The IUCN Red List is the world's most comprehensive inventory of the global conservation status of plant and animal species. It uses a set of criteria to evaluate the extinction risk of thousands of species and subspecies. These criteria are relevant to all species and all regions of the world. With its strong scientific base, the IUCN Red List is recognized as the most authoritative guide to the status of biological diversity.

The overall aim of the Red List is to convey the urgency and scale of conservation problems to the public and policy makers, and to motivate the global community to try to reduce species extinctions.

Who uses the Red List?

The Red List is used by government agencies, wildlife departments, conservation-related non-governmental organizations (NGOs), natural resource planners, educational organizations, and many others interested in reversing, or at least halting the decline in biodiversity.

Uses of the Red List:

- Draws attention to the magnitude and importance of threatened biodiversity
- Identifies and documents those species most in need of conservation action
- Provides a global index of the decline of biodiversity
- Establishes a baseline from which to monitor the future status of species
- Provides information to help establish conservation priorities at the local level and guide conservation action
- Helps influence national and international policy, and provides information to international agreements such as the Convention on Biological Diversity (CBD) and the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

The Red List can answer commonly asked questions such as:

- How threatened is a particular species?
- How important is this species to conservation?
- What are the threats to a species?
- How many threatened species occur in a given country?
- How many known extinctions have there been?

How the Red List is compiled: The categories and their application

There are nine categories in the IUCN Red List system: *Extinct, Extinct in the Wild, Critically Endangered, Endangered, Vulnerable, Near Threatened, Least Concern, Data Deficient, and Not Evaluated.* Classification into the categories for species threatened with extinction (*Vulnerable, Endangered, and Critically Endangered)* is through a set of five quantitative criteria that form the heart of the system. These criteria are based on biological factors related to extinction risk and include: rate of decline, population size, area of geographic distribution, and degree of population and distribution fragmentation.

For more detail see the Red List Categories and Criteria booklet *Version 3.1*:

<http://iucn.org/themes/ssc/redlists/RLcats2001booklet.html>.

The Red List is based on information supplied by IUCN's Species Survival Commission (SSC), a network of 7,000 experts on plants, animals and conservation issues, and data from a number of partner organizations. All bird data is supplied by BirdLife International. Collectively, this network holds what is the most complete scientific knowledge base on the biology and current conservation status of species.

Major analyses of the Red List were produced in 1996 and 2000. The 1996 List revealed that one in four mammal species and one in eight bird species face extinction, while the 2000 List confirmed that the global extinction crisis is as bad or worse than believed. Dramatic declines in populations of many species, including reptiles and primates were reported.

Numbers of threatened species on the Red List change from year to year, not only because new species are added to the list. Research scientists working around the world bring a constant flow of new information and this improved knowledge can result in species being upgraded to a higher threat category or, in cases where the situation is more optimistic than previously realised, downgraded to a lower threat category (see examples below). Other changes may be the result of taxonomic revisions, such as a species being re-classified as a subspecies and *vice-versa*. However, some species have moved into a different category as a result of a genuine change in conservation status (see examples below).

The IUCN Red List includes extinctions that have occurred since 1500 AD. For the 2002 Red List, a revision of the extinctions list resulted in 15 species being removed because they are con-

sidered to have become extinct before 1500 AD. Also, as with the threatened categories, species can sometimes move out of the Extinct category as a result of taxonomic changes or uncertainties such as the marbled toadlet (*Uperoleia marmorata*).

As the Red List expands to include complete assessments for the various taxonomic groups, a more detailed analysis of the statistics every four to five years will allow better comparison between years and a better understanding of the general trends in biodiversity over time. Targets have been set to assess all amphibians by 2003 (approximately 5,000 species); reptiles by 2005 (approximately 8,000 species); freshwater fish by 2005 (approximately 10,000 species), sharks, rays and chimaeras by 2004 (approximately 1,000 species); freshwater molluscs by 2004 (approximately 5,000 species). Plants, invertebrates and marine species will follow. By 2008 it is hoped that a worldwide biodiversity assessment will be possible.

