



ສາທາລະນະລັດ ປະຊາທິປະໄຕ ປະຊາຊົນລາວ  
ສັນຕິພາບ ເອກະລາດ ປະຊາທິປະໄຕ ເອກະພາບ ວັດທະນະຖາວອນ

ກະຊວງກະສິກໍາ ແລະ ປ່າໄມ້  
ກົມປ່າໄມ້

ເລກທີ 0337 /ກປມ.

ນະຄອນຫຼວງວຽງຈັນ, ວັນທີ 18 JAN 2021

**ຂໍ້ຕົກລົງ**

ວ່າດ້ວຍການຮັບຮອງ ແລະ ປະກາດໃຊ້ ແຜນຈັດສັນ ອຸທິຍານແຫ່ງຊາດ ນໍ້າແອດ-ຜູເລີຍ  
ໄລຍະ 10 ປີ (2022-2031) ແລະ ແຜນດໍາເນີນງານ 5 ປີ (2022-2026)

- ອີງຕາມ ກົດໝາຍ ວ່າດ້ວຍປ່າໄມ້ ສະບັບປັບປຸງ ສະບັບເລກທີ 64/ສພຊ, ລົງວັນທີ 13 ມິຖຸນາ 2019;
- ອີງຕາມ ກົດໝາຍ ວ່າດ້ວຍ ສັດນໍ້າ ແລະ ສັດປ່າ ສະບັບເລກທີ 07/ສພຊ, ລົງວັນທີ 24 ທັນວາ 2007;
- ອີງຕາມ ດໍາລັດ ນາຍົກລັດຖະມົນຕີ ສະບັບເລກທີ 134/ນຍ, ລົງວັນທີ 13 ພຶດສະພາ 2015;
- ອີງຕາມ ດໍາລັດນາຍົກລັດຖະມົນຕີ ສະບັບເລກທີ 35/ລບ, ລົງວັນທີ 15 ກຸມພາ 2019 ວ່າດ້ວຍ ການສ້າງຕັ້ງ ອຸທິຍານ ແຫ່ງຊາດ ນໍ້າແອດ-ຜູເລີຍ.
- ອີງຕາມ ຂໍ້ຕົກລົງ ຂອງລັດຖະມົນຕີ ກະຊວງກະສິກໍາ ແລະ ປ່າໄມ້, ສະບັບເລກທີ 3822/ກປ, ລົງວັນທີ 18 ສິງຫາ 2017 ວ່າດ້ວຍ ການຈັດຕັ້ງ ແລະ ການເຄື່ອນໄຫວ ຂອງກົມປ່າໄມ້.

**ກົມປ່າໄມ້ ຕົກລົງ:**

- ມາດຕາ 1. ເຫັນດີຮັບຮອງ ແລະ ປະກາດໃຊ້ແຜນຈັດສັນ ອຸທິຍານແຫ່ງຊາດ ນໍ້າແອດ-ຜູເລີຍ ໄລຍະ 10 ປີ (2022-2031) ແລະ ແຜນດໍາເນີນງານ 5 ປີ (2022-2026)
- ມາດຕາ 2. ມອບໃຫ້ພະແນກຄຸ້ມຄອງປ່າສະຫງວນ ເປັນໃຈກາງປະສານສົມທົບ ກັບພາກສ່ວນທີ່ກ່ຽວຂ້ອງ ທັງສູນ ກາງແລະ ທ້ອງຖິ່ນ ໃນການໂຄສະນາເຜີຍແຜ່ ແລະ ຈັດຕັ້ງປະຕິບັດ ແຜນຈັດສັນປ່າສະຫງວນແຫ່ງ ຊາດ ທີ່ກຳນົດໄວ້ໃນມາດຕາ 1 ຂອງຂໍ້ຕົກລົງສະບັບນີ້ ໃຫ້ໄດ້ຮັບຜົນດີ.
- ມາດຕາ 3. ບັນດາກົມ, ກອງ, ສູນ ແລະ ສະຖາບັນ ອ້ອມຂ້າງກະຊວງກະສິກໍາ ແລະ ປ່າໄມ້, ພະແນກກະສິກໍາ ແລະ ປ່າໄມ້ແຂວງ, ນະຄອນຫຼວງ, ຫ້ອງການກະສິກໍາ ແລະ ປ່າໄມ້ເມືອງ ແລະ ພາກສ່ວນທີ່ກ່ຽວຂ້ອງຈິ່ງຮັບ ຮູ້ ແລະ ໃຫ້ຄວາມຮ່ວມມື ໃນການຈັດຕັ້ງປະຕິບັດ ຂໍ້ຕົກລົງສະບັບນີ້ ຢ່າງເຂັ້ມງວດ.
- ມາດຕາ 4. ຂໍ້ຕົກລົງສະບັບນີ້ ມີຜົນສັກສິດ ນັບແຕ່ວັນລົງລາຍເຊັນເປັນຕົ້ນໄປ

ຫົວໜ້າ ກົມປ່າໄມ້  
  
ບຸນປອນ ແສງທອງ

**ປອນນໍາສົ່ງ:**

- |                          |          |
|--------------------------|----------|
| 1. ພະແນກຄຸ້ມຄອງປ່າສະຫງວນ | 01 ສະບັບ |
| 2. ພາກສ່ວນທີ່ກ່ຽວຂ້ອງ    | 01 ສະບັບ |
| 3. ເກັບມ້ຽນ              | 01 ສະບັບ |



Lao People's Democratic Republic  
Peace Independence Democracy Unity Prosperity

Ministry of Agriculture and Forestry  
Department of Forestry

No. **0338** /DOF  
Vientiane Capital, Dated. **18 JAN 2021**

## ENDORSEMENT

### ADOPTION AND OFFICIALLY USED NAM ET PHOU LOUEY NATIONAL PARK MANAGEMENT PLAN FOR NAM ET PHOU LOUEY NATIONAL PARK

- Pursuance to the Forestry Law (Improved Volume) No. 64/NA, dated 13/03/2019;
- Pursuance to the Wild Animals and Aquatic Resources Law No. 07/NA, dated 24/12/2007;
- Pursuance to the Decree on Protected Areas No. 134/PM, dated 13/05/2015;
- Pursuance to the Decree No. 35/PM, dated 15/02/2019 on establish the Nam Et Phou Louey National Park.
- Pursuance to Agreement of Minister of Ministry of Agriculture and Forestry, No. 3822/MAF, dated 18 August 2017 on activities and organization of Department of Forestry.

#### Department of Forestry Agree to:

- Article 1.** Adopt and officially use of the Nam Et Phou Louey Management Plan for 10 years (2022-2031) and Implementation Plant 5 years 2022-2026.
- Article 2.** Assign to Protected Area Management Division as central office to coordinate all of sectors including Central and provincial levels to propagate and implement the Collaborative Management Plan that is referred in article 1 to be successful.
- Article 3.** Concerned Departments, Center and institutes under the Ministry of Agriculture and Forestry, the Provincial Agriculture and Forestry and District levels to have a cooperation to implement the plan based on their roles and responsibilities.
- Article 4.** This agreement is effective from the date of signature.

Deputy Director General  
Department of Forestry



**Bounpone SENGTHONG**

#### Delivered:

- |                                       |        |
|---------------------------------------|--------|
| 1. Protected Area Management Division | 1 item |
| 2. Concern sectors                    | 1 item |
| 3. Keeping                            | 1 item |



Lao People's Democratic Republic  
Peace, Independence, Democracy, Unity, and Prosperity

# Nam Et Phou Louey National Park Collaborative Management Plan

VOLUME I

10-YEAR STRATEGY (2022-2031)

Protected Area Management Division  
Department of Forestry  
Ministry of Agriculture and Forestry

Date 18 January 2021

In 1993 Lao PDR created its first protected areas. In 2019, Lao PDR upgraded the first two of these protected areas to national park. During these 36 years, Lao PDR has come a long way in building commitment, policy, law, experience, and capacity to develop and manage its protected area system.

It is an honor and a privilege to send off the first management plan of first Lao PDR national park, the Nam Et Phou Louey National Park.

The Nam Et Phou Louey is one the gems of the Lao PDR protected area system. The good condition of its wildlife, the development of its community and its emerging tourism are the results of joint efforts and collaboration between the previous government administration and the Wildlife Conservation Society. My ministry is grateful to both.

In conformity with the Lao development planning process, this Management Plan includes a 10-year Strategy and a 5-year Action Plan. It skillfully espouses our country recent policy evolutions. It promotes green socio-economic development, as planned in the national green growth strategy. It supports biodiversity conservation, as committed to in the National Biodiversity Strategy and Action Plan. It is consistent with the 2019 aspiration of the Lao nation for land use and for forest adopted by the National Assembly in the Land Use Master Plan, the Land Law, and the Forestry Law.

Lao PDR has adopted an approach for the management of protected areas that is anchored in global best practice while remaining unique and specific to the Lao development principles and culture. The basic principle is collaborative management. It implies that the planning of each protected areas is integrated in district and provincial development plans. It also implies that the leadership and responsibility for its development and conservation is shared by the park management team with the village, district, and provincial administrations.

Another important principle is that Lao PDR protected area land is divided in three zones of decreasing protection status and increasing community ownership. The totally protected zone, or TPZ, is similar to most other protected areas of the world. It affords full legal protection to the ecosystem. Innovative to Lao are the other two zones. Their land and natural resources are allocated to the management of the communities under the supervision of the protected areas management team. This delegation of management is acted when a village becomes a Guardian Village by signing a Guardian Village Conservation Agreement.

I command the design of this management plan and especially how it was conceived in collaboration with districts and provinces administrations. I appreciate that its Action Plan sets realistic targets achievable with the funding that my Ministry and its partners are leveraging. With this Management Plan, the Nam Et Phou Louey is the first Lao protected areas to fully implement the new protected areas decree. As step one, I will therefore issue the first decision required under this Management Plan which is to establish the first National Park Management Office and its Steering Committee. The national park office and the steering committee will lead the implementation of the management plan.

I have no doubt that the management team, partners, and staff who will be called to duty in the Nam Et Phou Louey will do in the strong spirit of the people of Lao PDR with dedication and ethic while ensuring fairness, sharing benefits and strictly implementing the law. As a start, the management team is invited to initiate discussions in all the 91 villages toward completion of the proposed zoning and signing Guardian Village agreements that are conform to this Management Plan.

I wish you good health and good luck in the implementation of the Nam Et Phou Louey Management Plan.

H.E. Dr. Phet Phomphiphak  
Minister, Ministry of Agriculture and Forestry

## List of abbreviations

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BFZ	Buffer Zone
CUZ T1	Controlled Use Zone of Type 1 Conservation and Tourism
CUZ T2	Controlled Use Zone of Type 2 Resources Use
DAFO	District Agriculture and Forestry Office
DOF	Department of Forestry
EPF	Environment Protection Funds
GoL	Government of Laos
GVCA	Guardian Village Conservation Agreement
GVCO	Guardian Village Conservation Office
IUCN	International Union for Nature
MAF	Ministry of Agriculture and Forestry
METT	Management Effectiveness Tracking Tool
MONRE	Ministry of Natural Resources and Environment
MoU	Memorandum of Understanding
NEPL	Nam Et Phou Louey
NPA	National Protected Areas
NPSC	National Park Steering Committee
NPMO	National Park Management Office
NTFP	Non-Timber Forest Product
PAFO	Provincial Office of Agriculture and Forestry
PAMU	Protected Area Management Unit
PICT	Provincial office of Information Communication and Tourism
REDD	Reducing Emission from Deforestation and Forest Degradation
TPZ	Totally Protected Zone
UNESCO	United Nations Educational, Scientific and Cultural Organization
VFMP	Village Forest Management Plan
WCS	Wildlife Conservation Society

## Acknowledgements

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I am grateful to the leaders and staff of the Nam Et Phou Louey National Park Management Unit, Department of Forestry, Protected Area Management Division and Wildlife Conservation Society for their leadership, patience, dedication, and support all of which is much recognized and appreciated. Many thanks to all of you for facilitating my work, sharing information, handling the logistic and accepting to think outside the box.

I extend very special gratitude to Mr. Phonesuck Inthavong, a government volunteer, who worked hard and long hours to obtain district data, to record our workshops patiently and in good humor as well as to organize all district and provincial consultations. I wish him to reach his goal for a career in the protected area network of Laos.

A special mention to the NEPL leaders, the Director Mr. Bounpheng Phoomsavath, and his two deputy directors, MM. Houmpheng Kanthaly, and Vilakone Phengduang for showing a constructive spirit, ensuring that all issues raised were attended to and for chairing all the workshops, provincial and district meetings as well as gracefully accepting the frustration of working with someone who does not speak their language.

At the Wildlife Conservation Society, the leadership of Ben Swanepoel was exemplary as well as the support of his own leaders Santi Sanpaya and Manoly Sisavanh. Much gratitude is directed to Khamkeo Sysaiyakhom, Janina Bikova, Jay White, Sivilay Duangdala and other WCS staff in Hiem for their tireless advice, information, and friendship. Aphone Viengkhamjak, grand mapmaker, deserves special praise for her professionalism in responding to my requests and producing wonderful maps.

Finally, I am grateful to my two coordinators, Mr. Outhai Vongsa and Dr. Teuanchay Phongkhamphanh, and their director Mr. Bounpone Phuthaamath who handled with efficiency the essential technical and administrative dimensions of such an assignment and the technical quality enhancement in Vientiane.

To all, it is my personal hope that you have enjoyed contributing to this assignment, and more so, that this Management Plan is sufficiently yours that you will make it a point not to shelf it but to implement it.

Jean-Michel Pavy, Consultant.

1. The Nam Et Phou Louey National Park (NEPL NP) was designated by Prime Minister Decree 35 of February 15, 2019 under the 2007 Forestry Law and subordinate Decree 134/PM of 13 May 2015. It is one of the two first national parks in Lao PDR<sup>1</sup>. According to its designation decree, it was created *“to manage and protect the environment, forest, forest resources, aquatic and wildlife species and watershed; to conserve the natural beauty, historical artifacts, culture for recreational use, tourism and scientific research to contributing to the improvement of livelihoods of the peoples and the socio-economic development through green and sustainable growth.”*

2. The area is characterized by mixed evergreen and deciduous forest with patches of grasslands, ranging from 400 to 2,257 meters in elevation. It is considered the northern extension of the Annamites range and a transition to the Northern Highlands of Laos. It includes Montane Forest and Mixed Deciduous Dry Forests. The NEPL National Park is a critical area for species of conservation concern especially its carnivores or primates such as the white checked gibbon, the clouded leopard, and the dhole.



3. The National Park provides direct ecosystem services to over 44,500 people inhabiting 91 guardian villages as well as to another 39 villages who do not share land but use park resources. To these communities, the park provides land for agriculture, delivers water for irrigation and drinking, wild food, and pharmacopeia. The increasing park-based economy provides some employment and source of income to residents.

4. The National Park straddles three north-Lao provinces and ten districts. The Houaphanh Province with 78.3% of the National Park area contributes the most land. Second is Luang Prabang with 19.3%, and Xiengkhouang with 2.4%. Within these 3 provinces, the National Park overlaps 10 districts.

5. The NEPL National Park require redesignation because of (a) the difference in hectares between the decree text (411,000 ha) and the decree map (507,000 ha) and (b) the

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<sup>1</sup> The other is Nakai Nam Theun National Park

Protected Area decree instruction to review Lao protected areas boundaries to resolve land use conflict, set detailed coordinate and apply for land registration.

6. The Management Plan is meant to guide the implementation of the 2030 National Forestry Strategy in the national park. It serves several purposes: (a) it is a unique repository of current knowledge and references of the national park, (b) it defines the zones of the National Park and the regulation on prohibited activities and uses in each zone, and guides resource protection, (c) it sets the 10-year vision, 5-year strategic objective and an implementation path that will guide investments and operations in two phases, each of 5 years.

7. The Management Plan is built with two Volumes: Volume I, the 10-year Strategy, Volume II, the first 5-year Action Plan. The Strategy consolidates strategic information in a single document and define a 10-year vision, a zoning plan, a set of regulations and a blueprint of that vision. The Action Plan defines the scope of work for a period of five years. It is designed to continue and scale up the current efforts while capitalizing on opportunities offered by the new protected area legislation.

8. The development of NEPL started in 2003 with the Wildlife Conservation Society (WCS) beginning collaboration with the Ministry of Agriculture and Forestry (MAF). In 2006, the first Totally Protected Zone (TPZ) was established. In 2007 the first ranger substation was built, and outreach and livelihood support programs started. In 2011, the first tourism product – the Nam Nern Night Safari – was launched. By 2014 the WCS has established a full headquarter in Muang Hiem (Muang Viengthong at the time) including a tourism visitor center.

9. In 2020, the NEPL National Park is managed by a Protected Area Management Unit (PAMU) which operates from a headquarters in Muang Hiem in Houaphanh province. The PAMU is led by staff appointed from the Provincial Offices of Agriculture and Forestry (PAFO) of the three provinces. PAMU works collaboratively with the District Office of Agriculture and Environment (DAFO). Advising is provided by a tri-province Steering Committee. Altogether the number of full-time employees, including employees funded by WCS, is greater than 60, the most it has ever been since its designation in 1993.

10. WCS provides technical assistance to the NEPL PAMU. In 2021, it is expected that WCS and Government of Lao PDR (GoL) will sign a new MoU which will cover the period of the first 5-year Action Plan.

11. An analysis of the context shows an encouraging pattern of decreasing or slowing down negative's factors and of increasing positives factors.

12. Among the negative factors that are reducing are:

- Population growth: Half of country average. Continues to decrease. Population to stabilize within 30 years at less than 60,000 people.
- Deforestation: Almost stopped in the TPZ. At 1.35% in the CUZ but decreasing. The decreasing deforestation rate offers the opportunity to benefit from carbon emission reduction payment.
- Poverty and income: In 2015 poverty was higher than the national average but reducing faster. Communities are responding fast to market opportunities as shown by maize and cattle boom and would respond well to conservation-compatible trade if competitive.

- Concession threats: There is no significant dam, powerline or mine planned in the park at this time.
  - Road/infrastructure threats: The “damaging” roads are built. The planned road through north-west TPZ is cancelled.
13. Among the positive factors which trend has been to increase or improve are:
- Management capacity: The park leadership, staff, infrastructure, equipment have significantly increased.
  - Land organization: About 75% villages have a LUP and the new forestry legislation allows the reduction of land-use conflict.
  - Tourism : It is gradually increasing within a niche market which itself is increasing and new market opportunities are coming with Samnuah airport.
  - Literacy: Boys are on par with national average. Girls are lagging 10% below but this is reducing. Children are ready to learn the transition to ecological civilization.
  - Access: Airport in Samnuah and improved roads to Samnuah.
  - Financing: Several donors are lined up. A conference is needed to tie it together.
  - Awareness: The national, provincial and district government and some community members are gradually increasing their awareness of the benefit of nature.
  - Policy and laws: the new forestry law and protected area decree are modern legislation which are conducive to a significant improvement in protected areas management effectiveness.
  - Knowledge: 20 years of involvement has produced a wealth of knowledge which the park can harness to for efficient and effective decision.
14. This context and the encouraging trends set the stage for the national park 10-year vision.
15. Vision Statement: *The NEPL --- a model National Park sustainably administered by an organized, skilled and gender-balanced staff working in partnership with other organizations, administrations and all guardian villages of the landscape --- a supportive guardian villages population aware and convinced of the interest of the park and receiving equitable benefits from sustainable tourism and other income streams generated by the park – a growing contribution to the country socio economic and cultural development and to its international image --- a more secured globally significant biodiversity, a reestablished forest cover in well-connected TPZ and CUZ with wildlife steady recovering in all the TPZ and part of the CUZ --- a largely disappeared challenge from incompatible land use concessions and infrastructure.*
16. In spite for the positive context, achieving the 10-year vision faces some formidable challenges. The Table below summarized the most critical of these challenges.

challenge	Risk and trend in 2020
<i>Low financing.</i> A critically low level of Government budget allocation. A full dependency on the support from international organization and projects.	<i>High and decreasing risk.</i> PA decree offers a process to increase the sustainable financing of protected areas from sources others than the national budget or overseas development assistance.
<i>Law enforcement.</i> The law enforcement has been inappropriate resulting is ineffective prosecution of wildlife	<i>High and slowly decreasing risk.</i> With protected area decree, the National Park Management Office (NPMO) may appoint

crime and absence of addressing encroachment from agriculture, livestock, concessions, etc.	rangers as investigation officer and set up an investigation committee.
<i>Modest tourism base and potential.</i> The remote location of the Park and difficult access are major challenges. The degradation of its ecological integrity keeps tourism potential low.	<i>High and slowly decreasing risk.</i> While the difficulty of access and the complexity of doing business environment are decreasing, it will require time to grow tourism to the level required for substantial economic impact.
<i>Harvesting wildlife, fish and NTFPs</i> <i>Illegal and unsustainable harvesting of wildlife, aquatic species and NTFPs in the TPZ and the CUZ.</i>	<i>High risk and unknown trend.</i> <i>Poaching is most severe of the challenges. The park biodiversity value lies with its endangered species. If the clouded leopard and white checked gibbon go extinct, the rationale for NEPL being a National Park is questionable.</i>
<i>Cattle encroachment.</i> <i>The illegal expansion of livestock, and associated land use practices, in the TPZ. . Livestock and livestock management affects biodiversity through clearing of forest, gradual settlement, fire practices and other human induced activities.</i>	<i>High and increasing risk.</i> <i>Large areas of the TPZ are encroached by cattle and fences. Addressing this requires the support of the provincial and district administration, with better organization of land for cattle, improvement of the livestock value chain and strict law enforcement.</i>
<i>Encroachment by upland agriculture.</i> <i>The expansion of shifting cultivation land uses in the TPZ and CUZ.</i>	<i>High and increasing risk.</i> <i>On average, the CUZ loses about 850 hectares of forest per year to agriculture, mostly shifting cultivation. With re-zoning, the 173,000 ha CUZ is reduced by 72% to 48,000 ha. The remaining 125,000 have become buffer zone available for settlement and agriculture. This is an opportunity for communities to become more secure where they farm and for the CUZ to become managed without agriculture. Boundary marking is essential to avoid new conflicts.</i>

17. To address the challenges that are obstacles to the vision, the foundations that will guide the implementation of the management plan are :

- Legislation: The Management Plan implements the new Forestry Law and new Protected area decree and offers new regulation in annex.
- Governance and management. The status of the PAMU is elevated to become a Protected Areas Management Office (PAMO) with a higher legal empowerment and a more adapted organizational structure, advised locally by the district and provinces, supported by a network of guardian villages, and working collaboratively with sectors in the districts.
- Land allocation. The park zones are modified to increase land security for both the state forestland (and biodiversity) and for the guardian villagers.
- Programs. Four practical programs are designed to guide implementation and focus on the vision. Each program has specific objectives, strategic principles, indicators, budget, and human resources that are defined in Volume II.
- Orientations. To achieve the vision, the NPMO management team needs principles and orientations. This is translated by principled orientations set in in Volume II.

18. This Volume I (the Strategy) does not cover implementation. It is Volume II (the Action Plan) that describes implementation including the programs and their orientations.

19. The blueprint or desired situation in 2031, after implementation of the 2 five-year Action Plans is described below. It establishes first the context in which the national park operates, followed by (a) its administration, (b) its tourism business, (c) its engagement with community and (d) its management of biodiversity.

<b>Enabling Context for The National Park – Desired Situation In 2031</b>	
	A new zoning map has been approved by all guardian villages and district administrations and is consistent with the GV LUPs and meets the national policy criteria of the national land allocation master plan and the forestry strategy.
	A new Prime Minister designation decree has been issued to revise the National Park boundaries to include only areas managed as natural ecosystem either TPZ or CUZ without reducing the designated area to less than 411,000 hectare and after broad consultation with all relevant parties.
	The NEPL National Park land is registered with the national cadaster, owners of stable paddy or orchards in CUZ type 2 have received a land use certificates and concrete markers have been installed on relevant location of the National Park boundaries.
	The NPMO or the designated authority have applied to UNESCO <sup>2</sup> for NEPL National Park landscape to become Man and Biosphere reserve and to IUCN to be issued a certification as Green List.

<b>National Park Administration – Desired Situation In 2031</b>	
	The National Park Headquarter in Hiem has been entirely upgraded, with all buildings to similarly attractive architecture standards, with functional reception, office, and meeting space as well as with paved access and suitable signage all in an attractive, clean, and well-maintained ground that project a positive image to the national park.
	The Xone Corridor Platform is built and operational. It includes: (a) a Law Enforcement Hub with office, command room, dormitory and training ground; (b) an Environment Education School with an office, classrooms, and dormitories; (c) a Research Station with an office, a small laboratory, and dormitories, (d) a tourism campground with ablution blocks and trail.

<b>Tourism Business Development – Desired Situation In 2031</b>	
	All standards, labels, and procedures for tourism business development and investment in the NEPL National Park landscape including concessions, licenses, permits, etc. have been developed and tested and so the NEPL National Park is ready to begin attracting green Chinese (or other Asian) investors and broadening its market from mainly European client to Asian clients.
	The Samnuah-NEPL Tourism Route (possibly named Northern Heritage Route) is established, promoted by the NPMO and by the Houaphanh PICT <sup>3</sup> , with a social and environmental brand and logo which starts to be recognized and attract new business members starting at Samnuah airport, along the road and used for marketing by tour operators.
	At least 6 of the 8 tourism products below are fully operational or being developed, most with community and private sector joint ownership, all associated with positive social and conservation outcomes.

<sup>2</sup> UNESCO United Nations Educational, Scientific and Cultural Organization and IUCN International Union for Nature

<sup>3</sup> PICT Provincial office of Information, Communication and Tourism

### Community Engagement – Desired Situation In 2031

	91 Guardian Villages have completed a Land Use Plan (LUP), signed a Guardian Village Conservation Agreement (GVCA), created a Guardian Village Conservation Office (GVCO) and adopted a Village Forest Management Plan (VFMP)
	The forest and natural habitat in two third of the CUZ-land is effectively managed by GVCOs, supported by the NPMO, and who are increasingly using revenues from permits and payments from conservation performance or carbon emission reduction.
	NEPL clubs exist and are functional in more than half of the primary schools with trained teachers and a gender balanced membership of pupils.
	All cattle farmers have removed cattle from the TPZ and are benefiting from schemes toward more efficient such as extensive free ranging in CUZ or intensive herding in fences area in the Buffer Zone (BFZ).
	Most of the 91 guardian villages have organized members' groups (e.g., cooperative, SMMEs) involved in conservation-compatible trades such as sustainable agriculture (e.g., coffee, tea, cardamon), or sustainable NTFP harvesting (e.g., red mushroom, bamboo) or sustainable tourism.

### Wildlife and Habitat Protection and Monitoring – Desired Situation in 2031

	The Field Operation Section staff and partners staff are effectively patrolling 90% of the TPZ and part of the Controlled Use Zone (CUZ), detect and reduce poaching and agriculture or cattle encroachment, investigate various protected area crime and successfully monitor prosecution.
	Every year, 100% of the TPZ and 50% CUZ boundary signage and trail are properly maintained by GVCOs, and are monitored, verified by the patrol teams and timely payments are issued to all concerned GVCOs by the NPMO.
	A status report of the endangered and vulnerable wildlife in NEPL has been published 3 times over the Management Plan period (2021, 2026 and 2031) based on SMART <sup>4</sup> , camera-trap and dedicated survey data review and complementary field work.

20. At the end of 2031, provided that the two consecutive 5-year Action Plans have been executed, the National Park 10-year vision should be fulfilled with the following impact.

The Management Plan impacts in the years ...	2026	2031
The score of the park Management Effectiveness would have increased from a baseline of 52 to ...	58	68
The percentage of external projects in the park landscape – such as roads, dams, mines -- that are compliant with environment and social impact decree and protected area decree would have increased to ...	40	80
The number of guardian villages with financial flow from the park operation greater than 30 million kips per year would have increased from a baseline of 0 to ...	30	60

<sup>4</sup> SMART Spatial Monitoring Reporting Tool

The number of households with a member whose job exist due to the operation of the park would have increased from a baseline of 318 to ...	<b>440</b>	<b>1,500</b>
The percentage increase in sediment load in five of the rivers originating in the national park would be ...	<b>0</b>	<b>0</b>
The million tons of annual CO2 emission reduced compared to the average peak deforestation of 2007-13 of 0.18 to ...	<b>0.2</b>	<b>0.4</b>
The trends of population and range of felines/canines, bears, ungulates, and primates would be known and ...	<b>+</b>	<b>+</b>
The number of species with confirmed presence in NEPL among the current list of 31 endangered wildlife species would have increased from 14 to ...	<b>20</b>	<b>30</b>
The number of visitors paying entry fees in the park would have increased from a baseline of 500 to ...	<b>800</b>	<b>1,600</b>
The amount of revenue collected by the park and used to finance its activities would have increased from a baseline of 0 million kips to ...	<b>500</b>	<b>1,000</b>

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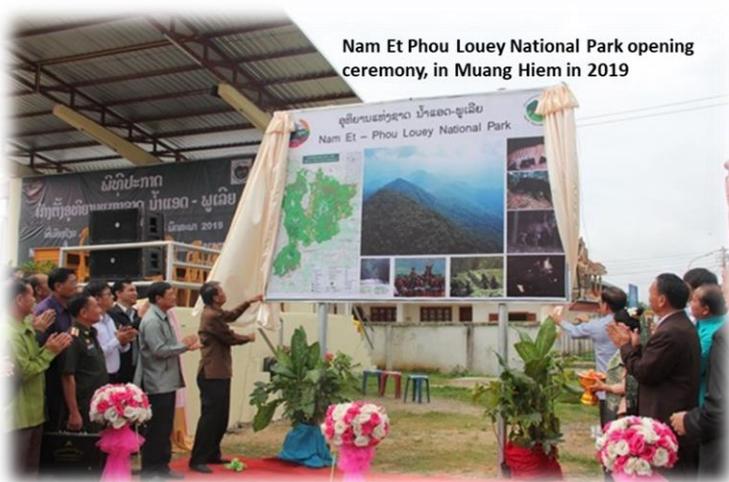
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# CHAPTER 1 – THE NAM ET PHOU LOUEY NATIONAL PARK

## SECTION 1.1: DESIGNATION OF THE NATIONAL PARK

21. The Nam Et Phou Louey National Park (NEPL NP) was designated by Prime Minister Decree 35 of February 15, 2019 under the 2007 Forestry Law and subordinate Decree 134/PM of 13 May 2015.



22. The 2019 designation joined and expanded two contiguous National Protected Areas (NPA) which had been created in 1993. The Nam Et NPA (170,000 ha) and Phou Louey NPA (150,000) - altogether 320,000 hectares –had been established by Prime Minister Decree 164 of October 29, 1993 along 16 other National Protected Areas<sup>5</sup>. This decree had been the first attempt by Lao PDR to set areas aside for conservation.

23. In 2016, the Phou Louey NPA was expanded by Prime Minister Decree 141 of August 31, 2016 to include a biodiversity and wildlife rich area to the north west of about 80,000 hectares.

24. The Nam Et Phou Louey National Park is one of the two first National Park in Lao PDR<sup>6</sup>. According to its designation decree, it was created “to manage and protect the environment, forest, forest resources, aquatic and wildlife species and watershed; to conserve the natural beauty, historical artifacts, culture for recreational use, tourism and scientific research to contributing to the improvement of livelihoods of the peoples and the socio-economic development through green and sustainable growth.”

25. The designation is consistent with the “distinguishing features” that the International Union for Nature (IUCN) attributes to an area selected to become a National Park which are: (1) typically large and conserve a functioning “ecosystem”, (2) contain representative examples of major natural regions, and biological and environmental features or scenery, where native plant and animal species, habitats and geodiversity sites are of special spiritual, scientific, educational, and recreational or tourist significance; (3) of sufficient size and ecological quality so as to maintain ecological functions and processes that will allow the native species and communities to persist for the long term with minimal management intervention and (4) of biodiversity composition, structure and function largely

<sup>5</sup> At the time, the accepted translation of ປ່າສະຫງວນ was Forest Reserve. The national forest reserves became known as National Biodiversity Conservation Areas (NBCAs). Then, the translation evolved to National Protected Areas or National Conservation Forests. In 2020, the official English translation of ປ່າສະຫງວນ is “protected area”.

<sup>6</sup> The other is Nakai Nam Theun National Park

in a “natural” state or have the potential to be restored to such a state, with relatively low risk of successful invasions by non-native species.

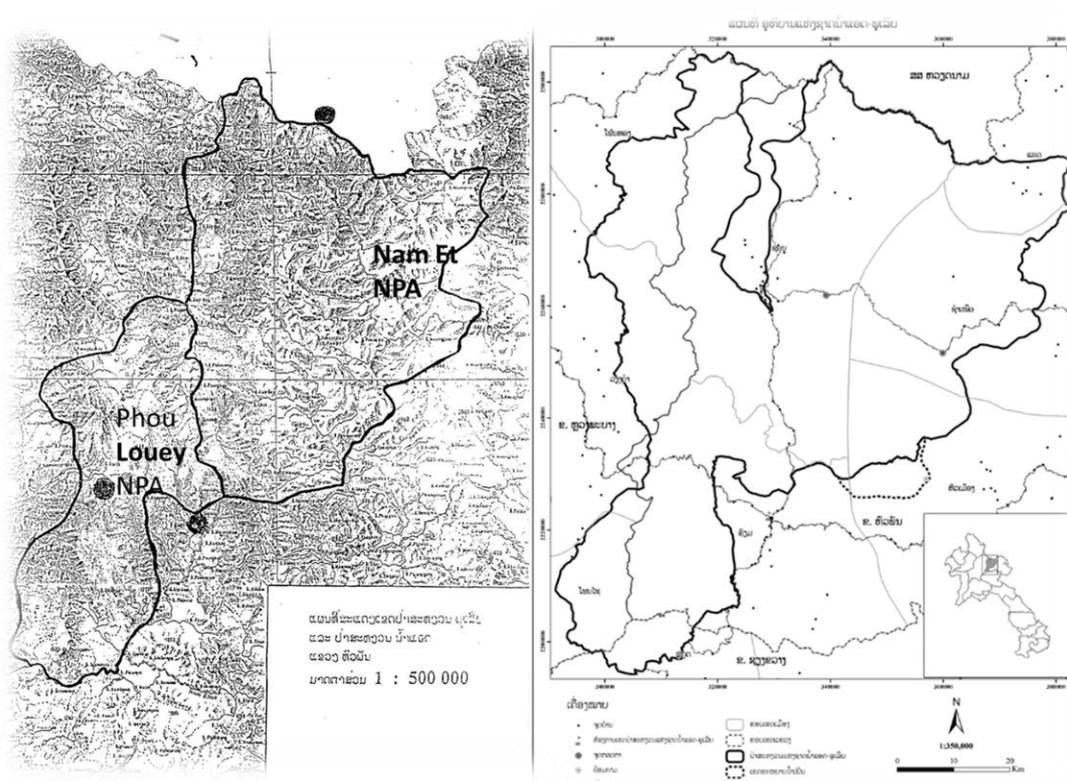


Figure 1. (left) NE and PL National Forest Reserves, 1993 (right) NEPL National Park, 2019

26. The NEPL 2019 designation as National Park preceded comprehensive national legislation on national parks. This has changed with the adoption on 13 December 2019 of the Forestry Law 64 and the subsequent adoption on **\_\_\_\_\_ 2021 of the Decree \_\_/PM** on Protected Areas. This Management Plan follows the prescriptions of the new decree.

