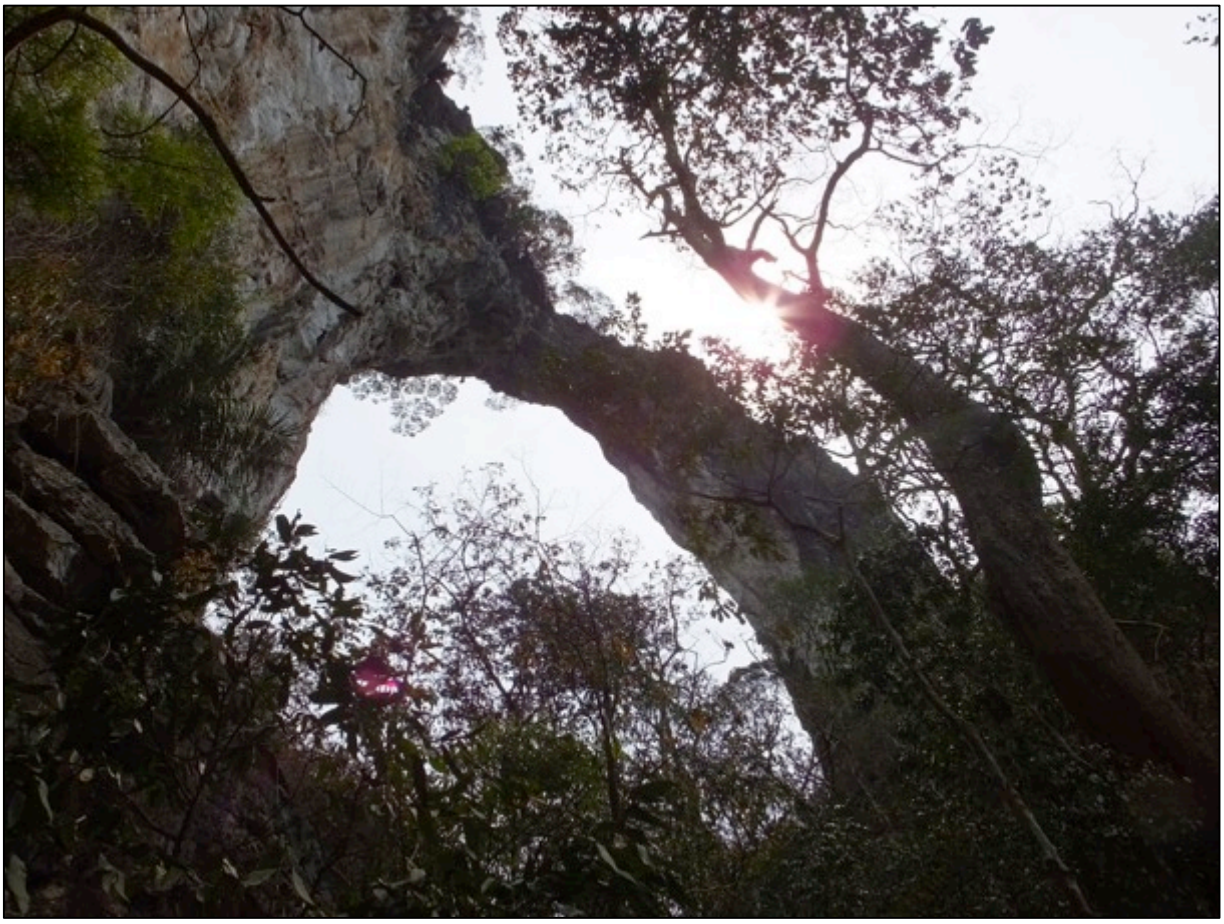
Short-term wildlife monitoring in Hin Nam No National Protected Area



Camille Coudrat

March 2016

A report to
The Integrated Nature Conservation and Sustainable Resource Management in the Hin Nam No Region

GIZ and IP Consult

Content

I. Introduction

As part of the **The Integrated Nature Conservation and Sustainable Resource Management in the Hin Nam No Region**, GIZ and IP-Consult aim to report on population trends of key wildlife species every six months (Bermuller, 2013). Five key species were chosen as indicator and flagship species based on their relative importance for the area, region and world, their level of threat and sensitiveness to hunting and their large population remaining in Hin Nam No NPA (berkmuller, 2014): 1) langurs *Trachipithecus sp*., 2) red-shanked douc *Pygathrix nemaeus*; 3) white-cheeked gibbon *Nomascus siki*; 4) great hornbill *Buceros bicornis*; 5) sambar deer *Cervus unicolor.*

The Monitoring protocol has previously been set to focus on two key sectors of the Hin Nam No NPA:

1) Kuan Nong
2) Nam Khoum

Focusing on a set number of trails (2 in Nam Khoum) and (4 in Kuan Nong), walked twice a year in March/April and September/October (Vongkhamheng, 2014a). Two surveys were conducted in 2014 (Vongkhamheng, 2014b; 2014c) and in 2015 (Coudrat 2015a; Coudrat & Nanthavong 2015).

This document reports on the trails wildlife monitoring of March 2016.

II. Method

1. Surveys

This survey followed the original methods set up for the scientific monitoring (Vongkhamheng, 2014a).

