

11. Hin Nam No National Protected Area

GENERAL INFORMATION

Name Hin Nam No **Translated** Spiky Rocks

Area

82,000 ha (in PM Decree 164)

88,500 ha (in co-management plan, 2016)

Date of designation

29th October 1993 under PM Decree 164.

Location

Latitude: 17° 13' – 17° 40' N; Longitude: 105° 43' – 106° 09' E

Province

Khammouane

District

Boualapha covering 88,500 ha (100 %)

Boundaries

The north-eastern border of Hin Nam No National Protected Area is the international boundary with Vietnam and is adjacent to Phong Nha-Ke Bang National Park in Vietnam. This complex forms one of the largest continuous limestone ecosystems in Southeast Asia. The northern tip of Hin Nam No borders Nakai Nam Theun National Protected Area.

Access

To reach the Hin Nam No National Protected Area headquarters in Boualapha District from Thakek, take Highway 12, north-eastwards towards the Vietnamese border. About 17 km from the Vietnamese border, take the southern fork in the road towards Boualapha District. The trip from Thakek to Boualapha District takes approximately four hours. Hin Nam No can also be reached via Highway 12 from Vietnam, though this is not an official immigration checkpoint. Several roads are being upgraded, including the road to Langkhang.

Access to Hin Nam No National Protected Area is especially difficult during the wet season. It is especially difficult to village cluster of Nongma, while access to the other village clusters is much better. Travel by boat is an option to reach certain remote area during the wet season.

Map Sheets

Scale I: 50,000

6144-3	6144-2		
6143-4	6143-1	6243-4	
	6143-2	6243-3	6243-2

Scale I: 100,000

E48-92	E48-93
E48-104	E48-105

BRIEF HISTORY

1960-1970	Heavily bombed as Route 12 at the Northern area of the NBCA was a bottleneck for the Ho Chi Minh Trail during the Indochina War
1993	Hin Nam No was declared by Decree 164 of Prime Minister 1993 as a National Biodiversity Conservation Area, though little actually changes in Boualapha District
1995	WWF funded village socio-economic surveys
1996	A joint-wildlife survey was conducted by the Wildlife Conservation Society and the Department of Forestry
1996	A five year plan is written for Boualapha District by Vietnamese advisors
1996-1998	Boualapha District is used as a base of operations for United States Missing in Action (MIA) program.
1998	Wildlife inventory in Hin Nam No and its adjacent areas was completed by World Wildlife Fund.
1999	WWF and the Department of Forestry begin management activities for Hin Nam No NBCA.
1999	Land use planning was undertaken in some villages.
2000	Socio-economic surveys and land use planning work begins.
2003	WWF supported some funds for livelihood development activities.
2003	MoU signed between Provincial Governor of Khammouane and Quang Binh Province on transboundary protected area management
2006	Land use planning revised, constructed boundary posts and strengthening cooperation with Vietnam (UNESCO and IUCN).
2006	Agreement of technical cooperation between Hin Nam No National Protected Area and Phong Nha-Ke Bang National Park, a natural World Heritage Site.
2007	Red-shanked Douc Langur surveys (PhD research on distribution, behaviour and threats).
2009	Development of co-management with local communities and other stakeholders (incl. GoL staff) by IUCN through a series of trainings and field practice, funded by LEnS/EPF Lao.
2009	Village participatory masters research conducted.
2009	Continued dialogue on natural World Heritage Site designation.
2010	Approval of Hin Nam No National Protected Area Co-management Plan (2010-2015).
2010	Support by the German Government for the Hin Nam No I project to start with the implementation of the Co-management Plan 2010-2015 (October 2010 until November 2013)
2011	Transfer of mandate for protected area management from MAF to MoNRE
2013	Start of the Hin Nam No II Project (November 2013 until October 2018) supported by the German Government and implemented by GIZ. Regular operational budget available for the implementation of the co-management plan
2013	Establishment of six technical working units and the development of a strategic plan 2014-2016.
2014	Village rangers begin on trail mapping, wildlife monitoring, patrolling, and zonation
2014	Governance assessment and set-up of co-management committees at the village cluster and village level; drafting of co-management agreements (by-laws)
2015	Establishment of a co-management committee at the district level and the establishment of five technical working groups and approval of co-management agreements (by-laws) by Boualapha District Governor.
2015	Five-year Hin Nam No National Protected Area Co-management Plan prepared (2016-2020).

CURRENT MANAGEMENT

National Protected Area Staffing

As of January 2017, there are two DAFO staff, and 18 volunteers. These staff are organized into five technical units, comprising (i) an administration unit, (ii) a biodiversity and monitoring unit, (iii) a law enforcement and land management unit, (iv) an outreach unit, and (v) an ecotourism unit.