27. The NEPL National Park boundary requires revision. This is necessary given (a) the difference in hectares between the decree text (411,000 ha) and the decree map (507,000 ha) and (b) the Protected Area Decree instruction to review protected areas boundaries to resolve any land use conflict, set detailed coordinate and apply for land registration.

## SECTION 1.2: JUSTIFICATION FOR A NATIONAL PARK

28. This section describes the landscape biological, physical and cultural attributes that justified in 1993 its establishment as a NPA and in 2019 as a National Park. Some of this justification is made in relation to the other protected areas within the country, or even the regional or international levels.

### 1.2.1. JUSTIFICATION FOR PROTECTED AREA DESIGNATION IN 1993

29. In 1993, the NEPL landscape ranked high in the Lao NPA system for contributing the highest biological diversity of Northern Highlands protected area and for supporting small carnivore taxa of conservation concern (Johnson, 2009). A total of 17 globally threatened bird species and 20 mammal species had been recorded, making the site of critical importance for biodiversity conservation (Johnson, 2009). Phou Louey mountain had been identified as especially important as it contains a

distinctive montane bird community with ten species that were known from only one or two other localities in Lao PDR.

Indochinese tiger and Indochinese leopard. Source WCS



30. The justification for designating the NEPL in 1993, quoted from the designation decree, was “to sustainably preserve (a) the forests' natural wealth, animal species, water, source, (b) the natural wealth and protect the natural environment's balance and dynamics; (c) the beautiful natural sceneries, for recreation, tourism, education, culture and scientific research purposes.”

31. In 1993, the Nam Et NPA (170,000 ha) and Phou Louey NPA (150,000) -- 320,000 hectares -- were, together, Laos' second largest, and most biodiverse, block of protected area. The area was characterized by mixed evergreen and deciduous forest with patches of Montane Forest, Mixed Deciduous Dry Forests, and grasslands. It was considered the northern extension of the Annamites range and a transition to the Northern Highlands of Laos.

32. At the time of designation in 1993, NEPL represented the last viable habitat for tigers (*Panthera tigris*) in Indochina and supported populations of at least 17 other species of conservation concern, including the critically endangered Northern White-Cheeked Gibbon (*Nomascus leucogenys*), Sunda Pangolin (*Manis javanica*) and Chinese Pangolin (*Manis pentadactyla*).

33. The Nam Et NPA and the Phou Louey NPA have been referred to jointly as Nam Et - Phou Louey (NEPL NPA) since the late 2000's.

34. In 2001, confirming the 1993 rationale for NPA designation, the national review of the national protected areas system ranked NEPL NPA as the third highest priority for conservation in Laos PDR after Nakai Nam Theun and Xe Pian NPAs (Robichaud).

### 1.2.2. JUSTIFICATION FOR NATIONAL PARK DESIGNATION IN 2019

35. In 2019, the designation is consistent with the general trend in Lao PDR toward the greener form of socioeconomic growth planned in the 8<sup>th</sup> socio economic development plan for 2016-20, the 2<sup>nd</sup> National Biodiversity Strategy and Action Plan 2016-25, the Green Growth Strategy to 2030 and the National Land Allocation Master Plan adopted in 2019. These national policy documents all support the strengthening of the Lao protected area system referring to national parks as being its central piece.

36. In its 2019 version, the NEPL National Park has been expanded to cover 507,000 hectares of dry evergreen and deciduous forest. The NEPL National Park continues to serve the purpose intended in 1993 although some species such as the tiger and Indochinese leopard (*Panthera pardus delacouri*)

may have become locally extinct. Even though the NEPL has received much support, there has been little fundamental research on its biophysical feature and biodiversity other than carnivores.



37. In 2020, the most compelling argument justifying the NEPL National Park remains that the list of species with conservation concern grew to more than 33, at least three of which are globally critically endangered (a primate and two pangolins). It also hosts about 26 carnivore species, some of which are globally threatened such as the clouded leopard (*Neofelis nebulosa*) and the dhole (*Cuon alpinus*). These, as well as other cat species, may remain the last significant and viable populations in Lao PDR.

38. Most compelling in 2020 is the national park's provision of direct ecosystem services to about 44,500<sup>7</sup> people inhabiting 91 guardian villages, referring to those who share land or are contiguous to the national park<sup>8</sup>. To these communities, the park provides land for agriculture, delivers water for irrigation and drinking, wild food and pharmacopeia. The increasing park-based economy provides some employment and source of income to residents. NEPL and the upper watersheds of at least five major rivers – Nam Khan, Nam Nern, Nam Et, Nam Xeng and Nam Suam -- provide water to lowland farms and settlements both in Laos and Vietnam.

### SECTION 1.3: RATIONALE FOR A NATIONAL PARK MANAGEMENT PLAN

39. Despite being one of the protected areas which has received the most management support and financing, the NEPL NPA did not have a Management Plan.

40. Between its designation in 1993 and 2012, all conservation and development activities in NE and PL NPAs have been guided by project-based plans. The first plan, in 1997 was prepared with the assistance of the IUCN. Subsequent support, from 2003 forward, was mobilized by the Wildlife Conservation Society (WCS). In 2018, working with representative of the national and provincial government departments, WCS consolidated projects plans into a single proposal to the Environment Protection Fund (EPF). This was the first attempt to develop a comprehensive plan toward a single objective and with a unique set of indicators.

41. Given the dimension of the NEPL and the complexity of the context and challenges, there are substantial efficiency gain in setting a consensual vision and objective and in having activities guided by a Management Plan. To this effect, the Department of Forestry (DOF) had included in its 2018 proposal to EPF the design of the first NEPL Management Plan<sup>9</sup>. In 2021, the Protected Area Decree **XX/PM** makes the design of a Management Plan mandatory.

<sup>7</sup> The 2108 count was about 43,800. Increasing at 0.75%/year, it is estimated around 44,500 in 2020.

<sup>8</sup> While the guardian villages - sharing land or boundary with the park - amount to 93 villages, there are in fact a total of 114 villages that are near the NEPL National Park and may access its resources.

<sup>9</sup> This proposal was for the World Bank funded 2<sup>nd</sup> Lao Environment and Social or LENS2

### 1.3.1. THE PURPOSE OF THE MANAGEMENT PLAN

42. The Management Plan is meant to guide the implementation of the 2030 National Forestry Strategy in the national park. It serves several purposes: (a) it serves as a unique repository of current knowledge and references of the national park, (b) it defines the zones of the National Park and the regulation on prohibited activities and uses in each zone, and guides resource protection, (c) it sets the 10-year vision, 5-year strategic objective and an implementation path that will guide investments and operations in two phases, each of 5 years.

43. Being legally enforceable after the Minister, Ministry of Agriculture and Forestry (MAF) approval, the Management Plan gives a consistent and unique legal framework and references to the applicable legislation.

44. The Management Plan is built with two Volumes: Volume I, the 10-year Strategy, Volume II, the first 5-year Action Plan. A second 5-year Action Plan will be designed in year 4 of the first plan.

- The Strategy consolidates strategic information in a single document and define a 10-year vision, a zoning plan, a set of regulations and a blueprint of that vision.
- The Action Plan defines the scope of work for the first phase of the Strategy, a period of five years. This Action Plan is designed to continue and scale up the current efforts while offering enhancing measure based on opportunities offered by the new protected area legislation.

### 1.3.2. THE MANAGEMENT PLANNING AREA

45. The geographical scope of the Management Plan is the so-called Nam Et Phou Louey National Park landscape. The Protected Area Decree indicates that a protected area landscape (or planning area) is the outer boundary of all villages that are overlapping or are contiguous to a protected area. In the case of the NEPL, this area includes the 91 *guardian villages*<sup>10</sup> and is more than 750,000 hectares (see the map of the NEPL landscape in figure 3 below).

### 1.3.3. THE PLANNING PROCESS

46. This Management Plan was designed during 2020. The task was entrusted to a consultant who worked with the teams from the Protected Areas Management Unit (PAMU) and WCS. A series of missions were organized.

47. Mission 1, the inception work, was to review bibliography, obtain familiarity with the setting and the team and share field experience with field teams. Mission 2 was the opportunity for a week-long “theory of change” workshop with all management staff to define the vision, objective, indicator, programs, organization, and zones of the national park. Mission 3 enabled to finetune the findings, carry out additional consultation and field-test the zoning validation as well as draft the Management Plan. Mission 4, or validation mission, enabled a validation workshop in the consultations in all provinces and districts. The process of validation and finalization continued in Vientiane with the Department of Forest and WCS.

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<sup>10</sup> A Guardian Village, as defined in the protected area Decree No.###/PM, refers to a village whose land overlaps or is adjacent to a protected area and that has signed a guardian village conservation agreement with a protected area management authority.

**SECTION 1.4: SETTING AND HISTORY OF THE NATIONAL PARK**

48. Located in the north-east of Lao PDR, the NEPL National Park straddles three provinces and ten districts. The Houaphanh Province with 78.3% of the National Park area contributes the most land to the park. Second is Luang Prabang with 19.3%, and Xiengkhouang with 2.4%<sup>11</sup>.

49. Within these 3 provinces, the National Park overlaps 10 districts. The 5 districts that provide most land to the parks are all in Houaphanh province as the figure 2 below illustrate with a strong dominance by the Xone District. More than 70% of Xone District is part of the national park.

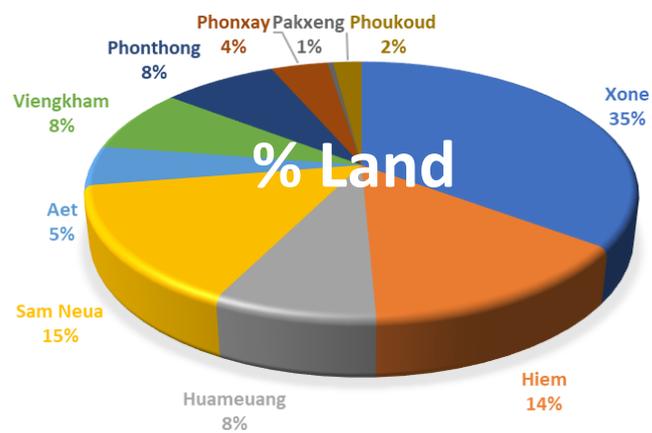


Figure 2. Land Division of the NEPL National Park area between its 10 Districts

50. The map in figure 3 below shows that the NEPL National Park belongs to a substantial network of other state forests and protected areas which altogether contributes to the national and provincial goals of being 70% forested.

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<sup>11</sup> The proportion of province areas in the designation decree text is 78.2% Houaphanh, 19.2% Luang Prabang and 2.5% Xieng Kuang provinces.



services in larger communities. Some villagers still claim traditional use rights to these areas and occasionally install *sanaam* deep in the TPZ.

54. Following extensive research and a selection process started in 1988 (see Berkmuller, 1995a), in 1993, the NEPL NPA is established but there is no active management. In 1997, some villages such as the Houey Dtern village, move to their present-day location, near the road. Between, 1998-1999 there is gradual development in the area with for example, the beginning of bus service and the opening of the airport in Samnuah, the Houaphanh provincial capital.

55. The interest of the IUCN began in 1998 with the decision to design an Integrated Conservation and Development Project with funding from Denmark. Between, 2000 and 2003, IUCN implemented an integrated conservation and development project which were the first effort to establish management in the NPA, surveying wildlife and initiating livelihoods activities.

56. A summary timeline of the relevant events and milestone in NEPL is provided in figure 4 below.

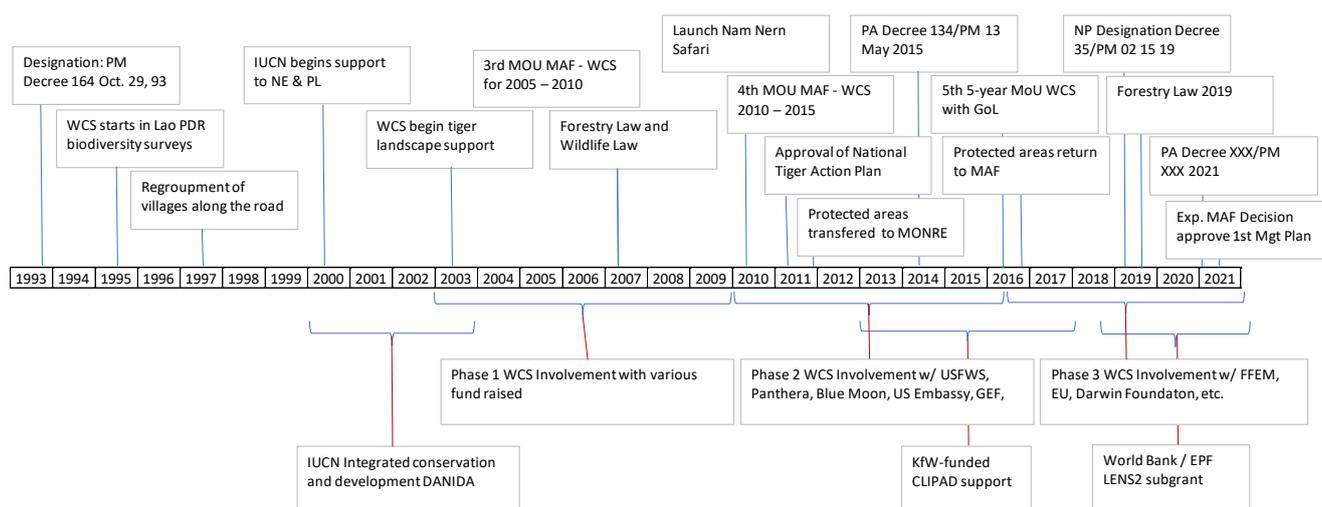


Figure 4. Timeline of milestones and events relevant to the NEPL National Park

57. In 2003, with the increased attention of the worldwide threat to big cats, especially tiger, WCS begins its involvement hoping to secure the survival of the last significant tiger and Indochinese leopard populations of Laos as well as of other endangered species. Since 1993, through a Memorandum of Understanding (MoU), which is renewed on a 5-year basis, WCS has been the principal partner to the GoL in NEPL. During the period from 2003 to 2019, WCS mobilized funding from various sources<sup>12</sup> totaling well above \$2 million and maintained a solid level of technical and financial support to the NEPL. Until an EPF grant in 2018 to the GoL implemented by the Department of Forestry, WCS had been single handedly supporting financially and technically the GoL effort toward the development and conservation of the NEPL landscape.

58. The first camera traps were installed in 2005. In 2006, the TPZ was established. In 2007 the first ranger substation was built, and outreach and livelihood support programs started. In 2009, the

<sup>12</sup> US Fish and Wildlife Service, Panthera, Blue Moon Fund, US Embassy, Individual philanthropist (US \$783,000), CLIPAD project (funding German cooperation); Global Environment Facility (\$800,000); Darwin foundation; Agence Française de Développement (AFD) and French Global Fund Facility (FFEM), European Union (EU), etc.

first tourism product – the Nam Nern Night Safari – was launched. By 2014 the WCS has established a full headquarter in Muang Hiem (Muang Viengthong at the time) including a tourism visitor center.

59. In 2011, the oversight of all the Lao protected areas was transferred to the Ministry of Natural Resources and Environment (MONRE). Implementing the decentralization policies, the NPAs fell under the purview of the provincial and district offices of MONRE in the 3 provinces and 10 districts. The provincial office of Houaphanh took the lead and posted a protected area manager at the NPA headquarter in Hiem (then Viengthong) and the Luang Prabang office appointed a deputy. Until 2015, the director and deputy were the only two government staff.

60. In 2017, the oversight of Lao protected areas was transferred back to MAF. In turn, like other NPAs that overlap more than one province, MAF decided that such NPAs would become managed by a single Protected Areas Management Unit (PAMU). The NEPL PAMU was created, the director and two deputies appointed, and the number of civil servants started to increase.

61. In 2020, the joint efforts of the PAMU and WCS supported by funds raised by both has generated substantial results of which the following can be noted: (a) at least 63 villages have a Land Use Plan of which 40 have signed a Conservation Agreement<sup>13</sup> and benefited from livelihood support, (b) about 40% of the TPZ is regularly visited by patrol team who are increasingly skilled at crime detection and litigation, (c) about 40% of the TPZ is being monitored for threat and wildlife status, (d) the two tourism ventures are increasingly popular and delivering conservation results, (e) there is a general increase in the PAMU staff capacity as shown by a 30% increase in the functional capacity score in 2019. While these achievements are commendable, they are due to an increase in funding in 2019. They risk being reversed with a decrease in funding as was the case in 2016 and 2017.

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<sup>13</sup> These Conservation Agreement are associated with either the DARWIN project (WCS mobilized) or the LENS2 project (GoL mobilized). Under the new legislation, they are not suitable as Guardian Village Conservation Agreement (GVCA, see further in the Management Plan and Annex 3) but would be suitable as subsidiary agreement to the GVCA (see Annex 3).

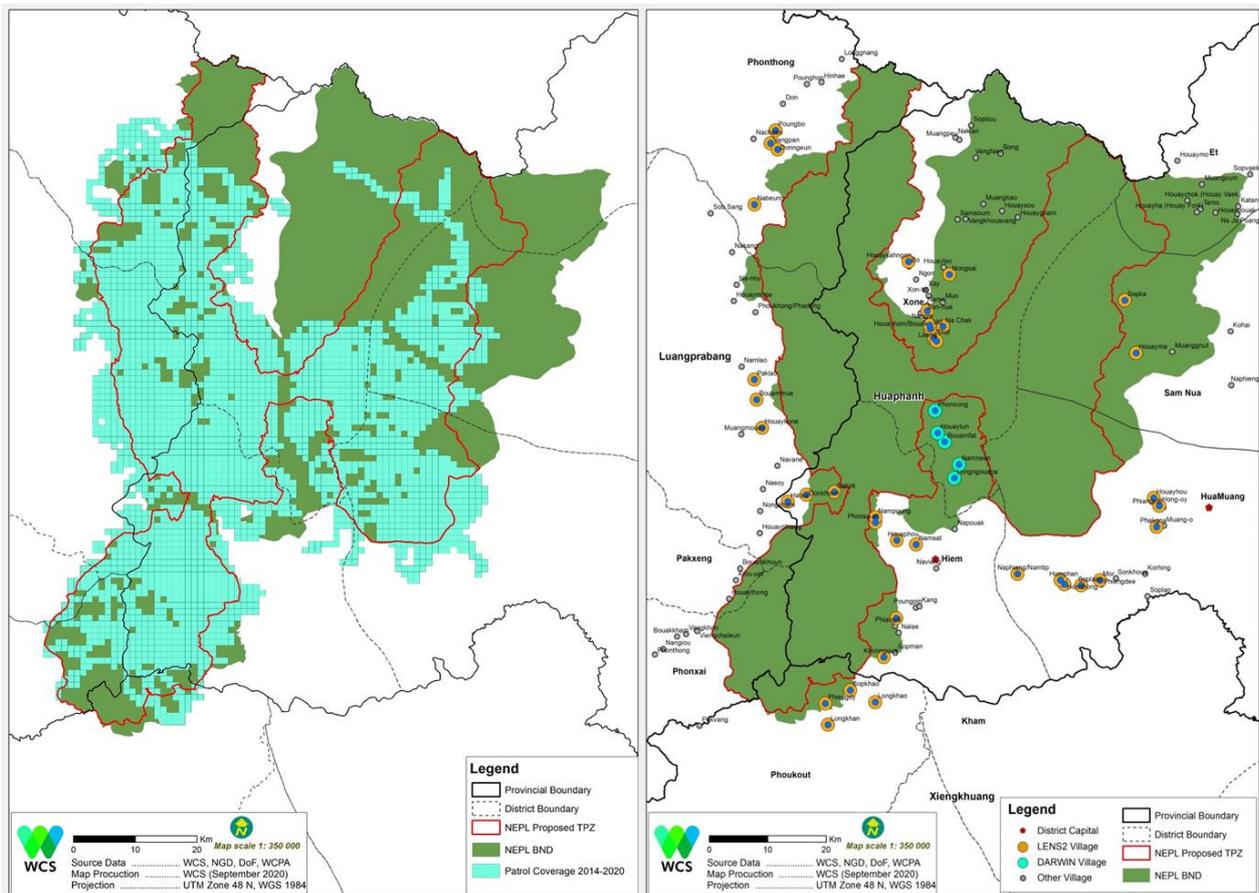


Figure 5. (left) patrol coverage 2020, (right) villages engaged 2020

## SECTION 1.5: MANAGEMENT OF THE NATIONAL PARK

62. It is by MAF Decision 4622 in 2017 that the minister established NEPL PAMU. The PAMU is led by staff appointed from the PAFO of the three provinces. It was instructed to set up a tri-province Steering Committee and work collaboratively<sup>14</sup> with the staff of the DAFO.

63. The 2018 3-year grant from the EPF was the opportunity to increase the number of park staff, by appointing government staff and recruiting contractual and volunteers, as well as secure a technical assistance contract with WCS.

64. In 2020, the NEPL National Park is managed by the PAMU operates from a headquarters in Hiem town in Hiem District in Houaphanh province. Altogether the number of full-time employees is greater than 60, the most it has ever been since its establishment in 1993 (see Table 1).

<sup>14</sup> The expression “collaborative management” in this Strategy, refers specifically about the principle or process whereby the protected area authority mobilizes other sector administration offices at the village, district, provincial and national levels to ensure coordinated efforts and share staff.



65. The NEPL PAMU currently consist of a director appointed from Houaphanh PAFO, a deputy director from Luang Prabang PAFO tasked to oversee law enforcement and operation, and a deputy director from Xiengkhouang PAFO tasked to oversee community programs. Each management sector is headed by a PAFO or DAFO official from one of the three provinces. In addition, DAFO, military and police personnel are seconded on a temporary basis to participate in ranger patrols, survey's and other activities as needs or available funds dictate.

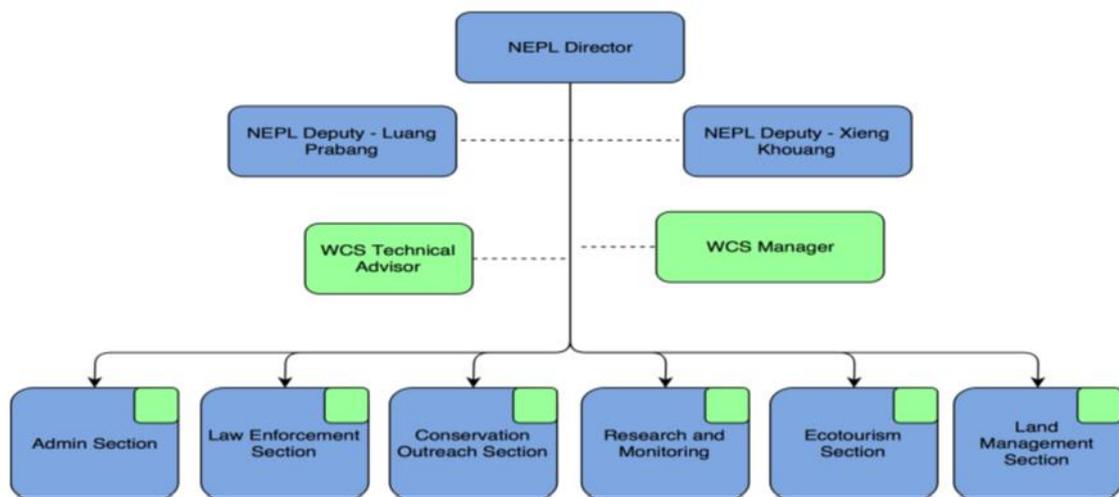


Figure 6. Current Management Structure of the National Park Management Unit

66. The PAMU performs its management role with principal technical support from the WCS, through six technical sections that ensure a comprehensive approach.

Table 1. Number of current national park full time employees, (blue) by level, (lilac) by status

Employer	#	Level			Status			
		Management	Technical	Support	Civil Servant	On Contract	Volunteer	Villagers
PAMU	48	6	38	4	10	9	8	21
PAFO/DAFO								
WCS*	19	6	9	4	0	19	0	0
<b>Total</b>	<b>67</b>	<b>10</b>	<b>47</b>	<b>8</b>	<b>10</b>	<b>28</b>	<b>8</b>	<b>21</b>

\* WCS provides additional support with a half time technical assistant (tourism) and back up from the WCS office in Vientiane (Fiduciary, GIS, M&E, research, etc.). Villagers are

67. WCS provides technical assistance to the NEPL PAMU through a Program Manager who serves as the direct counterpart to the PAMU Director, and a Technical Advisor to oversee and support all technical aspects of the program, and to ensure integration between the operational sections. Additional technical support is provided through WCS technicians based on site in Hiem, and/or technical advisors based centrally in Vientiane. In December 2016, a renewal of the five-year MoU was signed to continue this technical support to NEPL until January 2021. In 2021, it is expected that WCS and GoL will sign an MoU which will cover the period of the first 5-year Action Plan.



68. Following principles of *collaborative management*, the PAMU works closely with the district and provincial offices. Coordination between the NEPL MU and the 10 surrounding Districts has been a core component of the NEPL Program. The PAMU engages districts and employs district staff for outreach, land use planning, law enforcement and patrolling activities. The PAMU also works closely with the three provincial PAFOs and the Provincial Offices of Forest Inspection (POFIs) when investigation service is required. POFI has specialist abilities in investigating protected area and wildlife offences.

69. The NEPL National Park office complex in Hiem is shared with DAFO Hiem. Dedicated to the PAMU, are a series of structures consisting of (1) an office complex with a tourism information center and 6 offices, (2) an office block with the management team office and toilet, (3) a stand-alone meeting room, (4) a dormitory with accommodation for temporary staff housed in 4 large rooms and ablution facilities and (5) space for parking, a small store and workshop.

70. Four ranger sub-stations exist in various sectors within the NEPL National Park: (1) Nam Nern; (2) Phou Niet; (3) Pathi road checkpoint – Sun Ong (Xone) and Pathi road Check point – Pathi substation (Samnuah). Of these facilities, the Nam Nern and Phou Niet sub-station is currently operational. The two Pathi road substations are deemed serving no purpose until issues related to encroachment in the Pathi areas are resolved.

71. The current office space is fully furnished. All current employees (PAMU and WCS) have access to desks, chairs, and computers as well as peripheral office equipment such as photocopiers and printers. The mainstream software is installed on all computers. The office space is served with water, electricity, and reasonably fast internet.

Table 2. Computer available to the National Park

Computer	PAMU	WCS	Condition
Laptops	9		Good condition although many are than 5 years old.
Desktops	7		
Total computers	16	34	50

72. Patrol and other monitoring teams are relatively well equipped with camping equipment, uniforms, and GPS. The monitoring team is equipped with 160 camera traps.

73. Given the large size of the park, transport equipment is critical. At this time, transport equipment is managed in pool. Vehicle investment in the NEPL is substantial as shown in the table below.

Table 3. Transport equipment available to the National Park

Vehicle type	PAMU	WCS	Year in Serv.	Financing	Condition
Isuzu (Double Cab)	2		2019	LENS2	Good
Toyota Hilux (Double Cab)	1		2015	CLIPAD1	Good
Toyota LC (Single Cab)	1		2019	LENS2	Good
Toyota Hilux (Double cab)		1	2010	WCS	Good
Ford Ranger (Double Cab)		2	2010 & 2013	WCS	1 Good & 1 Moderate
Total cars	7 of which most in operational condition				
Motorcycle 125 cc (Kawazaki)	2			CLIPAD1	Obsolete
Motorcycle 100 cc (Honda Wave)	4			CLIPAD1	Moderate
Motorcycle 100 cc (Honda Wave)	10			LENS2	Appropriate
Motorcycle 100 cc (Honda Wave)		20	2005-2014	WCS	Moderate
Total motorcycles	34 of which 2 not operational				

# CHAPTER 2 – THE CONTEXT OF THE NAM ET PHOU LOUEY NATIONAL PARK

## SECTION 2.1: NATURAL FEATURES OF THE NATIONAL PARK

### 2.1.1. TOPOGRAPHY AND HYDROLOGY

74. Nam Et and Phou Louey NPAs were named after two major landmarks, the Phou Louey Mountain (2,257 meters) in the west and the Nam Et river (400 meters) in the northeast. Over 60% of the park is above 1,000 meter and 91% along slopes steeper than 12%. Spines of the major mountain ranges in the National Park run north south and date back to episodes of subduction and volcanism in the Paleozoic followed by uplift and folding during the Triassic (Robichaud et al., 2001).

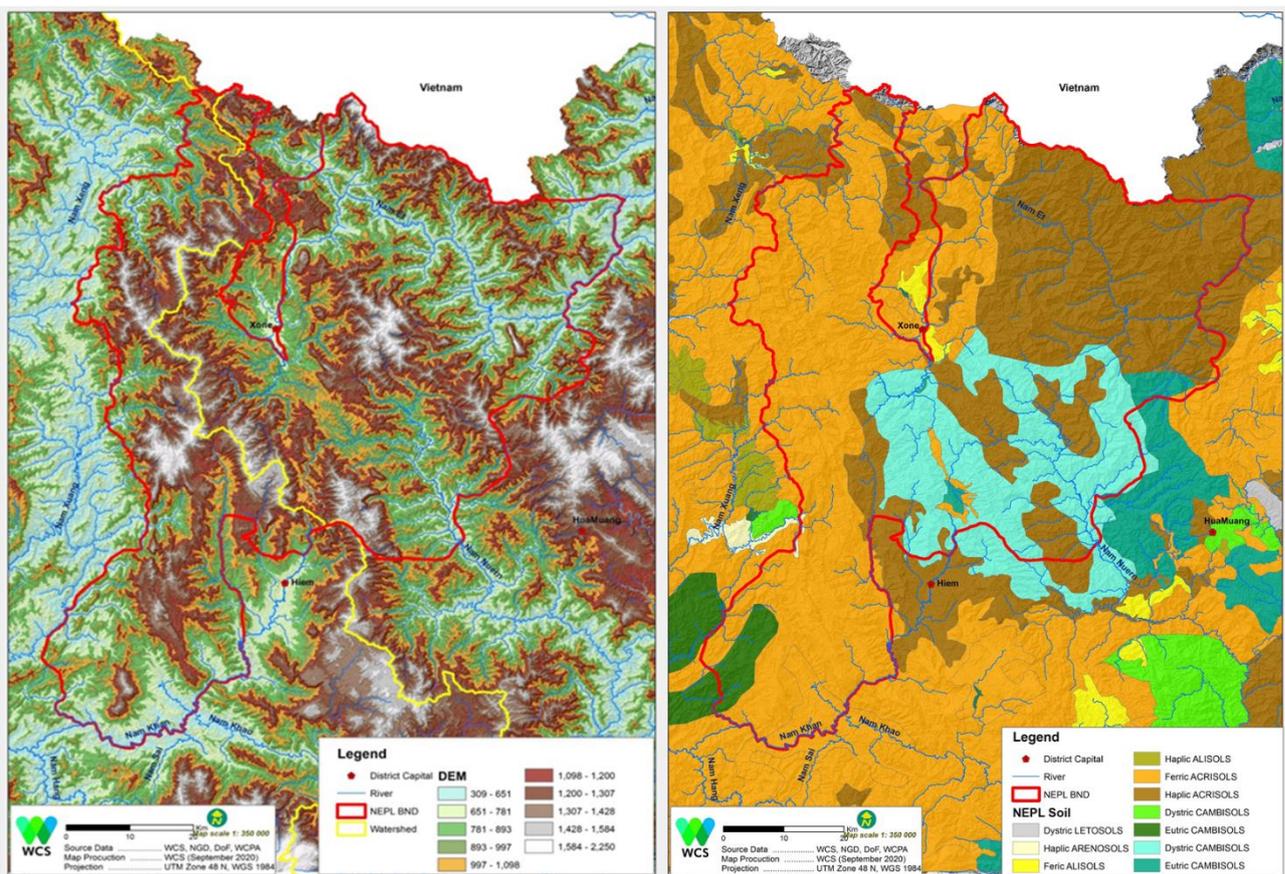


Figure 7. National park landscape (left) topography and river system, (right) soil types

75. Phou Louey, which translates as ‘endless mountain’, forms the boundary between Houaphanh and Luang Prabang provinces and is the headwaters of many of the large rivers of northeastern Laos including the Nam Khan that flows down through the center of the National Park and forms part of the southern National Park boundary at the base of Phou Phasiphou mountain before joining the Mekong river at the heart of Luang Prabang to the west.

76. The NEPL National Park landscape spans two basins one toward Vietnam and the Red River which traverses Hanoi and the other within Lao to the Mekong River. The major rivers to Vietnam

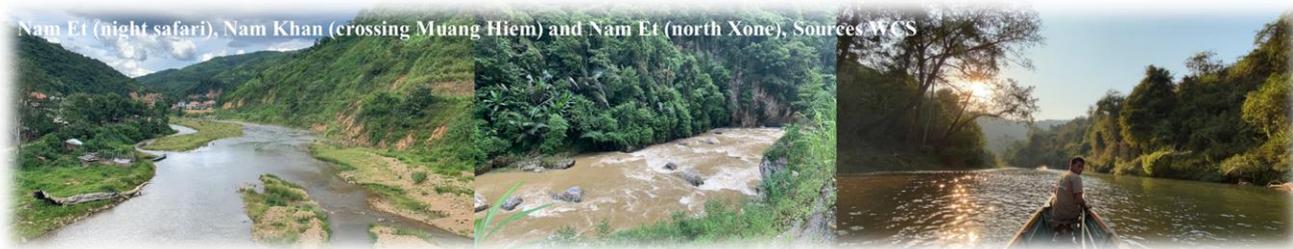
are the Nam Et and Nam Nern rivers. The drainage of the Nam Et river flows east from Phou Jae mountain in the north. The major drainage river to Mekong are the Nam Khan, Nam Xeng and Nam Suang. A few smaller rivers flow out of the National Park (see the map with the basin divide and the river network in figure 7)



Forest and mountain landscape, source left Jay White, right WCS

77. The NEPL National Park protects the integrity of the watersheds, reducing flooding, the loss of soils to erosion, and providing clean water for drinking and irrigation agriculture, thus ensuring food security for upland communities. These positive impacts go further afield as the National Park serves as a source for some of the major rivers that flow down to the lowland farms and cities of the 3 provinces. Nam Et-Phou Louey is the source of the Nam Et, the Nam Nern, the Nam Khan, the Nam Xuang, and the Nam Xeng rivers. While there is a strong argument in favor of the watershed function of the park, there is no quantitative or qualitative evaluation of park hydrology.

78. Figure 8 below shows that the peak flow is in late August for most Lao rivers and low flow in late April. A similar flow regime is observed with the rivers draining off the NEPL National Park.



Nam Et (night safari), Nam Khan (crossing Muang Hiem) and Nam Et (north Xone), Sources WCS

79. The rivers are the lifeline to the portion of the community involved in paddy field agriculture and for fishing. The freshwater fish community they harbor has not been studied. The Nam Nern and Nam Et provide navigation to cultivation and tourism area and for trade. Some of the smaller rivers descend the mountain in very picturesque cascades – e.g., Tad Kone waterfall in Xone district -- that contribute to the landscape tourism potential.

