Endangered species conservation may be helped by a new index Special

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A new index, called SAFE (Species Ability to Forestall Extinction), has been developed to help conservationists better understand how close a species may be to extinction and could be used to help determine where to focus limited conservation resources.

The SAFE index has been developed by a team of Australian researchers from the University of Adelaide and James Cook University and the researchers say it is a "leap forward" in how relative threats are measured among species.

According to the University of Adelaide, SAFE builds on previous studies into the minimum population sizes needed by species to survive in the wild and measures how close species are to their minimum viable population size (MVP).

Eva Hejda
http://fotos.naturspot.de/
Hairy-nosed wombat

"The idea is fairly simple - it's the distance a population is (in terms of abundance) from its minimum viable population size. While we provide a formula for working this out, it's more than just a formula - we've shown that SAFE is the best predictor yet of the vulnerability of mammal species to extinction," said co-author Professor Corey Bradshaw, Director of Ecological Modelling at the University of Adelaide's Environment Institute, in a media release.

According to the researchers, populations of less than 5,000 individuals are much harder to save and those that number in the hundreds have very little chance of recovery.

päts from Mexico
African wild ass

The researchers looked at 95 mammal species and found that one in five are close to extinction, and more than half of the 95 were almost at a point of no return or a 'tipping point.'

In an email, Professor Bradshaw told me that, although the study concentrated on a small group of mammals, "the concept of minimum viable population size, on which the SAFE is based, applies across all taxa."

Professor Bradshaw says the SAFE index is not meant to be a replacement for the widely used International Union for Conservation of Nature (IUCN) Red List of Threatened Species. "Our index shows that not all Critically Endangered species are equal. A combined approach - using the IUCN Red List threat categories together with the SAFE index - is more informative than the IUCN categories alone, and provides a good method for gauging the relative 'safety' of a species from extinction," he said.

According to the researchers, the IUCN Red List categories such as "Endangered" and "Vulnerable" are not easily differentiated by the general public, conservation donors, and policy makers. The numerical indicator provided by the SAFE index provides a way to differentiate within the categories.

Willem v Strien

Sumatran Rhinocerous

The researchers give an example of how the SAFE index could be used:

"Roughly one-quarter of the species in our analysis are very close to extinction, with SAFE indices below −2. Under such desperate circumstances, those considering conservation triage might elect to channel resources toward species such as the Sumatran rhinoceros (Dicerorhinus sumatrensis) rather than the precarious Javan rhinoceros (Rhinoceros sondaicus); these species have SAFE indices of −1.36 and −2.10, respectively."

Sadly, there are 18,351 species on the IUCN Red List of Threatened Species (version 2010.4) and the researchers say the SAFE Index could help direct limited conservation resources to where they can do the most good.

On ABC radio's AM program, Professor Bradshaw said he would not go as far as to say that some species are not worth saving but said, "In some cases it is probably not worthwhile putting in a lot of effort because there's just no chance."

Professor Bradshaw went on to explain that the SAFE index is not meant to be definitive. It provides a probability of whether a species would become extinct. He thinks the index will spark some good debate on endangered species conservation and said, "Decisions have to be made within the context of science and social consideration. I think that certainly people will argue with me that we should save everything. I'd love to save everything. I just don't think we can."

According to the SAFE index the ten species at most risk of extinction are:

1. Javan rhinoceros (Indonesia)

2. Kouprey (Cambodia)

3. African wild ass (Eritrea and Ethiopia)

4. Iberian lynx (Spain)

5. Northern hairy-nosed wombat (Australia)

6. Sumatran rhinoceros (Malaysia and Indonesia)

7. Ethiopian wolf (Ethiopia)

8. Addax (Sahara Desert)

9. Dibbler (Australia)

10. Riverine rabbit (South Africa)

Department of the Environment and Heritage

Australian Dibbler

The SAFE index is detailed in a new paper published this month in the journal Frontiers in Ecology and Environment.

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Iberian lynx