

Nepal Country Report on Red Listing

T B Shreshta, S K Pokhrel and B Khanialal

INTRODUCTION

The Nepal Himalaya represents the highest terrestrial ecosystem on earth and provides linkages to the two most densely populated countries of the world, i.e. China and India. Both these countries are rich in biological species and indigenous knowledge associated with their use. Nepal's share of the world's terrestrial area is just over 0.1% - but it can claim over 2.2% of the global wealth of flowering plants, 4.2% of mammals, 8.5% of birds, 1.4% of reptiles and amphibians, and 2.2% of freshwater fish species.

Nepal has made continuous efforts in conservation for almost three decades. As at 1999, Nepal has 15 protected areas covering over 16% of the country's land area. Reasons for creating protected areas are often guided by rare and threatened species, especially the big mammals like the rhinoceros, tiger, snow leopard, wild buffalo and others. Recently, IUCN Nepal has been collaborating with the Ministry of Population and Environment to establish a plant-led protected area i.e. a *Rhododendron* Reserve in eastern Nepal.

THREATENED SPECIES LISTING

Fauna

National Parks and Wildlife Conservation Act

In 1973, His Majesty's Government of Nepal (HMG/N) developed a list of threatened wildlife species based on the surveys and research conducted in different areas of Nepal. The National Parks and Wildlife Conservation Act (NPWCA) contains 34 sections that provide a broad framework for establishing protected areas and conserving wildlife species in Nepal. This Act enforces the protection of 26 species of mammal, nine species of bird and three species of reptile under Schedule 1. There has not been any amendment or change to this Schedule since 1973.

IUCN Red List of Threatened Animals, 1994

There are 28 species of mammals, 22 species of birds, nine reptiles and two invertebrates in Nepal on the IUCN Red List of Threatened Animals. This report does not include the threatened species of amphibians and fishes of Nepal.

CITES List of Threatened Animals

CITES lists 136 faunal species from Nepal, including 60 mammals, 61 birds, one amphibian and two butterflies. Of the listed species, ten birds, 30 mammals and seven reptiles fall under Appendix I. Similarly, two butterflies, one amphibian, five reptiles, 48 birds, and 12 mammals are under Appendix II, and three birds and 18 mammals are under Appendix III.

According to BirdLife International, 19 globally threatened bird species occur in Nepal (Inskipp, 1989).

Flora

Forest Act

HMG/N has legal responsibility under the Forest Act 1993 to protect 11 plant species in three categories. Category-I bans species for the collection, use, sale, distribution, transportation and export outside the country. Two species fall into this category. Category-II bans the species for their export outside the country. There are six species in Category-II. Category-III bans the transportation, export and felling of three tree species (Shrestha and Joshi, 1996). Shrestha and Joshi (1996) list 108 threatened plants under the IUCN threat categories. Of these, 47 species are endemic to Nepal. The IUCN Red List (1997) includes 20 species (0.3% of total) threatened in Nepal.

CITES List

CITES lists eight species under Appendix II and five species under Appendix III.

Biodiversity Profiles Project

In 1995, the Biodiversity Profiles Project (BPP), a joint initiative of HMG/N and the Government of the Netherlands, reported on the status of the threatened fauna of Nepal and those meriting inclusion in the National Red Data Book. This report recommends 56 mammals (over 30% of the total), 226 birds (27% of the total), 25 reptiles (25% of the total), nine amphibians (21% of the total), 35 fishes (19% of the total), and 142 butterflies (22% of the total) for listing under the “threatened” category. This report also claims that three mammals and 11 birds should be placed in the extinction category.

CRITERIA AND DATA USED

In general, IUCN criteria are adopted to prepare species lists for national protection. The data sources are the specific recommendations of experts and professionals. Public opinion and media also play vital roles in promoting protection measures. The following data sources are used:

Expert opinions: Biologists and explorers make their contribution through scientific journals and the media. Their opinions and findings are widely respected by conservation communities and the government.

Loss of habitat: The increasing trend of deforestation and human intervention in natural areas usually depletes the habitats and leads to the damage of biodiversity. The high incidences of these interventions provide varied examples for evaluating the threat status of species. For example, the habitat of epiphytic orchids in eastern Nepal has been due to the expansion of tea estates. Habitat loss has squeezed the black buck population into a small patch adjacent to the Royal Bardia National Park, which has less than the minimum viable population level. Wild buffaloes are limited to only 175 sq. km in the Koshi Tappu Wildlife Reserve in Nepal. Infrastructure development in and around the riverine ecosystem has led to the decline of the population of the Gangetic Dolphin and Gharial Crocodile.