Two sectors of Hin Nam No NPA were visited – Nam Koum and Kouan Nong – where two and four trails, respectively, were covered (Figure 1).

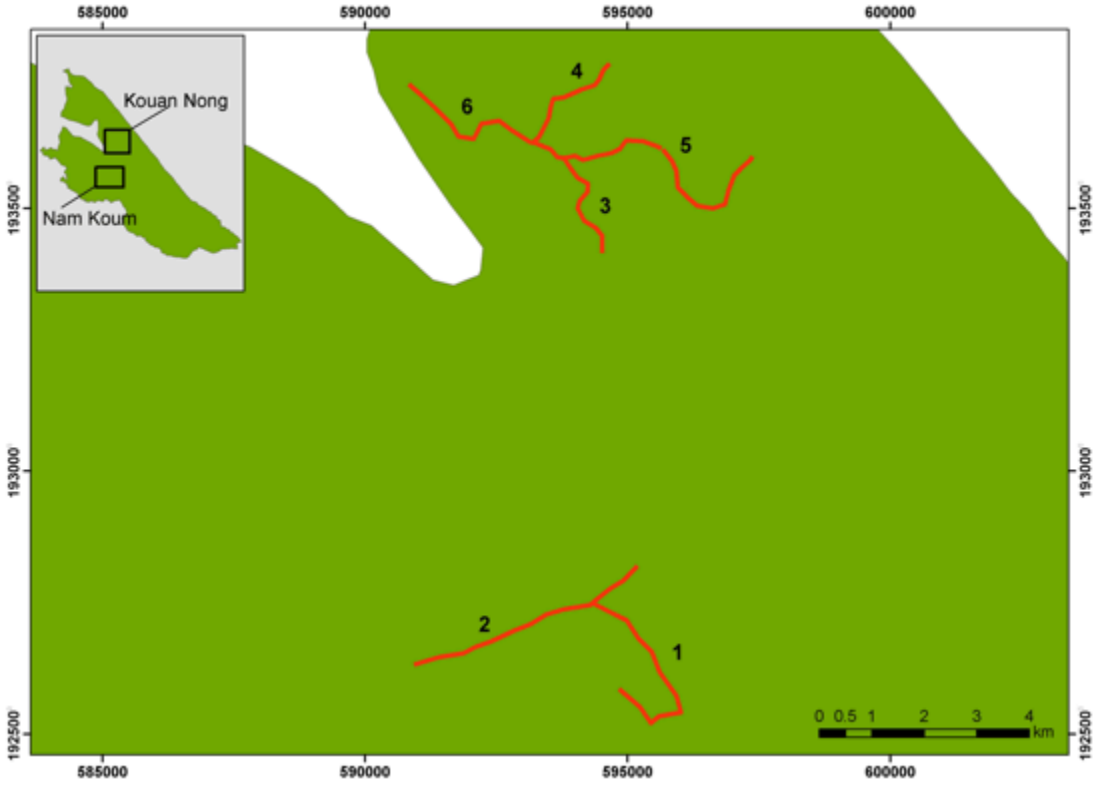


Figure 1: Six pre-selected trails chosen for the long-term wildlife monitoring of key species, in two sectors of Hin Nam No National Protected Area – Nam Khoum and Kouan Nong.

All trails were walked in the morning between 7h to 11h am, except for the trail #6, which was walked in the afternoon between 13h to 15h.

2. Team

Sector	Team
Nam Koum	Trail 1: Nith, Kheawsomephone, 1 ranger Trail 2: Chanthalaphone, Camille, 1 ranger
Kouan Nong	Trail 3: Nith + 2 rangers Trail 4: Kheawsomephone + 2 rangers Trail 5: Chanthalaphone, Camille + 1 ranger Trail 6 : Chanthalaphone, Camille + 1 ranger

Encounter-rates were calculated with the total number of animals (for solitary species) or groups (for gregarious species; e.g. primates) sighted along the trail (one way) divided by the total number of kilometers walked (only including one way).

3. Time table

Schedule of the trip was as follow:

Date	Activity
21 March 2016	- Nakai to Langkhang
22 March 2016	- Langkhang to Ban Du to Camp (Houay Phaka) in Nam Koum site
23 March 2016	- Two trails walked with two teams of 3 people: Trail 1: Nith, Kheawsomephone, 1 ranger Trail 2: Chanthalaphone, Camille, 1 ranger
24 March 2016	- Back to Ban Dou and Langkhang
25 March 2016	- Langkhang to Ban Dou to Camp in Khouan Nong site
26 March 2016	- Four trails walked with three teams of 3 people: Trail 3: Nith + 2 rangers Trail 4: Kheawsomephone + 2 rangers Trail 5: Chanthalaphone, Camille + 1 ranger Trail 6 : Chanthalaphone, Camille + 1 ranger - Back to Langkhang
27 March 2016	- Langkhang to Nakai

III. Results

The length of each trail walked is summarized in Table 1; the total survey effort for both sectors combined was 37.5 km. Key species encountered on each trail are compiled in Table 2. Encounter rates

Table 1: Effort (in km walked) of each trail walked during this survey

Trail	Length (km)*
Sector: Nam Khoum	***18.9***
Trail 1	11.5
Trail 2	7.4
Sector: Kouan Nong	***18.6***
Trail 3	4.4
Trail 4	3.0
Trail 5	7.8
Trail 6	3.4

