



**PROJECT TITLE:**

**TAXONOMIC STATUS AND DISTRIBUTION RANGE REVIEW OF WHITE-CHEEKED GIBBONS (*NOMASCUS* SPP.) IN CENTRAL LAOS**

**INTRODUCTION & JUSTIFICATION**

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Gibbons (Family Hylobatidae) are frequently referred to as the most threatened primate Family globally. Gibbons of the genus *Nomascus*, containing seven species, are the most threatened of the four Hylobatidae genera with four classified as Critically Endangered, three as Endangered and one yet to be assessed on the IUCN Red List of Threatened Species. This genus occurs in the Indo-Burma Biodiversity Hotspot, specifically restricted to east of the Mekong River in Cambodia, Laos, Vietnam and southern China.

White-cheeked gibbons (*Nomascus* spp.) have a restricted global range. They are endemic to Laos and Vietnam (*N. leucogenys* is believed to be ecologically extinct from China; Fan et al., 2013). In Vietnam, white-cheeked gibbons have already faced local extirpation at several sites due to primate-targeted hunting and habitat loss and the remaining populations are declining at a dramatic rate (Blair et al., 2011; Rawson et al., 2011). The same is expected to occur in the future in Laos if no conservation action is taken rapidly. Other more accessible forested parts of Laos have already been depleted of their core populations compared to the early 1990s (MAF, 2012; Duckworth, 2008; Rawson et al., 2011; Duckworth, *in litt.*). The demand from Vietnam and China specifically for gibbon bones used in traditional medicine (Nooren & Claridge, 2001), means that as these species' populations are decreasing in Vietnam at an alarming rate, with the threat on Lao populations (especially at the Vietnam border) increasing. Gibbons have been regularly traded in Laos (Davidson et al., 1997; Nooren & Claridge, 2001).

Given their current conservation status, it is crucial to take appropriate actions to protect these species, with site prioritization. However, there are still large gaps in our knowledge regarding the distribution range limits of *Nomascus* species, and notably for *N. leucogenys* and *N. siki*. Their taxonomic status at sites in Bolikhamxay, Khammouan and Savannakhet Provinces remain uncertain. It is currently speculated that the Nam Kading-Nam Theun (river) represents the major geographical barrier between the two species. This would suggest that both species occur in NNT NPA (Van Ngoc Thinh et al., 2010). But this theory lacks hard evidence and requires confirmation with additional acoustic samples of gibbon songs across the landscape, and in particular at sites along the Nam Kading-Nam Theun.