Collaborative system and stakeholders

A variety of stakeholders need to be involved to ensure effective collaborative governance. Primary stake- and rights-holders are the villagers and protected area management authorities that both ideally fulfil interlinked tasks. Successful collaborative governance also depends on the participation of secondary stakeholders. These comprise representatives from other government agencies such as the District Governor's Office, the Lao Women's Union, the Lao Tourism Office, Planning, Rural District Office, agriculture staff, forest inspection staff, as well as police and military. It is anticipated that these secondary stakeholders will participate in strategic and operational steering (coordination; enforcement of laws). This will help to deal with threats such as illegal logging and poaching from opposing stakeholders who are only interested in quick profits and cause unsustainable use. Furthermore, strategic alliances with assisting partners are necessary for capacity development, institutional support and funding. To make sure that all stakeholders can work together towards the common goal, an effective institutional set-up is essential.

Hin Nam No National Protected Area Collaborative Management Committee

Hin Nam No and its entire buffer zone are all situated within Boualapha district. Consequently, a multi-stakeholder committee was established at the district level – as the Hin Nam No NPA Collaborative Management Committee or District Co-Management Committee (DCMC). This landscape-scale body comprises the District Vice-Governor (chairperson), a secretariat and representatives from each of the five Village Cluster Committees (VCCMC) and secondary stakeholders from concerned district agencies. The DCMC currently meets quarterly and is a key structure for steering the management of Hin Nam No NPA.

Protected area working groups

Under the DCMC, five working groups were established in different fields of protected area management, with varying degrees of capacity and expertise. These specialized fields comprise: (i) biodiversity monitoring, research and database; (ii) law enforcement and area management; (iii) outreach; (iv) ecotourism, and (v) livelihoods (de Koning *et al.*, 2016).

Village Cluster Co-management Committees

Village Cluster Co-management committees (VCCMC) have been established in the five village clusters consisting of 19 members. The VCCMC conducts meeting at village cluster level and reports to the District level. The VCCMC institutional framework and rights and duties are formulated in detail in the co-management agreements.

Village Co-management Committee

In total 19 villages co-management committees (VCMC) have been established consisting of 66 members (four females). The VCMC conducts meetings at the village level and reports to the village cluster level. The VCMC institutional framework and rights and duties are formulated in detail in the co-management agreements.

Financial Support & Training

Technical and financial support will be provided by GIZ through the 'Integrated Nature Conservation and Sustainable Resource Management in the Hin Nam No Region' project until

October 2018. Trainings were provided to improve participation, recognition, self-confidence and motivation of local villagers in the management of the protected area. Officials at the district and provincial levels were also trained in order to promote and facilitate the participatory processes. From November 2013-March 2015 a total of 4,501 training days were provided for local villagers. The 28 government employees (of which 19 volunteers), participated in 1,750 people-days of training. In total 71 VR implemented biodiversity monitoring and patrols for 976 persons-days. A total of 102 residents (including 32 women) participated for 477 person days on the participatory zoning.

Current Management Priorities

Management priorities are outlined in the five year Hin Nam No National Protected Area Co-management Plan (2016-2020).