Illegal hunting and trade/ over-harvesting: The high economic value of some wildlife has become the incentive for hunting, sometimes even inside protected areas. For example, rhinos are being hunted for their horns. Other animals and birds are killed for their meat and skin. Royal Bengal tigers are killed for bones and skins. Asia Week (1993) reports that one kilogram of tiger bone can fetch US\$ 70. In addition, excess collection of plants such as Himalayan yew and Cordyceps has restricted their wide distribution in certain pocket areas. Hunting and excess collection of such species (although banned legally) has reduced the population size of wildlife and plants, and such a trend has been adopted as a recognised indicator for the legal protection of wildlife and plants in Nepal.

The Red Data Book of the Fauna of Nepal prepared by BPP (1995) referred to IUCN criteria (Mace and Stuart, 1995). However, the required level of information such as population size, increasing and decreasing trends in population, habitat fragmentation, and active management procedures is either unavailable or insufficiently known.

Research data: Periodical monitoring of flora and fauna is an accurate way of evaluating the threat levels of species, and for this reason, research data excerpted from publications are referred to.

DNPWC and the King Mahendra Trust for Nature Conservation (KMTNC) have been promoting research and training on wildlife management through the establishment of Nepal Conservation Research and Training Center (NCRTC). Resources, Nepal, a local NGO, has baseline information on specific animals like rhinoceros and red panda. The Mountain Institute, an INGO, has data bases on the wildlife and natural resources of the Makalu-Barun National Park and Conservation Area. Similarly, KMTNC has a database on the biodiversity and natural resources of the Annapurna Conservation Area. WWF-Nepal has been promoting research to generate scientific data about the snow leopard and other mammals of the Shey-Phokusundo National Park and Kanchanjungh Conservation Area.

IUCN-Nepal has been developing an electronic database on endangered species of fauna and flora, and also on protected areas. It has established inventories of insect fauna, birds, fishes, amphibians, mammals and flowering plants. The Natural History Museum (Tribhuvan University) has been regularly updating its data through annual surveys on flora and fauna. A considerable number of university professors and students are engaged in research on endangered species, particularly birds, butterflies, reptiles, amphibians and economic plants. The National Herbarium and Plant Laboratory under the Department of Plant Resources is the principal source of data on plants of wild origin. The Department of Plant Resources is in the process of compiling the Flora of Nepal.

In the animal kingdom, birds, butterflies, tigers, rhinoceros, red panda, crocodiles, amphibians, and fishes are among the well-studied groups. Similarly, there are a number of botanists who have specialised information on various taxa such as angiosperm, gymnosperm and pteridophyte.

USE OF THREATENED SPECIES LISTS

Nepal has developed a national Red Data Book on the Fauna of Nepal under the Biodiversity Profiles Project, as well as a book on Rare, Endemic and Endangered Plants of Nepal under the WWF Nepal Programme. These lists are extensively used by the conservation community in Nepal and in the Biodiversity Action Plan of Nepal.

CONSTRAINTS AND NEEDS

Constraints and Difficulties

The institutions responsible for conservation are poorly equipped to maintain data and information systems. SSC members find it difficult to secure adequate fund-

ing to conduct research on fauna and flora. Conservation funds are diverted to anthropogenic issues and not to biological issues such as studies on population dynamics/fluctuations, life cycle studies, reproduction ecology, and so on. SSC members have not been fully mobilised to undertake relevant research. Biologists are no longer popular in conservation organisations; they are being replaced by anthropologists and socio-economists.

Important Needs for Strengthening Threatened Species Listing

Threatened species listing is the stepping-stone to advance the cause of conservation. The extinction of species can only be checked or deterred if we know which ones are facing extinction and why. The most important need is therefore to establish or strengthen the knowledge base through regular studies and monitoring. It's the comparative advantage of IUCN to have thousands of members in the Species Survival Commission (SSC). Biologists and specialists working in their respective institutions are facing serious difficulties in finding research and study grants. The IUCN Regional Biodiversity Programme (RBP) is well-positioned to support SSC members and their organisations to prepare a plan of action for studies and research on endangered species. New members for SSC to cover all groups of taxa (including lower groups i.e. cryptogams and invertebrates) may be invited to join SSC. IUCN RBP could form a regional forum of experts and professionals from member countries to advance the cause of sustained field activities on identification, monitoring, and evaluation of status using scientific methods.