* Length is calculated based on the tracking tool of the GPS – only one way is included in the calculation (i.e. no double count of trail walked on the way back)

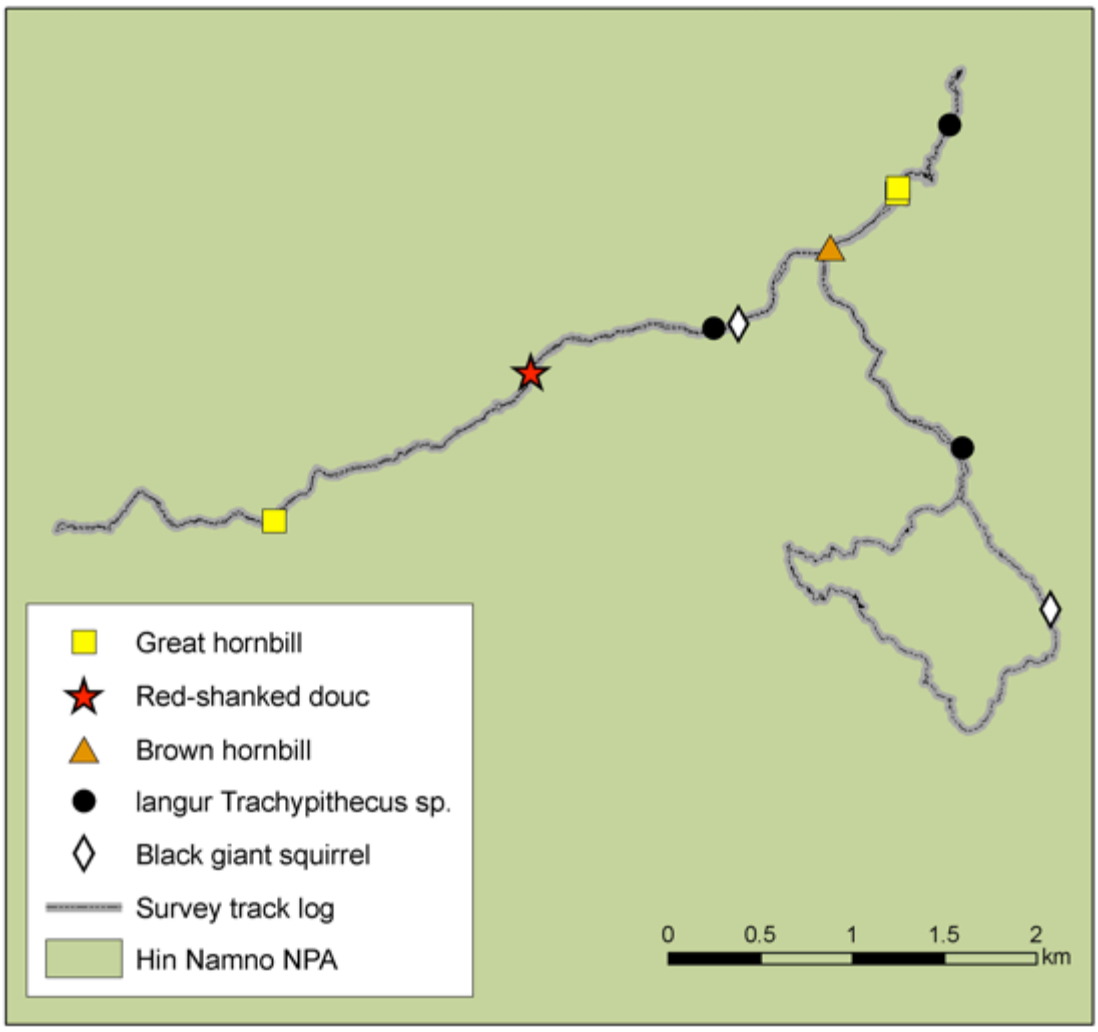


Figure 2: Trails walked in Nam Khoum site with key species encountered

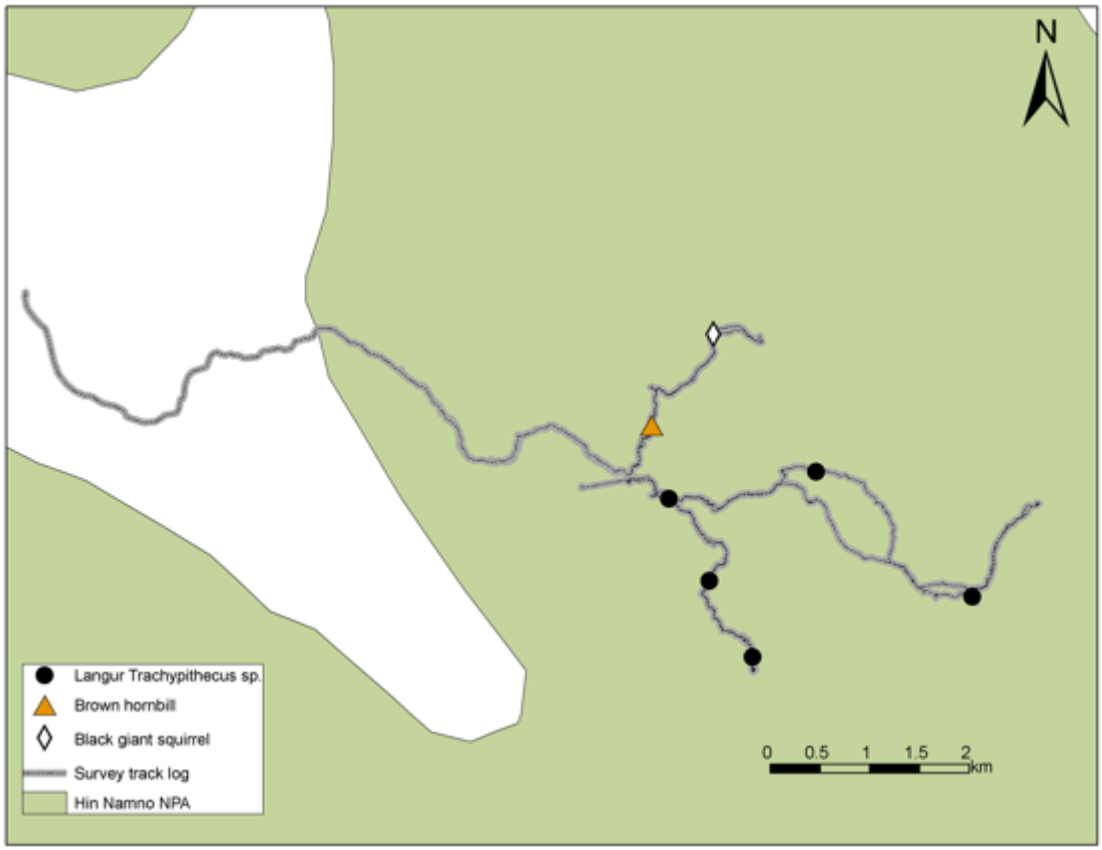


Figure 3: Trails walked in Kouan Nong site with key species encountered

Table 2: key species and threats encountered on monitoring trails

Species	Encounter rate in 2014 (Vongkhamheng, 2014)**	Encounter rates in April 2015	Encounter rates in September 2015	Frequency of encounters in April 2016	Encounter rates in April 2016 (groups/individuals per km)
NAM KHOUM					Total walked: 18.9 km
Langur *Trachipithecus sp.*	0.42	0.23	0.20	3	0.16
White-cheeked gibbon	0.13	0.05	0.00	0	0.00
Red-shanked douc	0.04	0.23	0.07	1	0.05
Macaque sp.	-	0.23	0.13	0	0.00
Large hornbill	0.29	0.09	0.00	2	0.11
Brown hornbill	-	-	-	1	0.05
Black-giant squirrel	-	-	-	1	0.05
KHOUAN NONG					Total walked: 18.6 km
Langur *Trachipithecus sp.*	0.67	0.32	0.29	5	0.27
White-cheeked gibbon	0.05	0	0.00	0	0.00
Red-shanked douc	0.05	0.11	0.06	0	0.00
Macaque sp.	-	0.18	0.06	0	0.00
Large hornbill	0.1	0.04	0.00	0	0.00
Brown hornbill	-	-	-	1	0.00
Black-giant squirrel	-	-	-	1	0.05

