globally-threatened (Endangered) species within Gola Forest

- Pel’s Fishing Owl *Scotopelia peli* adult seen at Konelha settlement, on Mogbai River
- White-crested Tiger Heron *Tigriornis leucolophus* heard and one seen on Mahoi River
- White-breasted Guineafowl *Agelastes meleagrides* recorded once along Kwadi River and several times along Mogbai River

The results from both projects have been included in the Biodiversity of Gola Forest report (Klop et al. 2008), which provides the biological data underlying the recently published management plan for Gola Forest (Gola Forest Programme 2009). Additionally, the White-necked Picathartes survey work has formed a basis for future monitoring of the species in Gola Forest and the first resurvey has taken place in January 2009.

The work would not have been possible without the considerable and generous assistance of the Gola Forest Conservation staff based at Kenema. We are also grateful to the BOU for their financial support. Particular thanks go to Prince Soriba, who accompanied us in the field throughout the survey period, and helped ensure smooth and efficient logistics throughout. Many individuals assisted us in the field, but particular thanks go to Fiona Hunter, Michael Kenneh, Erik Klop, Augustine Macfoy, Francis Rogers, Alhaji Siaka and Prince Soriba. Jeremy Lindsell and Alex Hipkiss of RSPB provided much invaluable guidance in planning the survey work and logistics.

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**Establishing a national monitoring programme for White-shouldered Ibis in Cambodia**

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**BACKGROUND**

White-shouldered Ibis *Pseudibis davisoni* is perhaps the most threatened of South-East Asia’s waterbirds (Tordoff et al. 2005). Previously occurring across Indochina, including Thailand, Myanmar, Laos and Vietnam, the majority of remaining White-shouldered Ibis are now restricted to Cambodia. A rapid decline in the 20th century (Timmins & Soriyun 1998) has left a fragmented population believed to consist of 50–249 mature individuals (BirdLife International 2009).

Cambodian populations are restricted to dry dipterocarp forests and the Mekong River channel in the north and east. The size and status of these populations are not clearly understood. Forest landscapes contain seasonal pools, active and fallow rice fields, grasslands and stream channels. Understanding the habitat selection of the species may enable habitat management to become a core component of conservation interventions. This project aimed to develop surveys that would increase scientific knowledge in these areas.

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IMPLEMENTATION AND FINDINGS

Gaining cooperation in Cambodia

Nationwide White-shouldered Ibis research requires cooperation between conservation NGOs and government ministries. A workshop held in Phnom Penh on 3 February 2009 was attended by representatives from the University of East Anglia, BirdLife International, Wildlife Conservation Society (WCS), World Wide Fund for Nature, Forestry Administration of Cambodia and Ministry of Environment of Cambodia; all these stakeholders agreed to collaborate in the project. Coordinated activities between more than two NGOs are rare in Cambodia. Participants also discussed research activities and exchanged experience from their respective project sites.

White-shouldered Ibis habitat use

The survey of habitat use by foraging White-shouldered Ibis was designed for use by local field staff and rangers. Staff surveyed routes of their choice recording every White-shouldered Ibis encounter and the habitat it was using. Search effort was accounted for by using survey route tracks (recorded with GPS) and GIS analysis to determine distance travelled per habitat type. The protocol was implemented at five sites: Western Siem Pang IBA, Kulen Promtep Wildlife Sanctuary, Lomphat Wildlife Sanctuary, the ‘central section’ of the Mekong River and Mondulkiri Protected Forest. The first four sites cover most of the current known population, while the last site contains potentially suitable habitat.

Training of local staff was critical to the survey’s success. Fifteen people received presentations and 3–4 days of intensive field practice, during which they were taught the recording process, waterbird identification, GPS use and the conservation importance of the work. Staff showed good learning capacity but follow-up visits at monthly intervals were used in summer 2009 to improve data accuracy and reliability.

Currently available data provide preliminary results that ongoing surveys (conducted until 2011) will confirm. White-shouldered Ibis appear to stop visiting seasonal pools in the forest after the first rains in April/May (Wright et al. 2009). In the wet season they can be found foraging in open forest, fallow rice fields and wet grasslands. The forest is routinely burnt by humans and grazed by domestic livestock, whereas rice fields and grasslands have direct anthropogenic origin. White-shouldered Ibis may be dependent on anthropogenic landscapes in the wet season, a time when chicks have recently fledged and require provisioning.

Coordinated roost counts

The gregarious roosting behaviour of White-shouldered Ibis in the wet season provides an opportunity for systematic counts. Roost sites were found by local staff and through roost-finding reward schemes in the local community. Local staff at four sites were trained to count at roosts without double-counting birds. A total of 161 White-shouldered Ibis were found at a single roost in Western Siem Pang IBA on 19 June 2009. This is the highest number ever recorded in a single group and demonstrates that this unprotected site contains the most globally important population.

Nationwide coordinated roost counts took place on 28–29 July, 3–4 September and 3–4 October 2009 across the four sites. All known roosts were visited in the evening and the following morning to improve accuracy. A total of 23 people took part in the counts, including local staff and community members given training for the event.

A total of 310 birds were counted on 28–29 July, the highest number of White-shouldered Ibis ever recorded and the best estimate of true population size to date. This probably exceeds BirdLife International’s (2009) estimate of 50–249 mature individuals, although age of individuals is not captured by roost counts. This total also corroborates Timmins’s (2008) suggestion that the Cambodian population comprises fewer than 500 birds. While this finding is encouraging for the species’ prospects, it most probably reflects improved survey effort rather than population recovery. Nevertheless, the result gained attention in the media and widely raised awareness of the species.

The September and October counts found lower numbers (140 and 289 birds, respectively) owing to poor accessibility and changes in roost site selection. Even so, 76 birds were found at Lomphat Wildlife Sanctuary, making this population substantially larger than expected and suggesting 340 birds is the likely minimum total in Cambodia. Up to 46 birds were recorded in Kulen Promtep Wildlife Sanctuary, the largest count in 6 years of roost observations. WCS data suggest a population increase here, coinciding with conservation interventions including nest protection efforts. In July, 99 birds were found on the ‘central section’ of the Mekong River, indicating that this site (like Western Siem Pang IBA) needs protected status and an effective management plan urgently. Further roost counts will take place in the summer of 2010.

Forthcoming results and publication

Better understanding of the population through roost counts could have substantial implications, as downgrading the species’ status to Endangered becomes a possibility. Sites where White-shouldered Ibis is found to be abundant will gain enhanced conservation value. Comparing encounter rates between sites will determine the importance of site-specific factors such as human population, livestock density and landscape composition.
A better understanding of habitat use of foraging White-shouldered Ibis will help conservation practitioners to design and implement habitat management with optimal efficiency. Results will be disseminated through a PhD Thesis (due in late 2011) and scientific papers submitted for publication in 2012.

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