Background to the *IUCN Red List of Threatened Species*

Biodiversity loss is one of the world's most pressing crises and there is growing global concern about the status of the biological resources on which so much of human life depends. It has been estimated that the current species extinction rate is between 1,000 and 10,000 times higher than it would naturally be.

Many species are declining to critical population levels, important habitats are being destroyed, fragmented, and degraded, and ecosystems are being destabilised through climate change, pollution, invasive species, and direct human impacts. But there is also growing awareness of how biodiversity supports livelihoods, allows sustainable development and fosters co-operation between nations. This awareness is generated through products such as the IUCN Red List.

Governments, the private sector, multilateral agencies responsible for natural resource use, and environmental treaties all need access to the latest information on biodiversity when making environment-related decisions. Information about species and ecosystems is essential for moving towards more sustainable use of our natural resources.

In 2000, the Red List combined animal and plant assessments into a single list for the first time (containing 18,000 species assessments). This, together with improved documentation for each species, means that the Red List is now too large to publish as a book. Instead, it is available in electronic format, on a specially designated, searchable website <www.redlist.org>. Updates to the Red List will be made every year from now on, and an updated analysis will be published in hard copy at least once every four to five years. A CD-ROM of the Red List will be produced probably every two years from 2003.

The Red List is produced by the IUCN Species Survival Commission (SSC) – a network of some 7,000 species experts working in almost every country in the world, and data from a number of partner organizations. Collectively, this network holds what is probably the most complete scientific knowledge base on the biology and current conservation status of species.

A brief history of the Red List

The IUCN Red List System was first conceived in 1963 and set a standard for species listing and conservation assessment efforts. For more than 30 years the Species Survival Commission has been evaluating the conservation status of species and subspecies on a global scale – highlighting those threatened with extinction and promoting their conservation.

Over time, however, IUCN recognised that a more objective and scientific system for determining threat status was needed, one that drew on advances in the science of conservation biology and other disciplines. There was also a need for a more accurate system for use at the national and regional level. The IUCN Red List Categories evolved over a four-year period through extensive consultation and testing with more than 800 SSC members, and the wider scientific community. The more precise and quantitative Red List Categories and Criteria were adopted by IUCN in 1994.

In 1988 all bird species were evaluated, and in the *1996 IUCN Red List of Threatened Animals* the conservation status of every mammal species in the world was assessed for the first time. These were major milestones in conservation because not only was the overall status of mammals and birds determined, but a baseline was established from which to monitor future trends. For the 1996 list 5,205 species were evaluated resulting in 25% of all mammals and 11% of all birds being listed as threatened.

The system has since undergone further intense review and has been refined to ensure the highest standards of documentation (supporting information), information management, training, and scientific credibility.

The IUCN Red List Categories and Criteria are leading IUCN in new directions that will allow sophisticated biodiversity analyses, which will contribute to scientific discovery and to political policies related to conservation at local, national, and regional levels.

Improving the science behind the Red List

To improve the previous *ad hoc* process of listing species, Red List Authorities are being established for all taxonomic groups included on the Red List. In most cases, the Authority is the SSC Specialist Group responsible for a species, a group of species, or a geographic area. BirdLife International has been designated as the Red List Authority for birds and will liaise with the bird Specialist Groups and Wetlands International, where necessary. No new species will be added to the Red List until it has been evaluated by an appointed Red List Authority. All species on the list must be re-evaluated at least once every 10 years.

Taxonomic standards have been adopted and all species on the IUCN Red List should conform to these by the year 2003. Adherence to the documentation and taxonomic standards will bring greater credibility and transparency to listings, and allow better analyses of the findings.

Status assessments included in the IUCN Red List are also open to formal challenge. Petitions may be made against particular listings but only on the basis of the Red List Categories and Criteria and in reference to supporting documentation accompanying the listing. Petitions may not be made for political or economic reasons.