Conservation of threatened grassland biodiversity in the Tonle Sap basin, Cambodia
Briefing document, April 2011

Project partners:

Department of Wildlife and Biodiversity, Forestry Administration
Wildlife Conservation Society
Centre d'Etude et de Développement Agricole Cambodgien
Angkor Center for Conservation of Biodiversity
Fisheries Administration
BirdLife International
Sam Veasna Centre
University of East Anglia

Summary

The Tonle Sap floodplain grasslands are critically important for biodiversity and livelihoods. Low-intensity traditional human use has helped to maintain the habitat. Recent agro-industrial development by outside investors is causing rapid loss of grasslands, threatening biodiversity and local livelihoods. The Cambodian government has established more than 310 km² of protected grassland within six Bengal Florican Conservation Areas (BFCAs). This is a valuable step towards ensuring the preservation of a part of these grasslands, to the benefit of both wildlife and local communities, whilst leaving room for intensive development activities elsewhere.

A partnership of NGOs and government agencies is working to set up management systems for these BFCAs. Government agencies are involved in all project activities, law enforcement and decision making. All sites are patrolled by joint teams of government officers and members of the community. Four elected community management committees have been set up at two of the BFCAs. These committees represent the interests of communities who depend on these reserves for their livelihoods and participate in management and livelihood development activities. The status of the flagship species for the BFCAs, the Bengal Florican, is monitored annually and scientific research on this species has been ongoing since 2002.

Narrative

The Tonle Sap floodplain once supported several thousand square kilometres of seasonally inundated grassland. The remnants support more than half the world population of the Critically Endangered Bengal Florican. There are also many other threatened species in this area, including Sarus Crane, White-shouldered Ibis, Greater Adjutant, rare turtles and a high diversity of fish.

The grasslands are also important for the livelihoods of people in hundreds of villages, who have long used them for grazing, fishing, family-scale farming and the collection of plant products. These human uses help to maintain biodiversity and habitat condition. Irregular cycles of ploughing and fallowing prevent scrub invasion but allow grasslands to persist, and the patchwork of active fields and grassland is attractive to floricans and other species. Grazing and burning also help to prevent scrub invasion. Recent fieldwork by researchers from the University of East Anglia and collaborators has been crucial to the understanding of these processes.

WCS Cambodia and other partners have been working in collaboration with the Department of Wildlife and Biodiversity for more than a decade to conserve these sites. At first hunting was the key threat, but this has rapidly changed since 2004 and the grasslands themselves are now declining very rapidly. In the ten main grassland blocks, 28% of the grasslands were lost in 30 months from 2005 to 2007, and losses have continued at a high rate since then. Most of the loss is due to a recent wave of agricultural conversion by companies and businessmen. The new large-scale schemes are quite different from the small-scale dry season rice farming ('recession rice') practised by local communities. Earth dams of 100-1000 ha are built to capture the floodwaters in the rainy season and then irrigate surrounding rice fields in the dry season, mostly excluding local community members who often report that they are dispossessed without compensation of the lands they formerly used, and resulting in widespread protests and complaints. There are also concerns about intensive pesticide use and the impacts of both intensive agriculture and reservoirs on the hugely important floodplain related fisheries.

From 2005 onwards the Department of Wildlife and Biodiversity has worked with NGO partners to develop proposals for a solution in the form of a new land-use designation – Bengal Florican Conservation Areas (BFCAs). These protect existing grassland management systems. New large-scale earth dam projects are not permitted, while existing projects are reviewed. Uses by existing communities are encouraged to continue under co-management frameworks. This will benefit both threatened wildlife and local communities, and it is expected to bring wider benefits by maintaining land-use diversity in these districts, leading to ecological and economic stability. Some of the sites also overlap with, and improve the protection of, commercial fishing lots.

There are currently six BFCAs covering 31,159 ha (312 km^2) in Kampong Thom and Siem Reap provinces, declared under a *Prokas* issued by the Ministry of Agriculture, Fisheries and Forestry (see Annex and Map for details).

Key achievements are listed below:

