

The holy book and the sacred list

The IUCN's Red List for prioritising species for protection is beset by serious flaws



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Biodiversity conservation has revolved around creation of lists that prioritise species for protection. Conservation laws of many nations create lists of species to be protected, while international instruments, such as the CITES, have appendices listing species that are prioritised for protection. The best-known of these is the World Conservation Union-International Union for the Conservation of Nature's (IUCN) Red List.

In the 1970s, the IUCN introduced the *Red Data Book* to create a list of most endangered species. This evolved into the Red List; the criteria for species categories also evolved from the vague and the subjective to the quantitative and objective. Currently, species are classified as extinct (either completely or extinct in the wild), threatened (critically endangered, endangered and vulnerable), near-threatened, least concern and data-deficient. The criteria used to arrive at these status are: reduction in population, geographical range, population size (by itself or when combined with a decline) and quantitative analysis showing extinction risk. A species must qualify under one or more criteria to be assigned to a particular category. For example, if the population of a species has declined by 90 per cent over three generations, then it's considered critically endangered; if a species has undergone a 70 per cent reduction in population over three generations, it's considered endangered. Alternatively, a species can be classified as critically endangered, if it occupies less than 10 sq km, and occurs at just one location; a species can



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also be considered critically endangered if it numbers less than 50 mature individuals (see www.redlist.org).

In theory, these criteria are objective and use reasonable surrogates to estimate extinction risks. However, in actual practice, they beg the question: does the data necessary to make such classifications exist? Let's take one of the above examples. To know if an animal has declined over three generations, we need to know what a generation is for that particular creature. Biologically, it's half the animal's reproductive span: calculated by subtracting the animal's age at maturity from its life-span, and dividing the result by two. But for most species, we know neither their age at maturity nor their life-span. There are also very few population estimates of most animals, in the past. For large vertebrates, one would need such estimates from 50 or 100 years ago. Given the difficulty in estimating animal populations with any certainty today (tiger censuses in India are sufficient evidence), using half-a-century old figures is fraught with danger. Data on other criteria on which the list is based are equally lacking or suspect.

Finally, the list depends heavily on

being able to define what a species is. Unfortunately, barring some mammalogists, only a few biologists have faith in commonly-used species concepts. Compounding this theoretical issue is the practical problem of too little research on most taxonomic groups. This impinges heavily on the ability to apply criteria. If a supposed species actually consists of more than one species, then the populations and areas of occurrence of each of these species are obviously smaller than if they were considered as a single species.

In spite of these flaws, most agencies worldwide — government and non-government — use the Red List to prioritise conservation. There is also a tendency among many conservationists to get species on their agenda listed further up in this list, so that they get necessary attention and funds. This, in itself, is flawed as global extinction risks do not translate to local conservation priorities, nor to appropriate conservation actions.

Furthermore, assessments often use the precautionary principle that it's better to have a rough idea of the status of a species, than none at all. However, this can be counter-productive. It's often hard to get permits to conduct research on the species listed as threatened, and critical information required for their conservation (and even correct categorisation) becomes even more difficult to collect. The IUCN list is broadly useful, but one must use it strictly as an extinction conservation risk estimation. When used to indicate conservation priority, it's limited, inconsistent and can be dangerous. ■

In spite of its flaws, the Red List guides many agencies all over the world in conservation

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