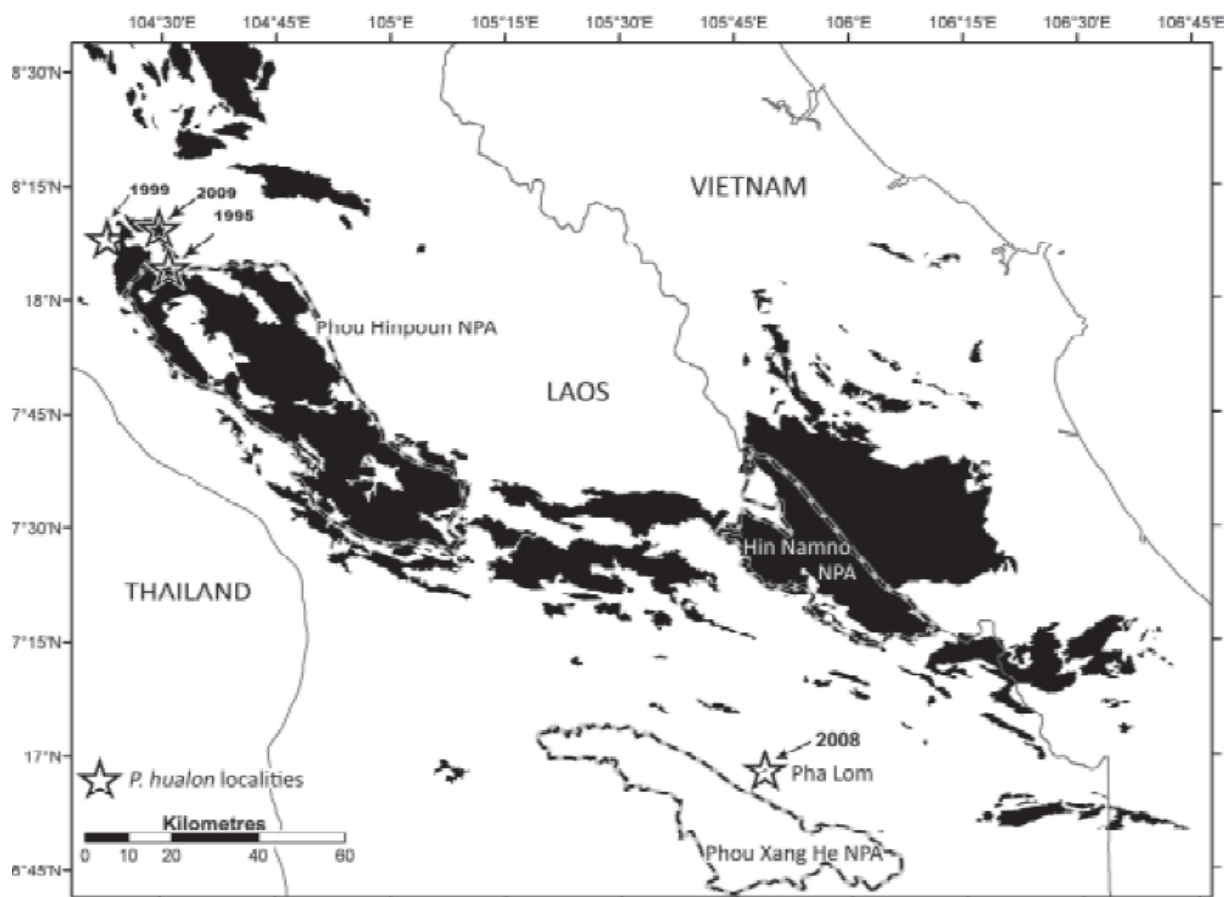
Other Projects Active in the Area

The German Government will support selected villages in the marginal zone of Hin Nam No NPA under the financial cooperation project Integrated Conservation of Biodiversity and Forests (ICBF). The approaches to improving living conditions in the villages and integrated nature conservation will be coordinated.

BIO-PHYSICAL ENVIRONMENT

Physical Features

Hin Nam No National Protected Area forms a sizable proportion of one of the most notable, large karst landscapes in Southeast Asia, the Khammouane Karst - Phong Nha-Ke Bang Landscape (KK-PNKBL). The KK-PNKBL is extremely large, being some 230 km in length. The KK-PNKBL stretches on a latitudinal axis across the mountain crest of the Annamites mountain range. Hin Nam No itself also represents a significant and essentially intact karst ecosystem component within the Annamites Range Moist Forests, a Global 200 priority Ecoregion. According to the more recent classification of terrestrial ecoregions by Olson et al, (2001), the property belongs to the Northern Annamites Rain Forests ecoregion, as well as two freshwater ecoregions (Northern Annam and Southern Annam).



Overview of the Khammouane Karst - Phong Nha-Ke Bang Landscape
(Source: http://www.sges.auckland.ac.nz/sges_research/karst.shtm)

The Hin Nam No and Phong Nha-Ke Bang karsts may be best described as a large dissected plateau, and is therefore of high elevation. A notable portion of Hin Nam No is above 500m. The complex inter-bedding with shales and sandstones, combined with the capping of schists and apparent granites which have probably been thrust over the limestone and is now eroded to a remnant outcrop, influences the soil types, including their soil thickness, their texture, their acidity and humus content. These soil properties in turn influence the composition and richness of the overlying vegetation. As a consequence, this plateau supports limestone forest with smaller areas of submontane and tropical moist evergreen forests (above 700m). The vegetation in turn supports certain taxonomic groups which are different from those found in wetter, less seasonally varied parts of the KK-PNKB to the east.