** based on previous wildlife monitoring reports (see Vongkhamheng, 2014c)

*** encounter rates are calculated as groups for primates, pairs or individuals for hornbills and black-giant squirrels

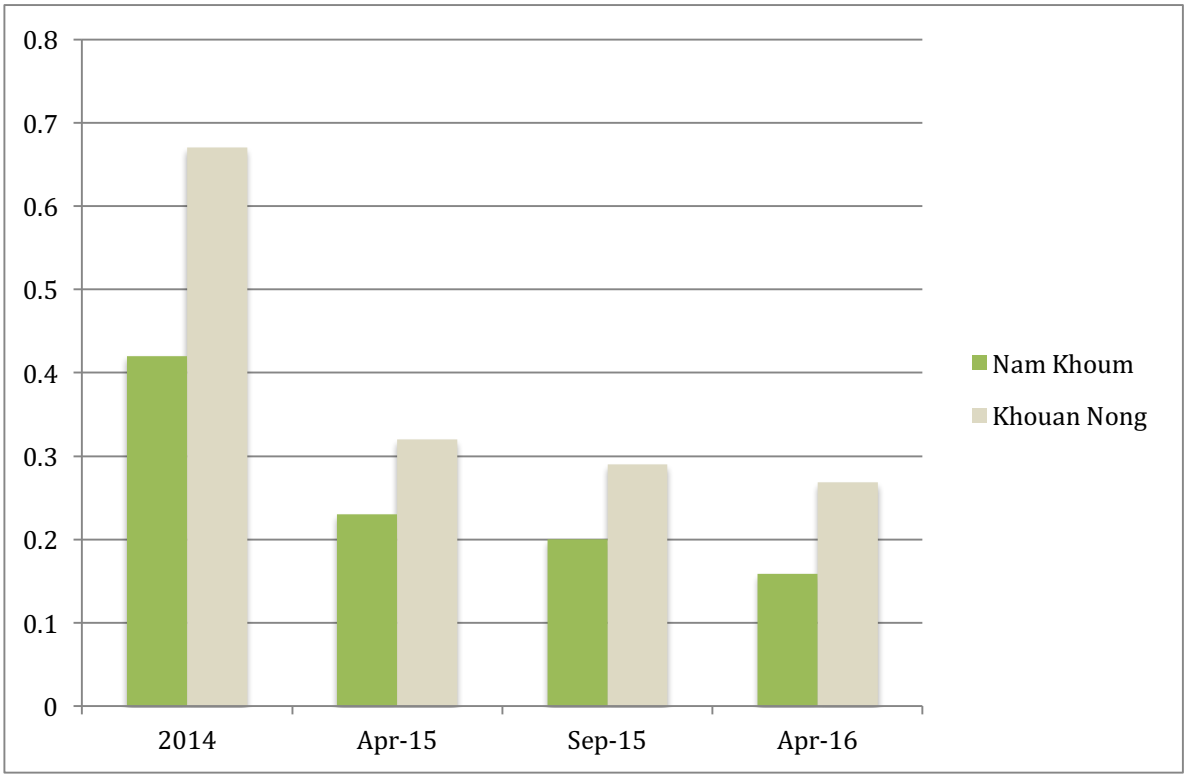


Figure 4: Encounter rates (group/km) of balck langurs (*Trachypithecus* sp.) in 2014 (annual average; Vongkhamheng, 2014c), in April 2015, in September 2015 and in March 2016 at the Nam Koum and Kouan Nong sites

Gibbons were only heard in Nam Khoum site: two different groups were identified, according to direction of calls in opposite direction.

Threats

Threats included:

- **Logging remains (of Mai Moun):** logs from Mai Moun were encountered at two different locations in Kouan Nong site, each involving a single large (~ 1m diameter) tree (Figure 6)
- **Chain saw sound:** Chain saws in use were heard in Kouan Nong site on the 26/03/2016 at around 10h30 am. Two teams later traveled to the location of loggers but the latter escaped when they heard the team approaching. One chain saw was used and four loggers were seen (escaped).
- **Poacher camps/camp fires:** Recent poacher camps or camp fires were encountered on two and seven occasions at Nam Koum and Kouan Nong sites, respectively. One poacher camp had snares/traps left behind and remains (hair) of seemingly rat. Bird feathers (including those of grey-peacock pheasant) were found at camp fires (Figure 5 and 6).
- **Poachers:** Villagers were encountered at Kouan Nong site on two occasions: on 26/03 at 8:10, two people were heard and later seen from afar, then the same group was located along the trail at their camp. Both men were from Ban Salang and came to the forest with members of their family and dogs (which were at the time not at the camp). The snare traps (made out of thin nylon rope) at their

camp were confiscated and the two men were asked to return to their village. A picture was taken of the two villagers.

- **Snare line:** In Kouan Nong, Two recently set snare lines were encountered: One of 77 m, including 11 active snare traps, and one with 50 snare traps; all snares were collected and brought back to GIZ office.

Threats locations are in Figure 5 and 6.