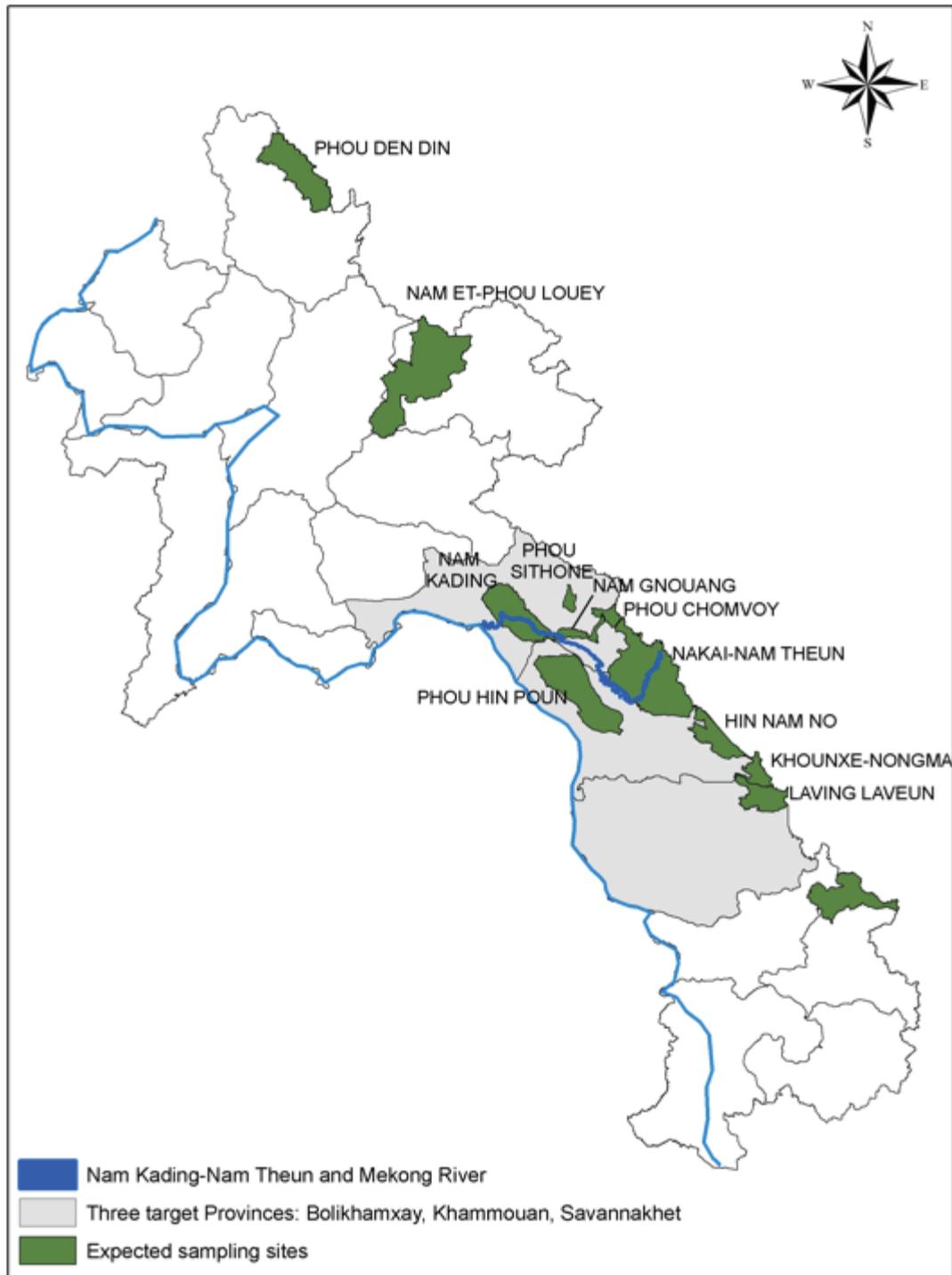
Gibbon calls are taxonomically distinct between species and when analyzed can identify the taxonomic status of a species (Van Ngoc Thinh et al., 2011). This project proposes to collect gibbon calls acoustic samples in central Laos across three provinces: Bolikhamxay, Khammouan and Savannakhet, in collaboration with other organizations with on-going projects in those regions. The samples will cover the region where taxonomy and distribution range limits of *N. leucogenys* and *N. siki* remains uncertain.

These samples will be analyzed in collaboration with other institutions and/or researchers to determine the taxonomic status of gibbons in central Laos. This will have considerable importance to re-evaluate the global conservation status and distribution of both species and for species management plan.

## **ACTIVITIES & METHODOLOGY**

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1. In collaboration with the Nam Theun 2 Watershed Management and Protection Authority (WMPA), leaders of the patrolling and monitoring teams will receive training on how to use the recording device purchased for the project. A total of at least 5 sites across the Nakai-Nam Theun NPA will be visited, including 2 sites north of the Nam Theun and 3 South of the Nam Theun. At each site, at least 10 acoustic samples will be collected,
2. We will coordinate with other organizations and projects working in the Bolikhamxay-Khammouan-Savannakhet region to collect acoustic samples in those sites: Phou Sithoune (WCS-Laos), Nam Kading (WCS-Laos); Nam Gnouang (WCS-Laos); Phou Chomvoy (WCS-Laos); Phou Hinpoun (IUCN-Laos); Hin Nam No (GIZ); Kounxe Nongma (WCS-Laos); Laving Laveun (WCS-Laos) (Figure 1).
3. In addition, to compare the acoustic samples collected in the Bolikhamxay-Khammouan-Savannakhet, we will collaborate with organization with on-going projects in northern Laos and Southern Laos: Phou Den Din (Lao Biodiversity Association); Nam Et-Phou Louey (WCS-Laos), Xe Sap (WWF-Laos) (Figure 1).
4. At each sampling, trained team leaders will record at least 10 acoustic samples, including both male and female gibbon songs (different days and/or locations, coming as close as possible to groups) along with data on weather, GPS localities, dates, times.
5. The acoustic samples will be analyzed in collaboration with Dr. Thomas Geissmann using professional software.
6. Prepare a collaborative manuscript describing the results