Hin Nam No itself is situated in the heart of Lao P.D.R.'s main topographic feature, the Annamites Mountain Range, which runs roughly north to south along the Lao-Vietnam border and into south-central Laos, and belongs to the Indochinese Rainforest biogeographical province in the Tropical Humid Forests biome (Udvardy, 2005). This mountain range forms an important barrier between the drier monsoon forests of Laos and the moist uplands of Vietnam; Hin Nam No forming the western portion of the KK-PNKB lies in a separate biogeographical unit - the Thai Monsoonal Forest province (Udvardy, 2005). Furthermore, Hin Nam No NPA traverses the transition zone between the subtropical northern and the tropical southern climates (Sterling & Hurley, 2005).

Geology

The complexity and diversity of geologic and geomorphologic features on display in Hin Nam No National Protected Area provide an outstanding example of major stages in the formation of a mature and spectacular karst landscape. The geologic history of the exposed rocks dates back to

the early Carboniferous period, with the karst geomorphology evolving to the present day. The characteristic landscape style of the Hin Nam No karst is that of a dissected plateau of karst massifs that are almost completely bordered by bare limestone walls or cliffs rising up to 500 m above intervening alluvial plains and flat-bottomed basins, known locally as kuans. The limestone massifs have been eroded into a classic fengcong karst of clustered cones, with steep cones together with deep fissures and dolines on the summit surfaces, and spectacular landforms such as karren and pinnacles. The Xe Bang Fai River has cut a 6.4 km underground course through the limestone karst, creating one of the largest active river cave passages in the world, which is superbly decorated with many large and beautiful cave formations.

Elevation

100 m to 1,429 m

Climate

Hin Nam No National Protected Area is in the Southeast Asia monsoon climate regime. During the winter (November-February), is the northeast monsoon, characterized by cold dry air and infrequent and light rain. For summer (May-August), warm winds from the southwest carry moisture from the Andaman Sea and the Gulf of Thailand to the part of the trough in the Lao P.D.R. region where vertical convection causes the rainfall, large amounts during the height of the monsoon season. This is the southwest monsoon. The air is warm, and humidity high. For the national protected area, the southwest monsoon begins in May, reaches its maximum strength in August and disappears about mid-October. The climate then cycles through a transition period to mid-November when the northeast monsoon appears. Rainfall becomes very infrequent and light, the air is cool, and the humidity lower. The northeast monsoon lasts until the end of February when the hot and dry transition period begins. In 2007, the annual rainfall was 1,480 mm, following the general pattern of the Southeast Asia monsoon. The average annual temperature is 25.7°C (with temperatures ranging from 11 – 40°C).

Biodiversity

Hin Nam No National Protected Area is of global significance for the conservation of biodiversity because its variety of habitat and forest types provided by the landscape geomorphology support a high diversity of animals and plants, including a number of globally threatened species, endemic species and karst specialist species. Hin Nam No NPA is situated where the Central Indochina Limestone meets the Annamite Mountains. The property lies within the boundaries of the Northern Annamites Rain Forest Ecoregion, one of the Global 200 Ecoregions considered most crucial to the conservation of global biodiversity. More specifically, within this ecoregion the Central Indochina Limestone has been identified as a priority landscape which is critical and globally significant for the conservation of primate species and limestone specialist species.

Main Habitat /Forest Types

In total, 11 major habitat types have been identified in Hin Nam No National Protected Area, including seven forest habitats, bare rock (or sparse, stunted forest on limestone), two wetland habitats, and cave habitats.

The main vegetation types based on analysis of Landsat 8 satellite imagery, dated 20th March 2015 are shown below:

Vegetation type	Estimated area (ha)	% of total area
Karst forest	28,833	32.58
Dry karst forest	7,321	8.27
Karst	2,486	2.81
Evergreen forest	11,886	13.43
Semi evergreen forest	16,828	19.02
Mixed deciduous forest	8,399	9.49

Bamboo forest	4,094	4.63
Fallow / disturbed forest	2350	2.66
River	81	0.09
Unidentifiable / Hill shade	4308	4.87
Burned Hill	1702	1.92
Fields (paddy)	21	0.02
Village/roads	177	0.20
Total	88,487	100

Terrestrial Fauna

Surveys of surface habitats in Hin Nam No have recorded 377 vertebrate species including 55 mammals, 184 birds, 21 reptiles, 21 amphibians and 96 fish. Of these, 37 species are of conservation interest, with 11 of these being globally threatened. Most notably, Hin Nam No protects seven species of primates, five of which are globally threatened. The Red-shanked Douc Langur *Pygathrix nemaeus* and the Southern White-cheeked Gibbon *Nomascus siki* are charismatic 'flagship' species of Hin Nam No, and along with the Black Langur *Trachypithecus hatinhensis* are globally endangered. Hin Nam No harbours the largest and one of the last viable populations of these two endangered langurs in the world. Other globally threatened mammals include: Bear Macaque *Macaca arctoides*, Pig-tailed Macaque *Macaca nemestrina*, Smooth-coated Otter *Lutrogale perspicillata*, Southern Serow *Capricornis sumatraensis*, and Sambar Deer *Rusa unicolor*.