- Three BFCAs (Stoung, Chikraeng and Baray) have fully demarcated boundaries.
- All six BFCAs are being patrolled regularly by joint government/community law enforcement teams, leading to many detections of illegal land claims and hunting [1].
- In collaboration with both local authorities and communities, the unauthorized development of several dry season rice cultivation schemes have been blocked.
- Extension and awareness raising have improved levels of community support.
- A monitoring system for breeding and non-breeding floricans, and non-breeding Sarus Cranes has been established. In 2009, around 57 territorial (breeding) male floricans (23% of the national population) were estimated within the BFCAs, increasing to 88 in 2010. Populations outside the BFCAs are believed to be declining. [2, 3].
- A nest protection scheme has been established, whereby villagers receive payment for finding and reporting Bengal florican, White-shouldered ibis, Black-necked stork, or Indian spotted eagle nests. A second payment is made if the nest is successful.
- A livelihoods survey around one of the BFCAs has been conducted by CEDAC [4].
- CEDAC has conducted 4 ½ years of livelihood development activities in seven villages that use BFCAs, focusing on intensifying rice cultivation, vegetable production and chicken production, home gardening, and establishing savings groups.
- Four community management committees have been formed in two BFCAs (Stoung & Chikraeng) with a mandate involving site management and livelihood development
- In 2010, approximately 115 specialist bird tourists have visited the sites through Sam Veasna Centre (SVC); with a community conservation levy of $10 per visitor paid that is used for community-led initiatives. Two CMCs work with SVC providing services to tourists as guides and chairing discussions on spending community funds [5].
- In 2010, Ibis Rice was introduced to a pilot village, Kampong Veang as a conservation incentive. CEDAC trains farmers to grow marketable varieties of rice using organic methods, which are then sold as a certified Wildlife-Friendly product by partner local NGO SMP. A local committee and patrol teams ensure that families adhere to the regulations. 30 families now participate.
- Participatory mapping of agricultural zones and individual fields has been completed in Chikraeng BFCA, where land use disputes were common. This is crucial to halt agricultural expansion in the BFCAs.

Future priorities

- Continue to **demarcate** the remaining BFCAs on the ground.
- Continue to strengthen the work of **government authorities and joint patrol teams** to ensure the control of major land threats.
- **Expand the community committees to all sites** and increase the ability of these communities to protect and manage the grasslands they use, and to engage in ecotourism where appropriate.
- **Implement livelihood development activities** linked to better management of the grasslands, particularly Ibis rice and increased community involvement in ecotourism.

- Identify ways to **increase the populations of floricans in the agricultural landscape outside BFCAs**, and to **improve habitat quality and nest success** in all areas**.**
- Develop **management plans** for the BFCAs.
- Develop a sustainable **financing system** for the BFCAs.

Acknowledgements

The project is currently supported by grants from the US Fish and Wildlife Service's Critically Endangered Animal Conservation Fund, Eleanor Briggs, the Angkor Center for the Conservation of Biodiversity, the Sam Veasna Centre and the Critical Ecosystem Partnership Fund, administered through BirdLife International in Indochina and which is a joint initiative of l'Agence Française de Développement, Conservation International, the Global Environment Facility, the Government of Japan, the MacArthur Foundation and the World Bank. Past grants have been received from Fondation Ensemble, Danida, MacArthur Foundation/WWF (Education for Nature Program) and the IUCN Netherlands Ecosystem Grants Program, to all of whom we are most grateful.

References

Updates and progress reports can be found at http://www.wcscambodia.org/saving-wildlife/bengal-florican.html, or contact the project.

1. Hong, C., et al., (2008) Integrated Farming and Biodiversity Area project progress report, January - December 2007, WCS Cambodia Program, BirdLife in Indochina, Wildlife Protection Office and Cambodian Centre for Agricultural Development and Research.
2. Gray, T.N.E., et al. (2009) Distribution, status and conservation of the Bengal Florican *Houbaropsis bengalensis* in Cambodia. Bird Conservation International, **19**(1): 1-14.
3. van Zalinge, R., et al., (2010) The status of Bengal Floricans in the Bengal Florican Conservation Areas: 2009/10 monitoring report, Wildlife Conservation Society, Cambodia Program & Forestry Administration, Cambodia: Phnom Penh.
4. Evans, T. and S. Prak, (2008) Livelihood values of inundated grasslands in Stoung District, Kampong Thom Province, Cambodia, WCS, CEDAC & Birdlife International.
5. Sum, S., (2010) Integrated Farming and Biodiversity Areas annual progress report (January - December 200). Community Development and Community-based ecotourism Wildlife Conservation Society Cambodia, Sam Veasna Centre, CEDAC.

Contacts

Tom Evans, Deputy Director and Senior Technical Advisor, WCS Cambodia Program
tevans@wcs.org Mobile: 012 274159

Hong Chamnan, Project Manager BFCAs, Dept. of Wildlife and Biodiversity, FA
hong.chamnan@gmail.com Mobile: 012 922429