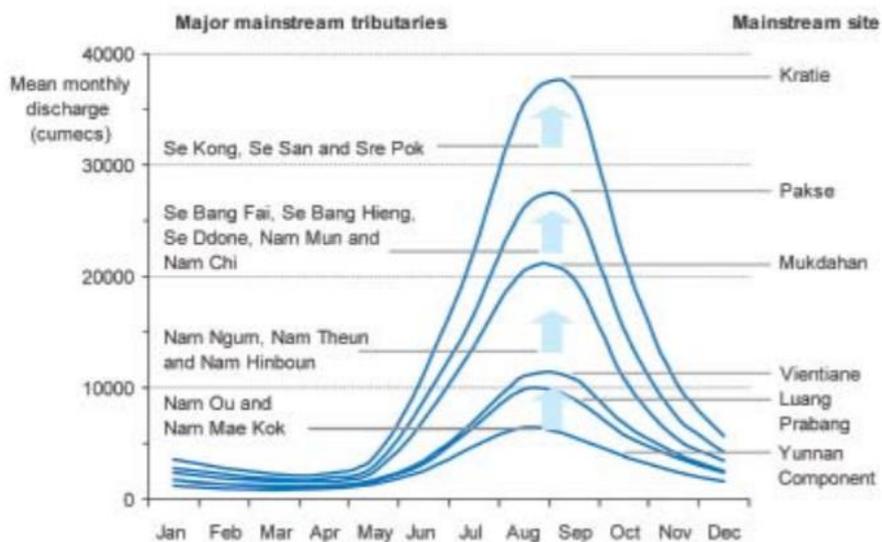


Figure 8. Illustration of the flow regime of several tributaries of the Mekong

80. Geothermal feature: Of note the hot Spring in Hiem (Bo Nam Hon). The Hiem thermal spring would be the largest and, with water reaching up to 100 degree C, the hottest in Laos. It has been developed to welcome visitors in an attractive park. The location of the spring near the road and the Hiem town makes it an important asset for tourism development.

### 2.1.2. GEOLOGY AND SOILS

81. The dominant soil group over the NEPL, like most of Lao PDR, is Acrisol<sup>15</sup> (an FAO soil group). According to FAO, “Acrisols form on old landscapes that have an undulating topography and a humid tropical climate. Their natural vegetation is woodland. The age, mineralogy, and extensive leaching of these soils have led to low levels of plant nutrients, excess aluminum, and high erodibility, all of which make agriculture problematic. Nevertheless, traditional shifting cultivation of acid-tolerant crops has adapted well to the conditions found in acrisols.”

82. On a finer scale, the map in figure 7 (above) shows that three soil types dominate within the boundary: two are acrisols (Ferric and Haplic) and Cambisol (Dystric). Acrisol is described above. Cambisols, which seem to be restricted along the Nam Kham and Nam Nern river valleys, are characterized by the absence of a layer of accumulated clay, humus, soluble salts, or iron and aluminum oxides. Still, most of Cambisols soil types make good agricultural land.

83. According to the Department of Geology the metal mineral potential of the NEPL area appears to be marginal. Around the National Park boundary with apparently little overlap, there may be deposits of zinc, copper, tin and gold. The map below (right) illustrates this modest potential.

<sup>15</sup> <https://laos.opendevlopmentmekong.net/layers/laos-soil-types/>

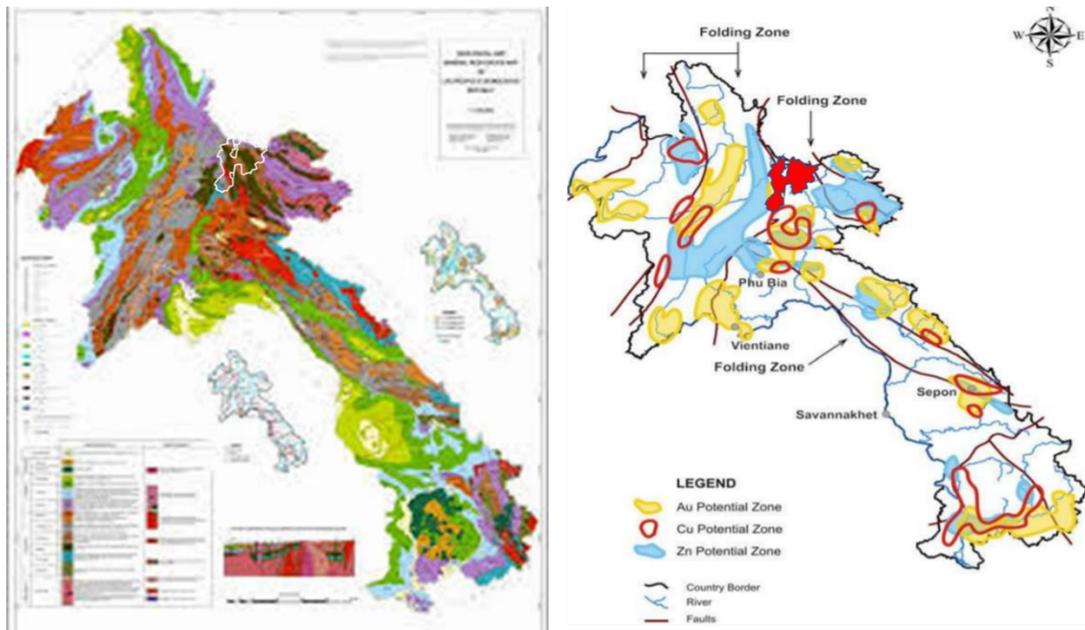


Figure 9. (left) mineral geology<sup>16</sup>, (right) selected ore mining potential<sup>17</sup>

### 2.1.3. CLIMATE

84. Nam Et-Phou Louey National Park generally has a high upland climate with two seasons: dry and rainy. The rainy season runs between April and September and the dry season between October and March. The average annual rainfall in Nam Et-Phou Louey is 1350 mm. In general rainfall is unevenly distributed throughout the year with peak rainfall occurring between June and August, and July having the highest number of rainy days with 21. The annual open pan evaporation is 900 mm, effectively limiting cultivation to the rainy season.

85. The average climate of the NEPL National Park landscape is classified as subtropical humid to temperate depending on the altitude<sup>18</sup>. There are small climatic variations across the landscape which have some influence on rainfall and vegetation. The average annual temperature ranges between 18°C and 20°C and average rainfall ranging from 1,300 to 1,800 mm; both temperature and rainfall are lower than the country averages. Temperatures may drop to less than 5°C from December to February and rise to over 30°C from April to July (data from Vieng Sai weather station). The maps of figure 10 and 11 below illustrate the NEPL climate in comparison to the rest of Laos and illustrate the seasonal and location variability across the landscape.

<sup>16</sup> Map inserted for illustration since the legend is too small for reading – see Mitsubishi, 2008.

<sup>17</sup> Khampha, 2016

<sup>18</sup> <https://en.climate-data.org/asia/laos/houaphan/xamneua-3647/>

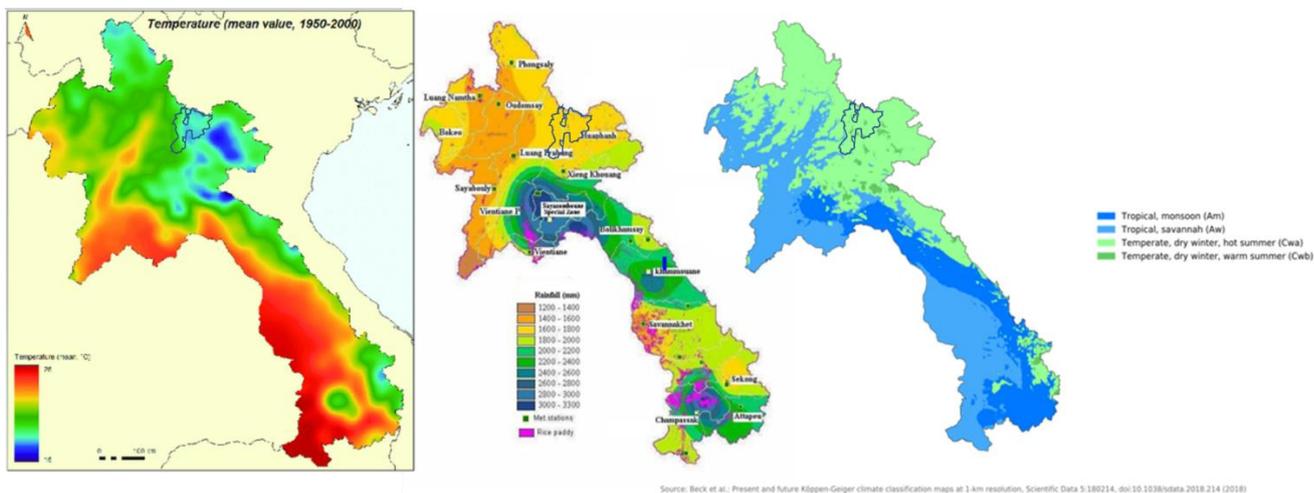


Figure 10. (left) average temperature, (center) average rainfall, (right) type of climate<sup>19</sup>.

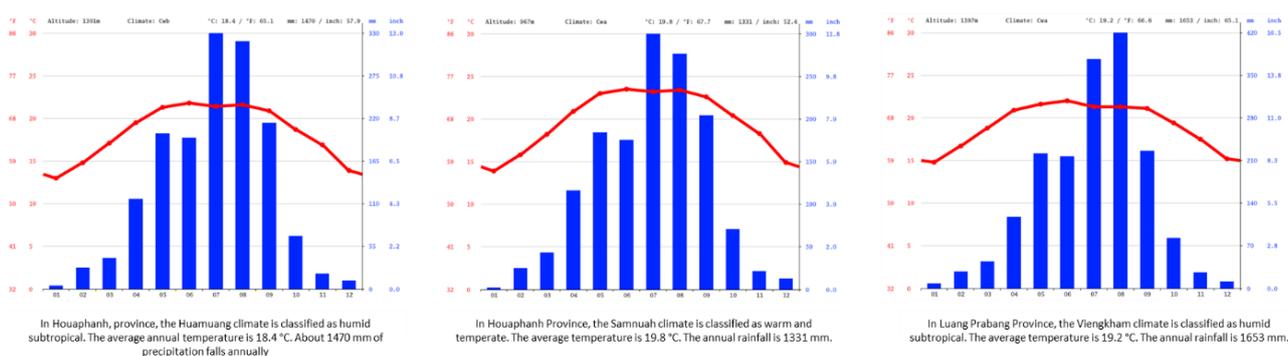


Figure 11. Rainfall pattern in Houaphanh and Luang Prabang near NEPL

86. The annual mean temperature in Southeast Asia consistently increased from 1970-2010. From 1951 to 2000, mean annual temperatures increased by 0.1 to 0.3C per decade in Lao PDR. Historical analyses also reveal increased seasonal (2,046 mm/year) and annual rainfall (2,741 mm/year) rates. By 2100, mean annual temperatures are projected to increase by 1.4 to 4.3C. The number of drought days is projected to increase from 55 days in 1990 to about 65 in 2100 (Unique, 2019).

87. Regarding future climate vulnerabilities, scenario analyses have shown that Lao PDR could experience changes in typical rainfall patterns by the middle of this century. Rainfall in north and central Lao PDR is projected to decrease, with the rainy season shifting its timeframe, creating greater variability that could significantly alter traditional Lao agriculture patterns (Unique, 2019).

88. In comparison with the rest of Lao PDR, part of the NEPL National Park landscape, especially due to the hilly terrain fragile to erosion, exhibited low resilience to climate change as illustrated in the map of the figure 12 below. This low environmental resilience is directly translating in low community resilience to being affected by high soil erosion, landslide, or floods.

<sup>19</sup> Source: [https://www.researchgate.net/figure/Annual-mean-temperatures-left-panel-and-annual-mean-rainfall-right-panel-in-Laos-from\\_fig3\\_317209700](https://www.researchgate.net/figure/Annual-mean-temperatures-left-panel-and-annual-mean-rainfall-right-panel-in-Laos-from_fig3_317209700)

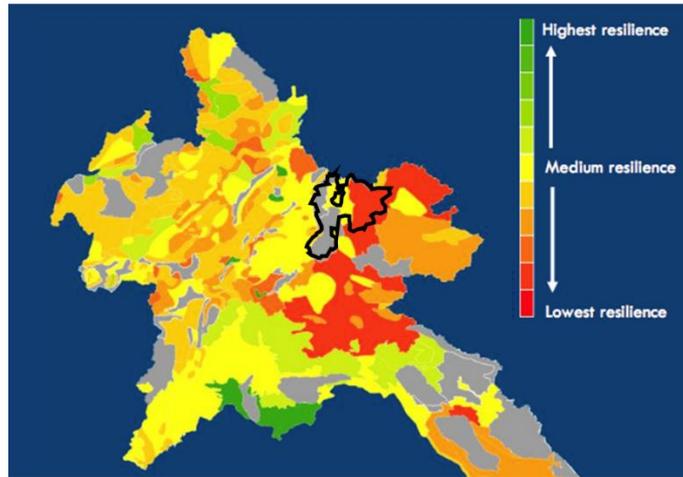


Figure 12. Degree of resilience of the NEPL landscape to climate change<sup>20</sup>

89. As anecdotal illustration of increasing climatic variability: in January 2016, frozen rain leading to die-off of large forest areas was reported in Houaphanh province, an extreme weather event that had previously not occurred in the province (Unique, 2019).

#### 2.1.4. BIODIVERSITY

90. The rugged landscape of northern Laos forms the Northern Highlands region of the country (Duckworth et al., 1999). The NEPL National Park ranks in the national protected area system for contributing one of the highest biological diversities of any protected area in this region (Davidson 1998; Ling 1999).

#### Flora

91. The original vegetation of this region was primarily Dry Evergreen forest mixed with large areas of deciduous forest (Duckworth et al. 1999).

92. Today, mature forest defined in Laos as “areas with at least 20% canopy cover and a 30 meters canopy” are uncommon in the Northern Highlands of Laos. In many areas, prolonged shifting cultivation and fire have resulted in forests being replaced by large areas of Imperata grass, bamboo and other secondary vegetation.

93. There have been no comprehensive botanical surveys in the National Park excepting the Phou Louey Noy area, which indicated the presence of 314 plant species, 243 genera and 106 families. There are many plant species with known economic value: 18 are of use in construction, 26 for medicinal purposes, 39 as fuelwood, 46 for house decoration, 92 for consumption and 5 as poison. The uses, if any of the remaining 88 species, are unknown (<http://www.namet.org/wp/about/climate-vegetation/>).

94. Satellite image interpretation in 1997 painted the following picture. Only 0.1% of the NPA was undisturbed primary forest and 23.2% was partially disturbed/open forest, indicating long-standing encroachment. About 72% of the NEPL was found to be covered in mixed evergreen and deciduous forest up to 1,500 meters transitioning into evergreen forest from 1,500 to 1,800 meters,

<sup>20</sup> Source <https://www.weadapt.org/placemarks/maps/view/24536>

which is interspersed with beech forest and rhododendron species above 1,800 meters (Davidson 1998).

95. A 2013 forest cover review used a different classification than in 1997. It determined that the forest cover within the NEPL NPA (and the proposed Tamla extension) was 68%. The vegetation was found to be composed of: Shrub/Bamboo - 20%; Mixed deciduous Forest - 62%; Evergreen Forest - 4% and the rest was shared between grassland, cultivation and undescribed shrub or bare land (Moore et.al, 2013).

96. While shrub/bamboo was classified under *Forested Area*, much of this (an indeterminable percentage) is increasingly old fallow. As Table 4 shows, in 2013 evergreen forests were primarily found in the TPZ, only comprised 4% of its total area and were concentrated in the western part of the NPA (see figure 13). The mixed deciduous forest was spread over the entirety of the protected area, interspersed primarily with areas of fallow and shrub.

97. Not reported in 1997 not 2013 (and not shown on the map of figure 13), perhaps because these patches are too small to be detected or the images are taken during the dry season<sup>21</sup>, are the small dense clusters of dry dipterocarp forest which also occur in the southern most parts of the national park. Of special note is the area of true rainforest that exists above 2,000 meters on mountains peaks such as Phou Louey.

Table 4. Breakdown of land cover types in the NEPL NPA<sup>22</sup>

Land cover type	TPZ		CUZ <sup>23</sup>		NEPL NPA	
	Ha	%	Ha	%	Ha	%
<b>Bare land</b>	10,825	4%	20,992	7%	31,817	5%
<b>Grassland</b>	12,028	4%	20,746	7%	32,774	5%
<b>Fallow</b>	9,320	3%	21,840	8%	31,160	5%
<b>Shrub</b>	40,566	13%	50,786	18%	91,352	15%
<b>Mixed deciduous forest</b>	217,613	71%	167,050	58%	384,662	64%
<b>Evergreen forest</b>	17,683	6%	7,416	3%	25,099	4%
<b>Total</b>	<b>308,034</b>	<b>100%</b>	<b>288,830</b>	<b>100%</b>	<b>596,864<sup>24</sup></b>	<b>100%</b>

98. Between 5 to 10% of NEPL is grassland. This grassland is continued and promoted through a human induced burning regime for hunting and the promotion of cattle grazing. The origin of these grasslands has not been studied in detail. It is possible they are a natural phenomenon, but it is more likely they originate from historical cultivation techniques, prior to the establishment of the protected area, of planting rice and opium on the same plot within the same year. In other areas of Laos this has been connected to exhausted soil fertility and the domination of grasses.

<sup>21</sup> In the dry season dry dipterocarp appears as bare land since it has lost its foliage.

<sup>22</sup> Source Colin et.al, 2014

<sup>23</sup> CUZ Controlled Use Zone

<sup>24</sup> This area includes the, then proposed, Tamla extension.

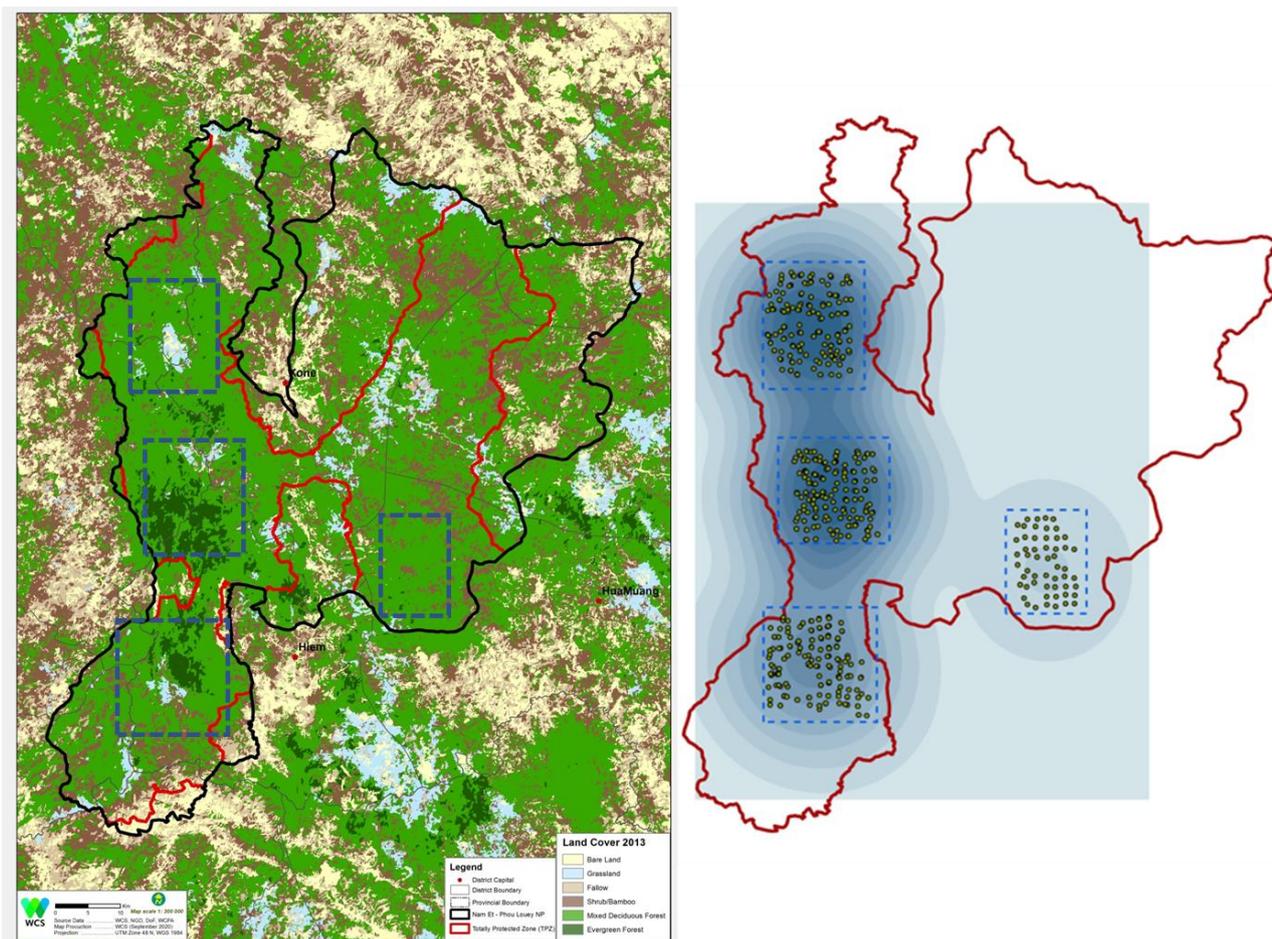


Figure 13. (left) vegetation in 2013/25, (right) wildlife density data, all species combined<sup>26</sup>

99. A satellite analysis carried out in 2019 provides the current forest cover by broad vegetation type. A new comprehensive vegetation maps is necessary to have a finer idea on the evolution of the various vegetation types.

Table 5. Forest cover in NEPL in 2019<sup>27</sup>

	Land area ha	Forest area ha	%
National park (TPZ+CUZ)	507,400	306,900	60
TPZ	309,400	234,100	76
CUZ	198,000	72,800	37

## Fauna

100. Much of the wildlife of the Northern Highlands is akin to that of the Himalayan Palearctic region (MacKinnon and MacKinnon 1986, in Duckworth et al. 1999).

101. The number of mammal species is 101 of which 40 species are bats one of which is very unlikely. Bird species numbers are reported to be 316. In 1998 Davidson already noted that 35 of

<sup>25</sup> Moore et.al., 2013

<sup>26</sup> From camera trap campaigns between 2013 and 2017

<sup>27</sup> Compiled from WCS reports

these species were of conservation concern. Amphibian and reptile records show 27 species, two of which are very unlikely. This compares with other Laos protected areas, for example, the Him Nam No National Park lists 95 mammals and 289 bird species. No list is available on plants, fish, or insects. Eight species are cited in the literature but do not occur: four are extirpated (Indochinese Leopard, Javan Rhinoceros, Banteng, Green Peafowl) and four are out of range. See also Annex 5 for the lists of known mammals, birds, reptiles, and amphibians.

102. The substantial biodiversity value of NEPL owes to the large number of species globally threatened listed in the IUCN Red data List (<https://www.iucnredlist.org/>) as Vulnerable (VU), Endangered (EN) or Critically Endangered (CR). There are 37 known NEPL “critical species”. Of these, 4 are extirpated. So, the currently known number of critical species likely or possibly present in the park is 33. Of these 10 are unconfirmed and 23 are confirmed (see Table 6 below).

103. Among the 23 confirmed species, the viability and trend are known for less than 5 species and there is no data showing a positive population trend for any species.

104. Given that the assemblage of threatened species is one of the main features justifying the NEPL as an area of global conservation value, the lack of reliable information on most species is problematic and should be remediated.

Table 6. List of NEPL species rated in the IUCN Red Data book as VU, EN, or CR<sup>28</sup>

Group	Names	Scientific Names	NEPL Status 2020	IUCN red list status (2020)	Lao Category (2008)
Pangolins	Sunda Pangolin	<i>Manis javanica</i>	Confirmed	CR	I
	Chinese Pangolin	<i>Manis pentadactyla</i>	Likely but unconfirmed	CR	I
Lorises	Bengal Slow Loris	<i>Nycticebus bengalensis</i>	Confirmed	VU	I
	Pygmy Slow Loris	<i>Nyctibeus pymaeus</i>	Confirmed	VU	I
Gibbons	Northern White-cheeked Gibbon	<i>Nomascus leucogenys</i>	Confirmed	CR	I
Langurs	Phayre’s Langur (or Payre’s Leaf Monkey)	<i>Trachypithecus phayrei</i>	Confirmed	EN	I
Macaques	Stump-tailed Macaque	<i>Macaca arctoides</i>	Confirmed	VU	II
	Northern Pig-tailed macaque	<i>Macaca leonina</i>	Confirmed	VU	II
Canines	Dhole	<i>Cuon alpinus</i>	Confirmed	EN	I
Bears	Asian Black Bear (or Asiatic Black Bear)	<i>Ursus thibetanus</i>	Confirmed	VU	I
	Sun Bear	<i>Helarctors malayanus</i>	Confirmed	VU	I
Otters	Oriental Small-clawed Otter	<i>Aonyx cinereus</i>	Likely but unconfirmed	VU	I
	Smooth-coated Otter	<i>Lutrogale perspicillata</i>	Unconfirmed	VU	I
Civets	Owston’s Civet	<i>Chrotogale owstoni</i>	Confirmed	EN	I
	Binturong	<i>Arctictis binturong</i>	Confirmed	VU	I
Felines	Indochinese Tiger	<i>Panthera tigris corbetti</i>	Likely extirpated.	EN	I
	Mainland Clouded Leopard	<i>Neofelis nebulosa</i>	Confirmed	VU	I
Badgers	Greater Hog Badger	<i>Arctonyx collaris</i>	Confirmed	VU	II

<sup>28</sup> VU (Vulnerable), EN (Endangered) or CR (Critically endangered), another level is NT (Near Threatened, not listed in this table)

Elephant	Asian Elephant	<i>Elephas maximus</i>	Likely but Unconfirmed	EN	I
Wild Cattle	Gaur	<i>Bos gaurus</i>	Likely extirpated	VU	I
Deer	Sambar	<i>Rusa unicolor</i>	Confirmed	VU	I
Muntjacs	Roosevelts Muntjac (or Roosevelt Muntjac group given observations of darker Muntjac)	<i>Muntiacus rooseveltorum</i>	Confirmed	DD	I
Serows	Indochinese Serow (or Mainland Serow)	<i>Capricornis milneedwardsii</i>	Confirmed	VU	I
<i>Birds</i>					
Hornbills	Great Hornbill	<i>Buceros bicornis</i>	Confirmed	VU	I
	Rufous-necked Hornbill	<i>Aceros nipalensis</i>	Confirmed	VU	I
Nuthatches	Beautiful Nuthatch	<i>Sitta formosa</i>	Likely but Unconfirmed	VU	III
Buntings	Yellow-breasted Bunting	<i>Emberiza aureola</i>	Likely but unconfirmed	CR	III
<i>Reptiles and Amphibians</i>					
Softshelled Turtles	Wattle-necked Softshell Turtle	<i>Palea steindachneri</i>	Confirmed	EN	I
	Asiatic softshell turtle	<i>Amyda cartilaginea</i>	Confirmed	VU	I
Hard-shelled Turtles	Big-headed Turtle	<i>Platysternon megacephalum</i>	Confirmed	EN	I
	Four-eyed Turtle	<i>Sacalia quadriocellata</i>	Likely but Unconfirmed	EN	I
Tortoises	Impressed Tortoise	<i>Manouria impressa</i>	Confirmed	VU	I
Pythons	Burmese Python	<i>Python molurus</i>	Confirmed	VU	I

105. The critical species count places the NEPL on a comparable echelon with other Lao protected areas with proven global biodiversity value (see also Annex 5). The NEPL critical species are found in other protected areas of Laos. For example, Xe Sap, Nakai Nam Teun and Kung Xe No Ma (Annamites) harbor respectively 100%, 91%, 91% of the critical species possibly present NEPL as well as additional critical species not occurring in NEPL (e.g., Large Antlered Muntjac, Rock Rabbit, etc.). In terms of conservation success (i.e., documented absence/presence), the NEPL rank is modest. For example, of the 37 species potentially present in NEPL only 23 are confirmed. Meanwhile, 34 are confirmed in Xe Sap and 25 in Nakai Nam Theun. So, the NEPL unique biodiversity value is likely lay in the significance and viability of some critical primate and carnivore populations such as the northern white-cheeked gibbon, dhole and clouded leopard.

106. The maps of figure 13 (above) and 14 (below) consolidate for all species (a) observations by camera trap between 2013 and 2017 and (b) observations and signs by patrol data 2013 to 2020. In the area where data was collected these maps cautiously points to parts of the TPZ with potentially higher wildlife densities and considered hot spot for protection measures with a very clear confirmation that the area around Phou Louey – which is also where the largest patches of evergreen forests – is the richest in wildlife. This map also shows the importance of the north west areas which despite low patrol density shows significant wildlife.

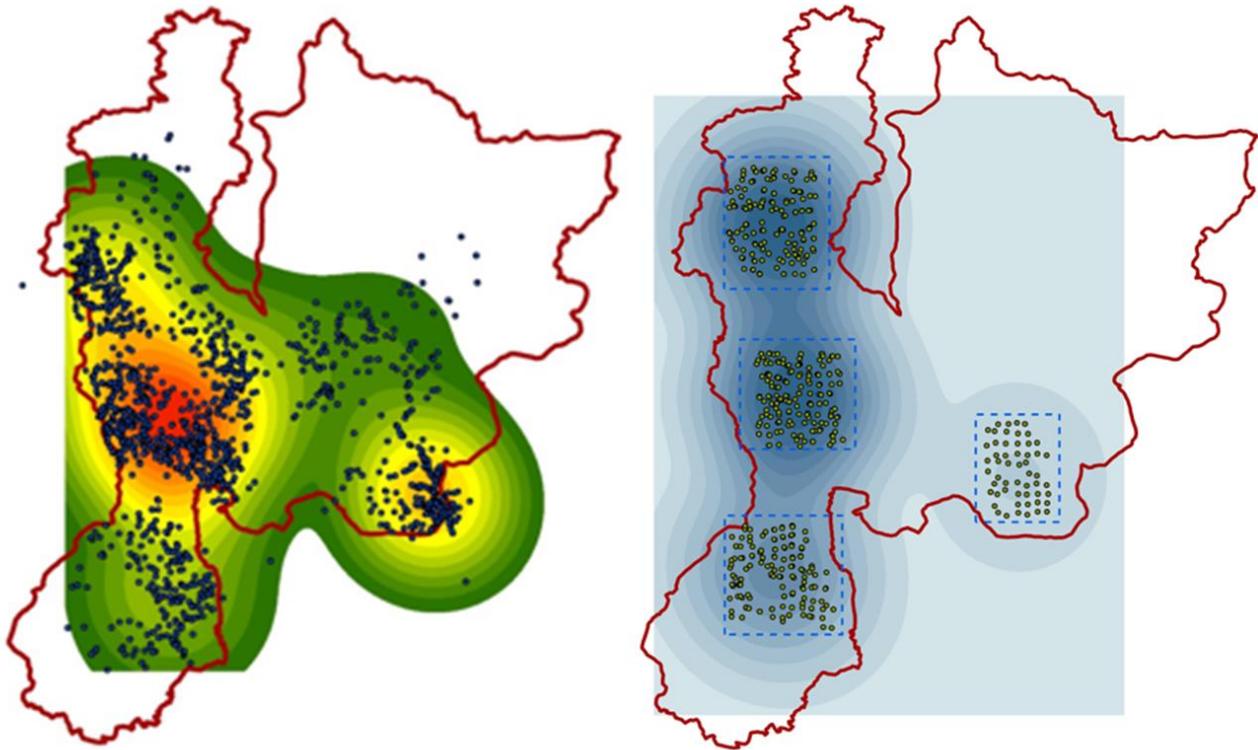


Figure 14. Wildlife observations/signs (left) patrol data (2013-19), (right) camera traps (2013-17)

107. **Carnivores.** Nam Et-Phou Louey displays an outstanding diversity of carnivores 25 species, that includes six cat species (tigers, leopard, clouded leopard, marbled cat (*Pardofelis marmorata*), Asian golden cat (*Catopuma temminckii*), and leopard cat (*Prionailurus bengalensis*)), dhole, two species of bear -- Asian black bear (*Ursus thibetanus*) and sun bear (*Helarctos malayanus*) --, and 11 small carnivores including civets, mustelids, and mongooses.



- ***Tiger and Indochinese leopard.*** In 2010 it was estimated that there were 7 – 23 tigers in the NEPL landscape which was one of the most important tiger populations in Indochina (Johnson, 2016). By 2013, at least two tigers remained (recorded on camera trap) and provided the last record of wild tiger for NEPL and Laos (Rasphone et al., 2019). The last sign of leopard in NEPL is dated 2004 (Rostro-García, S., et al. 2016).
- ***The clouded leopard and the marbled cat.*** Inferring from densities in Rasphone (2019) there might have been 44 to 62 clouded leopards and 95 to 137 marbled cats in the NEPL TPZ in

2017. For the clouded leopard, the marbled cat and leopard cat, 2013 to 2017 data analysis showed a declining trend in density for all three species (Rasphone, 2019).

- Dhole. Rasphone (2020) shows that between 2013 and 2017, the number of camera trap observations of dhole was similar to the clouded leopard. This points to a population in the similar order of magnitude that is likely viable. But the trend is unknown.
- Bears. The Asian black bear and the sun bear presence is confirmed. Scotson (2010) confirmed the wide distribution of both species throughout the park with black bears occurring at higher densities. The data from 2013 – 2017 suggested the sun bear was more widely distributed than the black bear (Rasphone et al., 2019). While the two species trends were unknown, it was likely negative given the regional threat to bears. In 2020, the camera trap campaign detected the presence of both species.

108. Primates. NEPL may have the largest population of the critically endangered northern white-cheeked gibbon which is found only in Vietnam and Laos. Gibbons require large areas of primary forest with thick canopies to swing from and bamboo to feed on, thus their presence indicates healthy primary forests. A 2014 to 2015 survey in part of the park established the presence of at least 57 groups (Syxaiyakhathor et.al, 2019). Four species of macaques are represented, two of which abundant in the park – northern pig-tailed and stump tailed macaques – are globally listed as vulnerable.

109. Otters. There are three species of otters in NEPL, the oriental small-clawed otter (*Aonyx cinereus*) and the smooth-coated otter (*Lutrogale perspicillata*) are vulnerable, and Eurasian otter (*Lutra lutra*) is near threatened (NT). The presence of otters indicates a healthy aquatic ecosystem. The status of these species is unknown.



110. Ungulates. Gaur (*Bos gaurus*), a large bovine is the tiger's preferred prey and is declining rapidly due to poaching for its gall bladder. Gaur forage on grasses and, thus, represent the overall health of NEPL's important grassland habitat. Sambar has become rare in Laos. It prefers mixed deciduous forests, the predominant habitat of NEPL. There are small and unknown populations of sambar (*Rusa unicolor*), muntjac (*Muntiacus spp.* 2 or 3 species) and Indochinese serow (*Capricornis milneedwardsii*) scattered throughout the TPZ and possibly some parts of the CUZ. In general, their population may be viable, but the trends of their population appear to be decreasing except possibly in the area near the Nam Nern safari.

111. Asian elephant (*Elephas maximus*). There is no recent visual record by a park staff. Villagers claim to have seen elephants in 2015 (reported to patrols) and in 2019 (pers. com. 2020<sup>29</sup>). So, it is likely that a small elephant population persist along the Nam Et River (north east TPZ). But this area is largely unvisited by national park staff.