A total of 25 species of bats have been identified in Hin Nam No, including three new records for Lao P.D.R, namely Horsfield's Fruit Bat *Cynopterus horfieldi*, Harlequin Bat *Scotomanes ornatus* and Great Evening Bat (*la io*) (Vinton and Walston, 1999).

Confirmed species of mammals of conservation interest in Hin Nam No National Protected Area

Common Name	Scientific Name	National Priority	Global Threat Category	Lao Risk Status
Pangolin species	<i>Species not identified</i>	-	-	-
Mainland Slender-tailed Treeshrew	<i>Dendrogale murina</i>	-	0	LKL
Pig-tailed Macaque*	<i>Macaca nemestrina</i>	-	VU	PARL
Assamese Macaque*	<i>Macaca assamensis</i>	-	VU	PARL
Rhesus Macaque*	<i>Macaca mulatta</i>	-	GNT	PARL
Bear Macaque*	<i>Macaca arctoides</i>	-	VU	PARL
Francois's Langur*	<i>Semnopithecus francoisi</i>	-	DD	PARL
Red-shanked Douc Langur*	<i>Pythagrix nemaeus</i>	HNP	EN	ARL
Southern White-cheeked Gibbon*	<i>Nomascus leucogenys</i>	HNP	DD	PARL
Black Giant Squirrel*	<i>Ratufa bicolor</i>	-	0	PARL
Inornate Squirrel	<i>Callosciurus inornatus</i>	-	VU	LKL
Cambodian Striped Squirrel*	<i>Tamiops rodolphii</i>	-		
East Asian Porcupine	<i>Hystrix brachyuran</i>	-	VU	0
Bear species	<i>Species not identified</i>	-	-	-
Hog Badger	<i>Arctonyx collaris</i>	-	0	LKL
Large Otter species	<i>Species not identified</i>	-	-	-
Binturong	<i>Arctictis binturong</i>	HNP	0	ARL

Medium-sized Cat species	<i>Species not identified</i>	-	-	-
Tiger	<i>Panthera tigris</i>	ANP	EN	ARL
Large Cat species	<i>Species not identified</i>	-	-	-
Pig species	<i>Species not identified</i>	-	-	-
Sambar*	<i>Rusa unicolor</i>	-	0	PARL
Large-antlered Muntjac	<i>Muntiacus vuquangensis</i>	-	N/A	PARL
Gaur	<i>Bos gaurus</i>	HNP	VU	ARL
Southern Serow*	<i>Capricornis milneedwardsii</i>	-	VU	PARL

Species marked with an asterisk have been recorded during biodiversity surveys conducted in 2015 (Berkmuller, 2013).

Charismatic bird species include four species of hornbill (Bucerotidae), one of which, the Rufous-necked Hornbill *Aceros nipalensis*, is globally threatened. Another globally threatened species includes Crested Argus *Rheinardia ocellata*. The Sooty Babbler *Stachyris herberti* is a bird species endemic to the Central Indochina Limestone.

Confirmed species of birds of conservation interest in Hin Nam No National Protected Area

Common Name	Scientific Name	National Priority	Global Threat Category	Lao Risk Status
Siamese Fireback	<i>Lophura diardi</i>	-	VU	PARL
Crested Argus	<i>Rheinardia ocellata</i>	HNP	VU	ARL
Fulvous-breasted Woodpecker	<i>Dendrocopos macei</i>	-	0	LKL
Red-collared Woodpecker ¹	<i>Picus rabieri</i>	-	VU	0
Great Hornbill	<i>Buceros bicornis</i>	HNP	0	ARL
Brown Hornbill	<i>Ptilolaemus tickelli</i>	-	GNT	PARL
Rufous-necked Hornbill ²	<i>Aceros nipalensis</i>	HNP	VU	ARL
Wreathed Hornbill	<i>Rhyticeros undulates</i>	-	0	ARL
Coral-billed Ground Cuckoo	<i>Carpococcyx renauldi</i>	-	GNT	0
Yellow-vented Green Pigeon	<i>Treron seimundi</i>	-	GNT	0
River Lapwing ²	<i>Vanellus duvaucelii</i>	INP	0	ARL
Lesser Fish Eagle	<i>Ichthyophaga humilis</i>	INP	GNT	ARL
Pied Falconet	<i>Microhierax melanoleucos</i>	-	GNT	LKL
Blue-rumped Pitta	<i>Pitta soror</i>	-	GNT	PARL
Bar-bellied Pitta	<i>Pitta ellioti</i>	-	GNT	PARL
White-winged Magpie	<i>Urocissa whiteheadi</i>	-	GNT	PARL
Indochinese Green Magpie	<i>Cissa hypoleuca</i>	-	GNT	PARL
Sooty Babbler	<i>Stachyris herberti</i>	-	VU	0
Rufous-throated Fulvetta ¹	<i>Alcippe rufogularis</i>		GNT	0