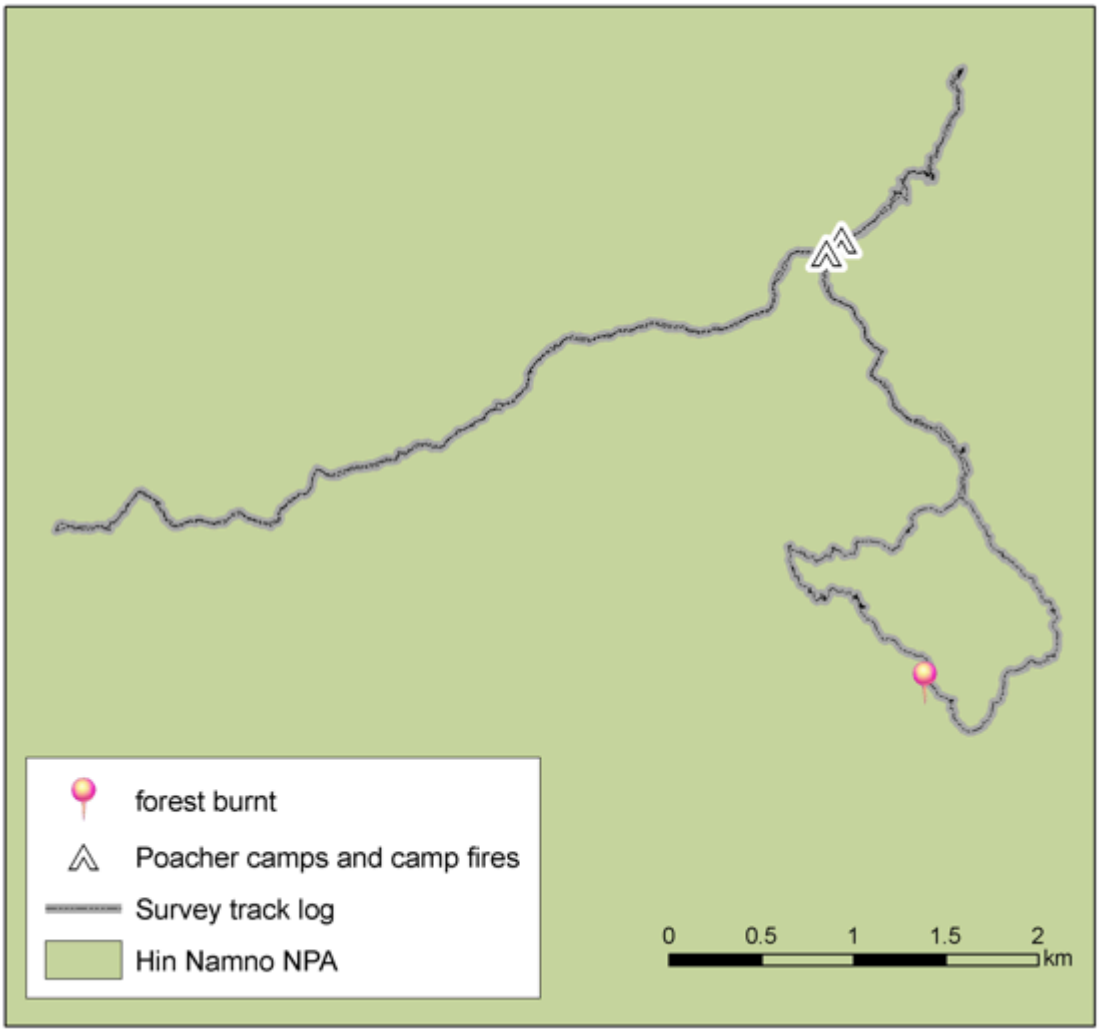


Figure 5: Trails walked in Nam Khoum site with threats encountered

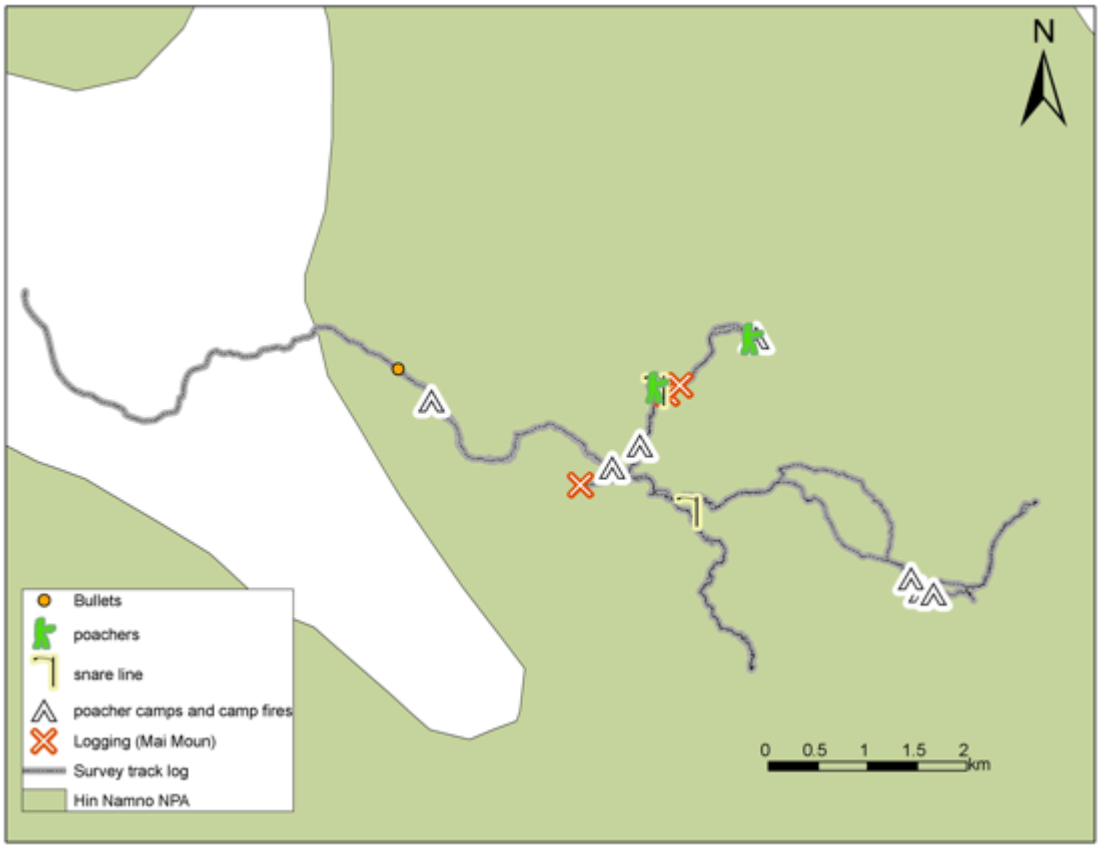


Figure 6: Trails walked in Kouan Nong site with threats encountered

IV. Discussion and recommendations

Through there are issues of double counting and detection probability (Box 1), the species with highest encounter rate remains the black langur (*Trachypithecus* sp.), recorded a total of 8 times for both sites surveyed. The encounter rate for this flagship species was lower than during previous surveys (Figure 4), though this cannot be interpreted as a diminution in population because of the many factors that influence detection probability (Box 1).

