CONFIRMING THE GLOBAL EXTINCTION CRISIS

By IUCN

The global extinction crisis is as bad or worse than believed, with dramatic declines in populations of many species, including reptiles and primates, according to the 2000 IUCN Red List of Threatened Species. Since the last assessment in 1996, critically endangered primates increased from 13 to 19, and the number of threatened albatross species has increased from three to 16 due to long-line fisheries. Freshwater turtles, heavily exploited for food and medicinal use in Asia, went from 10 to 24 critically endangered species in just four years. These are among the alarming facts announced by the world’s largest international conservation organization, with the publication of the Red List, the most authoritative and comprehensive status assessment of global biodiversity.

“The fact that the number of critically endangered species has increased - mammals from 169 to 180; birds from 168 to 182, was a jolting surprise, even to those already familiar with today’s increasing threats to biodiversity. These findings should be taken very seriously by the global community,” says Maritta von Bieberstein Koch-Weser, IUCN’s Director General.

Human and financial resources must be mobilized at between 10 and 100 times the current level to address this crisis, the Red List analysis report says. IUCN should join forces with a wide range of partners, continue to develop strong relationships with governments and local communities, and engage the private sector at a new level, it adds.

A total of 11,046 species of plants and animals are threatened, facing a high risk of extinction in the near future, in almost all cases as a result of human activities. This includes 24 percent (one in four) of mammal species and 12 percent (one in eight) of bird species. The total number of threatened animal species has increased from 5,205 to 5,435. Indonesia, India, Brazil and China are among the countries with the most threatened mammals and birds, while plant species are declining rapidly in South and Central America, Central and West Africa, and Southeast Asia.

Habitat loss and degradation affect 89 percent of all threatened birds, 83 percent of mammals, and 91 percent of threatened plants assessed. Habitats with the highest number of threatened mammals and birds are lowland and mountain tropical rainforest. Freshwater habitats are extremely vulnerable with many threatened fish, reptile, amphibian and invertebrate species.

For the IUCN Red List system, scientific criteria are used to classify species into one of eight categories: Extinct, Extinct in the Wild, Critically Endangered, Endangered, Vulnerable, Lower Risk, Data Deficient and Not Evaluated. A species is classed as threatened if it falls in the Critically Endangered, Endangered or Vulnerable categories.

While the overall percentage of threatened mammals and birds has not greatly changed in four years, the magnitude of risk, shown by movements to the higher risk categories, has increased. The 1996 IUCN Red List of Threatened Animals included 169 Critically Endangered and 315 Endangered mammals; the 2000 analysis now lists 180 Critically Endangered and 340 Endangered mammals. For birds, there is an increase from 168 to 182 Critically Endangered and from 235 to 321 Endangered species.

In the last 500 years, human activity has forced 816 species to extinction (or extinction in the wild). The increase in known bird extinctions is partly due to improved documentation and new knowledge, but 103 extinctions have occurred since 1800, indicating an extinction rate 50 times greater than the natural rate. Many species are lost before they are even discovered.

A total of 18,276 species and subspecies are included in
the 2000 Red List. Approximately 25 percent of reptiles, 20 percent of amphibians and 30 percent of fishes (mainly freshwater) so far assessed are listed as threatened. Since only a small proportion of these groups has been assessed, the percentage of threatened species could be much higher.

A total of 5,611 threatened plants are listed, but as only approximately 4 percent of the world’s described plants have been evaluated, the true percentage of threatened plant species is much higher. With 16 percent of conifers (the most comprehensively assessed plant group), known to be threatened, the scale of threat for plants may be similar to that for some of the animals.

As well as classifying species according to their extinction risk, the Red List provides information on species range, population trends, main habitats, major threats and conservation measures, both already in place, and those needed. It allows better insight than ever before into the processes driving extinction. The 2000 Red List provides the basic knowledge about the status of biodiversity that can be used by conservation planners and decision-makers around the world to establish priorities and take the necessary action. The 2000 IUCN Red List has been produced for the first time on CD-ROM and is searchable on its website at http://www.redlist.org.

**New Publications**

*Turtle Conservation*, edited by Michael W. Klemens with a foreword by Nat B. Frazer, provides a comprehensive analysis of threats to turtles and tortoises worldwide. Considering the most significant problems facing the group, Klemens and eighteen international experts on turtle biology and conservation chart successes and failures of past conservation programs, discuss the use of genetics and demography in turtle conservation, and propose more effective strategies that take into account chelonian biology as well as the economic and social situations that affect turtle conservation efforts. They review the outlook for marine, freshwater, semi-aquatic, and terrestrial species and propose that turtle and tortoise conservation efforts be integrated into more broadly focused land-use projects. Published by Smithsonian Institution Press, Tel: 1-800-782-4612. Available in hardcover: ISBN 1-56098-372-8; $35.00. 8 b&w photographs, 7 b&w illustrations. 344 pp.