112. Bats. In 1998, over 40 species of bats were recorded at NEPL, of which three were new to Laos but one probably misidentified (out of range). Due to all the caves in the area, bat surveys conducted in 1998 and showed the bat species in the National Park to be quite distinct from the rest of Laos. The area is especially important for cave roosting bats (Davidson et.al., 1999.)

113. Reptiles and Amphibians (Herpetofauna). Among the wildlife of Laos, relatively little is known about the reptile and amphibian diversity. The first survey of the herpetofauna in the NEPL NPA was undertaken in 1998 (Stuart 1998). A field survey coupled with interviews resulted in a preliminary list of 30 species that included six species of turtles, two species of pythons, several species of frogs, toads, lizards that included two species of monitor lizards, typical snakes, vipers, and an elapid snake (krait). Of the known herpetofauna in the park, it is notable that most of the turtles are listed as IUCN endangered, vulnerable or data deficient, including the Southeast Asian softshell turtle, the big-headed turtle, the four-eyed turtle, and the impressed tortoise.

114. Birds (Avifauna). Preliminary surveys of the avifauna in the NEPL were first undertaken in 1998 by Davidson. Currently the bird list stands at 316 species<sup>30</sup>. Of these, more than 35 species were already of conservation concern in 1998 (Davidson) and 15 species are listed as endangered, vulnerable or near threatened (Johnson, 2013), including rufous-necked hornbill, the beautiful nuthatch, and Blyth's kingfisher (IUCN 2020). Phou Louey mountain is identified as especially important as it contains a distinctive montane bird community with ten species that are known from only one or two other localities in Laos. The Nam Et part of the National Park is listed as Important Bird Area (IBA) by Birdlife International<sup>31</sup>.

115. Aquatic species and insects. No publication or report of freshwater fish, benthic species or insect species survey has been found. The fish diversity should be high given that the NEPL is the head water of two separate drainage basins (Davidson, 1998). However, it could have already been affected by the dams of the lower reach of these rivers and by the introduction of exotic fish species.

#### 2.1.5. FOREST DYNAMICS

##### **Deforestation and forest deforestation**

116. Like all forests in Laos, deforestation and forest degradation have been and remain an important challenge in the NEPL landscape. From section 2.1.4. it is established that the condition of the NEPL forest is far from its "original" climax. After having been cultivated and or burned in recent history, NEPL forest is a forest at various dynamic stages of succession and degradation.

117. This "recovering" forest has, over the last decade, been subjected to accelerated degradation and deforestation which appears to have culminated in 2013 and may now be gradually decreasing. Both the TPZ and the CUZ are still losing forest cover, but at a convincingly decreasing rate in the TPZ. The trends are encouraging for the TPZ, which is still 76% forested and where the rate of

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<sup>29</sup> Mr. Bounphorn of PAFO Houaphanh met a villager who claim to have observed elephant in 2019 (pers. Communication). It should be noted that this area is largely unvisited by NEPL staff.

<sup>30</sup> Davidson, 1998 and Eaton, 2020

<sup>31</sup> <http://datazone.birdlife.org/site/factsheet/nam-et-iba-laos>

deforestation has steadily decreased since 2013 from 0.2% per year (2010-13 period) to 0.1% per year (2017-19 period).

118. This is illustrated by the maps of figure 15 which shows the evolution of forest cover and deforestation until 2019 and by table 5 (in Section 2.1.3) which shows the 2019 forest cover in the national park.

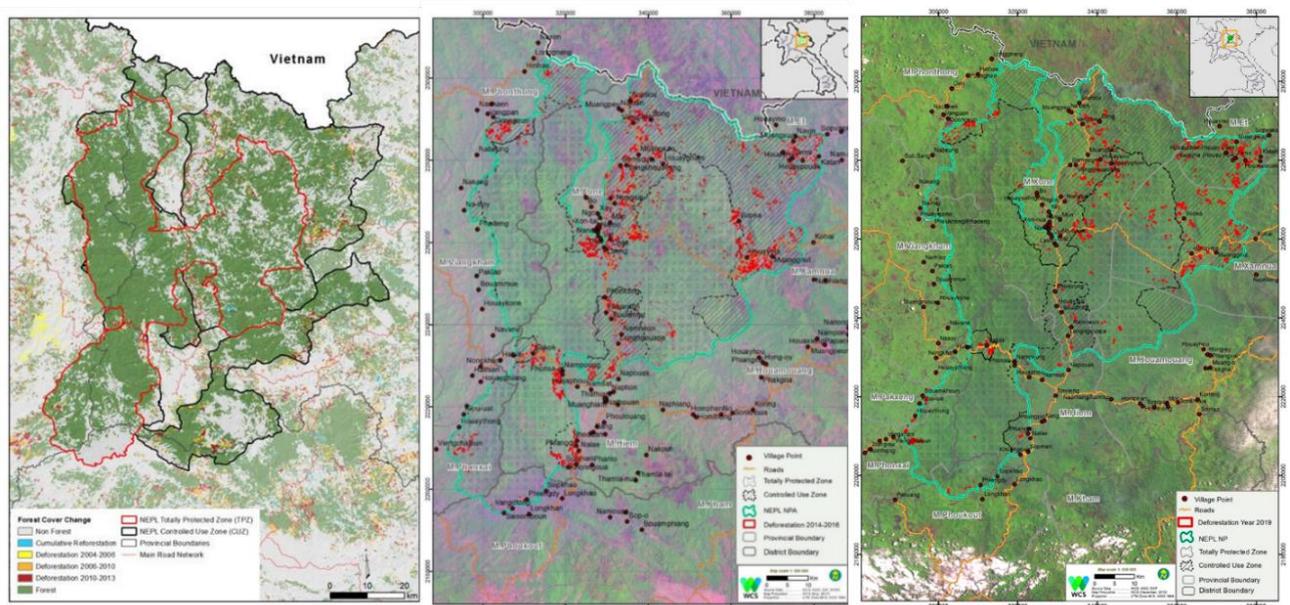


Figure 15. Forest evolution (left) 2004-13, (center) 2013-16, (right) 2017- 19

119. While the maps provide a visual illustration of both the deforested state of the National Park and the dynamic of deforestation, table 7 and figure 16 below shows how the rate of deforestation increased from 2004 to 2010 and started to decrease after 2013.

Table 7. Evolution of deforestation rate in the NEPL between 2004 and 2019

	Average deforestation rate (ha/yr)					Average deforestation rate (%/yr) w/ respect to forest					
	2004 – 2006	2006 – 2010	2010 – 2013	2014– 2016	2017– 2019	2004– 2006	2006 – 2010	2010 – 2013	2014-2016	2017– 2019	2004– 2019
<b>National park</b>	576	1,594	2,264	994	1,231	0.14%	0.40%	0.57%	0.37%	0.40%	1.76%
<b>TPZ</b>	110	330	397	269	235	0.05%	0.15%	0.18%	0.12%	0.10%	0.56%
<b>CUZ</b>	466	1,265	1,867	725	996	0.27%	0.73%	1.10%	0.69%	1.35%	5.45%

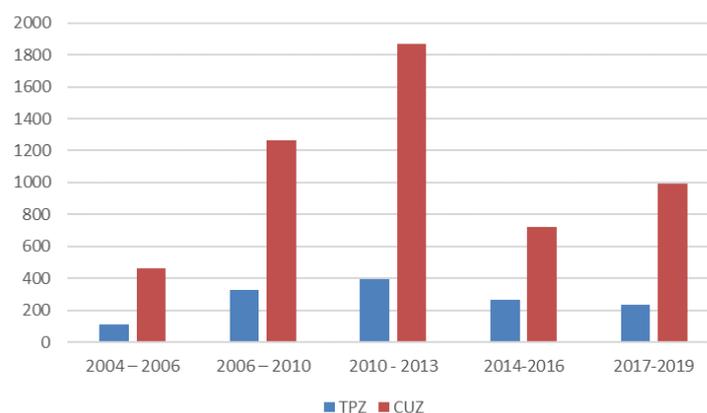


Figure 16. Evolution of the deforestation rate (ha/yr), 2004 to 2019

120. This result, especially in the TPZ, may be the outcome of a combination of support projects<sup>32</sup>. In the CUZ, attributing a decrease in deforestation rate to projects requires caution. First, it appears to increase again in the past 3 years. Second, forest the CUZ is subject to other external factors such as the price of agriculture commodities, or the lack of forest left to “deforest” (asymptotic effect) or even a variability in data interpretation (attributing a “forest” definition to a pixel in the analysis of satellite images is difficult in upland areas that are subjected to rotational farming.)

### Carbon emission reduction

121. This section focuses on the Park’s ecosystem service in regulating the carbon cycle and functioning for carbon sequestration. The Lao forest estate has annual average net greenhouse gas emissions of 34.1 million tons CO<sub>2</sub> (average for the period 2005-2015). The National REDD<sup>33+</sup> Strategy identified the main drivers of deforestation (see its annex 10) as (a) permanent agriculture and tree crops, mainly rubber, (b) pioneering shifting cultivation, (c) infrastructure development, and (d) unsustainable and illegal timber harvesting. Approximately 60 percent of the emissions were due to converting forests for agriculture. The trends have remained relatively constant during the past two decades, although there is evidence that the deforestation rate has been slowing since Prime Minister’s Order 15 was enacted in 2016 (World Bank, 2020).

122. The CO<sub>2</sub> stored within the forests of the NEPL National Park is in the order of 120 million tons as shown in table 8 below.

Table 8. Distribution of carbon stock in the NEPL National Park per zones and broad forest types.

Zones \ Forest types	Evergreen		Mixed Deciduous		Bamboo, shrub, agriculture, grassland		Total	
	Ha	mn tons CO <sub>2</sub>	Ha	mn tons CO <sub>2</sub>	Ha	mn tons CO <sub>2</sub>	Ha	mn tons CO <sub>2</sub>
TPZ	17,683	18.4	216,417	62.1	75,300	4.8	309,400	85.3
CUZ	7,416	7.7	65,384	18.7	125,200	8.0	198,000	34.5
Total	25,099	26.2	281,801	80.8	200,500	12.8	507,400	119.7

123. The forest degradation and deforestation within the boundaries of the NEPL National Park were measured regularly since 2004 and averaged by periods of three years (2004-06, 2007-10, etc.). The average annual CO<sub>2</sub> emission during the 6-year peak deforestation period of 2007 to 2013 was about 510,000 tons CO<sub>2</sub> per year<sup>34</sup>. This period is considered the “reference period” used to produce the results below<sup>35</sup>.

124. By reducing the rate of deforestation since 2013, the average annual rate of CO<sub>2</sub> emission during 2014-2019 also reduced. The amount of emission reduction is calculated to be 230,000 tons CO<sub>2</sub> per year. This is a net emission reduction of 220,000 tons CO<sub>2</sub> per year.

125. Further, it is modelled that the rate of deforestation and therefore the rate of CO<sub>2</sub> emissions could decrease to an average 280,000 tons CO<sub>2</sub> per year and 220,000 tons CO<sub>2</sub> per year over the period 2020-22 and 2023-25. This is an average net emission reduction of 260,000 tons CO<sub>2</sub> per year for that period. At \$5 per ton, the value of this reduction could be in the order of one million per year.

<sup>32</sup> Support to WCS from the World Bank and Global Environment Facility, German-funded CLIPAD project and AFD-funded TABI project.

<sup>33</sup> REDD Reduction Emission from forest Degradation and Deforestation

<sup>34</sup> Agriculture and Bamboo/shrub 48 tco2/ha, Mixed deciduous 305 tco2/ha & Evergreen 715 t co2/ha.

<sup>35</sup> It is understood that the REDD+ reference years are 2006-2015 and not the 2007-2013 and therefore the emission results eligible for payment will be different.

126. Unfortunately, this emission reduction does not immediately translate to a potential payment to NEPL National Park under the existing Lao REDD+ scheme. For this, several factors need adjustment.

- Lao has adopted a jurisdictional approach where the emission reductions are calculated at the provincial level.
- Lao has adopted baseline years of 2006 to 2015<sup>36</sup>(instead of 2007 to 2013 used in the above calculations).
- The national benefit sharing mechanism of the emission reduction payment has not set yet the proportion accruing to villages having achieved emission reduction.

127. Working with the DOF REDD+ division, additional work is thus necessary to calculate the share of emissions reductions (in the three provincial jurisdictions) that is attributable to the NEPL landscape. Only then would the NEPL villages and administration can claim payment under the national benefit sharing scheme.

## SECTION 2.2: PEOPLE OF THE NATIONAL PARK LANDSCAPE

128. This section describes who the guardian villagers are in terms of ethnic group and religion. It then demonstrates that demographic growth in the landscape is gradually stabilizing, poverty is decreasing, literacy is increasing. It shows that communities are habituating to spatial planning and land management and have increasing access to markets. This implies a context whereby, in the next 20 years, the NEPL landscape community may gradually become more receptive to conservation messages and implement better and better their roles of guardian villages and guardian villagers.



### 2.2.1. ETHNICITY AND RELIGION

129. It is officially accepted that 50 ethnic groups are geographically dispersed in Laos. They are historically referenced in terms of three topographic locations: the Lao Loum (lowlands), Lao Theung (mid-lands), and Lao Soung (uplands) although this . These categorizations also implied traditional agricultural production systems, with lowland peoples generally cultivating paddy rice, and midland and upland peoples pursuing shifting cultivation practices.

130. The NEPL landscape is home to 8 of the 50 ethnic groups. The ethnicity of the 91 villages is dominated by 3 of them: Khmu (40%), Hmong (28%) and Lao (20%). In Luang Prabang, the Khmu largely dominate with 59% of the guardian villagers. In Houaphanh, it is the Hmong who dominate with 36% of the villagers. The next significant group is Tai (Daeng and Dam) with 10% of the

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<sup>36</sup> Calculated against the REDD+ longer reference period of 2006-2015, the average CO2 emission was about 330,000 tons per year.

guardian villagers. The last three ethnic groups, the Phong, Lu Mien (Yao) and Xing Moun, all in Houaphanh province, represent altogether 2%.

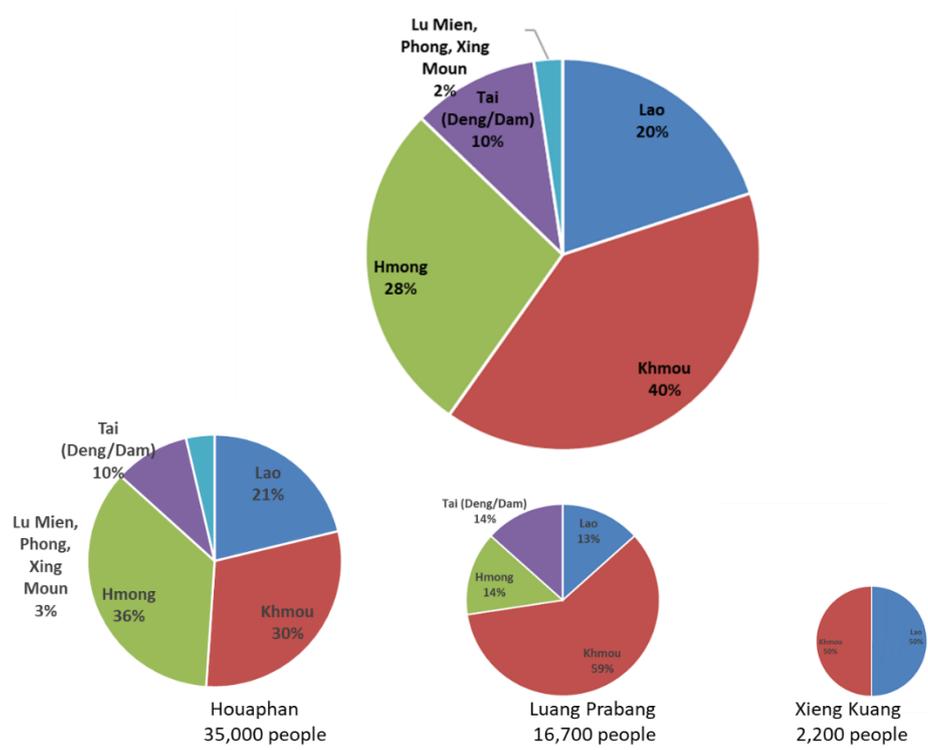


Figure 17. Distribution of ethnic groups living in the 91 guardian villages and 16 outreach villages<sup>37</sup>

131. Each of these ethnic group has distinct religion, culture and tradition which increases the cultural diversity of the NEPL landscape. A short caption is provided for each of these ethnic groups. Readers are invited to consult more sophisticated and comprehensive references. Ethnic groups are arranged below by linguistic origin.



**Lao-Tai linguistic group**

132. Lao (20%). These populations are originally from the lowland Mekong valley from the Lao-Tai linguistic grouping. They have settled these three provinces during this century. They tend to be more concentrated than the other groups in the larger villages and cities. Of all the ethnic groups,

<sup>37</sup> Another 11 villages were added to the list of outreach villages but their ethnic composition was not computed

they tend to be those most engaged in trade, services, and administration. Lao tend to practice Buddhism.

133. Tai Dam (5%, ~ 2,500 people in 3 villages, Xone Districts and 2 villages Phonthong District). Tai Dam or black Tai from their black attire, are a minority group of Tai origin with similar ancestry of Lao of Tai origin. They tend to practice animisms with a cult of ancestor but is gradually adopt Buddhism.

134. Tai Daeng (4% - ~ 2,000 people in Xone Nuar and Na Thong Por, Xone District and 3 village sin Phonthong District). The Tai Daeng ethnic group originated in Vietnam. Today, there are about 30,000 Tai Daeng in Laos, most of them living in the northeastern provinces. The name Tai Daeng, translated as Red Thai. They practice animism and shamanic rituals, although some have adopted Buddhism. The Tai Daeng are master weavers of silk and cotton and possess complex weaving techniques and dyeing skills.

#### **Mon-Kmer linguistic group**

135. Khmu (40%). The Khmu are one of the largest minority group of Laos. They were pushed up towards the north over the centuries from the plains of the Mekong to the midland. More than 80% of the world Khmu live in Laos predominantly in the north. They are animist with a rich set of traditions and beliefs around nature. Known for their expertise on medicinal plants and great skills in producing woven rattan and bamboo basketry, Khmu practice animism. Spirits gates and spirit houses are built within their village. In the NEPL landscape, Khmu are predominantly engaged in farming.

136. Ksingmul (1% - ~ 570 people in Ka Tan and Sop Veak, Et District) (Vietnamese: Xinh Mul) are an ethnic group in Vietnam and Laos. The group numbers approximately 30,000 people with just over 3,000 in Lao.

137. Phong (<1% - ~ 260 people in Hom Phan, Huamuang District). Phong also known as Kniang is spoken in Laos and is related to Ksingmul. The number of speakers of Phong-Kniang is estimated at 30,700 shared by Lao and Vietnam.

#### **Hmong-Lumien linguistic group**

138. Hmong (28%). The Hmong is a highland ethic group originally from China which scattered settlement in highland throughout Laos, Thailand, and Vietnam. Hmong tend to be animist with belief in nature, ancestors, and spirits. They are reputed as strong mind independent, highland farmers. They have a great knowledge of the forest and herbal medicine; skilled blacksmiths and carpenters; masters of weaving from hemp and elaborated embroidery. Much has been written about the Hmong culture.

139. Lu Mieng or Yao (<1% - ~ 420 people in Houay-Teun, Xone District). Yao ethnic group origins are in China. Yao women are distinguished for their mastery in the art of dying, embroidery and sewing distinctive costumes while the men are prominent black and silversmiths. Like the Hmong to whom they are related, they are animist with belief in nature, ancestors, ghost and spirits. They believe that ghost can be classified into two; the good that can bless and protect family members and the evil that do evil and harm people as well as domestic animals.

## 2.2.2. DEMOGRAPHY

140. According to district statistics, the NEPL potential<sup>38</sup> guardian village represent about 15% of the population of the 10 districts that have a land stake in the national park. The population in 2015 was around 42,600 people in 91 villages.

Table 9. Provinces, districts, villages, and population stakeholder of the NEPL National Park

Provinces	Districts	Number of potential Guardian Villages (in 2015)	Population of residents of potential Guardian Villages (in 2015)	% population of Guardian Village residents (compared to district residents)
Houaphanh	Xone	32 (of 35)	15,630	96%
	Hiam	19 (of 31)	4,420	43%
	Et	7 (of 71)	3,220	12%
	Huamuang	7 (of 78)	3,960	12%
	Samnuah	5 (of 118)	4,330	7%
Luang Prabang	Pakseng	2 (of 55)	1,000	3%
	Phonxai	3 (of 53)	1,300	4%
	Phonthong	5 (of 41)	2,700	14%
	Viengkham	7 (of 68)	2,850	10%
Xieng Kuang	Phoukhout	4 (of 54)	2,201	9%
<b>TOTAL</b>		<b>91</b>	<b>42,600<sup>39</sup></b>	<b>15%</b>

141. Figure 18 below illustrate the relative importance of each district to the National Park in terms of its guardian village population. The Xone district is, by far, the district most relevant to the NEPL National Park. All the Xone District villages except 2 have land either contained, overlapping or contiguous to the NEPL National Park land. So, 96% of its population are potentially guardian villagers and these villagers represent 37% of all guardian villagers.

142. In most other districts the proportion of potential guardian villagers is relatively balanced with each having between 7% and 11% of them. Phonxai and Pakseng (in Luang Prabang Province) have low stake on the National Park with each about 3% of the guardian villagers. Yet, these two districts are important because the occupy strategic locations being near one of the most important biodiversity areas in the national park.

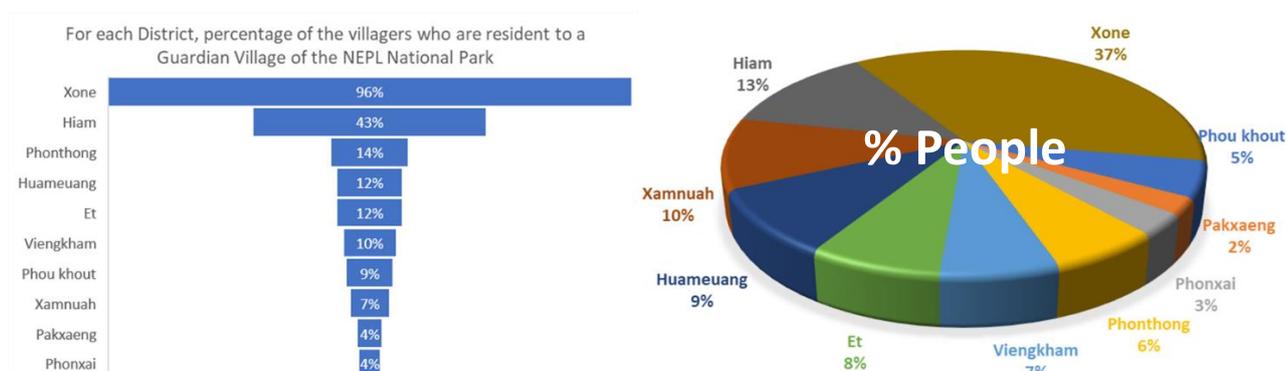


Figure 18. Resident distribution (left) within their district, (right) within the NEPL landscape

<sup>38</sup> Referring to *potential* guardian village, because not all villages who qualify to be a guardian village (i.e., overlap land or share boundary with the Park) may decide to sign a guardian village conservation agreement with the Park to become a GV.

<sup>39</sup> In the Management Plan, the number of guardian villagers is rounded up to 44,500.

143. Using district statistics on populations, between 2005 and 2015, the 10-district population has grown at an average of 0.72% per year. This population growth rate is low compared to the national average rate (1.45% per year) according to the 2015 National Statistics Bureau data. The three provinces of NEPL overall have low population growth rates: 0.3% per year for Houaphanh, 0.6% for both Luang Prabang and Xieng Khouang.

144. This low level of population growth in the 3 provinces is likely due to rural urban migration to Vientiane capital. This rural urban outmigration is increasing by an average of 0.8% per year nationally, and the outmigration is more pronounced in mountainous provinces. Thus, this indicates that the population is not going to increase much in the NEPL landscape.

145. In fact, even the national trends are toward slower demographic growth. The national population growth rate in Laos has been slowly decreasing for decades and this trend is expected to continue in the coming years to reach 0% within 40 years. From, 7.28<sup>40</sup> million today, predictions believe that the population in Laos will be around 8.1 million in 2030, 8.8 million in 2040, and 9.2 million by 2050.

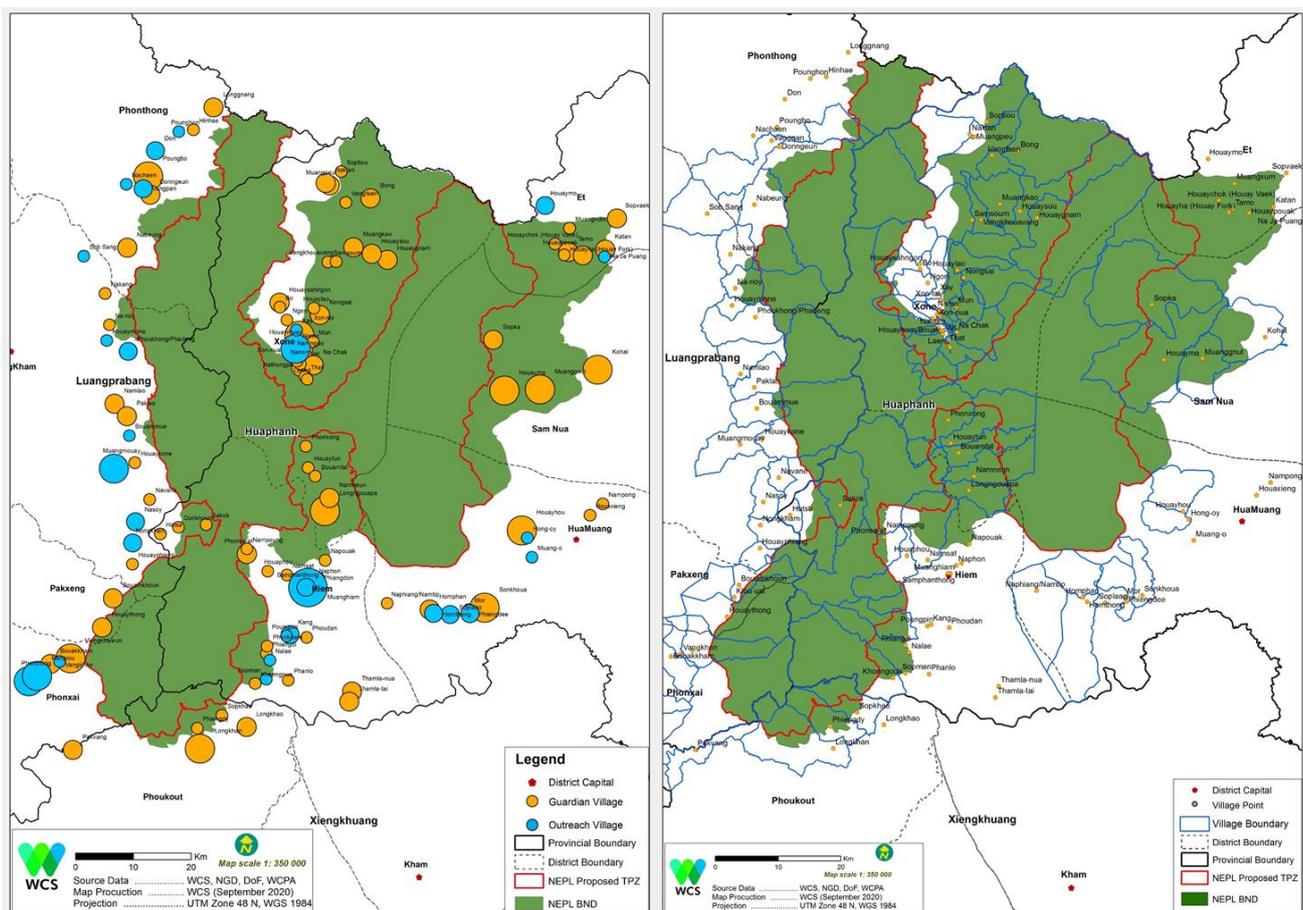


Figure 19. (left) villages locations and sizes, (right) guardian villages administrative land<sup>41</sup>

146. Assuming the continuation of a 0.72% per year average population growth rate in the landscape, the number of guardian villagers, over the next 30 years may increase by about 30% from about 44,500 to not more than 55,000 people and stabilize soon after. Provided an improvement in

<sup>40</sup> <https://worldpopulationreview.com/countries/laos-population>

<sup>41</sup> This information is not available for all villages yet and boundaries in this map require case by case verification.

agriculture practices and a diversification of the economy, it is realistic that land will be sufficient for the NEPL National Park landscape to see its ecosystem become a sustainable engine of growth and wellbeing for all its residents.

### 2.2.3. LAND USE AND LAND USE PLANNING

147. The current distribution of villages is not a reflection of the past. Only less than 50 years ago, some of the areas deep in the National Park TPZ had been occupied by villages which are now along the roads. Traditionally mountain ethnic groups like the Hmong were mobile while the various territorial feuds between Siamese, Vietnamese and Chinese groups also stimulated such mobility. The Indochina war influenced the pattern of settlement and even more recently, in the 80's the GoL stimulated the relocation of villages along the road. In addition, the gradual occupation of higher land by groups of Khmu and Lao origin changed the dynamic of settlement this century.

148. In interview, the guardian villagers tend to claim scarcity of land as a limiting factor. This is sometimes echoed by district authorities. However, the population density in the NEPL National Park landscape is very low: around 8 people per km<sup>2</sup>. This is well below provincial densities (Houaphanh, 18 p/km<sup>2</sup>; Xieng Kuang, 15 p/km<sup>2</sup>; Luang Prabang, 19 p/km<sup>2</sup>). Since people do not have access to TPZ land or resources, the density in the CUZ and the Buffer Zone (BFZ) represents better villagers' reality. Still, the net density is around 16 people per km<sup>2</sup>, which is on par with the province averages.

149. This current density of 16 people per km<sup>2</sup> is considered a low rural density when compared to most other rural areas in Lao and the region. Although, the suitability of available land for agriculture or livestock may remain an unknown factor. This implies that the perception of land scarcity could be inaccurate and likely related to low technology adoption to efficiently use the land. In fact, the current agrarian system is characteristic of land abundance with limiting factors being labor and technology. The perception of land scarcity may change as land use efficiency increases with the gradual improvement in land planning and allocation, increased education and market access leading to introduction of agriculture technology.

150. Most of the NEPL guardian villages have adopted a Land Use Plan (LUP). The plans from the first generation, developed in the late 2000s, have not been strictly followed. The method was refined and, in the past few years, a process of updating and registering the LUP has been ongoing. Of the NEPL 91 guardian villages, 68 have adopted or upgraded a LUP in the past 10 years, 23 do not have a LUP (mostly Et, Phonthong and Pakxeng District) or their LUP is more than 10 years old. In 2020, some villages, e.g., the 2 guardian villages in Pakxeng district, will receive support for their LUP from a German-financed Village Forestry project.

151. Very few land titles and land use certificate have been issued to residents of the NEPL landscape. This is likely to improve in the next years with the adoption of a new land law and the increasing capacity to administer land tenure issues in the country.

### 2.2.4. POVERTY

152. The evolution of poverty in the landscape is relevant to NEPL management. The fifth official Lao Expenditure and Consumption Survey (LECS5) estimate poverty dates 2012 at 23.4% (i.e., the population living with less than \$1.25 a day). It was a significant improvement from 27.3% five years earlier. Then, an estimated 80 percent of the country lived on less than \$2.50 per day<sup>42</sup>.

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<sup>42</sup> The LECS6, was completed in 2019, but its results are not yet published.

153. Houaphanh has one of the highest poverty rates in the country (based on monetary value). In 2012, the poverty rate in Houaphanh was 37%. Conversely Xieng Khouang, with 28.3% and Luang Prabang with 22.9%, reported poverty level close to the national average of 23.4%.

154. For the 10-districts in 2012, the average incidence of poverty was about 33.7%, close to the Houaphanh average. Even though it is likely that this has decreased since 2012, it implies that there were around 18,000 people living with less than \$1.25 a day in the NEPL landscape. They were distributed as shown in the figures 20 and 21 below.

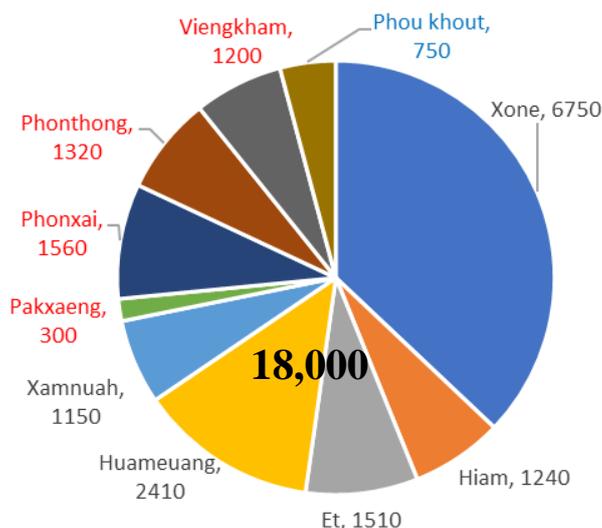


Figure 20. District distribution of residents of the NEPL landscape below the poverty line (2015)

155. While the 2015 poverty incidence in the NEPL population was higher than the national average, the trends in poverty reduction are more positive. The rate of poverty reduction is faster than the national average rate of 2.9% reduction. Calculated from district data (i.e., not from the standard LECS), a significant reduction of poverty occurred in the 10 districts between 2005 and 2015.

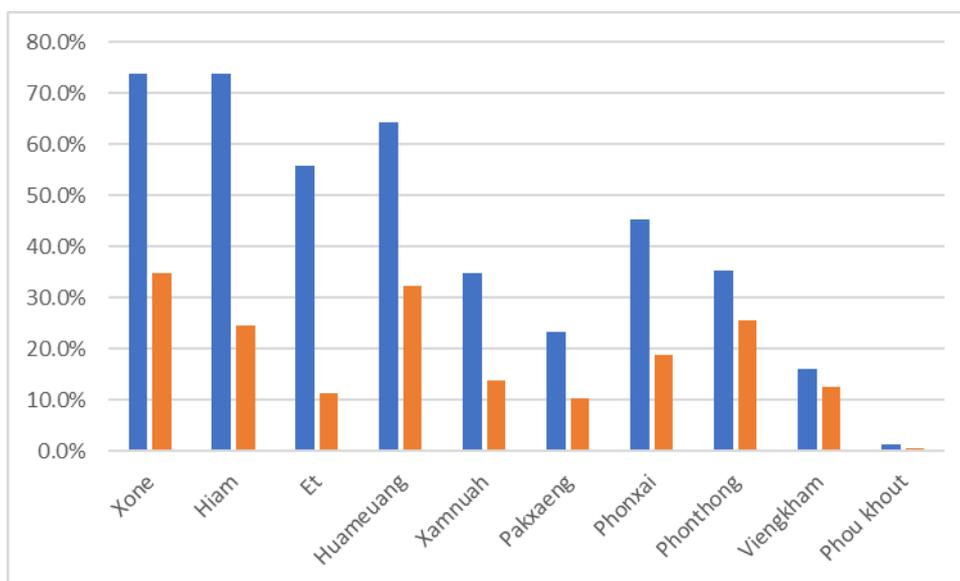


Figure 21. Change in the percentage of poverty in NEPL landscape (blue 2005, orange 2015)<sup>43</sup>

<sup>43</sup> Source district administrations

## 2.2.5. EDUCATION

156. All of the 118 NEPL landscape villages (guardian and outreach villages) have a primary school and 21 have a secondary school.

