

Marked declines in populations of Irrawaddy dolphins

Irrawaddy dolphins *Orcaella brevirostris* occur in some of the larger rivers and marine appended lakes in South-east Asia, as well as in coastal waters of the Indo-Pacific. Although the species is categorized as Data Deficient on the IUCN Red List, recent population assessments conducted in the Mahakam, Mekong and Ayeyarwady rivers and Songkhla Lake indicate alarming declines in their numbers and ranges and ongoing and pervasive threats to their long-term persistence.

Based on an intensive set of surveys conducted over 1999–2002, the population of Irrawaddy dolphins in the Mahakam River, Indonesia, was estimated to be <50, generally confined to a 200 km segment of the mainstream plus connecting tributaries. Meanwhile, the population has been subject to a mean annual mortality rate of >10%, with 80% of deaths attributed to gillnet entanglement. Prey depletion by non-selective fishing practices such as poisoning and electrocution may increase the temptation for dolphins to prey on fish caught in gillnets. Large coal barges towed by tugboats also physically block dolphin movements in tributaries, where many of the remaining animals occur.

On the basis of similarly intensive surveys in the Mekong River from February 2001 to April 2003, the population was estimated to be <100, confined during the dry season to a 190 km segment between Kratie, Cambodia, and Khone Falls just upstream of the Laos-Cambodian border. Eleven dolphin carcasses were recovered in the past 10 months, at least six of which were attributed to entanglement in gillnets.

A survey of the entire length of the Ayeyarwady River, Myanmar, in December 2002 recorded only eight dolphin groups and 37 individuals, in a 373 km long segment. This represents >50% decline from their reported historical range. Meanwhile, >1,200 gillnets were documented in the river with a significantly higher net density recorded in areas where dolphins have apparently been extirpated. Almost 900 gold mining operations were also recorded within the area of current dolphin distribution. These operations use mercury to amalgamate the gold. Accidental introduction of this element into the river could have profound toxic effects on the animals, especially given the bioaccumulative properties of this trace metal and

the dolphin's position at the top of the aquatic food chain. Excessive noise from these operations also interferes with the ability of dolphins to navigate and detect and catch their prey. In addition, the operations introduce, break-up, and redistribute large quantities of sediment, causing major changes in the geomorphologic and hydraulic attributes of the river.

In May 2000 and February 2001 extensive surveys of Songkhla Lake recorded only four dolphin groups, with the largest composed of eight individuals. Between 1990 and 2001, 28 dolphin carcasses were recovered. At least 13 of these died from entanglement in gillnets. Six dolphins were also found dead in the first 6 months of 2003. One of these was pregnant and had its flukes cut off, probably to extract it from a gill net.

These findings indicate that freshwater populations of Irrawaddy dolphins are at a critical juncture and that immediate conservation action is required to prevent their extirpation. The greatest threat to these animals, and probably all small cetaceans, is entanglement in gillnets. However, despite the grim situation facing these populations there are reasons for hope. In collaboration with local NGOs and government agencies the Whale and Dolphin Conservation Society and Wildlife Conservation Society, among others, are establishing site-based research and conservation projects in all three rivers where the dolphins occur and in Songkhla Lake. There has also been a great increase in local awareness of the conservation importance of these animals. The Irrawaddy dolphin has been adopted as the official mascot of the Phattaloung Province, which borders Songkhla Lake, and the Queen of Thailand has declared the animals a Royal Protected Species. People living in the Mahakam Basin attribute the animals to a human origin and the species participates in a cooperative fishery with throw-net fishermen in the Ayeyarwady River. Throughout their freshwater range in South-east Asia local people generally revere Irrawaddy dolphins. The challenge is to channel these positive sentiments into effective conservation action.

Brian D. Smith & Isabel Beasley
Wildlife Conservation Society
Marine and Cambodia Country Programs, respectively
E-mail: bsmith@wcs.org

Danielle Krieb
Conservation Foundation for the Protection of Rare Aquatic Species of
Indonesia

Elephant deaths in Nagarhole National Park, India

According to revelations by Wildlife First, an Indian proactive conservation organisation, 77 Asiatic elephants *Elephas maximus* died in Nagarhole National Park (642 km²) in southern India from 1 January 2000 to 31 October 2002. At least 44 of these were tuskers, whose numbers are dwindling all over Asia due to illegal poaching for ivory. The Park is estimated to harbor >1,200 threatened Asian elephants and, together with the adjacent Bandipur National Park, has one of the largest concentrations of Asian elephants in the world. It is also a part of India's Project Tiger reserve network.

