

biodiversity of the islands, providing reference collections, databases, and an infrastructure of local expertise, built through annual training courses, as Project legacies.

Falklands Conservation is a UK registered charity founded by the late Sir Peter Scott and fellow conservationists in 1979 with the aim to monitor and protect the exceptional wildlife of the Falkland Islands (see <http://www.falklandsconservation.com>). A quarterly Project newsletter is available in electronic format. Anyone who wishes to be added to the mailing list for the newsletter please email ann@falklands-nature.demon.co.uk

Alex Jones
Falklands Conservation
E-mail agj25@cam.ac.uk

The harpy eagle restored to former Central American range

The Near Threatened harpy eagle *Harpia harpyja* of Central and South America is one of the largest raptors in the world. Its populations have been drastically reduced in Central America by hunting and habitat destruction, and the last documented sighting of a harpy eagle in Belize was in April 2000. That bird was later known to have been shot. Combined efforts between The Peregrine Fund Panama, the Government of Belize, The Belize Zoo and Programme for Belize have been working to ensure that this species is re-established into its former range within the Selva Maya, a 22,000 km² tract of tropical forest that extends from Belize into Guatemala and Mexico.

Harpy eagle chicks, captive-bred at The Peregrine Fund's Neotropical Raptor Center in Panama, are first released in Panama. They are monitored there and maintained within protected areas until they become independent and are hunting on a regular basis. At this point they are transferred, usually singly, to Belize and released into the 100,000 ha protected forests of the Rio Bravo Conservation Management Area in north-west Belize. This forest has abundant prey for the harpy eagle.

From March 2003 to November 2005, 10 harpy eagles were brought from Panama and released in the Management Area. Eight have survived. Documented prey over a 2-year period have included possums, kinkajous, coati-mundis, spider monkeys, porcupine and grey fox. The birds are monitored by both radio telemetry and satellite transmitters, and this information is providing the first data on the dispersal behaviour of subadult harpy eagles. One of the birds has dispersed 150 km from its initial release site, and data obtained on dispersal patterns will be valuable for other release and management programmes for large forest eagles. The Peregrine Fund has begun a year-long ecological study of the harpy

eagles released in the Rio Bravo Conservation Management Area. The aim is to examine seasonal differences in home range, diet and foraging patterns. In particular, prey selection in Belize will be compared with prey selection already documented in Panama.

In August 2005 a Memorandum of Understanding was signed between the Selva Maya countries of Belize, Guatemala and Mexico for the conservation of the remaining natural resources of this biodiverse region. The restoration of the harpy eagle in Belize is poised to see its success permeate into these neighbouring countries, thus empowering the mandate of the Memorandum. It is hoped that a self-sustaining population of harpy eagles will once again inhabit the forests of the Selva Maya.

The Belize restoration programme is complemented by an environmental education programme designed and implemented by The Belize Zoo. This programme includes billboards along two major highways showing the harpy eagle with the message *Protect Predators – They Balance Nature*, school and community visits by Belize Zoo educators, a daily radio programme about the restoration programme, distribution of posters, and local news coverage of harpy eagle releases and special events. It is hoped that this successful programme will serve as a role model for other raptor restoration projects.

Sharon Matola
Belize Coordinator, Belize Harpy Eagle Restoration Program
E-mail matola@belize-zoo.org

The Garamba-Yemen link and the near extinction of the northern white rhino

Yemen remains the main recipient of rhino horn from Africa. The bulk of this horn imported into Yemen in 2005 came from the northern white rhino. The last population of this subspecies, in Garamba National Park in the Democratic Republic of Congo (DRC), was virtually obliterated in 2005 and may no longer be viable.

Since 2003 the price of rhino horn has risen in Yemen from c. USD 1,200 to 1,500 per kg wholesale in the capital Sana'a. This suggests that demand has increased, with Yemeni men willing to pay more for a *jambiya* (the traditional curved daggers still worn by most men in the northern part of the country) with a rhino horn handle.

Sana'a traders indicate that Sudanese businessmen are buying the horns from southern Sudan and that the horns originate from the DRC. This information links up with the disastrous fate of Garamba's white rhino population in northern DRC where in 2003 there were 30 remaining but now there are probably < 10 due to heavy poaching by Sudanese and Congolese entering the Park. Only 4 rhinos (2 adult males and 2 adult females) were counted in an intense aerial survey in August 2005.