It is important to note however that the number of threats encountered during this survey was higher than previous visits. This may be due to the increase trade value of *Mai Moun*, inciting villagers from local communities to come for selective logging (and opportunistic hunting). Poacher camps and camp fires were also relatively frequent. The occurrence of these threats and seemingly recent and/or current presence of poachers at the two sites visited is likely responsible for the lower encounter rates of key species including langurs and doucs.

Nonetheless, the continuing encounters with langurs, doucs, black-giant squirrels, hornbills and green pigeons (all of which are sensitive to hunting),

means that the hunting pressure on arboreal species has not been heavy enough to extirpate those species. Gibbon density may be naturally low due to limited suitable habitat.

Snare hunting may be on the rise and urgent action needs to be taken to control it. At the time of the survey, a team of rangers from Ban Dou reported that a group of Vietnamese poachers was setting up snares nearer to the Vietnamese border. Ground wildlife populations should be monitored using camera-traps.

Snare hunting does not threaten primate populations. However, a better understanding of local cultural hunting practices and taboo particularly in relation to primates, as well as understanding the extent of gun hunting would be highly valuable information to help with wildlife management.

Box 1 – Problematic using encounter rates for wildlife population monitoring

Data collection errors (e.g. double counting): Despite the short training to the team prior the trail walk, the team may have double counted a group of a species that was seen shortly after a previous sighting; or counted again on the way back. Training is crucial for wildlife monitoring, but this trip did not allow us enough time for training. Unless a technical staff follows the team during the trail walk through the training process, there are high chances of errors in the data collection.

Detection probability: monitoring of wildlife should systematically account for detection probability of species, that is, the chances to detect the animals relative to several factors. Detection of animals can indeed differ with: i) number of people walking the trail; ii) observers skills; iii) time of day the trails are walked; iv) season it is walked; v) fruit availability; vi) animal movements; vii) disturbance; viii) meteorological factors etc. Comparing the trails walked as it is currently done does not account for the detection probability and therefore cannot be compared from one survey monitoring to the other.

V. References

Coudrat, C. N. Z. 2015. Short-term wildlife monitoring in Hin Nam No National Protected Area and re-assessment of techniques – April 2015. A report to ***The Integrated Nature Conservation and Sustainable Resource Management in the Hin Nam No Region*** GIZ and IP Consult, Thakhek, Lao PDR.

Coudrat, C. N. Z. and Nanthavong, C. 2015. Short-term wildlife monitoring in Hin Nam No National Protected Area – Spetember 2015. A report to ***The Integrated Nature Conservation and Sustainable Resource Management in the Hin Nam No Region*** GIZ and IP Consult, Thakhek, Lao PDR.

Berkmuller, K. 2013. Zoning and biodiversity monitoring at Hin Nam No National Protected Area. ***Integrated Nature Conservation and Sustainable Resource Management in the Hin Nam No Region*** GIZ and IP Consult, Thakhek, Lao PDR.

Vongkhamheng, C. 2014a. Participatory Monitoring Protocol for Wildlife and Threats in Hin Nam No National Protected Area A tool for assessing the effectiveness of management interventions. ***Integrated Nature Conservation and Sustainable Resource Management in the Hin Nam No Region*** GIZ and IP Consult, Thakhek, Lao PDR.

Vongkhamheng, C. 2014b. Scientific Indicator Assessment for evaluating the wildlife biodiversity values of the Hin Nam No National Protected Area – May 2014 report. ***Integrated Nature Conservation and Sustainable Resource Management in the Hin Nam No Region*** GIZ and IP Consult, Thakhek, Lao PDR.

Vongkhamheng, C. 2014c. Scientific Indicator Assessment for evaluating the wildlife biodiversity values of the Hin Nam No National Protected Area – October 2014 report. ***Integrated Nature Conservation and Sustainable Resource Management in the Hin Nam No Region*** GIZ and IP Consult, Thakhek, Lao PDR.

APPENDIX I: Field notes data

Site	Trail	Team leader	Time start	Time end		estimated distance from trail (m)	Detection	Estimated number of individuals	Northing	Easting	Elev. (m)	Date	Time	Remark
Nam Koum	1	Nith + Khiawsomphon	07:23	11:39	Large hornbill	100	sight	5	1928092	595083	432	23/03/16	8:07	same as the one detected trail 2
Nam Koum	1	Nith + Khiawsomphon	07:23	11:39	Black langur	200	sight	6	1926709	595438	318	23/03/16	9:19	
Nam Koum	1	Nith + Khiawsomphon	07:23	11:39	Black-giant squirrel	100	heard call	1	1925828	595918	317	23/03/16	10:12	
Nam Koum	1	Nith + Khiawsomphon	07:23	11:39	Forest burning	0	sight	n/a	1925435	595228	232	23/03/16	11:14	about 1 month old
Nam Koum	2	Chanthalaphone + Camille	07:20	11:55	LANGUR CALL	500	heard call	-	1928464	595369	292	23/03/16	7:30	
Nam Koum	2	Chanthalaphone + Camille	07:20	11:55	Great hornbill	30	heard call	-	1928121	595088	416	23/03/16	8:00	
Nam Koum	2	Chanthalaphone + Camille	07:20	11:55	CAMP FIRE	0	sight	1	1927833	594775	370	23/03/16	8:19	
Nam Koum	2	Chanthalaphone + Camille	07:20	11:55	BROWN HB	5	sight	-	1927799	594720	368	23/03/16	8:22	
Nam Koum	2	Chanthalaphone + Camille	07:20	11:55	CAMP FIRE2	0	sight	1	1927762	594694	366	23/03/16	8:24	
Nam Koum	2	Chanthalaphone + Camille	07:20	11:55	LANGUR CALL2	300	heard call	-	1927358	594088	369	23/03/16	8:55	
Nam Koum	2	Chanthalaphone + Camille	07:20	11:55	DOUC	50	sight	only one seen	1927123	593095	351	23/03/16	9:44	
Nam Koum	2	Chanthalaphone + Camille	07:20	11:55	Great hornbill	50	sight	1	1926311	591698	265	23/03/16	11:00	
Nam Koum	2	Chanthalaphone + Camille	*way back*	*way back*	Black giant squirrel	50	sight	1	1927382	594223	372	23/03/16	15:03	
Khouan Nong	3	Nith	07:00	09:20	snare	0	sight	50 snares	1935838	593889	517	26/03/16	7:31	