In *Lichens*, lichenologist William Purvis contends that understanding and maintaining lichen biodiversity may lead to the discovery of new medicines and increasingly precise monitoring of the environment’s health. Explaining that lichens produce more than seven hun-
dred chemical compounds, he details the unique symbiosis between fungal and photosynthetic partners, which has allowed them to colonize habitats where alone they would be rare or nonexistent. Lichens reveals the varied and intriguing world of organisms that are becoming key indicators of the earth’s environmental health. Published by Smithsonian Institution Press, Tel: 1-800-782-4612. Available in the U.S., Canada, Mexico and South America. Paperback: ISBN 1-56098-879-7, $14.95. 158 color photographs. 112 pp.

In Snakes, Peter Stafford charts the biology and natural history of snakes, highlighting the variety and complexity of a group that includes almost three thousand living species. Snakes are described in terms of evolution, anatomy, locomotion, senses, prey, feeding, growth, and reproduction. Stafford also details the habitats, conservation status, markings, and unusual behaviors of individual species. Making the case for snakes as a valuable and ecologically important group, the book provides a comprehensive introduction to their diverse biology and fascinating behavior. Published by Smithsonian Institution Press, Tel: 1-800-782-4612. Available in the U.S., Canada, Mexico and South America. Paperback: ISBN 1-56098-997-1, $14.95. 136 color photographs. 112 pp.

The world is losing species and biodiversity at an unprecedented rate. The causes go deep and the losses are driven by a complex array of social, economic, political and biological factors at different levels. Immediate causes such as over-harvesting, pollution and habitat change have been well studied. But the socioeconomic factors driving people to degrade their environment are less well understood. In Root Causes of Biodiversity Loss (edited by Johanna Mang, Alexander Wood and Pamela Stedman-Edwards), the underlying causes are examined. The book provides analyses of a range of case studies from Brazil, Cameroon, China, Danube River Basin, India, Mexico, Pakistan, Philippines, Tanzania and Vietnam, and integrates them into a new and interdisciplinary framework for understanding what is happening. From these results, the editors are able to derive policy conclusions and recommendations for operational and institutional approaches to address the ‘root causes’ and reverse the current trends. Published by Earthscan Publications, 120 Pentonville Rd, London N1 9JN, UK, <http://www.earthscan.co.uk>. Available in paperback, ISBN:1853836990, £17.95; 304 pages.

Although more and more land and water surface is under some form of protection, many vital ecosystems are under-represented, and traditional conservation methods are often quite ineffective. New approaches are urgently needed. Edited by Sue Stolton and Nigel Dudley, Partnerships for Protection examines how improvements can be made. Itself the result of a collaborative project between IUCN – The World Conservation Union (through its World Commission on Protected Areas) and the World Wide Fund For Nature (WWF), the book sets out ways to safeguard all the major ecosystems and explores innovative management partnerships involving individuals, communities, companies and governments. It draws attention to the importance of building collaboration among those with a stake in the resources, and an incentive to protect them. Published by Earthscan Publications, 120 Pentonville Rd, London N1 9JN, UK, <http://www.earthscan.co.uk>. Available in hardback, ISBN:1853836141, £45.00; and paperback ISBN:1853836095, £18.95; 288 pages.

New from Earthscan Publications is Endangered Species, Threatened Convention, edited by Jon Hutton and Barnabas Dickson. The Convention on International Trade in Endangered Species (CITES) is the best known and most controversial of international conservation treaties. Since it came into force 25 years ago, debate has raged over its most basic assumptions. CITES treats the international trade in wildlife as the most important threat to the continued existence of wild species. It offers a prescription of trade bans and restrictions for endangered species. However, it is now generally acknowledged that for most species habitat loss is a much more significant threat. Some argue that the CITES remedy actually exacerbates the problem by removing the incentive to conserve wildlife habitat. This collection of essays, the first of its kind, charts the controversies and changes within CITES. It provides case studies of the way CITES has dealt with particular species and notes the growing role of the South in shaping the direction of the treaty. It considers the role of sustainable use, the precautionary principle and unilateralism within CITES. Finally, it examines options for the future of CITES. Implicit within a number of the contributions is the recognition that questions of wildlife conservation cannot be divorced from wider issues of land use, development and social justice. Earthscan Publications, 120 Pentonville Rd, London N1 9JN, UK, <http://www.earthscan.co.uk>. Available in hardback ISBN:1853836672, £35.00; paperback ISBN:1853836362, £14.95; 224 pages.
Information Highway Hi-Lites

World Book, Inc. offers an educational resource focusing on species extinctions: The Problem of Species Extinction [http://www.worldbook.com/fun/wbla/earth/html/ed03.htm]. Designed for the educated public or the college classroom, the text is authored by some of the leading environmental scientists in the world: Drs. Peter Raven, Thomas Lovejoy, Norman Myers, and Stuart Pimm, among others. In addition to the five main chapters, the resource also includes classroom activities and a quiz to test newly acquired knowledge.


Current Literature


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Lange, D. 2000. Conservation and Sustainable Use of Adonis vernalis, a Medicinal Plant in International Trade. Plant Spe-


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Seeni, S., and Latha, P.G. 2000. In vitro multiplication and

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Smulders, M.J.M., van der Schoot, J., Geerts, R.H.E.M.,

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