LESSONS LEARNED

The gravity of the problems associated with the identification, monitoring and status evaluation is not fully understood and appreciated by conservation authorities at large. Reliable data are lacking for want of a centrally located database or a recognised network system. Taxonomists and ecologists need to face the challenges and convince the appropriate authorities of the need to carry out so called “academic studies” on species.

Table 1
Threatened animals of Nepal on the IUCN Red List , 1994.

SN	English Name	Scientific Name	Status
VERTEBRATES			
Class	Mammalia		
Order	Carnivora		
Family	CANIDAE		
1	Grey Wolf	<i>Canis lupus</i>	V
2	Asiatic Wild Dog	<i>Cuon alpinus</i>	V
3	Bengal Fox	<i>Vulpes bengalensis</i>	I
Family	FELIDAE		
4	Asiatic Golden Cat	<i>Catopuma temmincki</i>	I
5	Clouded Leopard	<i>Neofelis nebulosa</i>	V
6	Tiger	<i>Panthera tigris</i>	E
7	Marbled Cat	<i>Pardofelis marmorata</i>	K
8	Fishing Cat	<i>Prionailurus viverrinus</i>	K
9	Snow Leopard	<i>Uncia uncia</i>	E
Family	MUSTELIDAE		
10	Oriental Small-clawed Otter	<i>Aonyx cinerea</i>	K
11	Smooth-coated Otter	<i>Lutra Perspicillata</i>	K
Family	URSIDAE		
12	Lesser Panda	<i>Ailurus fulgens</i>	V
13	Sloth Bear	<i>Melurus ursinus</i>	V
14	Asiatic Black Bear	<i>Selenarctos thibetanus</i>	V
Order	CETACEA		
Family	PLATANESTIDAE		
15	Ganges River Dolphin	<i>Platanista gangetica</i>	V
Order	PROBOSCIDEA		
Family	ELEPHANTIDAE		
16	Indian Elephant	<i>Elephas maximus</i>	E
Order	PERISSODACTYLA		
Family	RHINOCEROTIDAE		
17	Great Indian Rhinoceros	<i>Rhinoceros unicornis</i>	E
Family	ARTIODACTYLA		
18	Pygmy Hog	<i>Sus salvanius</i>	E
Family	CERVIDAE		
19	Swamp Deer	<i>Cervus duvauceli</i>	I
Family	BOVIDAE		
20	Black Buck	<i>Antilope cervicapra</i>	V
21	Gaur	<i>Bos gaurus</i>	V
22	Wild Yak	<i>Bos mutus</i>	E
23	Wild Water Buffalo	<i>Bubalus arnee</i>	E
24	Mainland Serow	<i>Capricornis sumattaensis</i>	I
25	Himalayan Tahr	<i>Hemitragus jemlahicus</i>	K

SN	English Name	Scientific Name	Status
26	Four-horned Antelope	<i>Tetracerus quadricornis</i>	V
Order	LAGOMORPHA		
Family	OCHOTONIDAE		
27	Nubra Pika	<i>Ochotona nubrica</i>	I
Family	LEPORIDAE		
28	Hispid Hare	<i>Caprolagus hispidus</i>	E
Class	Aves		
Order	PELICANIFORMES		
Family	PELICANIDAE		
1	Spot-billed Pelican	<i>Pelecanus philippensis</i>	I
Order	CICONIIFORMES		
Family	CICONIIDAE		
2	Greater Adjutant	<i>Leptoptilos dubius</i>	E
3	Lesser Adjutant	<i>Leptoptilos javanicus</i>	V
Order	ANSERIFORMES		
Family	ANATIDAE		
4	Beer's Pochard	<i>Aythya baeri</i>	V
Order	FALCONIFORMES		
Family	ACCIPITRIDAE		
5	Cinereous Vulture	<i>Aegypius monachus</i>	V
6	Imperial Eagle	<i>Aquila heliaca</i>	R
7	White-tailed Eagle	<i>Haliaeetus albicilla</i>	V
8	Pallas's Sea-eagle	<i>Haliaeetus leucorhynchus</i>	R
Family	FALCONIDAE		
9	Lesser Kestrel	<i>Falco naumanni</i>	R
Order	GALLIFORMES		
Family	PHASIANIDAE		
10	Cheer Pheasant	<i>Catreus wallichii</i>	E
11	Swamp Francolin	<i>Francolinus gularis</i>	V
12	Weatern Tragopan	<i>Tragopan melanocephalus</i>	R
Order	GRUIFORMES		
Family	OTIDIDAE		
13	Bengal Florican	<i>Eupodotis bengalensis</i>	E
14	Lesser Florican	<i>Eupodotis indica</i>	E
Order	CHARADRIIFORMES		
Family	SCOLOPACIDAE		
15	Wood Snipe	<i>Gallinago nemoricola</i>	I
Order	CORACIIFORMES		
Family	ALCEDINIDAE		
16	Blyth's Kingfisher	<i>Alcedo hercules</i>	E
Family	BUCEROTIDAE		
17	Rufous-necked Hornbill	<i>Aceros nipalensis</i>	R