The only reptile and amphibian survey conducted in Hin Nam No (Stuart, in: Vinton and Walston, 1999) collected or observed 46 species of reptiles and amphibians. All six turtle species collected are key species. These include Asiatic softshell *Amyda carilaginea*, Wattle-necked Softshell *Palea*

¹ Found about 15 km to the west of Hin Nam No National Protected Area in an area of forest on non-calcareous rock

² Found some distance to the south of Him Nam No, in the headwaters of the Xe Bang Fai

steindacheri, Yellow-headed Temple Turtle *Hieremys annadlaei*, Asian Leaf Turtle *Cyclemys dentata*, Keeled Box Turtle *Pyxidea mouhotii*, and Elongated Tortoise *Indotestudo elongata*.

A total of 130 species of fish have been collected in the Xe Bang Fai River, 25 of which were found in and around Hin Nam No National Protected Area. At least two species are possibly endemic to the Xe Bang Fai River. Additionally, 29 of the 130 species (or 17.5%) of fish surveys in 1996 were previously unnamed (Kottelat, 1998).

Cave Fauna

Recent initial surveys of cave habitats in Hin Nam No have recorded at least 70 fauna species, with seven of these being new species and five endemics, including a cave-adapted fish species *Bangana musaei* which is endemic and globally threatened. The caves of Hin Nam No are also home to the Giant Huntsman Spider *Heteropoda maxima*, the world's largest spider by leg-span.

In addition, many underground caves are found in Hin Nam No NPA, which are critical refuges for fish during the dry season. For example, the well-known Hou peo pa “fish cave” is an underground cave hosting fish during the dry season. Fish emerge from the caves to appear in nearby rivers at the beginning of the wet season when the drainage from the heavy rains flood into the cave entrances. At the end of the wet season the fish return to the fish caves.

MAIN THREATS

The direct threats were differentiated into threats derived from outsiders, threats by local use/people and other threats. In a workshop held on 25 September 2013 the direct threats were ranked in the way they can be influenced by the Hin Nam No National Protected Area Management Office taking into account the following criteria: community perceived importance; the area affected; the intensity of the threat; the political feasibility to do something about the threat; the social ability to address the issue and the organisational ability of the Hin Nam No management authority itself. Each participant ranked the direct threat from 1-8 for the seven different criteria. Results of ranking of direct threats to the biodiversity in Hin Nam No National Protected Area are shown below.

Threat	Total Score of 7 criteria	Rank
Commercial Logging	7 (787)	2
Community Logging	5.5 (675)	3.5
Commercial Hunting	8 (865)	1
Community Hunting	5.5 (675)	3.5
Commercial Overharvesting NTFPs	4 (666)	5
Community NTFP harvesting	3 (536)	6
Floods	2 (290)	7
Fire	1 (262)	8

The results show that commercial hunting and commercial logging are considered the most important issues for the Hin Nam No management authority to tackle. This is followed by community hunting and community logging. The work on NTFPs comes next in the strategy and the work on climate change (floods and fire) are at this stage perceived as less important and also difficult for the Hin Nam No management authority to do something about it.

In a study conducted in 2013 it was also reported that the forest inside the Hin Nam No National Protected Area had only reduced by 1.7% over the last 10 years (from 66.1% in 2000 to 64.4% in 2010). In summary, the overwhelming majority of the habitats and associated wildlife within Hin Nam No National Protected Area are in pristine condition.

SOCIO-ECONOMIC ENVIRONMENT

Stakeholder Villages and Population

There are 19 guardian villages with allocated management responsibilities in Hin Nam No National Protected Area which are part of five village clusters: Ban Dou and Langkhang (now counted together as Thongkham by the district), Kha Nyou, Nongping and Nongma. In total, 7,624 people lived in 1,493 households in these 19 villages in 2011, which increased to 8,099 persons in 1,570 households in 2014. The 19 guardian villages constitute 25.6% of the total population of Boualapha district (31,676 persons in 2014) (Data from Hin Nam No National Protected Area Co-management Plan, 2015). There are no villages situated within the protected area any longer.