**Figure 1:** Location of the targeted sites where acoustic samples are expected to be collected to investigate the taxonomic status of *Nomascus* species in Laos, in particular in the Bolikhamxay-Khammouan-Savannakhet Provinces of Laos. This will help understanding the distribution range limit between *N. leucogenys* and *N. siki*, currently uncertain.

## PROJECT TIME TABLE

Expected project timetable:

Activity	Nov -15	Dec -15	Jan -16	Feb -16	Mar -16	Apr -16	May -16	Jun -16	Jul- 16	Aug -16	Sep -16	Oct -16	Nov -16	Dec -16	Jan -17
Acoustic samples collection															
Analysis of acoustic samples															
Paper preparation and submission															

## PROJECT BUDGET

- Amount requested from the Gibbon Conservation Alliance: 2000 USD

ITEM	UNIT	UNIT COST	QUANTITY	SUB-TOTAL
<b>Equipment</b>				
Sennheiser ME67/K6 - Shotgun Microphone Basic Kit	microphone kit	1000	1	\$1,000.00
Raven Pro acoustic software (Standard license)	software	400	1	\$400.00
<b>Travel</b>				
travels to field sites	lump			\$800.00
<b>TOTAL</b>				<b>\$2,200.00</b>

- The amount requested from the Gibbon Conservation Alliance are for essential items for the project: it includes (1) a high quality professional microphone, adapted for field recordings, which will ensure best quality of song records for their analysis; (2) a professional acoustic software that allows detailed analysis of songs for species identification; (3) travel expenses between the different target sites.
- Other funding available for the larger project on white-cheeked gibbon in Nakai-Nam Theun National Protected Area (NNT NPA), Laos:

**NOTE:** The section of the project focusing on the taxonomic review of white-cheeked gibbon with song recordings, across the landscape is currently not supported by co-funding. The Gibbon Conservation Alliance will provide the necessary funds to conduct that part of the project.

Donor	Amount awarded	Amount awarded in USD	Project
Apenheul Primate Park (2015)	[1800€]	\$2,470.00	Behavioural ecology white-cheeked gibbons in NNT NPA, Laos
Mulhouse Zoo (2015)	[5000€]	\$6,173.00	Behavioural ecology white-cheeked gibbons in NNT NPA, Laos
Conservatoire / Vallée des Singes (2015)	[1500€]	\$1,852.26	Behavioural ecology white-cheeked gibbons in NNT NPA, Laos
AFdPZ (2015)	[5000€]	\$5,382.78	Behavioural ecology white-cheeked gibbons in NNT NPA, Laos
La Passerelle (2015)	[2000€]	\$2,237.76	Behavioural ecology white-cheeked gibbons in NNT NPA, Laos
Minnesota Zoo (2015)		\$2,500.00	Behavioural ecology white-cheeked gibbons in NNT NPA, Laos
Ocean Park Conservation Foundation Hong Kong (2015-2016)	[HK\$ 285986]	\$36,980.00	Primate Protection and Monitoring Unit (2 years funding) in NNT NPA, Laos
Critical Ecosystem Partnership Fund (2015)		\$16,200.00	Setting up permanent field station in NNT NPA, Laos
	<b>TOTAL (2015-2016)</b>	<b>\$73,795.80</b>	

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