

IUCN/SSC Cat Specialist Group – Project of the Month 2014

The Cat Specialist Group's website (www.catsg.org) presents each month a different cat conservation project. Members of the Cat Specialist Group are encouraged to submit a short description of interesting projects with this standardised form.

Sabangau Felid Project



© Susan Cheyne OuTrop/WildCRU

Susan is a wildlife conservationist who has been working in Indonesia since 2002. With a focus on the largest carnivore on the island of Borneo, this project is the first long-term study of clouded leopards in a peat-swamp forest.

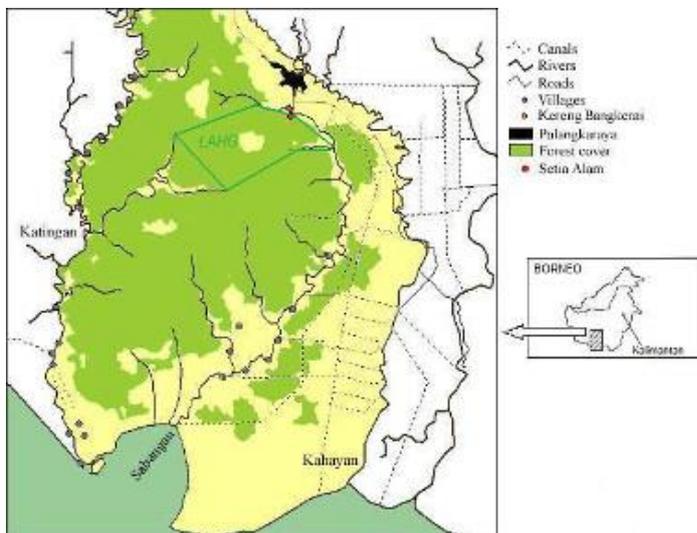
With a focus on the Sunda clouded leopard, we are asking key questions about felid density and abundance in this under-studied habitat, investigating the threats to felids and mitigating these through work with local communities



Dr Susan Cheyne wading through the forest to set up the camera traps. © Joana Aragay

Background

The Sabangau Felid Project is a joint venture between the Orangutan Tropical Peatland Project (OuTrop) and WildCRU and aims to facilitate the conservation of Borneo's endangered wild cats by merging pioneering ecological research, host country capacity building and environmental education within Indonesia. Our research activities will provide an insight into the relative abundance of each species, and the long-term impacts of various forest management practices on these little known felids – information which is essential to facilitate the development of effective management and conservation measures. This initiative is currently the only research project focusing on the ecology of Borneo's wild cats in Indonesian Borneo. Additionally this project is now the longest running



The Sabangau forest and the main study site highlighted.

felid and prey project in Indonesian Borneo and we hope that with funding to continue this important project in the long-term (>6 years) we can make a significant contribution to the understanding of these elusive and charismatic species as well as facilitating training and capacity building for local scientists and communities.



Sabangau forest from above. © Susan Cheyne OuTrop/WildCRU

Methods

In total 30 Cuddeback Ambush IR® and 10 Cuddeback Capture IR® (Cuddeback Digital, Non-Typical Inc, WI, USA) camera traps are placed along established human-made trails (>4 years old) and, where possible, watering areas, located so as to maximise the success rate of photographic ‘captures’. This placing of the cameras results in approx. 9km² of forest being surveyed. Two cameras are placed opposite each other, 7-10m apart, at each location with the aim of photographing each flank of the animal simultaneously. The passive infra-red (PIR) sensor is set at about 50 cm height. The cameras have a pre-set minimum of 5 s delay between triggers, and use an infra-red flash. The IR cameras have no white-light flash and this was deemed better for long-term use to avoid potential trap shyness from flash photography. There are no logging roads in the study area and all cameras are placed along established trails at cross-roads, and near to fallen logs or man-made boardwalks, which may facilitate felid movements during the flooded wet-season. No bait or lure is used and batteries are changed every 40 days. All cameras are placed 0.5-5 km from the forest edge in previously logged mixed-swamp forest with one pair in the mixed-swamp/transitional forest 5km from forest edge (farthest accessible point). Cameras are not placed in the deforested areas, which have been burnt, lack canopy cover and are inaccessible. These methods are based on previously published survey designs from other studies and previous work at this study site.



Some of the local research assistants © Susan Cheyne OuTrop/WildCRU



Testing the height and placing of the cameras! © Susan Cheyne OuTrop/WildCRU

Results

Peat-swamp forest is the dominant lowland forest type in Indonesian Borneo and represents 68,000 km² of land, thus these forests may be of vital importance for the future of felids, in particular the Sunda clouded leopards and flat-headed cats. The Sabangau catchment (5,600km²) has a history of disturbance, selective logging (legal and illegal), fire and hunting yet the forest remains relatively contiguous with good forest cover, which is important for the conservation of felids. The effects of different macro-habitat types, micro-habitat characteristics and disturbance on these felids remains unstudied. Initial published data from

Sabangau suggest that there is a density of 0.72 to 4.41 clouded leopards/km² in the forest across all three habitat types (Mixed Swamp Forest (MSF, Low Interior (LIF) and Tall Interior Forest (TIF)), but this preliminary study suggests that the Sabangau could hold a substantial population of Sunda clouded leopards.

The lack of females in all the study sites including the main site in Sabangau (4.5 years of continuous data) is perplexing. For successful breeding, males and females must have over-lapping home ranges. We have seen that the males are clearly tolerating each other where we have multiple male captures and have over-lapping home ranges but only 1 male has been shown to overlap with a female.



A male clouded leopard relaxes in the forest © Susan Cheyne OuTrop/WildCRU

There are several hypotheses for the small number of female clouded leopards being captured during the 3-month survey windows. Females are smaller than males and have sole responsibility of raising cubs therefore our current hypotheses as to the lack of photo captures of females are:

- We strongly suspect the females are staying well away from any human disturbance as all cameras are on trails and within the research areas/areas where humans are encroaching.
- Females are perhaps staying away from high concentrations of males as males may pose a threat to newborn cubs e.g. due to either the risk of infanticide or to avoid inter-sexual competition.
- Females are staying away from high concentrations of males as they cannot compete for prey as well with so many larger males present
- The selectively logged/disturbed nature of the study locations renders them unsuitable for denning cubs so the females do not come there.

As to the small number of clouded leopards captured in general, again the high levels of disturbance could mean that the cats are compensating by increasing their home range size to avoid areas of high human impact. Of interest is the difference in number of possible prey species (data acquired from both camera trap and visual surveys). This certainly bears more scrutiny.

Project information

Duration:	2008-present
Location:	Sabangau Forest, Central Kalimantan, Indonesia
Sponsor(s):	Clouded Leopard Project/Point Defiance Zoo and Aquarium, The Orangutan Tropical Peatland Project, Panthera (through Wildlife Conservation Research Unit, University of Oxford).
Project address:	Jalan Semeru No. 91, Palangkaraja, Kalimantan Tengah, Indonesia 73112
Project leader(s):	Dr. Susan Cheyne, OuTrop Director for Gibbon and Felid Research. scheyne@outrop.com
Project link:	http://www.outrop.com/cats-and-camera-trapping.html