District	No. of Villages	No. of Villages by type			Population
		I	II	III	
Boualapha	19	0	6	12	8,024

Population statistics and ethnicity for the 19 guardian villages in Boualapha district in Hin Nam No National Protected Area.

No.	Name of Village	Village cluster	Ethnic group	No of HHs	No of persons	Location
1	Thongxam	Thongxam	Phouthai; Mekong	55	338	Overlap
2	Vangmaner	Thongxam	Phouthai; Slang	66	322	Overlap
3	Dou	Thongxam	Phouthai	75	396	Overlap
4	Nong No	Thongxam	Phouthai	56	289	Overlap
5	Nongseng	Thongxam	Phouthai	55	298	Overlap
6	Nongbua	Thongxam	Makong; Yoy	119	660	Overlap
7	Phanob	Thongxam	Makong; Yoy	92	430	Overlap
8	Vangkhone	Thongxam	Phouthai	29	142	Overlap
9	Saenphanh	Kha Nyou	Phouthai	66	331	Overlap
10	Kha Nyou	Kha Nyou	Kaleung	130	670	Overlap
11	Sa-ang	Kha Nyou	Kaleung	107	533	Overlap
12	Nga-wai	Kha Nyou	Kaleung	56	263	Overlap
13	Nga-waed	Nong Ping	Makong; Tri	64	367	Overlap
14	Kuan Khayom	Nong Ping	Nguan (Viet)	91	421	Overlap
15	Nong Ping	Nong Ping	Kaleung; Makong; Nguan; Tri	133	669	Overlap
16	Thaplao	Nong Ma	Makong; Tri	70	419	Overlap
17	Ka-l	Nong Ma	Makong	72	399	Overlap
18	Laboi	Nong Ma	Makong; Tri	23	149	Overlap
19	Nong Ma	Nong Ma	Makong; Tri	155	928	Overlap
Total				1,514	8,024	

(Provincial Forest Resource Management Office, Khammouane Province; National Statistical Centre for the National Population Census, 2015).

Ethnic Composition

There are no true ethnic Lao villages in the district. The lowland Tai-Kadai speakers are either Kaleung, Yooy, or Phou Thay (including the Katak subgroup). The main Katuic languages are

mostly Brou and Tri. There are two groups in the far southwest of the district, Piou and Diao, which may be either Katuic or Phouthai groups. It is very likely that the Ruc, a group of foraging nomads, also live in Hin Nam No NPA (Chamberlain, pers. comm.; Chamberlain *et al.*, 1996).

TOURISM VALUES

Around Hin Nam No National Protected Area, the main tourism services offered are village based. Tourism service groups exist in four villages: Nong Ping, Nongbua, Nongsaeng and Thongxam village. In total the number of member households is 35. The service groups in each village have been trained in service providing and joined a study tour to exchange lesson learned at Konglor cave. These groups are beginning to receive income from tourism which is expected to motivate them to become involved in nature conservation.

In Nong Ping, there are three cooperative groups, a boat tour cooperative group, a guesthouse cooperative group, and a homestay cooperative group. The main tourism product is a boat trip to the Xe Bang Fai cave with village guides.

Hin Nam No is also a site of immense historical importance, being a major constriction of the Ho Chi Minh Trail. Nongbua has two service groups, a village trekking guide cooperative group and a cooperative group of elderly history guides. The main attraction here is to follow the Ho Chi Minh trail which is a heritage route; certain sections are close to the original state. The Ho Chi Minh Trail tour takes in the villages of Nongbua, Phanop, Vangkon, and Senphan, retracing a small part of this amazing feat of human engineering, ingenuity and endurance. One can visit caves and talk to villagers to learn the history of the Mu Gia Pass, a narrow valley through which 75% of all trucks carrying supplies to the Viet Cong in the south traversed. During the Indochina War, this was a muddy track passing through stream beds and squeezing between steep sandstone mountains and giant limestone monoliths. A further “choke-point” through the karsts near Phanop and Vangkhon proved to be the narrowest constriction along the entire trail, causing the area to be one of the most heavily defended sites and the focus of the most concentrated aerial bombardment.