SN	English Name	Scientific Name	Status
Order	PASSERIFORMES		
Family	MUSCICAPIDAE		
18	Bristled Grassbird	<i>Chaetornis striatus</i>	K
19	Jerdon's Babbler	<i>Chrysomma altirostre</i>	V
20	Black-breasted Parrotbill	<i>Paradoxornis flavirostris</i>	I
21	White-throated Bushchat	<i>Saxicola insignis</i>	K
22	Rufous-throated Wren-Babbler	<i>Spelaeornis caudatus</i>	K
Class	Reptilia		
Order	TESTUDINES		
Family	EMYDIDAE		
1	Black Pond Turtle	<i>Geoclemys hamiltonii</i>	I
2	Red-crowned Roofed Turtle	<i>Kachuga kachuga</i>	I
3	Three-keeled Land Tortoise	<i>Melanochelys tricarinato</i>	I
Family	TESTUDINIDAE		
4	Elongated Tortoise	<i>Indotestudo elongata</i>	K
Order	CROCODYLA		
Family	CROCODYLIDAE		
5	Mugger	<i>Crocodylus palustris</i>	V
Family	GAVIALIDAE		
6	Gharial	<i>Gavialis gangeticus</i>	E
Order	SAURIA		
Family	VARANNIDAE		
7	Yellow Monitor	<i>Varanus flavescens</i>	I
Order	SERPENTES		
Family	BOIDAE		
8	Indian Python		
Family	COLUBRIDAE		
9	Indian Egg-eating Snake		
INVERTEBRATES			
Class	Insecta		
Order	ODONATA		
Family	EPIOPHLEBIIDAE		
1	Relist Himalayan Dragonfly	<i>Epiophlebia laidlawi</i>	V
Order	LEPIDOPTERA		
Family	Papilionidae		
2	Kaiser-I-Hind	<i>Teinopalpus imperialis</i>	R

REFERENCES

- BPP. 1995. *Red Data Book of the Fauna of Nepal*. Biodiversity Profiles Project, Technical Report No. 4. Department of National Parks and Wildlife Conservation, Ministry of Forests and Soil Conservation, His Majesty's Government of Nepal, Kathmandu.
- Inskipp, C. 1989. *Nepal's Forest Birds: Their Status and Conservation*. International Council for Bird Preservation. Cambridge, England. Monograph No. 4.
- IUCN. 1995. *Endangered Wildlife: Nepal's Threatened Animals in the IUCN Red List 1994*. IUCN Nepal, Kathmandu.
- IUCN. 1995. *Nepal's Flora and Fauna in the Current CITES Lists 1995*. IUCN Nepal, Kathmandu.
- IUCN. 1996. *1996 IUCN Red Lists of Threatened Animals*. IUCN, Gland, Switzerland.
- Mace, G. and Stuart, S. 1994. Draft IUCN Red List Categories. *Species* 21-22, 13-24.
- Schouten, K. 1992. *Checklist of CITES Fauna and Flora*. Revised edition.
- Shrestha, N. 1997. *Protected Wildlife Species of Nepal: An Introductory Handbook*. IUCN Nepal, Kathmandu.
- Shrestha, T. B. and Joshi, R. M. 1996. *Rare, Endemic and Endangered Plants of Nepal*. WWF Nepal Programme, Kathmandu.

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