

The Annamite Mountains - A Biodiverse Ecosystem at Risk: A Case Study in Nakai - Nam Theun National Park, Lao P.D.R

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THE ANNAMITE MOUNTAINS

- The Annamite Mountains extend from **northern Viet Nam along the border with Lao PDR and south into southern Viet Nam**
- One of the identified '**Key Biodiversity Areas**' within the **Indo-Burma biodiversity hotspot**
- One of the **richest regions of biodiversity and endemism in Southeast Asia** due to its unique **geological and climatic history**

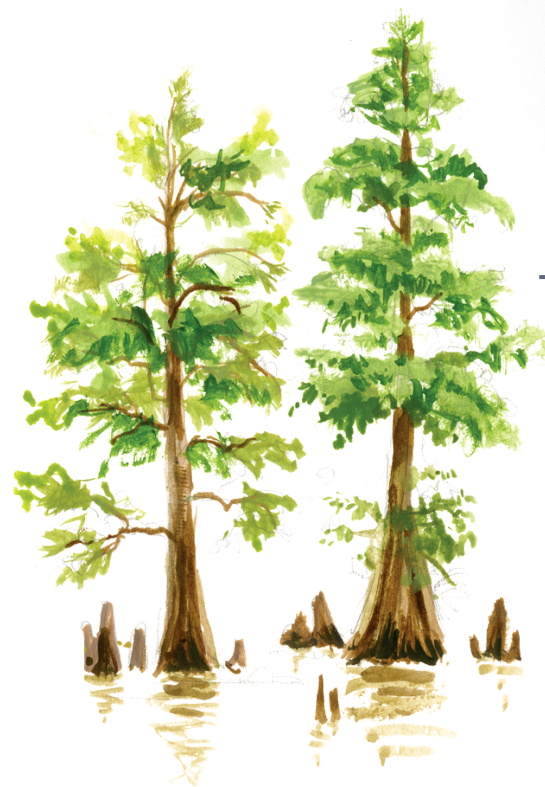


NAKAI-NAM THEUN NATIONAL PARK

- One of the **most important areas for biodiversity conservation** at the **national and global levels**
- A **large knowledge gap remains**: much is unknown about the diversity and/or the current conservation status of most fish, reptiles, amphibians, birds, invertebrates, fungi, and flora
- **Over 80%** of its **original forest cover**
- **Variety of habitat types and ecosystems**:
 - Dry evergreen forest, wet evergreen forest, coniferous forest, montane forest
 - 500 - 1800 m above sea level (a.s.l.) elevation range

Flora

- Plant biodiversity is **exceptionally rich**, comprising notably recent discoveries of new species of orchids and other endemic species of conifers



The Asian Swamp Cypress - *Glyptostrobus pensilis*

- The largest and only known old growth population anywhere in the world and the first population known in Lao PDR
- The entire population of Asian Swamp Cypress known in Lao PDR is within the Nakai Nam Theun National Park: less than 420 trees are documented within the national park

Fauna

- Numerous **Annamite endemic mammal species** found in the Nakai - Nam Theun National Park
- Numerous **Globally Threatened mammal species** of high conservation value at the national and global level
- But many mammal species have already gone extinct in the past three decades

Annamite Endemic mammals in Nakai-Nam Theun:

The Red-shanked Douc - *Pygathrix nemaeus*

- Global population of Red-shanked Douc is located in Lao PDR and in particular in protected areas along the Annamite Mountains, including Nakai - Nam Theun National Park



White-cheeked gibbon(s) - *Nomascus siki* / *Nomascus leucogenys*

- Nakai - Nam Theun National Park a priority site for the global conservation of the species



Large-antlered Muntjac - *Muntiacus vuquangensis*

- Native to Lao PDR, Viet Nam and Cambodia
- The global population occurs at a wide elevation range in the Annamite Mountains and is now scattered in isolated populations
- The largest global population is known to occur in Lao PDR, including in Nakai - Nam Theun National Park