Government autopsies recorded that a quarter of these deaths were due to aggression between the tuskers, although this high rate of mutual attrition seems unlikely as elephants are sociable animals and cases of such deaths are rare. The official autopsies also reported that 15 elephants, including 11 tuskers, died from poaching. These deaths follow on from other signs of wildlife destruction in the Park. In May 2002 a gang of poachers were found operating freely inside the Park, setting up steel jaw traps to capture and kill tigers for the Chinese bone trade. The entire anti-poaching machinery in the Park, whose ability to track down poachers was legendary, has crumbled over the past few years. This wildlife-poaching took place against a backdrop of reports of illegal timber felling and habitat destruction.

Wildlife First believes that one of the causative factors for this wildlife poaching and habitat destruction is an eco-development project that was initiated in 1997–98, supported by \$9 million of funding from the World Bank's Global Environmental Facility. Thus, despite a large amount of money being spent on the eco-development project, with the assumption that external pressure on the protected area will be lessened or cease altogether, the project seems to have created more problems than it has solved. Following allegations made by non-governmental organisations, the Government of Karnataka has ordered a high level enquiry into the elephant deaths and a judicial investigation into allegations of corruption and negligence by Park officials.

Sanjay Gubbi
Centre for Wildlife Studies
823, 13th Cross, 7th Block West, Jayanagar
Bangalore – 560 082, India
E-mail: gubbi@wcsindia.org

Marat Longri – Assam's latest wildlife sanctuary

On 17 April 2003 the government of Assam, India, declared Marat Longri as a wildlife sanctuary. The

451 km² sanctuary is located in Karbi Anglong, Assam's largest district. This low undulating country is drained by the Jamuna, Disama, Kakijan and Lonkaijan rivers, and includes four reserve forests: Disama, Kaki (Karbi Anglong part), Inglongkiri and Miyungdisa. The area has a tropical monsoon type climate with 800–1,500 mm annual rainfall. The vegetation is dominated by tropical moist deciduous forest, with tropical semi-evergreen forest in the river valleys, and has a rich variety of both plant and animal species. This includes seven primate species, amongst them the slow loris *Nycticebus coucang*, pig-tailed macaque *Macaca nemestrina*, Assamese macaque *M. assamensis*, stump-tailed macaque *M. arctoides*, rhesus macaque *M. mulatta*, capped langur *Presbytis pileatus*, and hoolock gibbon *Hylobates hoolock*. Other noteworthy mammals include the Chinese pangolin *Manis pentadactyla*, Asiatic black bear *Ursus thibetanus*, leopard *Panthera pardus*, tiger *P. tigris*, and Asian elephant *Elephas maximus*. The area also has a relatively rich diversity of birds and reptiles.

Encroachment into the area was negligible until the mid 1980s, and although encroachment has been increasing it is still relatively insignificant. Some settlers of the Chakma tribe carry out *jhum* (slash-and-burn shifting) cultivation in the Inglongkiri area, and although there is poaching for deer (and occasionally for primates, small mammals such as porcupines, birds and reptiles) it is not so far a major threat. Marat Longri has great tourism potential because of its accessibility. A national highway passes through the northern boundary of the Sanctuary and the southern boundary runs more or less along the Diphu-Lumding main road. Silbhetta falls on the Jamuna river, within the sanctuary, is popular with tourists.

Anwaruddin Choudhury
The Rhino Foundation for Nature in NE India
C/o Assam Co. Ltd., Bamunimaidam, Guwahati 781 021, India
Email: badru1@sancharnet.in

Mitigating encroachment problems in Kudremukh National Park, India

India's high population pressure has led to intensive encroachment into its forests, and the consequent fragmentation of wildlife habitats both inside and outside protected areas is one of the major problems for conservation in India. Protected areas are fragmented by both legal private landholders and illegal occupants of forests. The 563 km² Kudremukh National Park in southern India is the largest protected area in the Western Ghats, a biodiversity hot spot. This reserve also forms part of the priority-I Tiger Conservation Unit. The biodiversity of the Park includes several threatened and globally significant wildlife species such the tiger *Panthera tigris*,

lion-tailed macaque *Macaca silenus*, great pied hornbill *Buceros bicornis*, and king cobra *Ophiophagus hannah*.