A visit can be made by car to the Mu Gia Pass along Route 12, which offers spectacular views of the valley; this takes about two hours. Then there are two caves where villagers used to hide during the bombing raids: at Tham Num and Tham Loung, These caves are within 30 minutes walking distance from Nongbua village. Village elders are happy to tell the stories about their childhood there to visitors. The second attraction is a one and a half hour trek to the Song Xue waterfall, 2 km, where tourists can picnic for lunch and enjoy swimming in the crystal clear pool at the foot of the waterfall. Thirdly, visits can be made to the neighbouring villages. Visitors can observe the numerous bomb craters, now being turned into fishponds in Vangkhone village, or observe the wing of an aeroplane that was shot down in Phanop village and a house made of aluminium bomb parts in Senphan village.

Nong Saeng village has one group of six households providing hiking tours. The main attraction is a short hike of around two to three hours around a small rock called Phakod. A group of macaques and numerous bird species can be observed in the early morning or in the late afternoon.

Thong Xam has one service group of six households is providing trekking services. The main attraction is a one-day forest trek along the Nam Hok River visiting three caves which the river passes through. Visitors may have a good chance of seeing black langurs and various bird species. One cave has spectacular formations, another still contains items from Vietnamese soldiers camping there during the war. A picnic can be taken in one of the caves.

The authorities in Hin Nam No National Protected Area have developed a strategy for supporting these cooperative groups where the income they earn from tourism acts as an incentive for nature conservation. Furthermore, a ticketing system has been established that allows benefit sharing

with local communities and provides a source of sustainable funding for the National Protected Area.

MANAGEMENT PLANS AND ZONING

A Co-management plan for Hin Nam No National Protected Area was prepared in 2010 with technical assistance from IUCN Lao P.D.R. A follow-up five year co-management (2016-2020) was prepared in 2015 with technical assistance from GIZ (Deutsche Gesellschaft fuer Internationale Zusammenarbeit). Zoning has been undertaken for the protected area although land use planning has not been conducted. There are no zoning provisions for tourism development within the National Protected Area.

PRINCIPAL CONTRIBUTIONS TO THE PROTECTED AREA SYSTEM

Geological Values

The complexity and diversity of geologic and geomorphologic features on display in Hin Nam No National Protected Area provide an outstanding example of the major stages in the formation of a mature and spectacular karst landscape. The geologic history of the exposed rocks dates back to the early Carboniferous period, with the karst geomorphology evolving to the present day. The characteristic landscape style of the Hin Nam No karst is that of a dissected plateau of karst massifs that are almost completely bordered by bare limestone walls or cliffs rising up to 500 m above intervening alluvial plains and flat-bottomed basins, known locally as kuans. The limestone massifs have been eroded into a classic fengcong karst of clustered cones, with steep cones together with deep fissures and dolines on the summit surfaces, and spectacular landforms such as karren and pinnacles. The Xe Bang Fai River has cut a 6.4 km underground course through the limestone karst, creating one of the largest active river cave passages in the world, which is superbly decorated with many large, beautiful cave formations.

Biodiversity Values

Hin Nam No National Protected Area has been recognized as a site of global significance for the conservation of biodiversity because the variety of habitats and forest types provided by its landscape geomorphology support a high diversity of animals and plants, including a number of globally threatened species, endemic species and karst specialist species. In particular, Hin Nam No supports seven species of primates, five of which are globally threatened. The Red-shanked Douc Langur *Pygathrix nemaeus* and the Southern White-cheeked Gibbon *Nomascus siki* are charismatic 'flagship' species of Hin Nam No, and along with the Black Langur (*Trachypithecus hatinhensis ebenus*) are globally endangered. Hin Nam No harbours the largest and one of the last viable populations of these two endangered langurs in the world. Other charismatic species include four species of hornbills (Bucerotidae), one of which, the Rufous-necked Hornbill *Aceros nipalensis*, is globally threatened.

Despite high rates of speciation and endemism in karst habitats, the flora and fauna communities on limestone are relatively poorly known throughout Southeast Asia, a situation that holds true in Hin Nam No National Protected Area. The species numbers presented above likely reflect the limited flora and fauna surveys conducted in Hin Nam No rather than its biodiversity per se. Given the integrity of the karst, the range of habitats and micro-habitats, and its biogeographic setting, additional surveys of flora and fauna covering different terrains and other taxa are certain to reveal many more species' records and species new to science

The biodiversity value in Hin Nam No is great due to the remote location and steep terrain. Numerous key species (species of high conservation value) are found in Hin Namno. These species include 10 mammals, 13 birds, and six turtles.

Cultural Values

Boualapha District is home to numerous distinct ethnic groups. Each of these groups has unique cultures and cosmologies and is deserving of further study. Especially interesting are the Cheut people in the northern portion of the NBCA who use crossbows (Chamberlain, pers. comm.)

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