Roosevelts'-group muntjacs) - *Muntiacus cf. Rooseveltorum*

- The population may in Nakai- Nam Theun represents one of the largest globally
- Within the national park, the species is restricted to higher elevations



Annamite striped rabbit - *Nesolagus timminsi*

- In Nakai - Nam Theun the species is restricted to the wet evergreen forest near the Viet Nam international border



Owston's Civet - *Chrotogale owstoni*

- Its geographic range is restricted to Viet Nam, Lao PDR and a small part of southern China
- A large population remains in Nakai - Nam Theun National Park, which therefore is of high global conservation significance



Mammal Species still present

Species	IUCN status (IUCN, 2024)	Recent (2015-2023) evidence of presence
Pangolins		
Sunda Pangolin - <i>Manis javanica</i>	CR	Yes
Squirrels		
Black Giant Squirrel - <i>Ratufa bicolor</i>	NT	Yes
Rabbits		
Annamite Striped Rabbit - <i>Nesolagus timminsi</i>	EN	Yes
Small Carnivores		
Owston's Civet - <i>Chrotogale owstoni</i>	EN	Yes
Greater Hog Badger - <i>Arctonyx collaris</i>	VU	Yes
Binturong - <i>Arctictis binturong</i>	VU	Yes
Eurasian Otter - <i>Lutra lutra</i>	NT	Yes
Asian Small-clawed Otter - <i>Aonyx cinereus</i>	VU	Yes
Ungulates		
Roosevelts'-group muntjac(s) - <i>Muntiacus rooseveltorum</i>	DD	Yes
Large-antlered Muntjac <i>Muntiacus vuquangensis</i>	CR	Yes
Sambar - <i>Rusa unicorn</i>	VU	Yes
Mainland Serow - <i>Capricornis sumatraensis</i>	VU	Yes
Elephant		
Asian Elephant - <i>Elephas maximus</i>	EN	Yes
Bears		
Sun Bear - <i>Helarctos malayanus</i>	VU	Yes
Asiatic Black Bear - <i>Ursus thibetanus</i>	VU	Yes
Cats		
Marbled Cat - <i>Pardofelis marmorata</i>	NT	Yes
Primates		
Assamese Macaque <i>Macaca assamensis</i>	NT	Yes
Stump-tailed Macaque - <i>Macaca arctoides</i>	VU	Yes
Northern Pig-tailed Macaque - <i>Macaca leonina</i>	VU	Yes
Red-shanked Douc - <i>Pygathrix nemaeus</i>	CR	Yes
Hatinh Langur - <i>Trachypithecus hatinhensis</i>	EN	Yes
White-cheeked gibbon(s) - <i>Nomascus siki</i> / <i>N. leucogenys</i>	CR	Yes
Bengal Slow Loris - <i>Nycticebus bengalensis</i>	EN	Yes
Pygmy Slow Loris - <i>Nycticebus pygmaeus</i>	EN	Yes

NO RECENT (2015-2024) RECORDS LIKELY LOCALLY EXTINCT	IUCN status (IUCN, 2024)
Asiatic Golden Cat - <i>Catopuma temminckii</i>	NT
Clouded Leopard - <i>Neofelis nebulosa</i>	VU
Tiger - <i>Panthera tigris</i>	EN
Leopard - <i>Panthera pardus</i>	VU
Dhole - <i>Cuon alpinus</i>	EN
Gaur - <i>Bos gaurus</i>	VU
Saola - <i>Pseudoryx nghetinhensis</i>	CR

Take away message

- Nakai - Nam Theun National Park includes a **high level of biodiversity**, a **variety of ecosystems**, and **unique geophysical and climatic patterns**
- But the region faces an **uncertain future**: under **dramatic and complex environmental and human social threats**: many **large wildlife species** have already **gone locally extinct**
- The national park is **still considered one of the most important protected areas** for its **conservation significance** at the **national and global level**, as well as for its **diversity of human and ethnic minorities**
- **Long-term effective management is key** to conserving this **bio-cultural diversity**