A transparent and voluntary resettlement project involving eight families was recently taken place from Bhagwathi, a critical land parcel in the heart of the Park that has been encroached upon for the past 15–20 years. Prior to voluntary resettlement the families practised dairy farming and owned over 500 cattle that freely and illegally grazed in the Park. The livelihoods of the families depended on supplying their produce to a nearby mining township, and they would have been left with no means of livelihood once the mining township closed in December 2005 due to a court order requiring the mining company to end their operations in the Park (see *Oryx*, 37, 282).

The Wildlife Conservation Society and its conservation partners helped the families find suitable alternative agricultural land outside the Park, and the Karnataka Forest Department provided support for transportation. All eight families moved to their new homes in March 2003. Financial support was provided by the Wildlife Conservation Society, with a matching grant from Microsoft Corporation, USA. A compensation package of nearly \$30,000 was provided for their houses and for the purchase of agricultural land outside the Park. The relinquished land is once again in the custody of the Forest Department.

This project was initiated because progress by the Government in acquiring crucial land within wildlife reserves moves slowly due to shortage of funds and litigation-prone government legal procedures. The initiative aimed to solve the encroachment problem through a socially just and voluntary resettlement program. This mitigation of human-wildlife conflict through private-public partnerships with international donor support could be used as a model to solve encroachment problems in other protected areas.

Sanjay Gubbi
Centre for Wildlife Studies
823, 13th Cross, 7th Block West, Jayanagar
Bangalore – 560 082, India
E-mail: gubbi@wcsindia.org

Reintroduction of black rhino to North Luangwa National Park, Zambia

Zambia is historically one of the major range states for the black rhino *Diceros bicornis minor* (see also *Oryx*, 37, 139), and the Luangwa Valley was one of the strongholds of the animals in the country. In the early 1970s the Luangwa Valley was home to an estimated population of 4,000–12 000 (Ansell, W.F.H., 1975, Black rhinoceros in Zambia. *Oryx*, 13, 83–84). The large, unfenced, and under-funded National Parks and Game Management Areas of Zambia were, however, very vulnerable to

the wave of poaching that swept over the continent in the late 1970s and the 1980s, and by the early 1990s the majority of Zambia's black rhinos were gone. The IUCN African Rhino Status Survey considered them "Presumed Nationally Extinct" in 1999, with no confirmed sightings or spoor for over 6 years (Emslie, R. & Brooks, M., 1999, *African Rhino. Status Survey and Conservation Action Plan*. IUCN/SSC African Rhino Specialist Group. IUCN, Gland, Switzerland & Cambridge, UK).

The 4,600 km² North Luangwa National Park, situated in the mid to upper Luangwa Valley, has been jointly managed since 1986 by the Zambian Wildlife Authority (ZAWA) and the Frankfurt Zoological Society (FZS) in the form of the North Luangwa Conservation Project. The resulting long-term continuity in support of law enforcement and management led to the required levels of security that made the reintroduction of black rhinos to the Park, and in effect to Zambia, feasible. In 2001 the South African Development Community Regional Programme for Rhino Conservation carried out a positive evaluation of North Luangwa as a suitable reintroduction site (Dunham, K. M., 2001, *Reintroduction of Black Rhino in the Luangwa Valley, Zambia*. IUCN SADC Regional Programme for Rhino Conservation. IUCN, Harare, Zimbabwe). A truly international and regional effort led to the release of the first five animals into a central fenced sanctuary in North Luangwa in June 2003.

These animals were part of an agreement between FZS, Frankfurt Zoo, South African National Parks and ZAWA. Frankfurt Zoo has sent two black rhino calves, born in the zoo, to South African National Parks and a third will follow later this year. Two of these animals form the basis of the arrangement to give the five animals to Zambia, through the mediation of the Frankfurt Zoological Society. This part of the reintroduction is just the first step towards the goal of establishing a founder population of at least 20 animals in the Park over the next 3 years. The re-establishment of a viable population of black rhino in one of its most important historical range states is a further positive step forward in the conservation of this Critically Endangered species, as well as signalling the start of a new era for wildlife in Zambia.