157. District data on education require verification and additional investigation. According to district statistics, literacy<sup>44</sup> appears to be “on par” with the national average for males with 95% (the national average is 90%). However, it is much lower than national average for female with 64% (the national average is 79%). This is an improvement of about 6% over 10 years.



158. District data show a primary school enrollment of 96% which is slightly lower than the national average (boys and girl combined) of 98.7% in 2017. The secondary school attendance is reported to be higher than the national average of 66%.

159. According to data directly gathered from some districts, about half less girls than boys attend primary school in the 10 NEPL districts. This is in great contrast with gender balance at national level, where male and female enrollment rates are 96% and 93% respectively.

## 2.2.6. TRADE AND ADMINISTRATIVE CONTEXT

160. Among the 107 NEPL villages, there are 17 covered markets. Trades (household shops, fuel stations, etc.) and services (e.g., mechanics, restaurants, guest houses, etc.) are increasing especially in villages along the roads. Tourism is contributing to these activities but only with – so far – marginal impact on livelihoods. There is virtually no higher-level industry in the districts, except in the provincial capital district of Houaphanh.

161. An important cash earning activities are weaving, which women traditionally lead. Some weaving “factories” are established. The production of sin (traditional lao cotton fabric with traditional patterns) is purchased by travelling traders. Studies for another part of Laos shows that weaving textile can help deal with daily expenditure such as, school fee and food. The contribution of weaving income to the family’s income has made female weavers recognized as co-breadwinner of the family (Thippavong, undated)

162. Government offices, including security, are all present in the district capital and serving effectively the NEPL landscape villages. In the 114 NEPL villages (guardian and outreach), there are 77 government health facilities.

163. Both district and provincial defense forces have bases in the NEPL landscape, with a few of such bases within the national park. Over the next few years, some are likely to be relocated outside

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<sup>44</sup> Literacy: percentage of people over 15 years old who know how to read.

the national park. The border areas between Laos and Vietnam in Viengthong, Xone and Et district are patrolled by the district and provincial defense forces.

164. In Xone district, at the Vietnamese border, there is a border post with a custom and immigration office. However, this border is restricted to crossing by the Vietnamese and Lao people only. It is not a cross-point for non-Vietnamese tourists or non-Lao.

## SECTION 2.3: ACCESS TO THE NATIONAL PARK

165. Worldwide, roads are considered one of the worst drivers of biodiversity loss into the areas they grant access to. Road construction through the NEPL National Park has led to significant reduction to natural habitat by agriculture encroachment and settlement along all roads: (a) both the western and Xone corridor have narrowed to become barely viable, (b) the so-called Pathi road, connecting Samnuah to Xone districts through the north eastern TPZ has caused major natural habitat clearing, wildlife culling and replacement by cattle, fences, and fire-induced grassland. All roads have facilitated market linkages to illegal wildlife and timber markets.

166. In 2020, the “damage is done”. The mitigation of the impact of these roads on biodiversity is being organized through reduction of corridors, change of zoning and negotiation with cattle owners. Once a few existing roads are paved, there is no additional plan for roads<sup>45</sup>. This implies that the national park, can set its long-term conservation goals knowing that no additional crossing will occur in the foreseeable future.

167. While the three provincial roads are being paved, their impact to the Park is likely to be minimal because these roads have already existed for several years as gravel roads and already generated conservation challenges that the park management team had to address. For example, because of encroachment on the so called “Xone Corridor” between the east and west of the National Park, negotiations on the boundaries and use intensity took place between the Park and the local users. Another example is from the Pathi area. Agriculture and livestock activities permeating into the Park started a crisis that called the attention of both government and communities on the tradeoffs required for conservation. Negotiations are ongoing with reasonable prospect for a positive outcome. In fact, these roads may have a positive impact. They will facilitate trade to and from Xone, increasing the wealth of its resident and provide a “tourism route” through the NEPL landscape.

168. Rather, the development of airports and paving of several roads can become viewed as positive from a market access standpoint for the communities and especially tourism. The benefit of easier and cheaper tourism access from Samnuah are expected to begin accruing during the period of this Management Plan but become more significant after 2025.

### 2.3.1. ROADS

169. In 2020, even by Lao standard, the NEPL landscape is considered remote. Access is possible by tarred road from the east Samnuah (4 hours by car), south, Phonsavanh (5 hours by car) and west, Luang Prabang (8 hours by cars).

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<sup>45</sup> The road from Xone to Phonthong districts, which was meant to cross the north western TPZ, is no longer appearing in the Houaphanh and Luang Prabang plans for road construction.

170. The national road network (in blue in figure 22 below) is maintained but there is no plan for upgrade in the next 5 years. Along these roads, regular bus service is available. The movement of goods is not problematic.



171. Several provincial roads relevant to the National Park are being paved<sup>46</sup> (see in red in figure 22 below). While these roads create conservation challenges, they will considerably improve access to tourism to the Xone district (see below in the tourism section).

- Hiem to Xone - the civil work is ongoing in 2020 with completion estimated in 2021 will give paved road access to the Vietnam border;
- Hiem – Houayma through the Pathi Road. The civil work is started in 2020 with completion estimated in 2022. This will give paved road access to Xone from the Pathi Mountain and Samnuah;
- Ban Yay (Xieng Kuang) to Hiem. The construction of this provincial road from (so-called short cut from Phon Sa Vanh) has been awarded to a company. Its completion schedule is 2022. This road would greatly reduce access time from Phon Sa Vanh to less than 3 hours. However, funding for an important bridge is not secured.

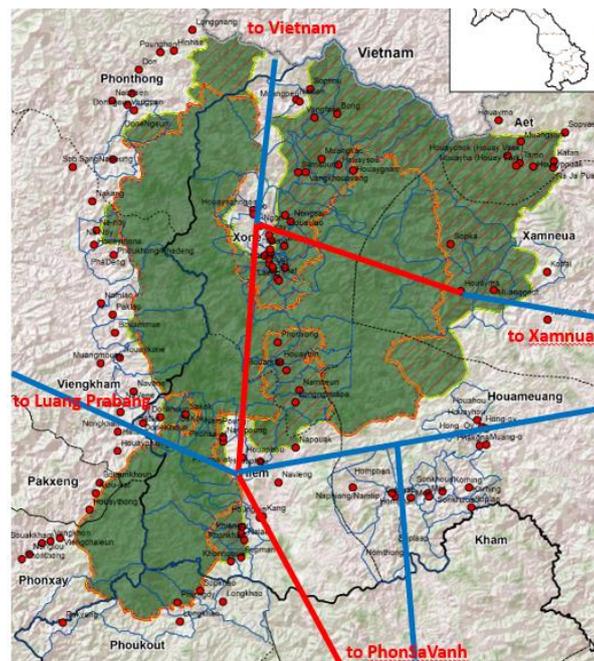


Figure 22. Paved road network: (blue) existing road (red) planned for paving in next 5 years.

<sup>46</sup> Ministry of Public Work and Transport, 2020, Houaphanh Province 2021-2015 Plan.

### 2.3.2. AIR TRANSPORT

172. There is no air access with the NEPL landscape. There is an International airport serving the tourism hub of Luang Prabang. This airport is about 8 hours by road from the NEPL National Park headquarter in Hiem.

173. There are domestic airports in Phonesavanh and Xamnua (each about 5 hours by road to Hiem). XamNuah airport is being upgraded. Within the period of this Management Plan, Samnuah may start receiving larger planes including possibly some international arrival.

## SECTION 2.4: DIRECT USES OF THE NATIONAL PARK

174. The livelihood of villager is dominated by agriculture and livestock. Still, a substantial portion of material comes from the forest resources. There is an increase in number of people engage in trade but very few services.

175. The villages of the NEPL landscape are rural villages. Their very predominant source of livelihood is agriculture and livestock. Still, a substantial part of the food, pharmacopeia and building materials originate from the use of forest resources such as Non-Timber Forest Product (NTFP) and wildlife.

### 2.4.1. AGRICULTURE AND LIVESTOCK

176. Agriculture practices commonly applied in the NEPL National Park landscape are characterized by low productivity. Increased competition for commercial agricultural lands may be displacing subsistence agriculture (upland rice, vegetables, etc.) and certain cash crops (e.g., maize, Job’s tears and cassava) to less suitable forested upland areas. Tree-cutting and increasing land degradation may lower productivity and stimulate seeking out more productive land, which could lead to further deforestation and forest degradation. Deforestation rate outside the TPZ was 1.35%/year which was twice the demographic growth of 0.75% pointing to an increasing area of land used per each farmer.

177. Poor access to irrigation exacerbates the low productivity of agricultural production, as does the limited availability of government agricultural extension services. The two main agriculture crops are maize and rice both upland and paddy field.

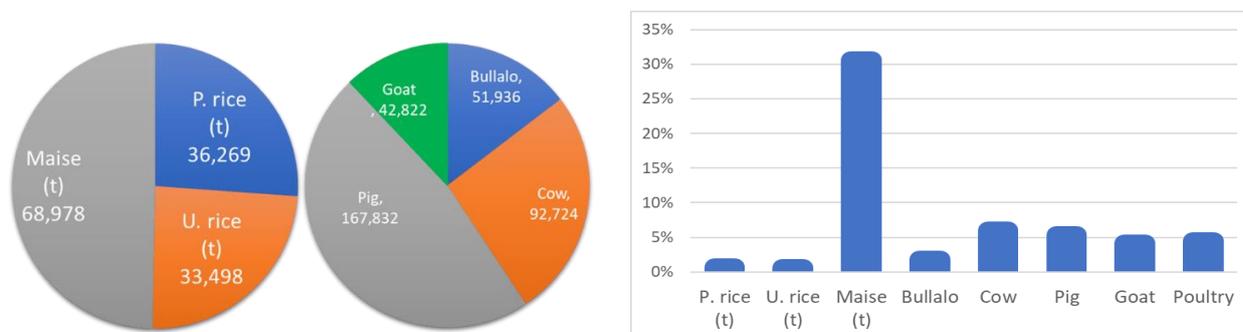


Figure 23. Ten districts agriculture/livestock (left) production 2015<sup>47</sup>, (right) av. year growth 2005-15

<sup>47</sup> Source district statistics

178. The 2005-2015 period experienced an explosion of upland maize cultivation with the tripling of the production. The reason was a sudden increase in animal feed in Vietnam. Some districts, like Hiem/Xone multiplied by more than 10 their maize production during that period. It is locally reported that maize had replaced upland rice, although figure 23 shows that upland rice production did not decrease during that period. It is expected that the 2020 statistic will show a reversal of trends with the lower price of maize driving down its production which may be replaced by upland rice.



179. The same period shows a major increase in livestock which, except for buffalo, grew more than 40% on average in the landscape. Of note a three-fold increase of cattle in the Xone and Huamuang districts which has translated in the occupation by cattle of large portions of the National Park, of and the so-called Tamla extension. This trend has continued and apparently accelerated since 2015. This is still a thesaurus phase that feed the local market, with few animals exported. But the growing trends in cattle is expected to continue with the increasing market in Vietnam and China.

180. Cattle production is still dominated by small-scale farmers using traditional techniques with mostly indigenous breeds, such as *Bos indicus*. The uses of cattle include household consumption (in the form of meat), income generation, cash storage for those beyond the reach of the banking system, draught services, and manure for fertilizer. The main source of cattle feed is by grazing on natural pastures, on the roadside, on fallow land, in paddy fields after crop harvest, and in forested areas. But this is changing with about 20% of the cattle in Houaphanh province being behind fences (ECM, 2020).

181. Enterprise-based agriculture on titled land or concession is in its infancy in the NEPL landscape. Some areas have received concession for livestock in Hiem district. The district agriculture administration indicates a small interest for such concessions by villagers or investors. Of note the increasing trend to fenced-in pasture on planted grass such as Ruzi grass (*Brachiaria ruziziensis*) for cattle raising.

182. Coffee has a limited history of cultivation in the vicinity of NEPL. Areas were planted with a Lao-American project between 1990 and 1998, and a local promotion effort between 2010 and 2012 ended with up to 30 hectares planted, mostly in Xone District. The Northern Uplands Development Program promoted coffee in the area up to 2015 with 62 hectares of coffee planted in four villages of Xone District. With WCS and Saffron Coffee™, sustainable coffee cultivation is promoted in the same villages. The production is increasing but so far remains low at 0.5 ton in 2019.

183. Despite official opium eradication program, some villagers still grow opium poppies, contributing to the livelihood of some families. The footprint of opium production on forested areas would be in the order of 100 to 200 hectares, although being at the heart of the TPZ, it is likely to affect biodiversity sensitive areas. For opium production, villagers tend to clear forest areas with big trees, rivers, and cooler microclimates (WCS et.al, 2015).

#### 2.4.2. NTFPs, FISH AND WILDLIFE

184. The utilization of forest resources is an important source of livelihood and cash income to the NEPL landscape communities. Guardian villagers collect NTFP such as bamboo shoots in large quantity for personal consumption and trade. Selective logging is practiced mostly for house construction (poles and structure) or increasingly for livestock fencing. In some cases, wood from local logging is traded in the local market as planks. Fishing and hunting are extensively practiced though may be decreasingly because of the rarity of wildlife and wild fish resources. Bird and bat netting are practiced for the trade along the road.

185. NTFP include food sources (e.g., cardamom, honey), energy source (e.g., firewood), construction material (e.g., bamboos, wood poles), source of pharmacopeia (e.g., wild tea), source of material for handicraft (e.g., broom, baskets). Wildlife and aquatics species that are consumed as food or pharmacopeia include many of the species of mammals, birds, reptiles, fish, insects present in the NEPL national park.

186. Other than anecdotes or outdated studies on some NTFPs, little data exist on the collection of wild products, their conditions and their role in the local livelihood and economy. Some research has occasionally explored these dimensions. They are listed below to illustrate the vast potential of NTFPs.

#### **Evidence of NTFP and wildlife contribution to livelihoods**

187. A study dating back to early 2000s had found almost half of cash income generation of rural populations came from NTFPs; about 49% in Luang Prabang Province. The commercial use of NTFPs is thus seen as one way to “lift people out of poverty”. Moreover, NTFPs can provide not only local community benefits, but also contribute to the national economy, at about 9.2% of GDP in 2009, equivalent to around 510 million US dollars. However, the output of some commercial NTFP species, such as cardamom, orchids, columbo wood, tiger grass, malva nuts, and benzoin, have decreased due to overharvesting and illegal harvesting (cited from Vatthanatham, 2018.)

188. A Participatory rural appraisal in 2007 by World Vision revealed that communities in Phoukhoun, Xieng Nguen, Ngoi and Pakxeng districts collect a variety of NTFPs for sale and own consumption. NTFPs account for 16-39% of the village cash income, covering over 50 products. Most people earn some part of their income from NTFPs, but for the poorest households (17% of the population) earnings are as high as 48%. This is without considering the many NTFPs consumed (81 plant and animal products) or used in and around the house (23 products). People who are better off collect fewer wild NTFPs and move into NTFP management on their own land, as is the case for paper mulberry, broom grass and peuak meuak (*Boehmeria malabarica*) (Greijmans, 2007) (Phouvisouk et.al, 2014).

189. The NEPL landscape possess vast areas of wild bamboo, largely due to the secondary growth in a shifting cultivation system. Bamboo is a major source of food as well as construction and handicraft material. To illustrate the potential, in Eastern Houaphanh, with several species of bamboos four value chains have been initiated in 62 villages: fresh shoots, dry shoots, slat and sticks and handicraft. By 2014, the value chain involved 2,336 households generating an average household income of 1.3 million kips (GRET and SNV, 2014). Already the NEPL guardian villagers are involved in similar value chain, albeit without the added benefit of external technical advice, marketing and processing.

190. Wildlife. A rare study from 2010 gives good insights on the linkages between wildlife management and household food consumption in the NEPL landscape (Johnson et.al., 2010). The study shows the extreme dependence – more than half of consumption -- of NEPL households from products from the wild. It is likely that the dependence has decreased over the past 10 years – especially regarding the dependence on wildlife for meat sources. But the number of cash poor households remain high and the culture and taste preference for wild products also. The harvest of some of wildlife is sustainable in the vast forest areas that are outside the TPZ.

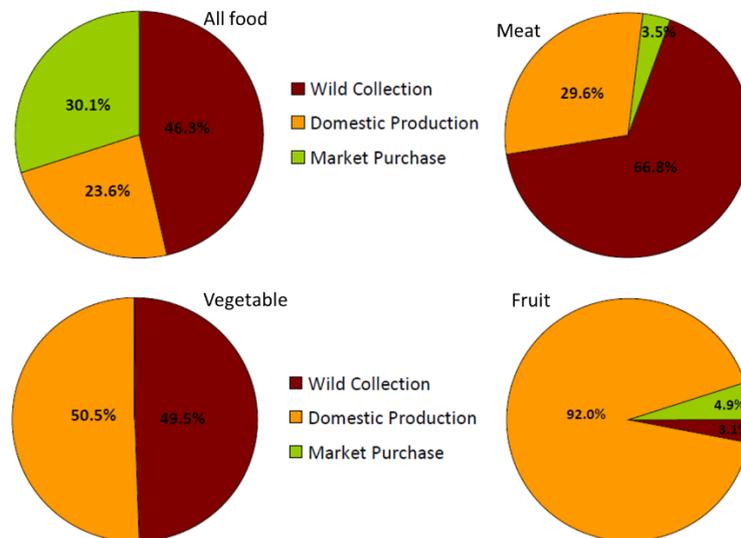


Figure 24. NTFP consumption by two NEPL families May-Aug. 2009

191. In various parts of the National Park TPZ and CUZ, such as Sop Kok and Tam La in Hiem District, there are chestnuts and red mushrooms (hed kor daeng) which are in high demand in China, Korea and Japan. Fresh mushroom is sold at 100,000- 200,000 kip/kg and at 500,000 kip/kg when dried. This red mushroom is harvestable from May to July. This harvest requires families to spend nights and days in the forest to temporarily claim a certain area. Other NTFPs include tea, cardamom, orchid (dok poeng), rattan (keu ham), etc. (WCS et.al., 2015.).

192. When the collection of wild resources happens inside the TPZ, it is illegal. In the CUZ, harvesting listed species of tree, NTFP, fish or wildlife is prohibited. In the past the entire area between the National Park boundary and the TPZ was CUZ. So, communities had no option but collect these resources from the CUZ and the park authority had difficulties monitoring and regulating the uses. Often the harvest of these forest products is unsustainable and uncontrolled, and important NTFPs have disappeared from some areas.

### NTFP concession

193. One NTFP concession has been issued in 2018 to Khamxay Phatthanasaphanpi Co., Ltd. (Investment license 36/ຄວສ.໙໖) for a duration of 15 years over an area of 125 hectares to plant, collect, trade and conserve a 1,000-year-old wild tea. This concession is operational but unfortunately it has been mistakenly issued in the middle of the TPZ in an area that is biodiversity sensitive. This company also has a second concession in the Tamla area outside the national park.

### 2.4.4. TOURISM

194. One of the rationales for the establishment of the NEPL National Park is to increase the share of tourism in socio-economic development of north east Lao PDR.

195. In 2019, tourism represented 4.3 percent of GDP and 3.5 percent of jobs in Lao PDR. The global average is about 10 percent of GDP and 10 percent of jobs. Lao PDR welcomed 4.58 million international visitors in 2019, representing a growth of 9% over 2018. Of these 93% are from Asian countries. Much of the success may be due to a Visit Laos-China Year 2019 campaign which translated into a jump of 27% in Chinese travelers. In 2020, the country expected five million international tourists, but this prediction was shuttered by Covid-19. There is room for nature-based tourism to grow in Lao PDR, which requires protection of landscapes with good forest, water and wildlife assets.

**Tourism in the NEPL Provinces**

196. The NEPL tourism potential must be analyzed in the context of the three provinces it overlaps.

197. Until now, two of these provinces – Luang Prabang and Xieng Kuang -- have been tourism hubs which people tend to visit before venturing into Houaphanh province and the NEPL landscape. The city of Luang Prabang, in the province of the same name, -- a World Heritage destination -- has an international airport. With 655,000 visitors, it is “the” major tourism destination in Laos. It offers a wide array of attractions, exciting activities, world class accommodations, and energetic tourism services. Xieng Khouang province, with the town of Phonsavanh, is a lesser destination which is increasingly visited with the Plains of Jar acting as magnet attractions - which also is pursuing World Heritage Site inscription.

198. In the past, despite the highly attractive historical site at Viang Xay caves, Houaphanh province has struggled to become the tourism hub it had intended in its 15-year plan drafted in 2007. This is mainly because of difficulty of access. The Samnuah airport is not of sufficient standards to accommodate more than small aircrafts and the road access is long and winding (6 hours to Phonsavanh and 12 hours to Luang Prabang by private car).

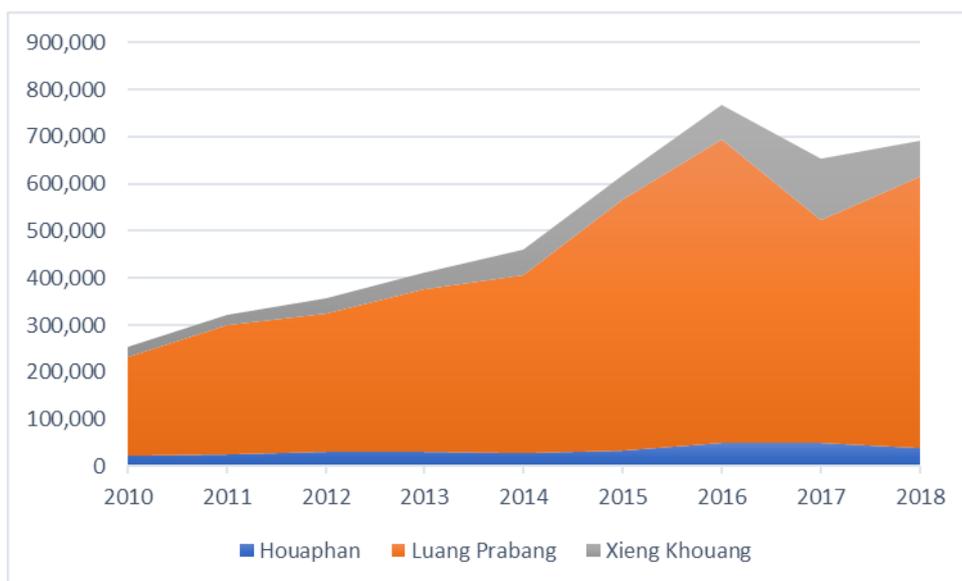


Figure 25. International Visitors to Houaphanh, Luang Prabang and Xiengkhouang Provinces<sup>48</sup>

<sup>48</sup> Ministry of Information, Culture and Tourism 2018

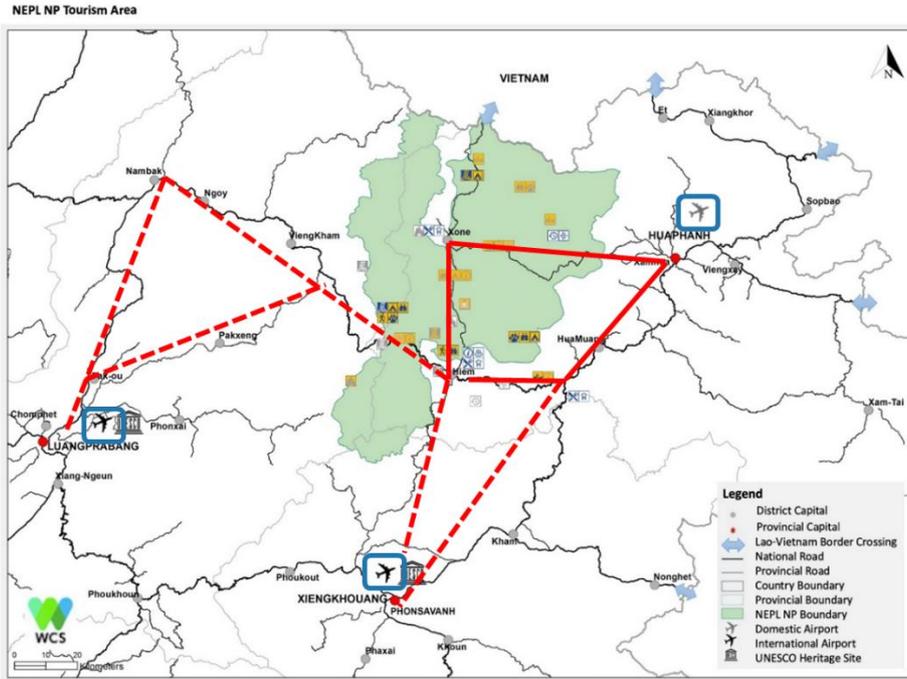


Figure 26. NEPL as a tourism destination within the 3 provinces; in red potential tourism routes

### Tourism Products in the NEPL National Park landscape

199. The Nam Et-Phou Louey National Park landscape is best known for its wildlife attractions along the Nam Nern River, the Muang Hiem Hot Springs, and its rugged mountain landscapes. It features important Secret War era landmarks, archeological significant caves and culturally attractive Hmong, Khmu and Tai Daeng ethnic villages.

200. Lasting 8 months (October to May), the season appropriate for tourism in NEPL is similar to other Lao destinations. The seasonality will remain an important dimension that investors consider. Figure 27 below illustrate the impact on season on current NEPL tourism.

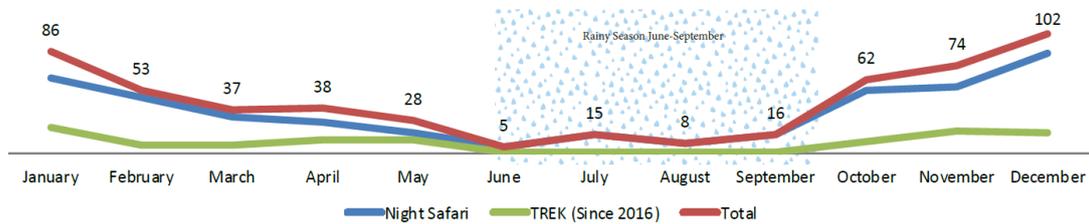


Figure 27. Seasonality and monthly average visitors 2015-2019

201. With high variability between each in terms of condition, stage of development and access, some tourism products and sites in the NEPL landscape<sup>49</sup> are:

- Wildlife viewing at night by boat in the Nam Nern night safari expedition ([www.NamEt.org](http://www.NamEt.org)). Laos's premiere site for viewing wildlife. A two-day/1-night tour co-managed by WCS in cooperation with Ban Son Koua and 13 surrounding villages. The product is a ride down the Nam Nern River at night to look for wildlife by spotlight and stay in a community-built lodge; The tour has gained public recognition and international visibility as well as won the prestigious 'World Responsible Tourism Award' both in year 2013 and 2014.
- Trekking to Phou Nied adventure trail and Phou Louey Mountain summit (Elev. 2,257m, 3rd highest summit in Laos): 3-5-day trekking in some of Laos' wildest outback in an area with the greatest biodiversity of the park with occasional wildlife viewing. The area is famous for its rich wildlife biodiversity. The Northern White Cheeked Gibbons can be heard in the early mornings. Overnight accommodation is provided in jungle huts and/or the unique spherical baskets (the nests) hanging from the trees.
- Hot Springs in Muang Hiem. This is one of the country's most impressive natural hot spring, the Muang Hiem Hot Springs is a community-managed attraction. It is open to the public for a small fee. There are short and full-day hiking trails around the School Forest, which covers the surrounding mountain of the hot spring and is managed by the local high school as model for conservation.
- Waterfalls: (a) Tad Sang Nam at the edge of the TPZ on a day trek from Muang Hiem, (b) Tad Leuay which can be seen while hiking the foot of Phou Louey or on a day trek from Muang Hiem; (c) Tad Kone which is held in concession (see below) and developed into a simple resort.
- Cultural tourism. The NEPL area host many minority ethnic groups who may appreciate sharing their culture and hosting visitors; some villages such as in the Bouamfat villages, Hmong villages involved in organic coffee and who can show a variety of features.
- Boating on the Nam Et River from Muang Sone (Xone district) or from Houayma (Samnuah district). This can be arranged with villagers on site and give access to spectacular forest landscape.
- Secret war sites only second to Long Chen in Xieng Khouang, including (a) climbing to the top of Phou Pathi (Lima site 85 former US radar site), on the eastern border of the National Park near Houayma, (b) Lima Site 36 (former US airbase) outside of Hiem as a day trip to the Thammla area.
- Archaeological site. Tham Long Ngua Pa is as an archeological site near Bouamfat villages, with the oldest intact human bones ever found in Asia. The area would require careful development and interpretation to become attractive;
- Caves in Bouamfat villages and Muang Xone including Tham Long Ngua Pa Cave (near the archeological site of the same name), Tham Hang Cave and Tham Nam Lot. Some are spectacular and several kilometers deep but not yet developed and secured.



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<sup>49</sup> Also possibly: (a) Huamuang, standing stones and cliff stupa, (b) Et, Pakmon cliffs/forest and fish conservation zones, (c) Hiem, Tamla area, Tad Joy Fall, (d) Phonthong, trail to Xone, (e) Viengkham, Tag Sanam waterfall (not same as in Hiem), (f) in Phonxai, trail to Hiem.



Nam Nern safari, Tad Kone waterfall, Phou Louey trail, Source WCS and TM Pavy

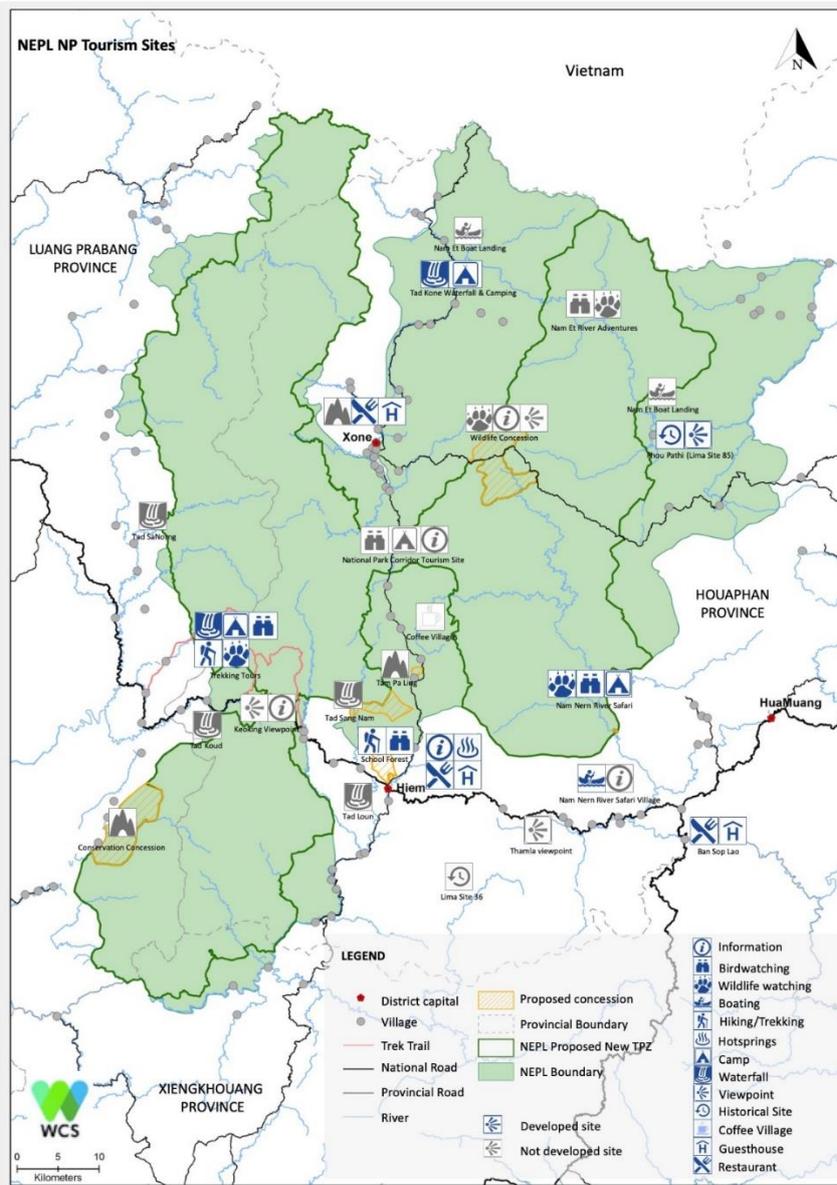


Figure 28. Illustration of the NEPL landscape substantial tourism potential

202. Previous attempt to attract private investment for the Nam Nern Safari failed due to the distance and availability of other product in the country that were more profitable. There is only one tourism concession in the NEPL National Park landscape: The Tad Kone Waterfall in Xone District.

The concession is held by the company Phu Xay Tourism and Development Company Limited for a period of 30 years starting in 2017. The concession is developed as a pleasant waterfall and swimming pool resort with a restaurant and with three modest bungalows. While no international holiday tourists currently visit the resort, its aesthetic and its proximity to a kayak-prone stretch of the Nam Et river and to a potential launch-base for Nam Et river safari, makes it a prime location for the development of tourism in the Xone part of the NEPL landscape.

### Tourism Results in the NEPL National Park landscape

203. Over the past 10 years, from a low base, the number of tourism entries in the National Park has steadily increased to reach 518 in 2019.



Figure 29. 2010 to 2019 growth: (left) visitors and (right) revenues

204. The NEPL current products are attracting European tourists. But for the country as a whole, European tourists make up the lowest segment of international tourists to Laos. Chinese and Korean visitors are the largest segment of international tourists to Lao PDR, but a very small number of them visits NEPL. Asian tourists to NEPL are less than 7% of total visitors to the park, and even among this a substantial proportion of these visitors are expatriates.

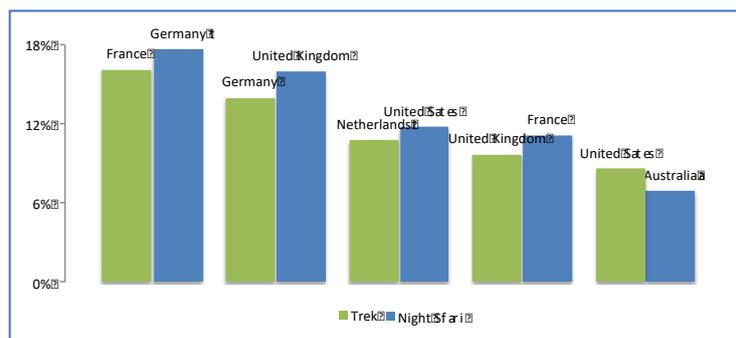


Figure 30. Top 5 visitor nationalities

205. Most WCS staff who support tourism development are from the NEPL areas and the communities involved in the Nam Nern night safari are from 14 villages. They share part of the revenues from the *wildlife observation fund* between over 1,000 families. Also, a total of \$84,000 is injected yearly in the local economy in the form of employment salaries. Most of the employment is with one village, benefiting about 43 families.