The present trade route for horn out of Sudan is from Khartoum by air direct to Sana'a. Traders state they have no problem smuggling the horn out of Khartoum, but it is more difficult bringing it through the airport in Sana'a. Horn apparently also enters Yemen at Aden airport. The previous route was via Djibouti and across the Red Sea, but this sea route is no longer used because Naval ships, especially from western nations, are patrolling the Red Sea and the Somali coast searching for terrorist suspects and illicit consignments of weapons.

In the first half of 2005 c. 45 kg of horn, mostly of white rhino, were allegedly brought into Yemen. Normally the amount is less, with consignments reaching Yemen about five times per year in small quantities of 2–5 kg. A white rhino's two horns weigh on average 5.5 kg in total and those of a black rhino c. 3 kg. Traders in Yemen say they have also recently received horn from Tanzania, but in small amounts. According to reliable sources in Yemen most of the horn brought into Sana'a is purchased by one particular family. Some horn is apparently also brought into Yemen to be given as gifts to prominent families.

Jambiyat with new rhino horn handles are for sale in the souq of Sana'a and in Taiz. A new rhino horn, of c. 2.5 kg, was recently spotted in the Sana'a souq, suggesting that craftsmen have little reason to hide them at the moment as government inspections are neither thorough nor sufficiently numerous. This illicit business still threatens central and eastern Africa's rhinos and as a result the northern white rhino is almost extinct. The government of Yemen needs to do more to curb the trade and reduce demand for horn, and DRC is not taking adequate action to save its rhinos.

Lucy Vigne and Esmond Martin
PO Box 15510, Mbagathi, 00503 Nairobi, Kenya
E-mail rhino@wamanchi.com

Swamp deer sighting in Uttaranchal State, India

The swamp deer *Cervus duvaucelii duvaucelii* of India and Nepal is categorized as Vulnerable on the IUCN Red List, with the major threats being habitat loss and degradation, and hunting. In India the species' stronghold is Dudhwa Tiger Reserve and Kishanpur Sanctuary in Uttaranchal State, with a combined population in 2004 of c. 1,250. A small population of swamp deer has also been reported in Hastinapur in Uttar Pradesh.

Jhilmil Jheel wetland is situated on the bank of the River Ganges in Chidiyapur forest range in Haridwar district, Uttaranchal State. Nine huts occupied by pastoralist Gujars are situated at the edge of forest surrounding Jhilmil Jheel, and there is a small village to the south of the wetland. These people have been settled in

the area since the 1950s; most of them are from Punjab, Himachal Pradesh and Garhwal. On 1 February 2005 we visited Jhilmil Jheel to explore the possibility of reintroducing rhino into the area. While surveying the area on foot and by elephant we found hoof marks of swamp deer. We heard the call of a stag, and were then able to observe 34 swamp deer within an open patch of grassland along a water channel. There were nine fully grown stags, does and a first-year fawn. We also found swamp deer antlers. We returned to the area on 3 February 2005 and sighted 30 swamp deer.

On 6 February 2005 the Minister of Forests visited the area and in a meeting the local villagers stated they were keen to be resettled elsewhere, and indicated the area to which they would prefer to move. A proposal to relocate the villagers of Jhilmil Jheel is now under consideration, and on 14 August 2005 Jhilmil Jheel was gazetted as a Conservation Reserve for swamp deer. A detailed long-term project proposal for the management of the new Reserve has been prepared and sent to the Ministry of Environment and Forests for possible funding.

Satya Priya Sinha
SOS Rhino Project, Dudhwa National Park
C/o Wildlife Institute of India, Chandrabani
Dehra Dun -248001, Uttaranchal State, India
E-mail sinhasp@yahoo.com

Shri Srikant Chandola
Department Forest, Government of Uttaranchal
Dehradun, Uttaranchal State, India

Monitoring matters: evaluating locally-based biodiversity monitoring in developing countries

Because biodiversity monitoring is often costly and difficult to sustain it is relatively less developed in poorer regions, and is sometimes considered irrelevant by resource managers and local communities. However, where the aim of monitoring is to obtain data for management decisions, alternative approaches involving individuals with little formal education are emerging. Locally-based monitoring in developing countries includes a spectrum of approaches from participatory monitoring, where aims and objectives are defined by local residents, to ranger-based monitoring in reserves. What distinguishes these approaches is that local people are directly involved in data collection and interpretation. The potential value of locally-based schemes is already evident in wealthier countries, where data from volunteer monitoring often guides conservation and, occasionally, government policy. The scope for similar collaboration between professionals and local people in developing countries has not been fully explored, but