Elsabe van der Westhuizen
North Luangwa Conservation Programme
PO Box 450189, Mpika, Zambia
E-mail: 2nlcp@bushmail.net

The proposed Lomako Forest Reserve of the Democratic Republic of Congo: urgent action needed

Four years after civil war forced them to flee the region, international conservationists have recently returned to the Democratic Republic of Congo (DRC) to follow up on the

situation in and around the proposed 3,600 km² Lomako Forest Reserve. The future for both the remaining fauna and the local people looks very bleak. The Lomako Forest is renowned for its population of Endangered bonobo *Pan paniscus*, and in the early 1990s a proposal to create the Lomako Forest Reserve was put before the government but has not yet been approved because of political turmoil. Expeditions to the northern part of the proposed reserve in 1995 and 1998 documented an increased rate of immigration into previously uninhabited forest, hunting pressure and logging activities, emphasizing the urgent need for action in order to safeguard the potential of the proposed Reserve.

Since the departure of the research team of the Royal Zoological Society of Antwerp in November 1998, return to the Lomako forest was considered unfeasible, as the area was situated on the frontline of fighting between the MLC (Mouvement de libération du Congo) and FAC (Forces armées congolaises). In November 2002, however, a return trip was financed by the Canadian International Development Agency and a number of Canadian television funding agencies, and will be the subject of a documentary to be broadcast later this year on CBC's *The Nature of Things*. The team received the full support of both the MLC and FAC.

This expedition to Iyema and the surrounding area confirmed the warnings of the 1995 and 1998 expeditions, with increased hunting and immigration into the proposed Reserve. Only relatively few primates and traces of ungulates were observed. Nest counts along 20 km of former transects indicated a 75% decline in the bonobo population. The results suggested that 50% of the proposed reserve has been experiencing heavy hunting pressure, 30% is being exposed to recent and more moderate hunting and 10–20% of the area still contains intact bonobo populations. Meanwhile, the number of hunting camps increases. The Lomako forest is considered one of the few remaining sources of animal protein for the region, and soldiers searching for bushmeat travel as far as Kitiwalist (in the eastern part of the proposed reserve). In the absence of any conservation or development activities there will be future problems of food security for the local population, and the proposed Lomako Forest Reserve could become an 'empty forest'. Any future conservation activities will have to consider the needs of the local people.

As a first step a more thorough survey of the proposed Reserve is required, both of the distribution of the various ethnic groups and their current means of survival, and a quantitative faunal survey. In addition, a feasibility study into potential means of revenue creation should focus on former agricultural products such as cocoa, coffee, rice and maize, the production of which has halted due to deterioration of the appropriate infrastructure.

Meanwhile, lobbying regarding forestry operations is ongoing, and there are plans to restart logging. The World Bank has proposed the opening up of c. 60 million ha of primary rain forest within the next 5–10 years. This will result in an annual production of 6–10 million m³ of timber, generating \$1–2 billion. The new hunting and forestry tax code lists taxes for the killing and capturing of most threatened species, including the bonobo, for which the tax is \$200, but the forestry code does not deal with the issue of wildlife management. The Lomako area, a priority zone for conservation, is under greater threat than ever before, and that threat exists both for the fauna and for the local human population.

J. Dupain

Centre for Research and Conservation
Royal Zoological Society of Antwerp, Belgium
BP 5619-Longkak, Yaoundé, Cameroon
jefdupain@iccnnet.cm

Wild Bactrian Camel Sanctuary success in China

In 2003 the wild Bactrian camel *Camelus bactrianus ferus* was upgraded on the IUCN Red List to Critically Endangered. In early July 2003 the Chinese Government upgraded the 155,000 km² Wild Camel Lop Nur Nature Reserve in Xinjiang Province from a Provincial Reserve to a National Reserve. The upgrading was 'fast-tracked' and achieved in 3 years instead of the normal five. It means that staff salaries and other financial commitments will now be met by the central government. In 2002 the East-West China gas pipeline was sited through the northern part of the reserve. This caused great concern to the UK-based Wild Camel Protection Foundation (<http://www.wildcamels.com>). The Foundation has now managed to get the pipeline re-routed, at a cost of \$12 million to the oil consortium. Pipeline compensation has just been received, which will help to ensure that this unique reserve becomes a meaningful sanctuary for the remarkable salt water drinking, wild Bactrian camel and for the unique flora and other fauna within its boundaries.