206. The trekking product in the Phou Louey area benefits 12 villages who share the fund between over 900 families. Employment is with three villages, benefiting over 100 families who work as “service providers” in trekking.

207. The two current tourism products are set to encourage conservation effort. Financial incentives based on encounters with wildlife by visitors on tours translates into an incentive bonus to

the *wildlife observation fund*. All information collected on wildlife sightings and observations during the tours is recorded on an online database and is further incorporated into the National Park wildlife-monitoring program. Tourists pay a fee on all tours that credit the *wildlife observation fund*, which is shared annually by the surrounding villages; in 2019 the amount distributed was around \$10,000.

### **Tourism Prospect in the NEPL National Park landscape**

208. While the immediate perspective of tourism is gloomy because of COVID 19, the medium to long term perspective is positive. There are upcoming investments that will slowly increase the market profile and volumes and facilitate access to both Houaphanh and to the NEPL landscape. Tourism development in the NEPL National Park landscape must account for these factors.

- Tourism is one of the sectors most affected by the COVID-19 pandemic, impacting economies, livelihoods, public services and opportunities on all continents<sup>50</sup>. Covid 19 has led to a complete shutdown of international tourism in 2020. Travel restrictions are expected to gradually ease in 2021 and some tourism may return. However, a global slowdown is expected in tourism and no prediction is currently available on the pace of recovery. It is expected that the residual global tendency will be to limit distance travel which implies, for Laos, and even greater share of tourists from the regional markets, especially China.
- The high-speed train from China to Vientiane through Luang Prabang is expected to be operational within the next two years. It is predicted that the cross-border traffic at the Chinese border and the associated number of tourists will increase several folds (i.e., gradually increase until 2025 and then triple between 2025 and 2030). The number of tourists in the Vang Vieng and Luang Prabang towns could increase from currently about 1.2 million to 4.5 million in 2030 (World Bank, 2020).
- Upgrade of the Samnuah Airport to accommodate larger planes and possibly welcome international landings. The upgraded airport is expected to become operational before end 2021.
- Paving of three access roads to the NEPL landscape from Phonsavanh and Samnuah (see also section 2.3.1) is likely completed within the next 5 years and will begin to impact tourism investment and arrival in the NEPL landscape.
- There is potential increase in wildlife, and wildlife viewing opportunities, with a substantial scale up of National Park management in the next 5 years.
- There is potential improvement in tourism doing-business climate with the adoption of the protected areas decree that clarifies concessions and licenses in protected areas as well as establishment of a tourism incentive initiative funded by the World Bank.

209. These factors will slowly affect tourism arrival in the NEPL National Park landscape. Most likely, the NEPL will feel the consequence of these investments after 2025. This implies that the 1<sup>st</sup> 5-year phase of this Management Plan is crucial to prepare the park by building its capacity in tourism planning, investment facilitation and monitoring: first increase and secure the tourism base of travelers from “European profiles” from Samnuah and Phonsavanh while preparing for a substantial increase in travelers of Chinese origin from Luang Prabang.

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<sup>50</sup> [https://unsdg.un.org/sites/default/files/2020-08/sg\\_policy\\_brief\\_covid-19\\_tourism\\_august\\_2020.pdf](https://unsdg.un.org/sites/default/files/2020-08/sg_policy_brief_covid-19_tourism_august_2020.pdf)

## 2.4.5. HYDROPOWER AND MINES

210. Hydropower and mines are two land-based industries that are central to the Lao development strategy but have tended to significantly affect the integrity of protected areas (ref. Nam Teun II impact on the Nakai Nam Teun National Park).

### Hydropower

211. There is currently no hydropower dam or reservoir within the boundary of the national park.

212. There is no dam planned in the NEPL districts in Xieng Khouang or Luang Prabang. In Luang Prabang, the Nam Khan II dam was initially expected to flood the southern part of the park. Commissioned in 2017, the dam's reservoir is far from the park. In Houaphanh province there are four dams planned that will affect the NEPL Landscape (see table 10 below). Not included in the table are two dams on the Nam Et river that have been cancelled. No additional powerlines planned at this time in the NEPL Landscape.

Table 10. List of proposed dams that may affect the NEPL national park

District	Name and MW	Stage	Comment
Houamuang	Nam Nerm 3 / 60MW	Project Development Agreement, dated 10/11/2017 with Vangsup Development and Investment Co Ltd and THB Group Sole Co Ltd.	The initial design flooded part of the TPZ. ESIA was approved and then cancelled by MONRE in 2018. Instructions were given to reduce dam head, so the reservoir does not flood the TPZ.
Hiam	Nam Hang / 6.89MW	Memorandum of Understanding, Sept 9, 2014 with Xaychalern Cny.	In the National Park on the boundary between the TPZ and CUZ. 184 km <sup>2</sup> catchment & 21.6 km <sup>2</sup> reservoir. Proportion in the park is unknown <sup>51</sup> .
	Nam Khan III/ 6.05MW	No information about the development of these dams is available. No visible investigation for the past 3 years.	Outside the National Park boundary.
	Nam Huang / 4.33MW		Catchment 168 km <sup>2</sup> and reservoir 1.2 km <sup>2</sup> . Overlap of the reservoir with the BFZ of unknown proportion.

### Mining.

213. The current challenge from mining is moderate. Apparently, there is no mining prospecting license that overlaps with the national park. There are three quarries for road construction in the CUZ in Houaphanh. They are not expected to be subject to a major scale up. In the early 2010's small scale mining - specifically artisanal river mining - was increasing and threatened to impact on the national park. This threat has decreased in the past year to be considered minimal at this time.

## 2.4.6. ANALYSIS OF THE CONTEXT

214. A general analysis of the context describes shows an encouraging pattern of decreasing or slowing down negative's factors and of increasing positives factors. While these by no mean indicates

<sup>51</sup> Under the 2020 Protected Area Decree the reservoir mitigation option is conversion which must be done at the expense of the promoter requires (a) designation of an equivalent area elsewhere, and (b) National Assembly approval. Conversely, if the flooded area is not zoned as TPZ, the concession holder has the option to pay an annual conservation fee of 0.5 million LAK per hectare flooded to the park management authority.

that the challenges that remain are not formidable, they show a context whereby the management prescription may be able to rest on increasingly solid foundations.

215. Among the negative factors that are reducing are:

- Population growth: Half of country average. Continues to decrease. Population to stabilize within 30 years at less than 60,000 people.
- Deforestation: Almost stopped in the TPZ. At 1.35% in the CUZ but decreasing. The decreasing deforestation rate offers the opportunity to benefit from carbon emission reduction payment.
- Poverty and income: In 2015 it is higher than the national average but reducing faster. Communities are responding fast to market opportunities as shown by maize and cattle boom and would respond well to conservation-compatible trade if competitive.
- Concession threats: There is no significant dam, powerline, mine planned in the park.
- Road/infrastructure threats: The “damaging” roads are built. The planned road through north-west TPZ is cancelled.

216. Among the positive factors which trend has been to increase or improve are:

- Management capacity: The park leadership, staff, infrastructure, equipment have significantly increased.
- Land organization: About 75% villages have a LUP and the new forestry legislation allows the reduction of land-use conflict.
- Tourism : It is gradually increasing within a niche market which itself is increasing and new market opportunities are coming with Samnuah airport.
- Literacy: Boys are on par with national average. Girls are lagging 10% below but this is reducing. Children are ready to learn the transition to ecological civilization.
- Access: Airport in Samnuah and improved roads to Samnuah.
- Financing: Several donors are lined up. A conference is needed to tie it together.
- Awareness: The national, provincial and district government and some community members are gradually increasing their awareness of the benefit of nature.
- Policy and laws: the new forestry law and protected area decree are modern legislation which are conducive to a significant improvement in protected areas management effectiveness.
- Knowledge: 20 years of involvement has produced a wealth of knowledge which the park can harness to for efficient and effective decision.

217. This context and the encouraging trends illustrated, set the stage for the next Chapter where the national park 10-year vision is defined and the direct challenges to the vision identified and analyzed.

## CHAPTER 3 – THE NATIONAL PARK VISION AND ITS CHALLENGES

218. This chapter presents the Vision adopted for the NEPL National Park landscape and the Challenges to the vision.

### SECTION 3.1: A VISION FOR THE NATIONAL PARK

219. The vision gives directions to all management authorities and partners.

220. Vision Statement: The NEPL --- a model National Park sustainably administered by an organized, skilled and gender-balanced staff working in partnership with other organizations, administrations and all guardian villages of the landscape --- a supportive guardian villages population aware and convinced of the interest of the park and receiving equitable benefits from sustainable tourism and other income streams generated by the park – a growing contribution to the country socio economic and cultural development and to its international image --- a more secured globally significant biodiversity, a reestablished forest cover in well-connected TPZ and CUZ with wildlife steady recovering in all the TPZ and part of the CUZ --- a largely disappeared challenge from incompatible land use concessions and infrastructure.

221. The NEPL vision has three dimensions, which are interconnected and integrated but can be explored separately for the purpose of strategy and implementation.

- *Institutions and capacity* --- a model National Park sustainably administered by an organized, skilled and gender-balanced staff working in partnership with other organizations, administrations, and all guardian villages of the landscape;
- *Socio economy and market* --- a supportive guardian villages population aware and convinced of the interest of the park and receiving equitable benefits from sustainable tourism and other income streams generated by the park through a growing contribution to the country socio economic and cultural development and to its international image;
- *Biodiversity* --- a more secured globally significant biodiversity, a reestablished forest cover in well-connected TPZ and CUZ with wildlife steady recovering in all the TPZ and part of the CUZ and a largely disappeared challenge from incompatible land use concessions and infrastructure.

### SECTION 3.2: CHALLENGES TO THE VISION

222. The tendency in biodiversity conservation and protected areas planning has been to consider external forces that affect the integrity of the natural ecosystem within the protected areas boundaries as “threat” instead of normal development “challenges”.

223. A risk with this paradigm is that a National Park Management Plan, may become conceptually isolated from the socio-economic and political space, and from the development context of the administrative units – village, district, province, country -- it occupies. In turn, this implies a socio-economic outcome potentially missing relevance and foregoing opportunities for sustainable harmony.

224. The planning of the NEPL National Park landscape rather takes an approach whereby the park is considered as one element among others in the national, provincial and district socio-economic development context. The intention is to cast the National Park as an asset to socioeconomic development. This paradigm considers that the forces prevent the ecosystem from keeping and delivering its potential and the capacity to address them are not threats but challenges (and even in some cases, opportunities).

225. This section therefore describes the challenges and their impacts to the national park’s vision. It attempts to analyze the main causes of these challenges and explore avenues to address some of them. These then become the entry point to the next chapter on strategic planning.

### 3.2.1. CHALLENGES TO INSTITUTIONAL CAPACITY

226. Because National Park management strategy, governance, capacity, financing is overwhelmingly important in the analysis of direct challenges, they are detailed in table 11. below. The table describes the direct challenges for the NEPL National Park *becoming a model sustainably administered by an organized, skilled and gender-balanced staff working in partnership with other organizations, administrations, and all guardian villages of the landscape.*

Table 11. Challenges to institutional capacity

<b>challenge</b>	<b>Risk and trend in 2020</b>
<i>Weak national planning and guidance.</i> A low level of national priority in comparison with other development challenges faced by Lao PDR which affects the level of attention that national and local administration pay to ensuring that protected areas are incorporated in development planning.	<i>Moderate and decreasing risk.</i> The national plans, such as the 8 <sup>th</sup> NSEDP <sup>52</sup> , the Green Growth Strategy, the Land Use Master Plan, are gradually incorporating environmental management and this is gradually trickling down to the provincial and district levels. Especially the adoption of the new Forest Strategy and National Action Plan for protected areas would give greater guidance.
<i>Insufficient legislations.</i> Insufficiently modern options offered by protected areas legislations prevent the emergence of more effective and efficient, and better integrated, institutional models of protected area management.	<i>Moderate and decreasing risk.</i> The adoption the forest law and the new protected areas decree are improving the possibility for more integrated protected area management models to emerge.
<i>Low financing.</i> A critically low level of Government budget allocation (less than 0.01% of the need) and the related full dependency on the support from international organization and projects.	<i>High and decreasing risk.</i> A GoL budget allocation is unlikely. The NEPL is poised to receive some revenue from tourism. The country is also embarking in a process to increase the sustainable financing of protected areas from sources others than the national budget or overseas development assistance.
<i>Limited pool of human resources.</i> Low government staff numbers appointed to protected areas and few people trained, skilled and experienced in the various trades of protected area management.	<i>Moderate and decreasing risk.</i> The absence and rapid rotation of skilled government staff were signaled a problem in 2015. While the number of government staff remains low (9 staff) and unlikely to increase (due to macroeconomic situation), the skill-mix is improving and the possibility to work with a stable contractual work force is stabilizing.
<i>Weak system for community engagement.</i> Community engagement has lacked a robust systemic approach to support the communities to organize and become an equitable partner.	<i>Moderate and decreasing risk.</i> The Protected Area Decree improves the approach to engaging and supporting communities, including better institutional set up for the communities, clarification of their rights and ways for them to benefit from their rights through issuance of permits and negotiating agreements

<sup>52</sup> NSEDP National Socio-Economic Development Plan

	with potential users, and also clarification of land tenure around the protected areas.
<p><i>Law enforcement.</i></p> <p>The law enforcement practice has been inappropriate to address the type of offenses that protected area face; resulting is highly ineffective prosecution of wildlife crime and absence of addressing encroachment from agriculture, livestock, concessions, etc.</p>	<p><i>High and slowly decreasing risk.</i></p> <p>With protected area decree, the protected area management office may be able to appoint rangers as investigation officer and set up an investigation committee and this Mgt Plan regulations is aligned with the prohibitions described in the protected area decree. This should clear the way to litigating, investigating, and prosecuting better all offenses that are affecting the land and biodiversity of the National Park including cattle and agriculture encroachment.</p>

227. In summary, this challenge is associated with a historical combination of low development priority, inappropriate legislation, lack of suitable institutions and human resource, all obstacles to addressing the direct challenges or their causes.

228. In the past 10 years, the capacity of the park management body has significantly improved. With the new legislation, the GoL has the option to strengthen significantly and empower further the National Park management, especially law enforcement.

### 3.2.2. CHALLENGES TO A SOCIO-ECONOMIC CONTRIBUTION

229. The National Park vision reaches beyond improved biodiversity into improved livelihood and socio-economic development. Therefore, the challenges to the park vision must also include those affecting the ability of the National Park to contribute to the communities' well-being and to the socio-economic development. Table 12 describes the direct challenges to the NEPL National Park *having a supportive guardian villages population aware and convinced of the interest of the park and receiving equitable benefits from sustainable tourism and other income streams generated by the park through a growing contribution to the country socio economic and cultural development and to its international image.*

Table 12. Challenges to a socio-economic contribution

<b>challenges</b>	<b>Risk and Trend in 2020</b>
<p><i>Modest tourism base and potential.</i></p> <p>Location of the Park and its difficult access is an existing challenge. Little investment interests are in NEPL; degradation of its ecological integrity keeps tourism potential low.</p>	<p><i>High and slowly decreasing risk.</i></p> <p>The difficulty of access and the complexity of doing business environment are decreasing. However, the rarity in wildlife and landscape degradation remains for the next five year highly severe impediment to the development of new products. It will require more time to address unless there is a strong reversal in communities hunting and encroachment practices.</p>
<p><i>Decreasing community access to wild products and services.</i></p> <p>The absence of effective cooperation between communities and Park authority to govern, manage, and use the natural resources leads to overharvesting, illegal activities, and perceived/real restrictions to rightful and sustainable access to resources. This can be exacerbating poverty, undermining food security and livelihood, and degrading cultural values and practices. .</p>	<p><i>Unknown risk level and trend.</i></p> <p>These risks have not been properly assessed. It is likely that part of the “wild” diet of communities is being replaced by domestic “diet”. but its proportion and how it affects the poor families is unknown. It will be useful to analyze in detail the information that the next poverty survey will obtain from the guardian villagers.</p>
<p><i>Lack of alternative livelihoods.</i></p> <p>Low market access and lack of community awareness / technical knowhow on sustainable production.</p>	<p><i>Moderate and slowly decreasing risk.</i></p> <p>The current practices are driven by dynamic proximity markets (e.g., maize and beef by Vietnam and China) and require unsustainable use of the park land and resources.</p>

	The process of adaptation of 88 villages (44,500 people) to production system that are adapted to National Park cohabitation will be slow but early signals, such as with the shade coffee success, are encouraging.
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**3.2.3. CHALLENGES TO BIODIVERSITY**

230. A study of the drivers of deforestation and forest degradation for Houaphanh province (WCS, 2015) and various reports and studies over the years on NEPL (e.g., NEPL PAMU et.al., 2019) found the principal threats to the integrity of the NEPL centered on a combination, and interaction of, several direct and underlying drivers of forest degradation (biodiversity loss) and deforestation (forest cover loss). Among these drivers, some are direct challenges to the biological integrity of the national park. In decreasing order or severity, the most important direct challenges, are listed in the table below. Table 13 describes the challenges to the NEPL National Park *having a more secured globally significant biodiversity, a reestablished forest cover in well-connected TPZ and CUZ with wildlife steady recovering in all the TPZ and part of the CUZ and a largely disappeared challenge from incompatible land use concessions and infrastructure.*



Table 13. Challenges to biodiversity

<b>Challenges</b>	<b>Risk and Trend in 2020</b>
<i>Harvesting wildlife, fish and NTFPs</i> Illegal and unsustainable harvesting of wildlife, aquatic species and NTFPs in the TPZ and the CUZ using a variety of methods such as hunting with guns and snares and fishing with electric means and the associated trade along the main road.	<i>High risk and unknown trend.</i> The most severe of the challenges is poaching. The highest biodiversity value of the National Park lies with the large number of critically endangered species that it hosts. The number of species has already decreased with at least 5 important species becoming locally extinct. If the clouded leopard and white checked gibbon go extinct, the rationale for NEPL being a National Park will become questionable.
<i>Cattle encroachment.</i> The illegal expansion of livestock, and associated land use practices, in the TPZ.	<i>High and increasing risk.</i> Almost equally severe challenge. Large areas of the TPZ have been encroached by cattle and fences, especially in the Pathi area. Livestock and livestock management affects biodiversity through clearing of forest, gradual settlement, fire practices and other human induced activities. This issue requires the support of the provincial and district administration, with better organization of land for cattle, improvement of the livestock value chain and strict law enforcement. As of now the 5 NEPL district produce 34% of cattle even though they have 57% of the grassland. Given the
<i>Encroachment by upland agriculture.</i> The expansion of shifting cultivation land uses in the TPZ and CUZ.	<i>High and increasing risk.</i> On average, the CUZ loses about 850 hectares of forest per year to agriculture, mostly shifting cultivation but also paddy rice and tree crops. In the past, the reversal of this trend was not possible through law enforcement. Offering “developmental” or mediate solutions were the only option but required much capacity not available in the protected area authorities.

	In the future, the 173,000 hectares CUZ are reduced by 72% to 48,000 ha. The remaining 125,000 have become buffer zone available for settlement and agriculture. This offers an opportunity for communities to become more secure where they farm and for the CUZ to become managed without agriculture. Boundary marking is essential to avoid new conflicts.
<i>Encroachment by paddy field.</i> The expansion of paddy field land uses in the TPZ along some valleys and streams;	<i>Moderate and decreasing risk.</i> On average, the TPZ loses about 250 hectares of forest per year to agriculture, mostly paddy rice encroachment. The reversal of this has proven difficult. In some cases, offenders were given warnings and asked to leave. Some of them did not remove their fields, were not prosecuted, and became tolerated.
<i>Fire.</i> The burning in parts of the TPZ and CUZ to maintain grassland artificially, hunt or clear land.	<i>High and decreasing risk.</i> Modis data between 2004 and 2014 over Houaphanh province shows a highly variable, but generally decreasing number of fires. The data for 2019 over the Nam Et and the Phou Louey areas show that fire occurs almost everywhere in the park, especially where patches of grass remain.
<i>Alien and Invasive species.</i> Reports cite between 49 to 54 such specie in Lao <sup>53</sup> (micro-organism, mollusks, birds, plants, mammals spp.). globally alien invasive are one of the highest biodiversity threats.	<i>Unknown risk.</i> Invasive plants seem a problem more in the CUZ, where agriculture and clearing reset the succession, than in the TPZ where forest covers tends to shade out invasive. New grass such Ruzi grass ( <i>Brachiaria ruziziensis</i> <sup>54</sup> ) are being introduced for cattle farming once the forest is cleared. Streams are likely infected by invasive fish released in local ceremonies. However, at this time, there is no survey, report or assessment of the severity of this challenge.
<i>Climate change.</i> The higher variability of climatic events with a general tendency toward increase temperature and rainfall but also longer drought period.	<i>Moderate and increasing.</i> This is a diffuse but severe challenge which can have transforming consequences for the ecosystem. In the case of NEPL this is illustrated by the frost event of 2016 which left vast areas devastated killing large number of trees, plants, insects, and wild animals. It could have compounding effects on other direct challenge paused by agriculture and fire and their causes.
<i>Illegal logging.</i> The logging of high value timber which is illegal in all zones except in the BFZ for family use.	<i>Moderate risk and unknown trend.</i> In theory, this is a challenge that is not difficult to detect, investigate and prosecute. In practice, while arrests have been made, no case has been taken for prosecution. With the appointment of forest officer and investigation committee, this challenge could be successfully addressed within the period of the Management Plan.
<i>Infrastructure and investment projects.</i> The development of unmitigated infrastructure (roads, powerlines) and concessions (agriculture mines and hydropower) in all zones. Roads especially increased pressure on forest areas due to improved access, leading to unsustainable timber extraction, and further clearing for agricultural expansion.	<i>High and significantly decreasing risk.</i> In the past, this loomed as a major threat to the NEPL. Less so in 2020 with the cancelling of the two Nam Et dams and Xone-Phonthong road through the TPZ. No forestry concession overlaps with the National Park land. No mining license exist over the TPZ and only one agriculture concession. While a few residual issues must be addressed, this challenge could become insignificant within the Management Plan period. Road building financed through allocated timber quotas was an important deforestation driver but is no longer practiced.
<i>Military strategic posts</i> The provincial military has several strategic posts in the national park TPZ in Phonxai (Huay Germae), Hiem (Keo King), Xone (San Ong) and Sam Nuah (Huay Chiet). The strategic relevance of these camps, might have decreased and their	<i>High and unchanging.</i> The presence of military outpost could have a neutral effect on biodiversity. Unfortunately, some soldiers have been witnessed to hunt, farm and raise domestic animals in some of these camps. In provincial and district consultation meetings, the issue was raised by administration officials suggesting that the Department of Forestry engage discussion with the provincial military commands to relocate the camps outside the TPZ and rehabilitate sites and access.

<sup>53</sup> <http://issg.org/database/species/search.asp?st=sss&sn=&rn=Lao%20People%20Democratic%20Republic&ri=19417&hci=1&ei=1&fr=1&sts=&lang=EN> and [http://chm.aseanbiodiversity.org/index.php?option=com\\_wrapper&view=wrapper&Itemid=309](http://chm.aseanbiodiversity.org/index.php?option=com_wrapper&view=wrapper&Itemid=309)

<sup>54</sup> Origine of Ruzi grass is Burundi and Rwanda in Africa.

presence in the TPZ is not consistent with the new Forestry Law.

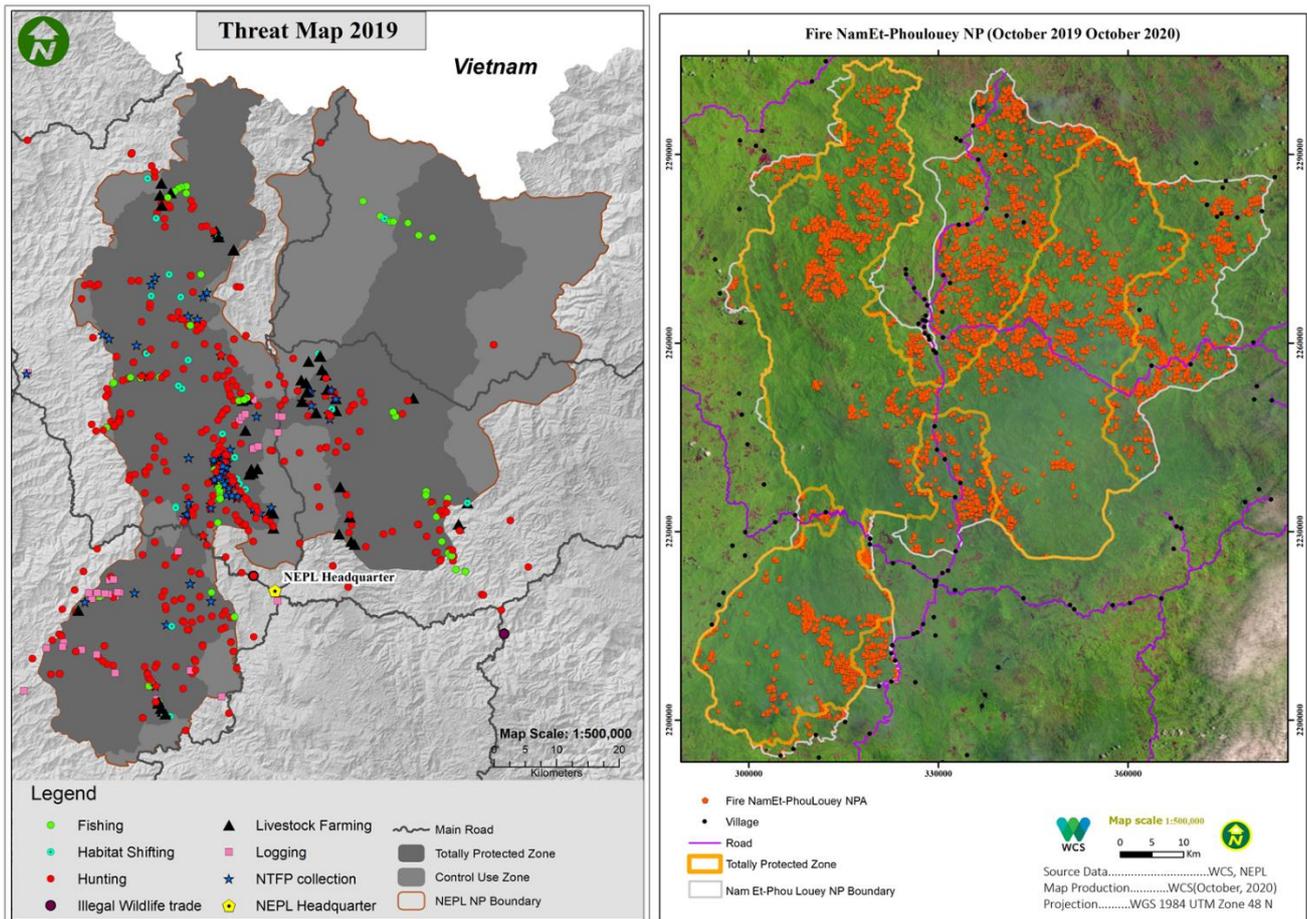


Figure 31. Distributions of (left) direct challenges, or threats<sup>55</sup> (right) fires (Oct 2019-20)<sup>56</sup>

### 3.2.4. OTHER CHALLENGES

231. Other challenges can be posed by the broader set of forces that are part of the context in which the park operates. Most are beyond the influence of park management, but some can be mitigated with dedicated plans and investments. Table 14 describes such challenges in the background that affect the NEPL National Park to achieve its vision. For these challenges, rather than discussing their risks and trends, the analysis offers possible mitigation options to address their broader nature.

Table 14. Other broader challenges that can undermine the NEPL to achieve its vision.

Other challenges	Options for mitigating these causes
<p><i>Perception.</i> There is generally low public perception of what is a national park, why should it be protected, how can it contribute to socio economic and cultural development. Therefore, the government task to develop and manage the park</p>	<p>It is difficult for the park office to influence national perception. But it is possible, through awareness building, children education, genuine support to guardian villagers to gradually develop a local constituency which will become a force that can itself influence broader opinion.</p>

<sup>55</sup> Data collected by the patrol teams in 2019 (no livestock encroachment reported in Pathi area due to data deficiency).

<sup>56</sup> Of note the fire intensity in the Xone area where grasslands are utilized by cattle.

<p>often clash with the citizen wishes for the same area and resources.</p>	<p>In this respect the park office will continue and expand its awareness program, increase its scope to included primary schools and engage guardian villagers with all the tools provide by the law.</p>
<p><i>Market.</i> International and national demand for energy, mineral, agriculture<sup>57</sup>, livestock and wild commodities for national and foreign markets, especially Chinese and Vietnamese markets;</p>	<p>This is part of a national context of political economy which cannot be influenced.</p> <p>It is rather preferable to recognize its existence and use the National Park landscape resources to supply such markets with for example, tourism revenues, “labelled” free-ranging cattle, “certified” shade coffee, purchase of reduced carbon emission and other ecosystem services.</p> <p>Specifically, the major challenge to park land is cattle encroachment due to the community response to high demand in Vietnam and China and provincial policy to increase the herd (EMC, 2020)</p>
<p><i>Welfare security for the poorest.</i> Food, energy, medical and shelter security requirement of at least the 20 to 30% of an increasing population of 44,500 guardian villagers still in poverty compounded by their lack of knowledge, awareness or sensitivity to the issues and opportunities.</p>	<p>Ultimately, most food security and poverty reduction are likely to come from a more efficient and productive agriculture and livestock better linked to markets. Other GoL departments are supporting this endeavor.</p> <p>The new protected area legislation strongly empowers communities as guardian villages and help organize land more productively. The park authority will fully implement the approach selected by GoL by educating and helping communities with land use and forest planning, institutional and capacity building as well as investments in improving relevant value chains to contribute to a more sustainable and profitable use to the National Park land and resources. In addition, the guardian villagers will be able to charge others for legal uses of National Park resources on their land.</p>
<p><i>Design.</i> The shape of the National Park does not facilitate management and the residual primary forests are exceedingly small. The TPZ are now only tenuously connected by narrow corridors. In the past the CUZ could only be assimilated to the rural domains. The lack of materialization of boundaries between zones combined with a lack of adequate, or rigorous, land use planning within and between of villages and with the general lack of land security for both the protected area land and the villagers land generated land use conflicts that were difficult to address.</p>	<p>With the adoption of the national land use plan (2019), the new Forestry Law (2019), Land Law (2020) and protected area Decree (2020), and this Management Plan, the National Park zoning and the community land planning is redesigned with more rigor and realism and with the goal to secure better land security for all and create a better legal space to address residual land use conflicts.</p> <p>In the next years, it will be essential to (a) complete the land use plan for all 91 villages, (b) enforce zero-tolerance to encroachment and poaching in all the corridors and areas with primary forest, (c) organize a comprehensive community-based demarcation of the TPZ and CUZ boundaries.</p>

<sup>57</sup> Between 2012 and 2015, the expansion of maize cultivation, drove upland agriculture production, and became associated with pioneering shifting agriculture using fire, and shortened fallow periods (. As maize production fluctuates from year to year, so does the overall impact of this combination of drivers. In 2020, the market price of maize was reduced as the Vietnamese animal feed producers turned to Brazil’s soybean and so did upland maize farming.

## CHAPTER 4 – ELEMENTS OF STRATEGIC PLANNING

232. Chapter I has framed the NEPL in its historical context and described the current management capacity of its administration; Chapter II painted a panorama of the geophysical, biological, socio economic and developmental context; Chapter III established the vision for the National Park and analyzed the challenges that need to be overcome to achieve the vision.

233. The substance of these chapters shows that the NEPL National Park faces a substantial reduction of some of its past challenges and increased probability to achieve its vision. This is welcome and, as first National Park in Laos, this is supplemented by a substantial increase in socio-economic expectations by the Government of Laos although not yet by an increase in budgetary commitment.

234. However, the analysis also shows that some dire challenges remain such as the impact on wildlife and natural habitat of persistent poaching and increased land encroachment, especially by cattle, both fueled by community response to market opportunities.

235. This chapter begins by summarizing these strengths, weaknesses, opportunities, and threats to help extract the essential and set the stage for strategic planning. Strategic planning starts by setting a strategic objective and then a description on the division of “task” in a balanced set of programs.

Table 15. Summary of the strengths, weaknesses, opportunities, and threats

<p><u>Strengths</u></p> <ul style="list-style-type: none"> <li>-20 years of management history, facilities, equipment, staff and experience</li> <li>-Experience in recruitment, training, and mentoring staff locally with all ethnic background</li> </ul>	<p><u>Weaknesses</u></p> <ul style="list-style-type: none"> <li>-Inability to address squarely law enforcement challenges</li> <li>-Low education, awareness, and sensitivity of communities to park issues.</li> <li>-Difficulty to coordinate with other projects and plans that occur within the NEPL landscape</li> <li>-Low government staff and national budget</li> </ul>
<p><u>Opportunities</u></p> <ul style="list-style-type: none"> <li>-Improved national policies, laws, regulations make it possible to address weaknesses and challenges</li> <li>-Trends of decreasing direct challenges (demography, poverty, capacity, deforestation rate, etc.)</li> <li>-Increased confidence by some donors in protected area sector with reasonable prospect to mobilize funds to implement the first 5-year plan.</li> </ul>	<p><u>Threats</u></p> <ul style="list-style-type: none"> <li>-Persistence of illegal harvesting of wildlife</li> <li>-Persistence of land uses that do not conform with Land Use Plans and Zoning such encroachment by fire, cattle and sanaam.</li> </ul>

236. This Volume I of the Management Plan – the Strategy -- sets 4 main strategic pillars as listed below and each further described in Sections 4.1 to 4.4. These 4 strategic pillars over the next 10 years will modernize National Park management:

- (1). Legislation: The Management Plan fully implements the new progressive legislation especially by optimizing the governance, balancing the conservation incentive and law enforcement, becoming an economic asset for the district and seeking revenues from multiple sources.
- (2). Governance and management. The status of the existing management unit is elevated to become a Protected Areas Management Office (PAMO) with a higher legal empowerment and a more adapted organizational structure anchored in a central headquarter, advised

locally by the district and provinces, supported by a network of guardian villages and working collaboratively with administrations and sectors in the districts.

- (3). Land allocation. The park zones are modified to increase land security for both biodiversity and for the guardian villagers while village land becomes more strongly associated with the park.
- (4). Programs. Four programs are designed to guide management activities to stay on track and focus on the strategic objective. Each program will have its defining specific objectives, strategic principles, indicators, budget, and human resources.
- (5). Orientations: To achieve the vision, the NPMO management team needs principles and orientations. The fundamental orientation is that “local” – as in “from one of the 91 guardian villages – comes first. This is translated by principled orientations in each of the programs. For example, an orientation of the Community Operation program is “proximity” with facilitators and supervisor posted in villages. Another example, an orientation of the Tourism business program is that community-owned enterprises will be favored, possibly hold the concessions, and encouraged to partner with licenses investors (this strategic pillar is not developed in Volume I but in Volume II within each Program description)

237. Volume II of the Management Plan – the Action Plan – provides a 5-year practical response to achieving the strategic objective and addressing the direct challenges and their causes. The key strategic principle for implementation is to combine realism and high ambition. For this the Action Plan is designed to be adaptable to various funding circumstances and evolving priorities through 4 implementation scenarios.