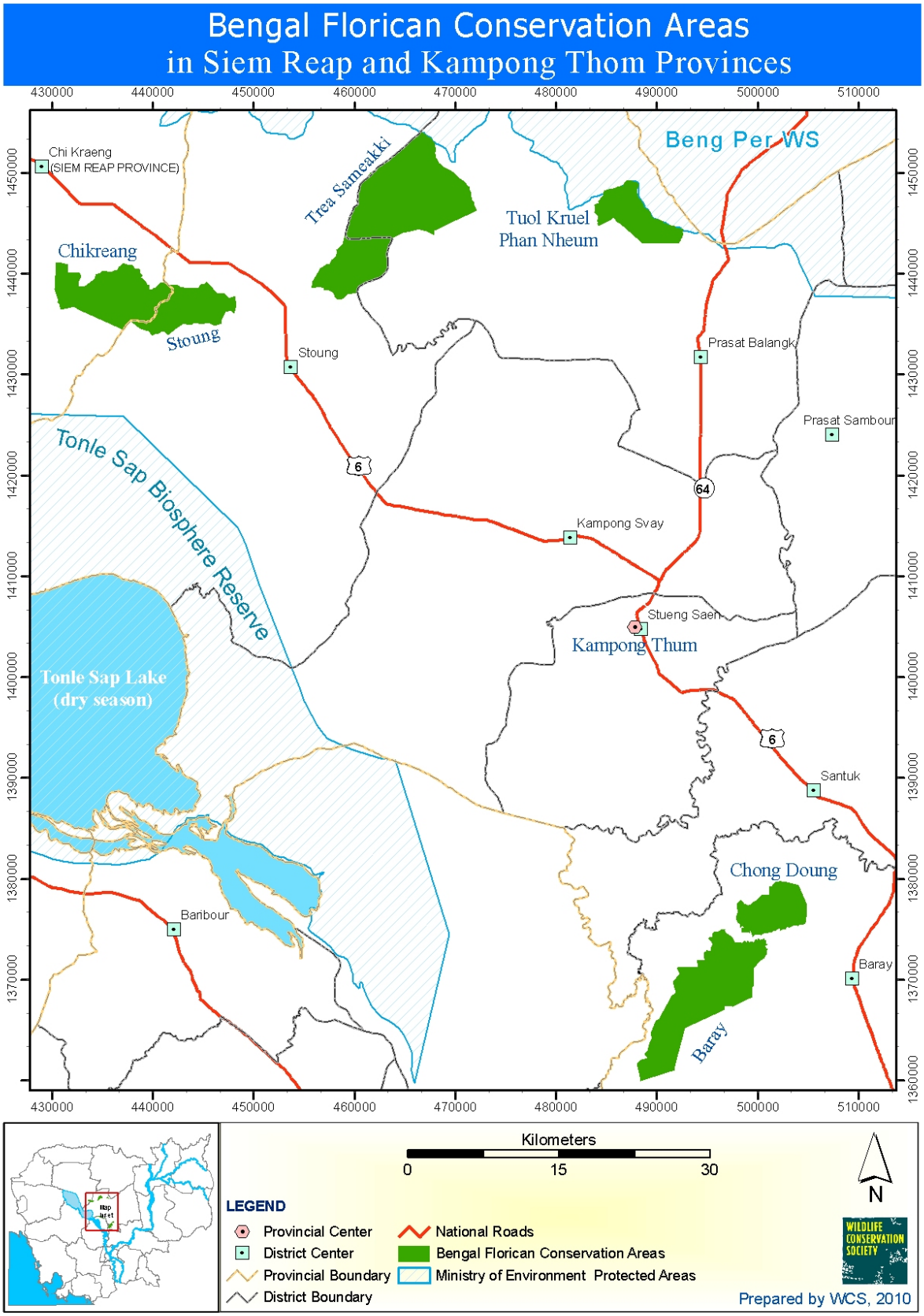
Sophie Allebone-Webb, Technical Advisor BFCAs, WCS Cambodia Program
sallebonewebb@wcs.org Mobile: 012 265 821

Annex

The project target communes are shown in the table below, followed by a map of the Bengal Florican Conservation Areas.

Target Districts and communes

Province	District	Communes
Kampong Thom	Stoung	Prolay, Trea, Kampong Chen Cheung (marginal)
Kampong Thom	Baray	Chong Doung, Baray, Treal, Sralao
Kampong Thom	Prasat Ballangk	Sammeakki, Kraya, Phan Nheum, Toul Kreul, Sala Visai
Siem Reap	Chikraeng	Lveang Russei, Spean Tnaot


Bengal Florican Conservation Areas
in Siem Reap and Kampong Thom Provinces
Chi Kraeng
(SIEM REAP PROVINCE)
Trea Sameakki
Beng Per WS
Tuol Kruel
Phan Nheum
Chikreang
Stoung
Stoung
Prasat Balangk
Prasat Sambour
Tonle Sap Biosphere Reserve
6
64
Kampong Svay
Stueng Saen
Kampong Thum
Tonle Sap Lake
(dry season)
6
Santuk
Chong Doung
Baribour
Baray
Baray
Kilometers
0
15
30
N
LEGEND
Provincial Center
District Center
Provincial Boundary
District Boundary
National Roads
Bengal Florican Conservation Areas
Ministry of Environment Protected Areas
WILDLIFE CONSERVATION SOCIETY
Prepared by WCS, 2010