16]. Being listed as Endangered within the IUCN Red List will not automatically confer legal protection to a species. Species must be listed on the relevant piece of legislation in order to be 'protected'. Conversely, not all species listed on legal instruments will have been assessed as 'endangered'. Often the inclusion, or removal, of a species on a piece of legislation goes through both a scientific and a political decision making process [17, 18, 19, 20].

MULTILATERAL ENVIRONMENTAL AGREEMENTS

Two Multilateral Environmental Agreements specifically list endangered species; The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and The Convention on Migratory Species (CMS). CITES does not formally provide a definition for 'endangered' but it does list biological criteria which must be applied when assessing if a species is 'threatened with extinction' and therefore if the species should be included within CITES Appendix I [21]. The Convention on Migratory Species (CMS), have defined the term 'endangered species' for application in their activities. The CMS defines the term 'endangered' because it highlights endangerment as a principle in the text of the convention. Parties to the convention "acknowledge the need to take action to avoid migratory species becoming endangered" [3]. The two conventions include lists of species as Appendices to identify actions which are allowed within the context of the convention. Within CMS, Appendix I lists endangered migratory species. Additional migratory species can be listed on Appendix I if a Party (normally a government) considers that they are endangered, and submits a proposal to the Conference of the Parties (COP) [22]. Endangered species (those threatened with extinction) are included within CITES

Appendix I. The remaining Appendicies include species in which trade must be controlled in order to avoid over exploitation and and which therefore could lead to them becoming endangered [23].

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The numbat (Myrmecobius fasciatus), an endangered species. Julian W/Shutterstock.com

Category:

Internationally recognised definitions

Key terms: In depth

Related pages

IUCN Red List of Threatened Species (Terms)

Threatened species (Terms)

Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) (Terms)

Convention on the Conservation of Migratory Species of Wild Animals (CMS) (Terms)

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