## SECTION 4.1: A PROGRESSIVE NATIONAL PARK LEGISLATION

238. National Park management is influenced by many of the Lao PDR laws and regulations. The most relevant law is the Forestry Law 64/2019. The Forestry law defines broadly that national parks are a category of protected areas, frames the protected areas administration levels and the protected area zones and paves the way for a progressive transformation of protected areas management in Lao PDR.

239. The other important Laws, listed in chronological order, which have a direct influence on National Park management are:

- The Wildlife and Aquatic Law, 007/2007
- The Law on Investment Promotion, 002/2009
- The Law on Environment Protection, 029/2012
- The Tourism Law, 171/2013
- The Budget law, 024/2016
- The Law on Criminal Procedures, 321/2017
- The Penal Code, 118/2017
- The Land Law, 070/2020

240. The defining sub legislation is the Protected Area Decree     /2020 (the protected area Decree). This decree replaces and abrogates Decree 134/2015 that previously regulated protected areas.

241. The Protected Area Decree strategically positions the Lao protected areas system in a modern legislation with high standards even internationally. It defines 6 categories of protected areas and details the process by which protected areas are designated, converted, registered,

managed, developed, used, and financed. It is a modern and comprehensive sub-legislation that facilitate the emergence of standards across the protected areas system of Lao PDR. The Decree defines in greater details than in the past, the restrictions on uses and the values of protected areas resources for calculating damages.

242. One of the provisions of the protected area decree, is that a NPA Management Plan includes specific regulations. These regulations are in Annex 2. They will replace the existing regulations and become enforceable once the MAF Ministerial Decision approving the Management Plan is issued<sup>58</sup>.

243. To amend the regulations, the NPMO would follow the procedures established in Article X of the protected area decree. This would then require a new MAF Decision approving the amended Management Plan.

**SECTION 4.2: A REORGANIZED NATIONAL PARK GOVERNANCE AND MANAGEMENT**

244. The NEPL National Park overall governance and management architecture is described in Figure 34 below. It is designed in conformity with the provision of the decree. Its structure is designed to respond to the strategic objective of the NEPL National Park and to deliver each Program and Cross Support Program with an efficient and effective structure and work force.

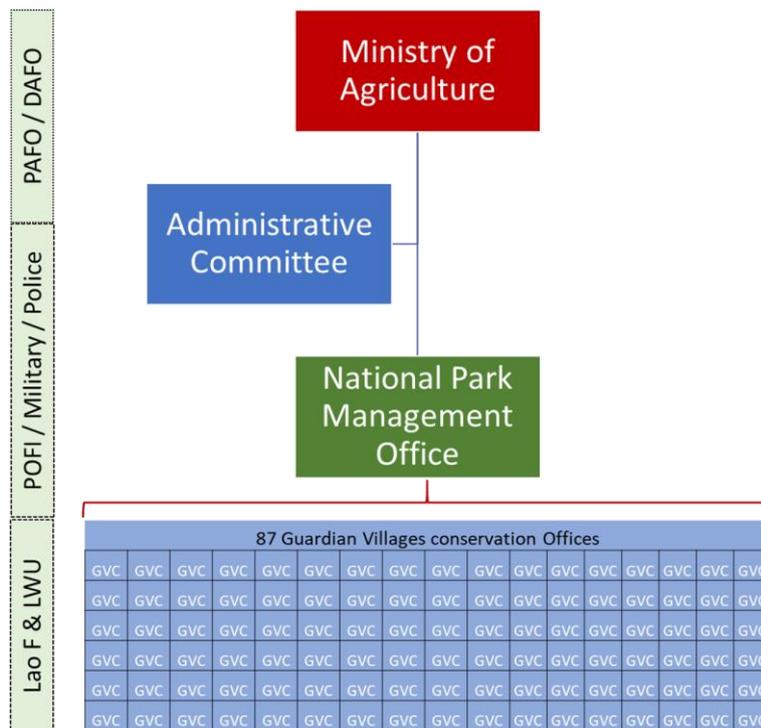


Figure 32. Governing and managing entities with supporters and partners (vertical)

245. Below, each of the entities shown in the above figure 33 are explained in terms of their roles and relation to others.

<sup>58</sup> The current NEPL National Park regulation dates 2020. They were updated to incorporate law enforcement provisions that address cattle and farming encroachment in the TPZ. These new regulations were signed by 9 to the 10 district administrations; Xone district governor did not sign yet.

#### 4.2.1. MINISTRY OF AGRICULTURE AND FORESTRY

246. MAF is the body with approval mandate (decisional governance). In addition, the Minister decides on (a) the creation of the NEPL NPMO, appointment of its Director, and application to the Ministry of Finance for the designation of the NPMO as a Budget Unit, (b) the creation of the National Park Steering Committee (NPSC) including the appointment of its chair.

247. The Minister, or the Director General of DOF at MAF, may be called to make decisions on matters requested by the NPMO and the NPSC. Examples of such matters requiring MAF decision include: (a) the selection and appointment of the deputy directors and other management staff, (b) the approval of key documents such as the annual plans, annual reports, and external grants, (c) the signing of MoUs or contracts with partners or firms, (d) the authorization of concessions and licenses for businesses uses in the National Park and (e) the approval the subsequent 5-year Action Plan.

#### 4.2.2. NATIONAL PARK STEERING COMMITTEE

248. The NEPL NPSC formulates opinions and advice on the Management Plan, Annual Work Plan, Annual Reports, and other relevant issues raised by the NPMO. The NPSC is the forum to discuss the NEPL National Park development integration in the districts and provinces as well as any land use that may challenge or support the objective of the national park. (Volume II of the Management Plan details NPSC members, functions, meeting periodicity and provides its Terms of Reference).

#### 4.2.3. THE NATIONAL PARK MANAGEMENT OFFICE

249. A National Park Management Office (NPMO) leads the daily management of the national park. The NPMO has the status of Budget Unit (granted by Ministry of Finance), a stamp, logo and uniform. It therefore operates with relative administrative autonomy. The NPMO is led by a National Park Director appointed by the Director General of DOF.

250. The NPMO may be organized with a management bureau, sections and units. The detail structure and staffing of the NPMO is described in Volume II of the Management Plan. Staffing is variable according to scenario and is expected to be at the minimum around 80<sup>59</sup> and under the high case scenario reach 140 (with a complement of staff from partner district administrations).

251. The staffing efforts by the Government will focus on securing leadership positions. Field staff will be selected from the local town and villages and from the district administrations. Based on principles of collaborative management, the NPMO will establish formal partnerships and agreements with:

- Guardian Villages by signing a Guardian Village Conservation Agreement (GVCA) with each Guardian Village Forest Committee which will define the roles, responsibility, and commitments of each. This agreement will be also endorsed by the DAFO. A template GVCA is in Annex 3.

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<sup>59</sup> This include all people working for the park: PAMU civil servants, PAMU and WCS contractual and task-based employees from villages.

- District sectors, especially DAFOs, Lao Women Union, Lao Front, the police, and the military by signing an MoU which will define the roles, responsibility, and commitments of each.

#### 4.2.5. GUARDIAN VILLAGE CONSERVATION OFFICES

252. The NPMO will facilitate the signing of GVCA between DAFO and each of the village administration of the 91 potential guardian villages. This will trigger the establishment of Guardian Village Conservation Office (GVCO) for each guardian village. Under the protected area decree, GVCO are “protected area implementing organization” placed in the village hierarchy under the Economic Unit of the village administration. The details of the function of the NEPL GVCOs, staffing and functioning and are defined in Volume II of the Management Plan.

### SECTION 4.3: A LESS CONFLICTUAL NATIONAL PARK LAND ALLOCATION

253. The “NEPL landscape” includes the land of the 91 potential guardian villages up to their outer boundaries. The land is subject to two planning processes: (1) A macro-process at Park-level. It is the division in zones of the National Park according to the provision of the Protected Area Decree and produces a *zoning plan*. (2) A micro-process at village-level. It entails planning the village land in various uses and produces a *village Land Use Plan* (LUP<sup>60</sup>)

#### 4.3.1. PARTICIPATORY LAND USE PLANNING

254. Around the time of approval of this Management Plan, about 66 villages (which may be expanded by the end of 2020) will have recently updated and adopted their Land Use Plan. In the future, the NPMO will lead all PLUP in collaboration with the provincial offices of natural resources and environment (PONREs) and projects which may have interest in financing such LUP<sup>61</sup>.

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<sup>60</sup> Sometimes, LUP are referred to a FLUP or Forest and Land Use Plan.

<sup>61</sup> In the past a substantial number of projects have funded PLUP. Recently, the Village Forestry project (GIZ implements) and the Governance Forest Landscapes and Livelihood (GFLL) are financing the process of preparing PLUP with some degree of coordination with the NEPL mgt unit.

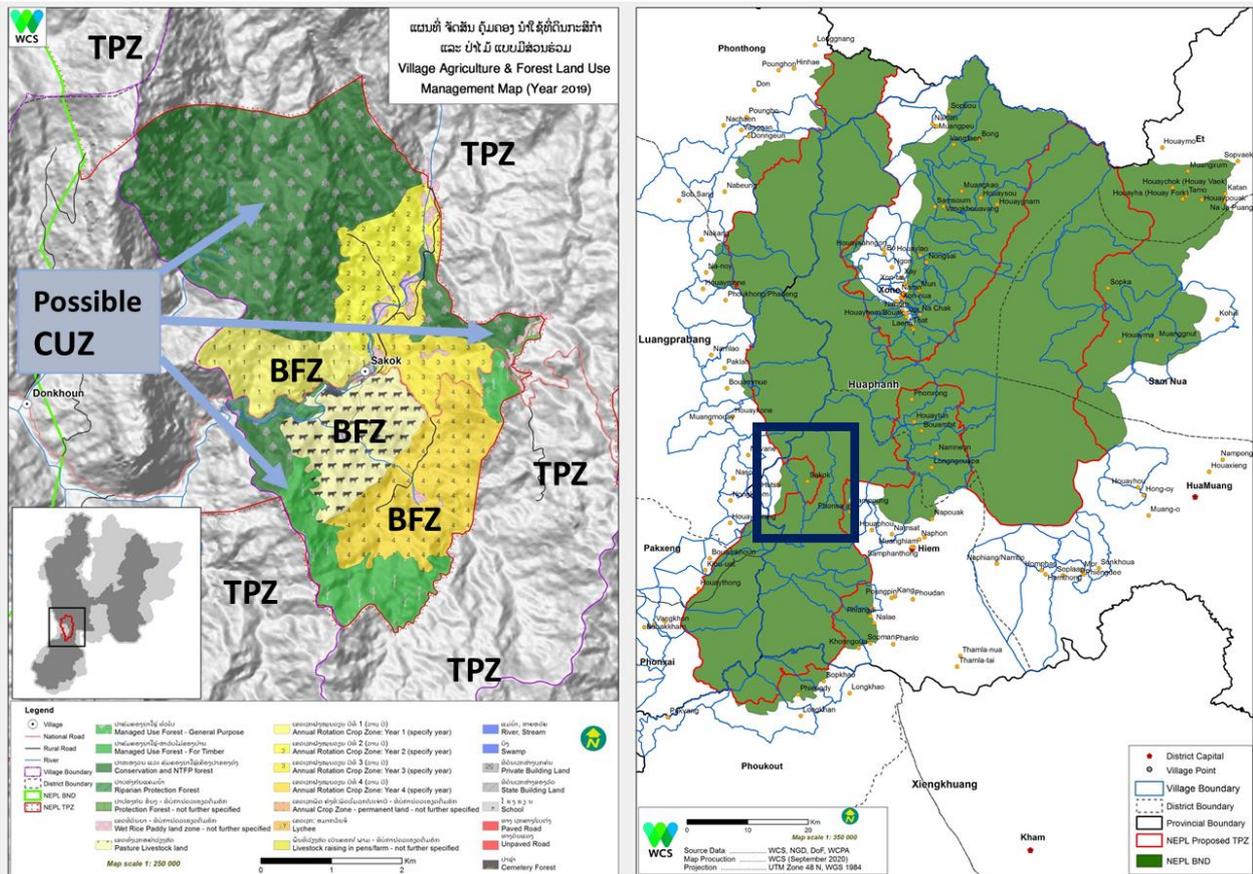


Figure 33. (left) LUP of an enclaved village, (right) mosaic of guardian villages land

#### 4.3.2. NATIONAL PARK ZONING

255. **Legal enforceability:** Under the previous legislation, zoning tended to be regularly modified and difficult to implement. In the future, the zoning defined by this Management Plan (see Annex 1) and the restrictions of each zone, as defined in the Protected Area Decree and in the National Park regulations (see Annex 2) are legally enforceable once they are approved by the village and district administration. The Protected Area Decree defines the purpose for, and uses in, each of the zones as follows.

256. **Totally Protected Zones, or TPZ,** are the parts of the National Park with high biodiversity values, important habitats, and areas for the reproduction of key aquatic and wildlife species, river headwater areas, riparian forests and other areas that are important for environmental protection. In these areas, it is prohibited to conduct any activities except conservation or development activities, and use activities for conservation, research, and tourism (see the decree for details on prohibitions.)

257. **Controlled Use Zones, or CUZ,** are areas to sustainably manage and protect biodiversity and support family income generation. It can be parts of the national park, and it can also be lands adjacent to the National Park that the State allocates to guardian villages. There are two types of CUZs:

- **Type 1 for Conservation and Ecotourism.** These areas are designated in agreement between the NPMO and the relevant guardian village(s). A CUZ Type 1 is essentially

under the same management regimes as the TPZ, except that here license, lease, or concession are allowed for conservation and ecotourism activities.

- Type 2 for Sustainable Resources Use. In these areas, possible activities are limited to only those conservation, development or the use activities that are defined in the decree.

258. Buffer Zones, or BFZ, are areas with or without forest, which may be part of the National Park and include lands adjacent to the National Park up to the outer boundaries of guardian villages, for villages to use and manage to prevent encroachment in and around the national park, and to prevent negative impacts on its ecosystem.

259. Until 2020, the National Park was divided in two zones: TPZ and CUZ<sup>62</sup>. Only the TPZ was managed which created the perception in the communities that the park was the TPZ. The CUZ was considered by the park authorities, and the public administration alike, as available for settlement and agriculture. None of the applicable restrictions could be implemented. The reality is that much of the area currently zoned as CUZ no longer qualifies as CUZ under the new legislation and needs re-zoning as BFZ.

260. Rezoning is in two stages: Stage 1 is carried out by the NEPL PAMU, based on technical and strategic criteria<sup>63</sup>, and produces the desired realistic zoning that optimizes conservation and development. Stage 2 is subsequently carried over a period that can last several years by consulting the guardian villagers and the district administrations and aligning the LUP areas planned for forests as CUZ and areas planned for settlement and agriculture with BFZ (see illustration in figure 33 above).

261. In 2020, a stage-1 revision of the National Park zoning was proposed. It was based on scientific and technical knowledge of the field realities combined with an overlay of available guardian villages LUP.

262. The following technical criteria were used for stage 1 : (a) Extend rather than reduce the size of the TPZ; (b) rezone as BFZ the parts of the CUZ inside the National Park boundary that are settled, permanently transformed or degraded land or land that should be reserved for agriculture expansion; (c) increase the CUZ outside the National Park boundary in areas that are forested and important for the National Park integrity, as corridor to other protected areas; (d) divide the remaining CUZ according to either Type 1 for conservation or ecotourism or Type 2 Sustainable use; (e) extend the BFZ outside the National Park to the outer village boundary in order to define the National Park landscape. In addition, the rezoning took into consideration: (a) the Land Use Plan of each village when available, (b) the current forest cover, (c) the current cattle encroachment in the TPZ and options for cattle land uses, and (d) the tourism location and opportunities of the national park.

263. The proposed zoning was not yet discussed, corrected, and validated with guardian villages. This will be carried out during implementation during stage-2 of the revision process as part of the first 5-year Action Plan.

264. Under the currently proposed zoning, as shown in the table 16 and figure 34 below, overall, there would be an increase of the area under total protection by about 20,000 hectares. About 150,000 hectares previously assigned to CUZ is now BFZ. Outside the national park, the entire

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<sup>62</sup> This was consistent with the 2007 Forestry Law and 2015 Protected Area Decree.

<sup>63</sup> Criteria includes (a) importance for biodiversity and intactness for the TPZ, (b) conservation or tourism investment potential in CUZ type 1, (c) village land allocation as forest or natural ecosystem and realism of keeping area forested for the CUZ of type 2.

village land would be incorporated in the National Park landscape with about 64,000 hectares allocated to CUZ and 194,000 hectares to BFZ. The overall National Park landscape is about 775,000 hectares. Under this scheme, the area effectively legally assigned to a “strictly forested” or biodiversity purpose –i.e., TPZ and CUZ -- would be 442,000 hectares.<sup>64</sup>

Table 16. Comparison of current zoning with proposed zoning

Type of Zone	Pre-2020 Zoning (ha)	New Zoning (ha)	Change
TPZ	309,406	<b>320,326</b>	10,920
CUZ – Type 1 Tourism and conservation	0	<b>9,730</b>	9,730
CUZ – Type 2 Sustainable forest management	198,017	<b>48,570</b>	-149,447
BFZ	0	<b>124,767</b>	124,767
National Park	507,423	<b>507,423</b>	0
CUZ – Type 2 outside	0	<b>63,549</b>	63,549
BFZ – outside	0	<b>194,324</b>	194,324
National Park Landscape	507,423	<b>765,296</b>	257,873

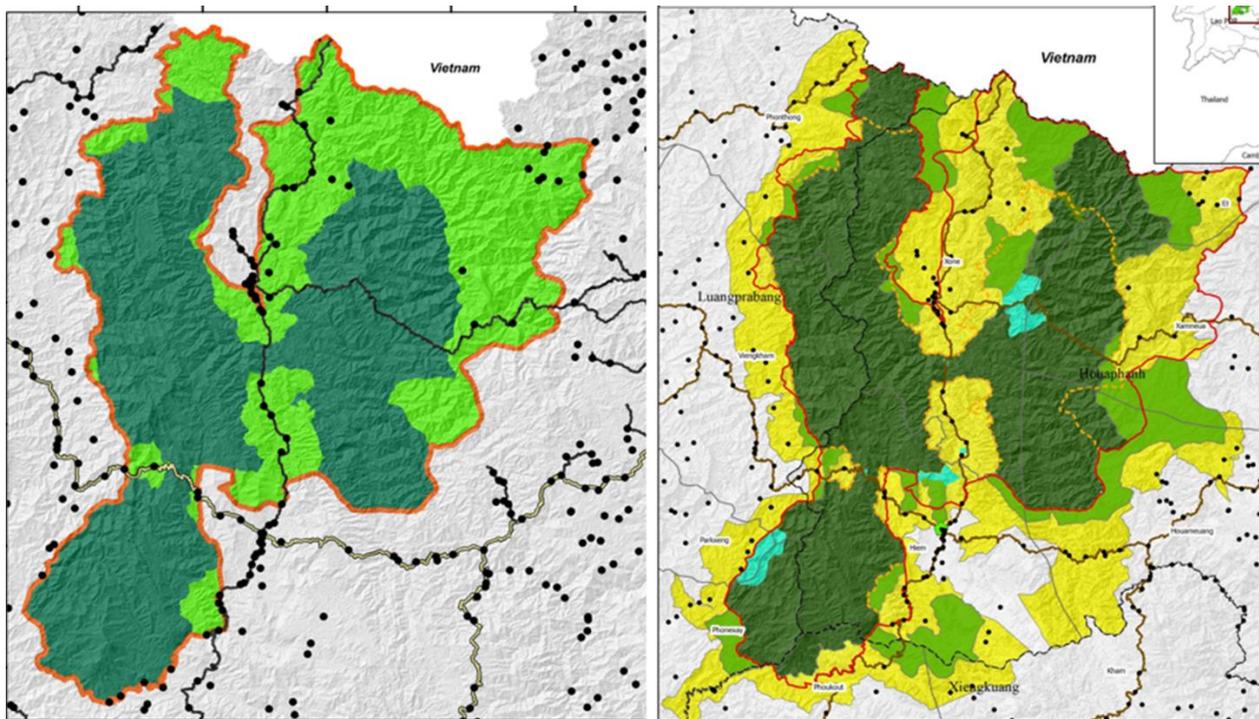


Figure 34. (left) current zoning, (right) proposed new zoning

265. An amendment of the zoning requires to follow the procedures established in Article X of the Protected Area Decree and requires a new approval of the Management Plan.

<sup>64</sup> The area strictly assigned to be effectively forested of 442,000 ha represented a net 32,000 hectare increase with respect to the area stated in the national park decree and registered for NEPL in the National Land Use Master Plan and therefore represent a positive contribution to the national target of effective 70% forest cover for Lao PDR.

## SECTION 4.4: PROGRAMMING MANAGEMENT TO ADDRESS CHALLENGES

266. The fourth strategic pillar is the organization of activities for management of the park in four focused Programs. These Programs ensure that activities are distributed logically and practically to effectively address each of the direct challenges.

- Program 1 Administration: National Park Governance, Administration, Planning, Reporting, Procurement, Human Resources and Financial security
- Program 2 Business and public relation: Tourism business development, Communication, Marketing
- Program 3 Community engagement operations: Outreach and natural resources-based livelihood
- Program 4 Field operation: Resources protection and monitoring

267. Each Program is guided by a 5-year specific objective tracked by outcome indicators (see Chapter 6). Each Program implements both recurrent or “routine activities” and investments activities or “special projects”.

- Routine activities. These are the activities required for daily National Park operation such as pay salaries, purchase, and operate equipment, carry out daily tasks such as adaptive training, planning workshops, carry out office and field work, etc. The scope of these activities is a direct function of budget availability and capacity of the NPMO staff and system.
- Special project. Any activity which tends to be “discrete” and / or “transformational” and / or “complex and one-time”, is an investment or “special project”. Special projects vary greatly in size, scope, and complexity. To each special project, a level of priority is associated. A special project can be tangible (e.g., a building such as a substation) or intangible (e.g., a report such as the Tourism Business Plan) or a combination (e.g., greening the cattle value chain).

268. Volume II of the Management Plan, the 5-year Action Plan provides details on each of the Programs for routine activities and special projects under several scenario. Volume II also describe the budget and the staffing required for each scenario.

# CHAPTER 5 – THE VISION DESCRIBED AND MEASURED

269. In 2032, provided that the two consecutive 5-year Action Plans have been executed, the National Park 10-year vision should be fulfilled.

270. This Chapter describes the desired state of the NEPL National Park in 2032 (the Blueprint) and the key indicators by which impact can be tracked and that will help verify whether the 10-year vision is indeed fulfilled (the impact dimension and indicators).

271. This Chapter however does not describe how the blueprint will be achieved. This is done in Volume II of the Management Plan.

## SECTION 5.1: A BLUEPRINT FOR THE NEPL NATIONAL PARK IN 2032

272. The table below is a qualitative and quantitative description of the desired status of the NEPL National Park in 2032 after full implementation of the Management Plan. It is presented as a “positive state” – a visual target -- to help the National Park management team develop a common idea of what the park will look like once they have completed the implementation of the 10-year Strategy through two 5-year Action Plans.

### ENABLING CONTEXT FOR THE NATIONAL PARK – DESIRED SITUATION IN 2031

	The <u>1st Management Plan</u> 2022-2031 of the NEPL National Park has been fully implemented with all annual reports and with the completion report delivered and approved by MAF and showing how the 2032 situation compares with the vision.
	The National Park <u>decisional and advisory governance is functional</u> with (a) MAF effectively and efficiently supporting the NPMO with timely decisions (b) an NPSC meeting regularly and providing constructive and appropriate advice for achieving the National Park vision.
	The <u>2nd Management Plan</u> 2032-2041 including its first 5-year Action Plan is approved by the Minister, MAF. It builds on the experience and lessons learned from implementing the 1 <sup>st</sup> Management Plan.
	The NPMO has secured enough <u>financing</u> in 2032, or has organized enough financial revenues, to implement at the minimum the first 5-year Action Plan baseline scenario over the entire landscape.
	The NPMO staff interact regularly with the district and provincial administration and, as a result, none of the 10 district plans or 3 provincial plans include activities that oppose the NEPL vision and rather have activities that tend to enhance it.
	The NPMO staff interact regularly with district and provincial transport, energy, mines, agriculture, and environment sectors and, as a result, there is no public or private investment project within the National Park boundary that does not fully abide with an Environment and Social Impact Assessment or does not pay its dues to the national park.
	A new zoning map has been approved by all guardian villages and district administrations and offers similar conservation and development opportunities than the draft zoning of the 2022-31 Management Plan, is consistent with the GV LUPs and meets the national policy criteria of the national land allocation master plan and the forestry strategy.



A new Prime Minister designation decree has been issued to revise the National Park boundaries to include only areas managed as natural ecosystem either TPZ or CUZ without reducing the designated area to less than 411,000 hectare and after broad consultation with all relevant parties.



The NEPL National Park land is registered with the national cadaster, owners of stable paddy or orchards in CUZ type 2 have received a land use certificates and concrete markers have been installed on relevant location of the National Park boundaries.



The NPMO or the designated authority have applied to UNESCO for NEPL National Park landscape to become Man and Biosphere reserve and to IUCN to be issued a certification as Green List.

### NATIONAL PARK ADMINISTRATION – DESIRED SITUATION IN 2031



The NPMO employs 200 well trained and committed professionals: 140 are NPMO staff of which > 15 are civil servants and > 45 are villagers and the others are staff from sector partners staff such as DAFO, Tourism, Military, Police, etc.



The NPMO staff all have the equipment they need to operate effectively and efficiently in the entire landscape (i.e., 10 vehicles, 50 moto, 80 computers and the required office furniture, IT and field equipment.)



The NPMO has acquired financial and revenue management capacity, carries out accounting with a performing software and is able to produce accurate and comprehensive financial reports for to all its financiers within the statutory delay.



All NPMO assets, accounts and transactions are audited yearly and auditors' recommendations are tracked and shown resolved in subsequent audit reports.



The NPMO has adopted, and is operating according to, standard procedures at least for assets management, staff selection and performance and procurement.



The National Park Headquarter in Hiem has been entirely upgraded, with all buildings to similarly attractive architecture standards, with functional reception, office and meeting space as well as with paved access and suitable signage all in an attractive, clean and well-maintained ground that project a positive image to the national park.



The Xone Corridor Platform is built and operational. It includes: (a) a Law Enforcement Hub with office, command room, dormitory and training ground; (b) an Environment Education School with an office, classrooms, and dormitories; (c) a Research Station with an office, a small laboratory, and dormitories, (d) a tourism campground with ablution blocks and trail.



The UXOs that may be left in 2020 are investigated in all tourism areas and, if there were any, they are cleared.

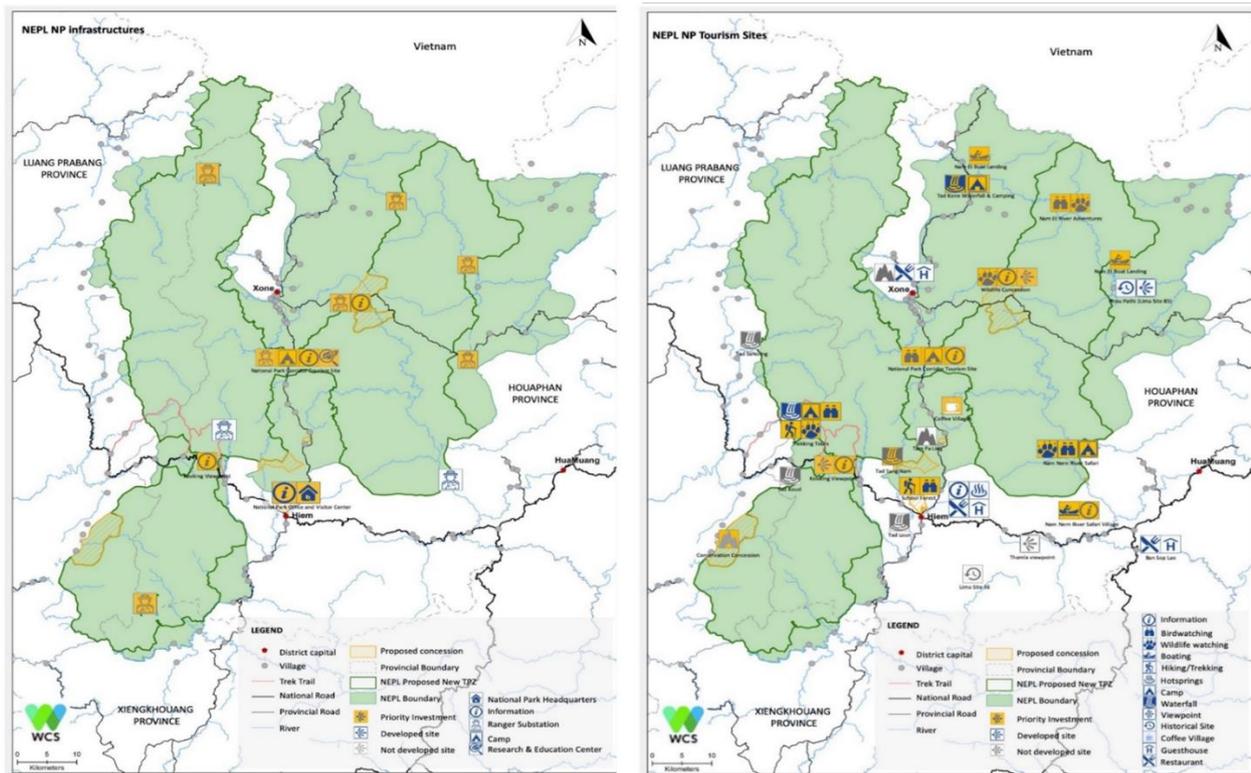


Figure 35. (left) planned management infrastructure, (right) planned tourism development products

## TOURISM BUSINESS DEVELOPMENT – DESIRED SITUATION IN 2031



The NEPL National Park tourism development is guided by a 1<sup>st</sup> 10-year Tourism Business Plan possibly implemented by a Tourism Development Company which has successfully helped communities and investors structure their companies and businesses, obtained concessions and licenses and accessed capital and markets while creating the condition for tourism growth.



All standards, labels, and procedures for tourism business development and investment in the NEPL National Park landscape including concessions, licenses, permits, etc. have been developed and tested and so the NEPL National Park is ready to begin attracting green Chinese (or other Asian) investors and broadening its market from mainly European client to Asian clients.



The Samnuah-NEPL Tourism Route (possibly named Northern Heritage Route) is established, promoted by the NPMO and by the Houaphanh PICT, with a social and environmental brand and logo which starts to be recognized and attract new business members starting at Samnuah airport, along the road and used for marketing by tour operators.



At least 6 of the 8 tourism products below are fully operational or being developed, most with community and private sector joint ownership, all associated with positive social and conservation outcomes. Among these:

- The Nam Nern river safari and Phou Louey trail
- The western corridor gates and rest area, viewpoint and trail concession
- The Hiem School forest trail
- The Bouamfat Hmong cultural tourism
- The Tag Kone waterfall resort concession
- The Xone corridor campground and trail
- The Nam Et river kayaks and water safari adventure
- The Tad Sang Nam waterfall tourism and conservation concession
- The Pakxeng conservation and adventure tourism concession
- The Pathi scenic road is developed with gates, viewpoints, and information center.



The business and communication are actively maintaining a series of social medial tools, web sites and newsletters and participating in marketing shows with the dual purpose to increase knowledge about the park but mostly to attract tourism clients and investors.



The 2<sup>nd</sup> 10-year Tourism Business Plan is ready for launching after benefiting from lessons learned from comprehensive tourism and implementation data collection which documented accurately and objectively on the tourism business experience and its socio economic and ecological impact.

## COMMUNITY ENGAGEMENT – DESIRED SITUATION IN 2031



91 Guardian Villages have a completed a Land Use Plan (LUP), signed a Guardian Village Conservation Agreement (GVCA), created a Guardian Village Conservation Office (GVCO) and adopted a Village Forest Management Plan (VFMP)



The NPMO Community Operation Section has the capacity to be in permanent contact with all guardian villages and district administrations and provide comprehensive and quality support to all aspect of the community engagement with the national park.



More than two third of the GVCOs have acquired experience to issue permits, collect revenues, plan expenditures, and manage grants and revenues in guardian villages revolving funds with average capital greater than 100 million kips.



The forest and natural habitat in two third of the CUZ-land is effectively managed by GVCOs, supported by the NPMO, and who are increasingly using revenues from permits and payments from conservation performance or carbon emission reduction.



NEPL clubs exist and are functional in more than half of the primary schools with trained teachers and a gender balanced membership of pupils.



The Environment Education School in Xone Corridor is functional. It is hosting on average 4 primary school groups per month.



All cattle farmers in Xone and other districts have removed cattle from the TPZ and are benefiting from schemes toward more efficient such as extensive free ranging in CUZ or intensive herding in fences area in the BFZ.



Most of the 91 guardian villages have organized members' groups (e.g., cooperative, SMMEs) involved in conservation-compatible trades such as sustainable agriculture (e.g., coffee, tea, cardamon), or sustainable NTFP harvesting (e.g., red mushroom, bamboo) or sustainable tourism.



The community operation section staff have been collecting comprehensive socioeconomic data over the past 10 years as well as data on all Management Plan indicator are have produced report documenting accurately and objectively on the changes of community engagement, outreach and livelihood attributable to the park.

## WILDLIFE AND HABITAT PROTECTION AND MONITORING – DESIRED SITUATION



The Field Operation Section staff and partners staff are effectively patrolling 90% of the TPZ and part of the CUZ, detect and reduce poaching and agriculture or cattle encroachment, investigate various protected area crime and successfully monitor prosecution.

	To support law enforcement, the NPMO operates (a) a fully functional law enforcement hub in the Xone Corridor multi-purpose platform, with all the patrol staff posted and training there when not on patrol or leave, (b) a field research station also in the and (b) 6 fully operational and well-maintained substations.
	Every year, 100% of the TPZ and 50% CUZ boundary signage and trail are properly maintained by GVCOs, and are monitored, verified by the patrol teams and timely payments are issued to all concerned GVCOs by the NPMO.
	The field operation section staff have been collecting comprehensive camera trap data over the past 10 years as well as data on all field indicator are have produced report documenting accurately and objectively on the evolution of all field indicators.
	The NEPL NPMO has developed and adopted a Research Strategy and Action Plan and started to implement it with at least one MoU signed with a university or research institute and first use of the research station in the Xone Corridor multipurpose platform.
	A status report of the endangered and vulnerable wildlife in NEPL has been published 3 times over the Management Plan period (2021, 2026 and 2031) based on SMART, camera-trap and dedicated survey data review and complementary field work.
	The West Phati Wildlife Reintroduction Center has been designed. Minimal staff have been selected and trained, a fence, office, wildlife hosting facilities and management trails have been built, some non-endangered animals have been sourced and released and are being monitored so lessons learned can be incorporated in the next phase of development.

## SECTION 5.2: IMPACT DIMENSIONS AND INDICATORS

273. The previous section provides the desired state of the National Park in terms of management achievements and capacity. Seven “impact dimensions” have been identified and indicators have been established to verify whether the Vision is being fulfilled.