Khouan Nong	3	Nith	07:00	09:20	Black langur	40	sight	15	1935160	594092	502	26/03/16	8:09	
Khouan Nong	3	Nith	07:00	09:20	Black langur	50	sight	15	1934394	594526	472	26/03/16	9:09	
Khouan Nong	3	Nith	07:00	09:20	MAIMOUN	0	sight	1 tree	1936111	592808	528	26/03/16	11:44	
Khouan Nong	4	Chanthalaphone + Camille	06:59	09:20	POACHER CAMP	0	sight	1	1936508	593409	533	26/03/16	7:17	
Khouan Nong	4	Chanthalaphone + Camille	06:59	09:20	CAMP FIRE (grey peacock pheasant feathers)	0	sight	1	1936287	593130		02/04/16	7:19	
Khouan Nong	4	Chanthalaphone + Camille	06:59	09:20	Brown Hornbill	50	heard call	-	1936723	593512	506	26/03/16	7:38	
Khouan Nong	4	Chanthalaphone + Camille	06:59	09:20	SNARE LINE	0	sight	11 snares	1937061	593559	474	26/03/16	7:54	70 m
Khouan Nong	4	Chanthalaphone + Camille	06:59	09:20	PEOPLE heard	50	heard	2	1937096	593581	477	26/03/16	8:10	
Khouan Nong	4	Chanthalaphone + Camille	06:59	09:20	LOGGING (Mai Moun)	0	sight	1 tree	1937033	593676	499	26/03/16	8:18	
Khouan Nong	4	Chanthalaphone + Camille	06:59	09:20	LOGGING1 (Mai Moun)	0	sight	1 tree	1937117	593810	496	26/03/16	8:28	
Khouan Nong	4	Chanthalaphone + Camille	06:59	09:20	POACHERS (from Ban Salang)	100	sight	2	1937585	594538	503	26/03/16	9:07	
Khouan Nong	4	Chanthalaphone + Camille	06:59	09:20	POACHER CAMP	100	sight	1	1937598	594582	510	26/03/16	9:13	
Khouan Nong	4	Chanthalaphone + Camille	06:59	09:20	Black-giant squirrel	50	sight	1	1937643	594134	498	26/03/16	9:41	

Khouan Nong	4	Chanthalaphone + Camille	06:59	09:20	CHAIN SAW heard	500	heard	-	1936659	593503	523	26/03/16	10:30	later, team went to check location; 4 loggers escaped.
Khouan Nong	5	Khiawsomphon	06:59	09:20	Black langur	200	sight	5	1935986	593684	523	26/03/16	7:20	
Khouan Nong	5	Khiawsomphon	06:59	09:20	Black langur	30	sight	3	1936258	595164	507	26/03/16	8:22	
Khouan Nong	5	Khiawsomphon	07:01	10:39	POACHER CAMP	0	sight	1	1935166	596141	549	26/03/16	9:22	about 2 months old
Khouan Nong	5	Khiawsomphon	07:01	10:39	POACHER CAMP	0	sight	1	1935040	596248	550	26/03/16	9:32	about 3 days old
Khouan Nong	5	Khiawsomphon	07:01	10:39	POACHER CAMP	0	sight	1	1935013	596368	550	26/03/16	9:38	about 5 months old
Khouan Nong	5	Khiawsomphon	07:01	10:39	Black langur	500	heard call	1	1935002	596736	652	26/03/16	10:00	
Khouan Nong	6	Chanthalaphone + Camille	13:00	14:41	BIRD REMAINS	0	sight	-	1936959	591311	455	26/03/16	14:24	
Khouan Nong	6	Chanthalaphone + Camille	13:00	14:41	BULLETS FIRED	0	sight	-	1937279	590974	479	26/03/16	14:34	

APPENDIX II – Selection of pictures taken in the field

Pre-training on data forms

Eyebrowed wren babbler (*Napothera epilepidota*)

Red-shanked douc (*Pygathrix nemaeus*)

Bullets

Feather remains of grey-peacock pheasant (*Polyplectron bicalcaratum*) at a poacher firecamp

Poacher camp

Wire snares and traps at poacher camp

2 villagers from Ban Salang, and rangers confiscating their rope snares

Snare line encountered in Kouan Nong