John Hare

Wild Camel Protection Foundation
School Farm, Benenden, Kent, TN17 4EU, UK
Email: harecamel@aol.com

Formation of IUCN/SSC Global Tree Specialist Group

March 2003 saw the formation of the IUCN Species Survival Commission Global Tree Specialist Group. Its main aims are to support and coordinate the Red Listing process for trees and act in an advisory capacity to the

Global Trees Campaign (<http://www.globaltrees.org>), a joint initiative between Fauna & Flora International and the UNEP-World Conservation Monitoring Centre, with partners around the world (see *Oryx*, 37, 141).

The Red Listing work of the Global Tree Specialist Group will tackle evaluation of tree species using the IUCN Red List categories and criteria on a thematic basis, reviewing families and regions as appropriate expertise and financial resources become available. In the first instance, the Group plans to work on trees of the families Aceraceae, Fagaceae, Magnoliaceae, commercially important timbers and trees of the Caribbean region. In addition to reviews of current literature, this will involve field research and workshops to determine populations, threats and conservation needs, integrated with the work of the Global Trees Campaign. It will specifically try to address the gaps in assessments identified since the production of *The World List of Threatened Trees* in 1998. The outcomes from this Group will also support the targets of the Convention on Biological Diversity's Global Strategy for Plant Conservation (<http://www.biodiv.org/programmes/cross-cutting/plant/default.asp>; see *Oryx*, 36, 325), agreed by the Parties to the Convention in 2002. This ambitious strategy has 16 targets for delivery by 2010, all of which will be dependent on the kind of baseline information made available by the Red Listing process. Of key importance will be the contribution to Target 2, the preliminary assessment of conservation status of all known plant species at national, regional and international levels.

An interim target for the Global Tree Specialist Group is to update all information held in the *World List of Threatened Trees* by 2006 and to identify expertise that can complete gaps in the existing assessments. The Secretariat of the Global Trees Specialist Group is based at Fauna & Flora International and can be contacted at gtsg@fauna-flora.org.

Paul Mathew

Secretary, Global Tree Specialist Group
Fauna & Flora International, Great Eastern House
Tenison Road, Cambridge, CB1 2TT, UK
E-mail: paul.mathew@fauna-flora.org

FFI's SoundWood Programme launches its website

The SoundWood programme of Fauna & Flora International works with educators, scientists, the music and timber industries and local communities to develop practical solutions for tree and forest habitat conservation. The programme seeks to improve the management of a range of heavily exploited timber species and increase the availability of independently certified wood used to manufacture musical instruments and other wood products.

SoundWood has recently launched its website at <http://www.soundwood.org>. The website is a global tool for presenting background information and updates on the programme's current activities in education, and species and habitat conservation, as well as efforts to integrate woods from well managed sources into the music and timber industries. Two of the key features of the website are the launch of the SoundWood Resource Market Place and the SoundWood Species Database. These resources will add value and connectivity for a growing group of concerned individuals and businesses working to develop positive solutions for wood use as well as researching up-to-date information on the conservation status of threatened timber species in trade. SoundWood is an integral component of the Global Trees Campaign (<http://www.globaltrees.org>; see *Oryx*, 37, 141) developed jointly by Fauna & Flora International and the UNEP-World Conservation Monitoring Centre.

Robert Garner

SoundWood Programme Director, Fauna & Flora International
Presidio Bldg, 38 Keyes Ave, Suite 116
San Francisco, CA 94129, USA
E-mail: ffi_us@pacbell.net

BP Conservation Programme award winners for 2004

The 2004 BP Conservation Programme award winners were announced on 24 June 2003 at the American Museum of Natural History in New York. The programme awarded \$565,000 to 32 globally significant conservation projects in 21 countries, covering a myriad of species and habitats, including water birds in Kazakhstan, swamp ecosystems in India, and marine turtle protection in Kenya. Two-thirds of the projects cover high biodiversity wilderness areas. Twenty-four awards ranging from \$7,500 to 17,500 were presented, plus six follow-up awards of \$20,000–55,000. These are in addition to the major prize of \$75,000 given to each of two winners of Consolidation Awards, presented to projects dating back to the programme's inception. This year these highest honours went to projects in Colombia and Madagascar.

Colombia's Project *Hapalopsittaca* will use the grant to expand its work to include a total of seven parrot species found in the threatened montane ecosystems of the northern Andes. Working with several international and local organizations, this 3-year project aims to revive threatened populations, protect critical habitat, and implement a national action plan for threatened parrots.

For the past 5 years, the Tandroy Conservation Trust has been providing much-needed research, education and development support in the forested Androy region of southern Madagascar. The area is home to both the

Androy people and the spiny forest, a region that holds a great wealth of species found nowhere else but that is under immense pressure from a growing human population. The team will use the award to expand vital efforts to train local ecologists, integrate local groups and individuals into the management of protected areas, and better understand the biodiversity of the Androy forests.

The BP Conservation Programme (<http://conservation.bp.com>) is an awards programme that provides training, awards and advice to student-led teams undertaking critical conservation research projects. Supported by BP for the past 13 years, the Programme works with its partners Conservation International, BirdLife International, Fauna & Flora International and the Wildlife Conservation Society.

Marianne Dunn

BP Conservation Programme Manager

E-mail: dunmm22@bp.com

Dominica's frogs are croaking

Since April 2001 Fauna & Flora International (FFI) has been implementing a Darwin Initiative funded project *Development of a National Strategy for Sustainable Wildlife Use for the Commonwealth of Dominica* in collaboration with Dominica's Forestry and Wildlife Department (FWD). One of the targeted species is the world's second-largest species of frog *Leptodactylus fallax*. Known as the mountain chicken, it is restricted to Dominica and Montserrat and is widely hunted for food. In January 2003 FWD asked FFI to assist in identifying the cause of unexplained mortality in these amphibians.

In March specimens of mountain chickens were brought back to the UK for analysis. Dr Andrew Cunningham of the Institute of Zoology, London (the Chair of the Disease Working Group of the IUCN Declining Amphibian Population Task Force) positively diagnosed extensive cutaneous chytridiomycosis as the cause of death. Simultaneously an American researcher, Jay King, also identified chytridiomycosis in samples from Dominica. These are the first confirmed cases in the Lesser Antilles.

The presence of chytridiomycosis – which is believed to be the principal agent responsible for global declines in amphibian populations – in an area with many endemic amphibian species is a major conservation concern. Chytridiomycosis is the presumed cause of

extinction of the golden toad *Bufo periglenes* of Costa Rica and seven Australian amphibian species. Although currently not listed on the IUCN Red List the mountain chicken probably already merits the status of Critically Endangered, being threatened on Montserrat by both overexploitation and the recent volcanic eruption, and now on Dominica by chytridiomycosis. The other three Dominican amphibians – the single-island endemic Dominican whistling frog *Eleutherodactylus amplinympha*, and the regionally endemic tink frog or Martinique whistling frog *Eleutherodactylus martinicensis* and Johnstone's whistling frog *Eleutherodactylus johnstonei* – may also be under threat, as will amphibians on neighbouring islands, if the disease spreads.

Chris Magin

Senior Protected Areas Specialist

Fauna & Flora International, Great Eastern House

Tenison Road, Cambridge, CB1 2TT, UK

E-mail: chris.magin@fauna-flora.org

New and improved Internet resources

The *Precautionary Principle Project* (see *Oryx*, 37, 13) has launched its website at <http://www.pprinciple.net>. This site forms part of an ongoing collaborative initiative between IUCN, Fauna & Flora International, TRAFFIC, and Resource Africa, focused on assessing the operation and impacts of the precautionary principle in natural resource management and biodiversity conservation, and developing 'best-practice' guidance for its effective and equitable application. Currently the website provides background information on the precautionary principle and information about the project's themes and activities.

ARKive (<http://www.arkive.org>), an initiative of the Wildscreen Trust (<http://www.wildscreen.org.uk>), is a growing catalogue of information, pictures, and videos illustrating the Earth's diversity of species. Currently, ARKive provides images and informative descriptions of selected threatened species, as well as of species native to the British Isles. Eventually the page will contain "an audio-visual record, where possible, for the 11,000 animals and plants threatened with extinction." Users can browse through the current catalogue to locate specific plants or animals, reading about their native habitat, present threats to their viability, and current conservation news.