274. A rapid financial analysis identifies that the revenues from tourism entries, tourism concessions, hydropower and carbon could be in the order of \$175,000 per year by 2031 which is modest<sup>65</sup>. The economic benefit return is much higher to villagers with (a) increased employment worth about \$1.4<sup>66</sup> million and (b) the maintenance of current river flow for irrigation serving 40,000 villagers with sustainable irrigation for their paddy rice production which is calculated around \$1.1 million<sup>67</sup>. Other benefits are significant and not calculated are the maintenance of upland farming and the increased revenues due to efficiency gain in several conservation-compatible value chains such as cattle, NTFP, small livestock, coffee, tea, etc.

275. The tables 18 below list the seven impact dimensions, their indicators with baselines and targets. A low case target is provided only for the mid-term of the Management Plan.

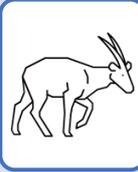
Table 17. Management Plan impact indicators

Impact dimension	Indicator	Baseline 2020 or 2021	5-year target 2026	10-year target 2031
<b>Overall management effectiveness</b>	1.Score of Protected area management effectiveness by	52%	58% (low case) 60% (high case)	68%

<sup>65</sup> Assuming 1600 tourist entries, 8 tourism concessions, Nam Hang hydropower concession and that guardian villages achieving emission reduction receive payment.

<sup>66</sup> About 1,200 new jobs bringing on average \$1,200 per household per year.

<sup>67</sup> About 10% of the 10 districts paddy rice production or 3.35t at 3,000 kips per kg (price grade A paddy rice in north Lao 2020)

	Management Effectiveness Tracking Tool <sup>68</sup> (annual)			
<b>Decrease in external challenges</b> 	2. Percentage of new <sup>69</sup> public or private investment project whose design/operation is fully compliant with the environment and social impact decree and protected area decrees (annual)	0	40% (low case) 60% (high case)	80%
<b>Socio-economic impact on communities</b> 	3. Number of GV with financial flow from the NPMO greater than \$3,000 per year (annual) (e.g., for GVCO services, GVCA compliance payment, carbon payment, PES payment, grants, employment, etc.)	0	30 (low case) 60 (high case)	60
	4. Number of households with a member whose jobs exist due to the operation of the NEPL National Park (annual)	NPMO 95 GVCO 0 Other 223 <sup>70</sup>	440 NPMO 110 GVCO 30 Other 300	1520 NPMO 160 GVCO 160 Other 1,200
<b>Health of the watershed and rivers</b> 	5. Average sediment load/turbidity of 5 rivers at 2 points (TPZ and Park exit) (Nam Khan, Nam Et, Nam Nern, Nam Suang, Nam Xeng)	<u>Baseline</u> Unknown	Measured and target set	Target achieved
<b>Forest evolution</b> 	6. Gross average 3-year forest loss rate in the TPZ, CUZ and BFZ	<u>Baseline 2016-19</u> TPZ 0.1 %/yr CUZ/BFZ 1.35%/yr	<u>Period 2024-26</u> TPZ 0.05%/yr CUZ 0.5% /yr BFZ 1.0%/yr	<u>Period 2029-31</u> TPZ 0.0%/yr CUZ 0.1%/yr BFZ 0.5%/yr
	7. Annual emission reduction as compared to the average peak deforestation of 2007-13 (t CO <sub>2</sub> )	<u>Baseline:</u> 2014-19 188,000	<u>Period 2020-205,000</u>	<u>Period 2030-31</u> 400,000 (to be verified)
<b>Wildlife evolution</b> 	8. Trends of population and range of cats and dhole, bears, ungulates, primates in the “priority X” part of the TPZ <sup>71</sup> ( <i>X equals 1 to 4 depending on scenario implemented</i> )	<u>Baseline:</u> <u>2016/17-20</u> Cats and dhole: ?,? Bears: ?, ? Ungulate: ?, ? Primate : ?, ? <sup>72</sup>	<u>Period 2020-26</u> Carnivores: +,+ Bears: +,+ Ungulate: +,+ Primate: +,+	<u>Period 2026-31</u> Carnivores: +,+ Bears: +,+ Ungulate: +,+ Primate: +,+
	9. Number among the current list of 31 present wildlife species listed by IUCN red-data list (CE, EN, VU) with confirmed presence in NEPL.	<u>Baseline 2020</u> 14 <sup>73</sup>	20	30

68 METT Management Effectiveness Tracking Tool. Its calculation sheet and guide is in Annex 4 of the Action Plan.

69 “existing, proposed or planned” needs to be defined to avoid inaccuracy

70 Nam Nern & Phou Louey 143; Coffee producers 80. Note that there are more than 6,000 households in the 93 Guardian Villages. So, at end of the Management Plan, about 20% of the household would have a member with a job created because of the park.

71 Indicator must show for all species in the indicator a combined increase in population and range expansion.

72 Baseline to be calculated in early 2021 based on data collected in 2020.

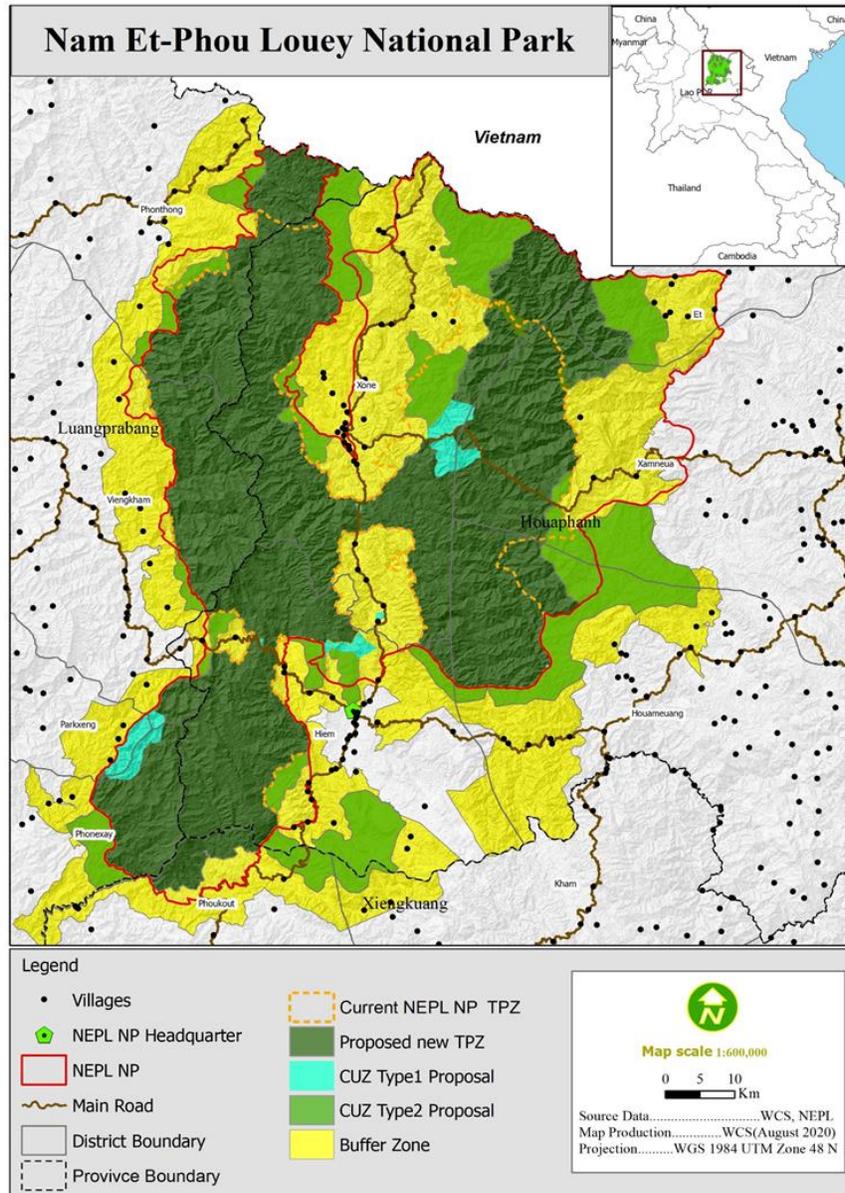
73 See species list in Annex 7.

<b>Change in tourism and other business</b> 	10.Number of visitors paying entry fees (disaggregated by national and international)(annual)	<u>Baseline 2019</u> 500	800	1,600
	11.Amount of revenues collected by licenses, concessions, permits for any National Park use (disaggregated by sector) (annual)	<u>Baseline 2020</u> NP income: 0 GV permits. 0	NP income: 50,000 GV permits. 30,000	NP income: 100,000 GV permits. 60,000

# ANNEX 1 – NATIONAL PARK ZONES

276. The zoning in the map below is approved on principle with the Management Plan. But it is not final.

277. The zones must be discussed and approved by each village and endorsed by its district. If this discussion results in a zoning that is less than 10% different than the zoning in the map below, then it can be implemented, and the rules of each zones can be enforced. A more than 10% difference requires approval by the Minister.



# ANNEX 2 – NATIONAL PARK REGULATIONS

1. This is a “rough” English translation of the 2019 NEPL regulation. This text must be revised/adapted to the Management Plan and the protected area decree. But because the decree is not yet signed, its substance is not yet settled, especially on uses, prohibition, inspection, etc. So, depending on the final substance of the protected areas there may be considerable difference on how this regulation is written.

2. The regulations below are inserted as “place holder”. They must be revised after the Protected Area Decree is signed.



**Lao People's Democratic Republic**  
**Peace, Independence, Democracy, Unity, and Prosperity**

Ministry of Agriculture and Environment

No...../ວມ

Vientiane, dated ...../...../2021

## **On the Regulation and Management Plan of the Nam Et-Phou Louey National Park**

- Pursuant to the Law on Local Administration, Revised No. 68 / NA, dated 14 December 2015
- Pursuant to the Law on Forestry No. 64 / NA, dated 13/6/2019.
- Pursuant to the Law on Aquatic Animals and Wildlife No. 07 / NA, dated 24/12/2007.
- Pursuant to the Criminal Code No. 26 / NA dated 17 May 2017.
- Pursuant to the Decree on Protected Area No. \_\_\_ / PM dated \_\_\_\_\_
- Pursuant to the Decree on the Establishment of Nam Et-Phou Louey National Park No. 35 / PM dated 15/2/2019.

## **PART I** **GENERAL PROVISIONS**

### **Article 1. The purpose.**

This regulation sets the rules and standards on the management, protection, development, use and inspection of national parks to ensure with quality and sustainability the protection and preservation of biodiversity, environment, forest resources, forest animals, water - animal and origin of the water streams, prevent erosion, maintain the quality of the soil, keeping the strategic defense, defense and security, adaptation and mitigation change climate conservation kept beautiful the scenery natural traces the history, culture, a leisure, tourism and study research science, ensuring the interests of the people, improve the lives of people of all ethnic groups linked to promoting tourism naturally contribute to development - economic and social as green and sustainable to make the Nam Et Phou Louey National Park a model for conservation in Laos.

## Article 2. National Park.

The National Park is an ecologically rich area with a unique natural landscape and stands out nationally, regionally and globally. National Park is abbreviated as "NP".

## Article 3. Definitions

The terms used in this policy are as follows:

1. National park land: refers to all land areas with or without forest cover, including rivers, streams, ditches, canals, lakes, reservoirs, wetlands, etc. that the state has designated as national parks.
2. Development of National Parks: refers to all activities within the National Parks area to restore forests and forest lands, including natural biodiversity, and with the use of scientific techniques aimed at conserving the environment, ecosystems, flora, fauna, fauna, natural resources, natural resources, natural areas, and natural resources.
3. Management zoning: refers to the definition or zoning of a National Park according to the purpose of allocation, management and use.
4. Ecology: refers to the relationship between living things and non-living things that are naturally stable.
5. Wildlife: refers to all kinds of animals that are born, grow and reproduce naturally, including mammals, reptiles, amphibians, all kinds of aquatic animals, birds and all kinds of insects.
6. Habitats: Dwellings of habitats, movements, shelters, houses, nests, livelihoods, breeding, evacuation, and hiding places, which include all types of forests in the forest and wetlands within and outside the national park.
7. Wildlife hunting: refers to the use of all kinds of weapons to capture, shoot, hunt, kill, and collect the remains or parts of wild animals.
8. Biodiversity: refers to the diversity of ecosystems, species and species of living things such as plants, animals, insects and microorganisms in any natural range.
9. Non-timber forest products: refers to forest products, which include: vines, tree roots, bamboo, bark, wood, leaves, rubber, rattan, beehives, firewood, mushrooms, etc. (except logs).
10. Sources of water: Refers to wells, places where there is a collection, retention or permanent or temporary movement of natural water available on the surface, underground and in the air.
11. Natural Attractions: Refers to areas with natural scenery such as cliffs, rocks, caves, plateaus, high mountains, volcanoes, plains, forests, wildlife, rivers, ponds, lakes, waterfalls, boulders, hot springs, islands, beaches, natural phenomena and more.
12. Use of National Park: Refers to the use of forests, forest lands, forest resources and things in the National Park area in accordance with the regulations.
13. Management: refers to planning, implementation, supervision and monitoring and evaluation.

## Article 4. Ownership of the Nam Et Phou Louey National Park and of the Aquatic Species and Wildlife in the National Park

National Parks and Aquatic species and wildlife in the territory of the Lao People's Democratic Republic is the property of the national community, which is governed centrally and uniformly by the government, with the participation of the people in the restoration, protection and benefit

of the law. The Government on behalf of the Ministry of Agriculture and Forestry has entrusted the *National Parks Management Committee* and the Nam Et-Phou Louey National Park Management Unit to be in charge of managing, protecting and developing the Nam Et-Phou Louey National Park in coordination with other forest and forest resources and forest management.

#### **Article 5. Obligations to protect national parks and wildlife.**

The protection, conservation and development of the Nam Et-Phou Louey National Park is the obligation of every Lao citizen, every family, and every organization.

Individuals, entities and organizations have an obligation to restore, protect and develop forest resources and forest land, forest, water resources, biodiversity, environmental correct classification of paradise and national laws, as well as contribute to the prevention and suppression of illegal logging, forestry, wildlife - animals, water, fire and all forms of acts contrary to the laws and regulations of Nam Et Phou Louey National Park. In addition, those who use the National Park must pay their obligations and other fees in accordance with the regulations to contribute to the management and protection of the national park.

#### **Article 6. Scope of application of the rules.**

This regulation applies to individuals, legal entities, and public and private organizations, both domestic and foreign, that manage, apply and operate a National Park in Lao PDR.

## **PART II MANAGEMENT OF NATIONAL PARKS AND NATURAL RESOURCES**

#### **Article 7. The zoning of the national park**

Nam Et-Phou Louey National Park is divided into two zones: A Totally Protected Zone a Controlled Use Zone.

1. Totally Protected Zone: The Totally Protected Zone of the National Park is rich in biodiversity, home to the main habitat and reproduction of aquatic and wildlife species, the origin of rivers, riverside forests and other areas that are important for environmental protection. In the Totally Protected Zone, it is strictly forbidden to cut down trees for deforestation, hunt all kinds of wild animals, collect non-timber forest products, excavate or relocate valuable antiquities, engage in agro-forestry activities, set up houses, carry out construction and development projects. Tourism, wildlife survey and other authorized departments only.

2. Controlled Use Zone: Areas adjacent to or adjacent to strictly protected areas, these areas must be protected in the same way as strictly protected areas but allow people to harvest and use forest resources using traditional methods that are sustainable in accordance with the National Park Management Plan.

In the Controlled Use Zone, people can use as follows:

- Collect management and general non-timber forest products.
- Use wood within the household as agreed and approved in accordance with regulations but not allowed to cut natural wood for business.
- Conduct nature tourism business, produce agriculture, plant trees and non-timber forest products as allocated and permitted by the state.

- Find aquatic, managed species of wild animals that allow seasonal hunting by using non-invasive tools for family consumption only.

Prohibitions in the Controlled Use Zone:

- It is forbidden to harvest all types of timber for commercial purposes.
- It is forbidden to explore, mine, construct dams and construct roads without permission from Nam Et-Phou Louey National Park.
- It is forbidden to reserve and buy or sell land.
- It is forbidden to build, expand or relocate houses or outsiders without permission from Nam Et-Phou Louey National Park, except for existing houses.
- It is forbidden to clear and expand production areas and slash-and-burn plantations, except for areas that are planned for land use. For villages that have not yet been allocated land before the expansion of the production area, permission must be obtained from the National Park Authority and relevant parties.

Hunting of aquatic animals - all kinds of protected wildlife.

- It is forbidden to hunt aquatic animals - managed wildlife using extinct tools and during the breeding season (between May 1 (May 5) and October 31 (October 10) of each year, excluding non-protected aquatic animals).
- It is forbidden to buy or sell any kind of aquatic and wild animals.
- It is forbidden to carry out other activities without the permission of the Nam Et-Phou Louey National Park Authority and related parties.

## **Article 8. Aquatic species and wildlife management.**

Aquatic species and wildlife in the Nam Et-Phou Louey National Park are divided into three categories: protected aquatic species and wildlife (List I), managed aquatic species and wildlife (List II) and general aquatic species and wildlife (List III).

### 1. Protected aquatic species and wildlife (List I).

These are aquatic species and wildlife that are rare, slow growing, limited to one area, endangered by habitat destruction, endangered by poaching and overfishing. It is a wild animal that still has natural weeds, and if not properly managed and protected, it will become extinct in the future.

It is prohibited to hunt, catch, eat, trade, raise or possess protected aquatic species and wildlife.

### 2. managed aquatic species and wildlife (List II).

These are aquatic species and wildlife that can reproduce quickly and is abundant in the wild, but without good management it will become rare and extinct in the future.

Managed aquatic species and wildlife within and adjacent to the National Park can be hunted for family consumption, but not allowed to be moved to another village or place, whether it is live, dead, or part of the animal. It is forbidden to use any hunting or fishing equipment of any nature, such as weapons of mass destruction, explosives, poisons, electric shocks, and other tools that rapidly deplete the aquatic population.

Season - It is forbidden to fish or hunt of all types of aquatic species and wildlife between May 1 (May 5) and October 31 (October 10) of each year (excluding non-protected and managed aquatic animals).

Trade in aquatic species and wildlife - All types of wildlife are considered illegal to trade and must be prosecuted in accordance with this regulation against offenders (except for general fisheries).

### 3. General aquatic species and wildlife (List III).

Aquatic species and wildlife in general refer to aquatic species and wildlife that can reproduce in a wide range of natural areas, which is important for socio-economic development, environmental and scientific research.

These animals can be consumed in accordance with the rules and regulations, ensuring that they are not extinct and that there is no adverse effect on the ecosystem and the environment.

## **Article 9. Management of non-timber forest products.**

Non-timber forest products in the Nam Et-Phou Louey National Park are divided into three categories: protected non-timber forest products (List I), managed non-timber forest products (List II) and general non-timber forest products (List III).

Protected NTFPs (List I) refers to rare, medicinal, endangered, endangered, slow-growing species, some of which are listed in the Convention on Trade in Endangered Species of Wild Fauna and Flora (CES):

2. Managed NTFPs (List II) refers to non-timber forest products that are native, propagated in some areas and slow to grow naturally, such as Kok Ian Don, Cong Saden, and salt deposits.

3. General non-timber forest products (List III) refers to non-timber forest products that naturally occur, propagate and grow well, such as mulberry, broom, and teak.

## **PART III RIGHTS AND RESPONSIBILITIES IN THE IMPLEMENTATION OF THE REGULATIONS OF NAM ET-PHOU LOUEY NATIONAL PARK**

### **Article 10. Jurisdiction of the Nam Et-Phou Louey National Park Unit**

1. Monitor and report to the Provincial Office of Agriculture and Forestry and, the Department of Forestry in the Capital on the work to improve its organizational structure, such as the definition of the division of labor, the recruitment of complexes and the deployment of personnel according to the division of management according to the laws and regulations; Go ahead and assemble the tools, equipment, vehicles, weapons and allocate the budget to serve the implementation of the work.

2. Research and implement the policy of promotion-salary promotion, commend and discipline civil servants under the responsibility of the (Protected Areas) National Park Management Division.

3. Liaise, coordinate and exchange information such as memoranda of cooperation with international organizations, social organizations, as well as organize and participate in seminars, trainings, study tours, both domestic and foreign, as assigned by higher authorities.

4. Summon key staff and technicians in their responsibilities to attend meetings or report periodically, participate in exhibitions according to the needs of the work and upgrade the skills of short-term, medium-term and long-term civil servants, both domestic and foreign.

5. Issue notices, invitations and instructions to the authorities, agribusiness and forestry business units, villages in and around the National Park, as well as to organize the dissemination of rules, regulations, seminars, and trainings as assigned by their superiors.

6. Approve, continue or cancel the investment in forestry activities, non-timber forest products, aquatic-wildlife and natural tourism of domestic and foreign investors in accordance with the laws and regulations.
7. Supervise and manage the implementation of projects, local and foreign experts, including the facilitation of the provision of official documents and others.
8. Manage and use weapons in water operations, patrol and stationed activities in the field at various resource checkpoints for self-defense during emergencies.
9. To exercise other rights as agreed and assigned by the higher level.

#### **Article 11. Duties of the Nam Et-Phou Louey National Park Management Unit**

1. Implement the Constitution, laws, resolutions of the National Assembly, decrees, decrees, resolutions of the Government, orders, decisions, instructions, notices and other legislations issued by higher levels;
2. Manage statistics and biographies of staff and civil servants under the National Park Management Division as a database of personnel, as well as encourage, promote gender, and develop the progress of women and mothers and children in the implementation of such policies.
3. Research, introduce and improve the organizational structure, as well as determine the complete position, create a plan for leading and managing staff and a training plan for staff and civil servants in each period, as well as recruitment of personnel at its working group level.
4. Research and implement the Party's policy guidelines, the Strategy of the Department of Agriculture and Forestry into specific programs and projects, as well as manage and implement them effectively.
5. Research and implement local and international regulations and technical manuals related to the management, conservation, protection, development and use of forests, forest lands and natural resources.
6. Research and identify ways to develop livelihoods along with conservation for villages in and around the National Park to establish agricultural and forestry development villages related to conservation.
7. To collect, compile, create and manage information on forest land, forest and forest resources, important habitats of rare and endangered species of plants and animals, as a database, a learning center for the study, research, management, conservation, development and use.
8. To be in charge of mobilizing, campaigning, disseminating laws and regulations to raise awareness and strengthen the people, as well as to encourage village authorities to establish village-level forest management groups and to issue regulations on the management of forest land, forests and forest resources.
9. Coordinate with the vertical forces, local authorities and relevant parties to conduct surveys, collect data, demarcate lands, and plan land and forest use in determining the detailed allocation plan in each period, such as strictly protected areas, use management areas, buffer zones and development areas.
10. To research and comment on the request for conducting research activities on forest resources, aquatic animals and wildlife and natural tourism sites for the purpose of environmental protection.

11. To coordinate with the relevant parties in the management, monitoring, inspection of places and natural tourism activities in the National Park in order to comply with the regulations and agreements approved by higher authorities.
12. Promote and promote nursery, tree planting, natural forest restoration and non-timber forest products in accordance with the Management Plan, sustainable management to protect important habitats of rare and endangered plant and animal species.
13. Study the potential and needs of the village on the use of timber, energy and non-timber forest products for public benefit and livelihood improvement, aiming to create additional sources of income related to the allocation of stable occupations, as well as encourage, monitor the implementation of use plans and regulations set for each village.
14. To be in charge of the implementation of weeding work, the installation of signs in the protected areas, the use management areas and buffer zones, as well as the establishment of forest guard posts at key points to prevent encroachment on forest land, forests and forest resources in the national park, such as logging, slash-and-burn plantations
15. Coordinate and cooperate with relevant parties to monitor, inspect mining and logging from areas cleared for infrastructure construction in government-approved national parks.
16. Coordinate with relevant parties to implement the work to reduce greenhouse gas emissions from deforestation and forest degradation and to pay for environmental services in the National Park to be highly effective.
17. To conduct regular and continuous patrols. If serious violations are found, evidence must be collected and sent to the forest inspectors to file a lawsuit to the prosecutor so that the court can prosecute the perpetrators in accordance with the judicial process.
18. To seek cooperation and financial assistance, scientific and technical assistance from domestic and foreign countries in order to contribute to the effective implementation of programs and plans within the scope of their responsibilities.
19. Manage and implement the project as well as monitor, inspect and evaluate the performance of local and foreign experts, including the facilitation of official documents.
20. Prepare budget plans, open accounts, manage the accounting system - finance and state assets under its responsibility in a systematic and transparent manner that can be audited.
21. Encourage, monitor, inspect, evaluate, as well as summarize, compile and report weekly, monthly, quarterly, annual, semi-annual and five-year on the implementation of management, conservation, protection, development and use of forests, forest lands and forest resources in the national park.
22. Perform other duties as agreed and assigned by superiors.

## **Article 12. Scope of rights and duties of the district administration.**

The district administration to guide, encourage, and monitor the relevant offices of the district in order to make the management of the National Park more efficient and effective.

1. To be in charge of selecting and assembling staff from the relevant offices of the district for the Nam Et-Phou Louey National Park according to the needs of the job.
2. To be responsible for resolving the phenomenon of discouragement that causes damage to the natural resources of the National Park that occurs in its district within the scope of rights and duties of the district administration.

3. Summarize and report the results of the implementation of the activities of the National Park to the vertical lines of the district on a regular basis.
4. Monitor and report the threat situation within the area of responsibility of their district to the Nam Et-Phou Louey National Park on a regular basis and up to date.
5. To be in charge of educating staff, soldiers, police and parents in the management of the Nam Et-Phou Louey National Park.

#### **Article 13. Rights and Duties of the District Defense Command.**

1. To be responsible for the implementation of customs regulations on natural resources, aquatic animals, wildlife and forests.
2. To be responsible for the selection and staffing of the Nam Et-Phou Louey National Park to be included in the forest patrol team, forest guard post, task force and checkpoint.
3. There are parties involved in resolving the phenomenon of discouragement related to the duties of national defense.

#### **Article 14. Rights and Duties of the District Security Command.**

1. To be responsible for the implementation of laws and regulations on natural resources, aquatic animals, wildlife and forests.
2. Provide staff for the Nam Et-Phou Louey National Park to join the patrol team along the road, in restaurants, markets and other places.
3. To have the duty to inspect, conduct investigations and participate in resolving cases of violators of hunting, trade and trade of aquatic animals and wildlife and all acts that affect the forest resources in the national park.

#### **Article 15. Rights and duties of offices, departments, and other parties.**

Offices, divisions and other parties have the right and authority to contribute to the dissemination and integration of policies, laws and regulations on the management of the Nam Et-Phou Louey National Park within the scope of their responsibilities.

#### **Article 16. Rights and duties of the village administration.**

1. Disseminate, educate and integrate legislation related to the management of the National Park to the people in their villages.
2. To be in charge of monitoring, inspecting, reporting, preventing and combating crimes that violate the laws and regulations on the management of the park, such as the smuggling of non-timber forest products, logging, forest fires, hunting and wildlife trade.
3. Be responsible for joining the district team in educating and resolving violators of the National Park Management Rules at each level.

## **PART IV PROHIBITIONS**

#### **Article 17. Prohibitions for employees and landlords.**

Prohibit any of the following behaviors from forestry staff and officials:

1. Abuse of coercive rights, intimidation, and bribery for personal gain, which is detrimental to the interests of the state, including the people or the legitimate rights and interests of the people.
2. Resignment of one's duties and responsibilities to the work assigned by the organization.
3. Disclosure of state or official secrets, falsification of documents such as forgery of signatures, stamps.
4. Conduct or participate in the business of harvesting, trading in timber and wildlife.
5. Move, change or destroy park property.
6. Other behavior that violates the law.

#### **Article 18. Prohibitions for individuals, legal entities or business organizations**

1. Using violence or disguising the name of a person of position, position to intimidate employees, authorities or others.
2. Bribing employees and authorities, forging documents and stamps.
3. Destroying forests by encroaching, clearing, cutting down, possessing or using chemicals to kill trees or by other illegal acts.
4. Export of timber and wood products as specified in the list of prohibited timber specified by the Government in each period, including all types of black charcoal made from natural wood.
5. Cutting, trading and moving natural wood of protected species and endangered species as specified in the list of wood that has been updated periodically without permission from the government, such as rosewood, mosquito wood, sapwood, rhododendron, rosewood, open wood, champa wood.
6. Cutting, trading, moving or harvesting timber and non-timber forest products without permission.
7. To settle, reserve in the protection forest area, protected forest or production forest or do production.
8. Bringing live, carcasses, parts and organs of protected aquatic animals and wildlife out of their habitat.
9. Abuse of aquatic animals and wildlife of all kinds.
10. Smuggling, hunting, trading and possessing aquatic animals and wildlife without permission.
11. Find aquatic animals and hunt wild animals in protected areas, animal conservation areas, during the breeding season, pregnant women and raising young children.
12. Produce, import, sell and use fishing gear or weapons and hunt with zero nature, such as all kinds of guns, explosives, chemicals, poisons, electricity and others.
13. Other behavior that violates the laws and regulations on forests, aquatic animals and wildlife.

### **PART V POLICY ON PERFORMERS AND MEASURES AGAINST VIOLATORS**

#### **Article 19. Policy on Performers.**

1. Individuals, organizations or enterprises who have made outstanding achievements in the implementation of the regulations of this National Park, such as the protection and development

of forest resources, aquatic animals and wildlife will be commended and rewarded in accordance with the regulations.

2. Individuals, legal entities, organizations, who have contributed and are effective in arresting and resolving obstacles related to the management of the National Park will be divided according to the following proportions:

- 60% contributed to the state budget.
- The remaining 40% is set to 100% and divided as follows:
  - 25% provided to the informant (who provided information to the enforcement agencies on the illegal loggers, wildlife and wildlife trade, which could lead to arrests with complete evidence).
  - 35% to the actual implementation team.
  - 20% to the committee to resolve the case.
  - 20% into the total fund of Nam Et-Phou Louey National Park.
- In addition, those who violate this regulation must pay the full cost, which does not include the value of the fine.

## **Article 20. Measures against violators**

### **1. Entry to strictly prohibited areas.**

Any person who enters the restricted area without the permission of the authorities of the National Park will be warned and fined as follows: the first fine of 200,000 to 300,000 Kip / person, the second fine of 400,000 to 500,000 Kip / person, the third fine of 600,000 to 700,000 Kip / person and multiplied according to the case.

### **2. Hunting - Wildlife**

2.1 Violators of prohibited hunting and wildlife species will be prosecuted in accordance with the relevant laws and regulations, and will be fined in accordance with the regulations on the value of aquatic animals and wildlife, as well as confiscate all wild animals, vehicles and equipment used in the offense.

2.2 violation hunting management in the prohibited or restricted strictly, be educated, warned, confiscated wildlife, vehicles and equipment used in the offense and fined as follows: 1st fined double the value of individual aquatic animal or wildlife, 2nd fine multiplied twice the value of individual aquatic animal or wildlife, 3rd fines in terms of value aquatic animal or wildlife and will be prosecuted legally related.

### **3. Production, possession, storage and use of wildlife hunting and fishing tools.**

Any person who manufactures, possesses, maintains and uses any type of extinction fishing, hunting, hunting, etc. shall be warned, seize the material and shall be fined and shall proceed as follows:

3.1 Guns, rifles and other firearms will be fined 1,500,000 to 3,000,000 Kip / round, the second will be doubled and the third will be prosecuted according to the relevant laws.

3.2 Number guns, various types of sports guns, the first time will be fined 3,000,000 to 5,000,000 Kip / cartridge, the second time double fine and the third time will be prosecuted according to the relevant laws.

3.3 Artillery (firearms) of any kind entering the National Park without a firearms license (undocumented) will be confiscated and prosecuted in accordance with applicable laws.

3.4 Various types of artillery (weapons) into the National Park area with a gun license, but in violation of the rules of the National Park, the first will be fined 500,000 to 1,000,000 kip / cartridge, the second will be doubled, the third will be prosecuted according to the relevant laws. The seized firearms will be reported and handed over to the relevant divisional department to comply with the regulations of the divisional department.

In the case of those who have a gun and have a gun card, but if they lend a gun to another person, they must follow the regulations of the relevant department. Those who borrow guns must comply with Article 20, Clause 3.3.

3.5 The use of steel snares, sharp wooden fences and various types of steel in the National Park area will be fined 500,000 to 3,000,000 Kip / time, the second time will be doubled, and the third time will be prosecuted according to the relevant laws.

3.6 Use of wildfires to hunt wildlife in the National Park and other areas will be confiscated and fined as follows: the first will be fined 500,000 to 1,000,000 kip / person, the second will be doubled, the third will be prosecuted according to the relevant laws.

3.7 Use of explosives, electric shocks, poisons and various types of fishing gear in national parks and other areas, as well as the following fines: the first will be fined 5,000,000 to 10,000,000 Kip / time, the second will be doubled, and the third will be prosecuted according to the relevant laws.

3.8 Using the sound wave system, the wildlife-induced lighting system will confiscate the equipment and adjust the fines as follows: the first fine of 500,000 Kip to 1,000,000 Kip / piece, the second fine of double, the third time will be prosecuted according to the relevant laws.

3.9 Use of mosquitoes, birds and traps of various kinds of wildlife traps of an extinct nature will be fined as follows: the first will be fined 500,000 to 1,000,000 Kip / spot, the second will be doubled, and the third will be prosecuted according to the relevant laws.

#### 4. Trading and possession of aquatic and wild animals.

4.1 Any person who trades and possesses a protected aquatic-wildlife species, whether live or dead, will be confiscated wildlife, equipment and vehicles used in the offense, as well as fined in accordance with the regulations on the value of aquatic animals and wildlife and will be prosecuted in accordance with the relevant laws and regulations.

4.2 Any person who trades and possesses a managed animal without permission will be warned, confiscate the wildlife, equipment and vehicles used in the offense, and make the following adjustments: The first is to adjust the value of the aquatic animal, the second is to calculate the value of the animal, and the second is to calculate the value of the animal.

#### 5. Use cutting tools, equipment and vehicles.

5.1 Any person who uses logging tools and equipment such as Justin, saws, etc. into the protected area and the management area of the National Park without the permission of the relevant parties will be confiscated logging tools, equipment and vehicles used in the offense and fined as follows: 1st fine / 10,000th fine.

5.2 Any person who uses vehicles such as elephants, timber trucks, timber trucks, etc. to enter the protected area and the management area of the National Park without the permission of the relevant parties shall be fined as follows:

- Elephants and sleigh cars fine 30,000,000 to 50,000,000 kip / vehicle / vehicle.

- Sync car adjusted 5,000,000 to 10,000,000 kip / vehicle.
- Wood winch and tractor fine of 3,000,000 to 5,000,000 kip / machine / vehicle.
- Mobile sawmilling machine adjusted to 20,000,000 to 30,000,000 Kip / set and confiscated.
- All types of timber trucks adjusted 5,000,000 to 15,000,000 kip / vehicle.
- Motorboats adjusted 1,000,000 to 2,000,000 kip / boat.

Vehicles and elephants used for hauling timber will be confiscated or detained after being returned to their owners.

Forest resources that are damaged or inspected due to smuggling will be confiscated and adjusted according to the prices set by the Ministry of Industry and Commerce.

#### 6. Possession of explosives, gunpowder, traps, snares, etc. for sale or sale.

Any person possessing explosives, gunpowder, traps, snares and other illegal items to the party, if found to be in possession of such items will be confiscated and demolished and adjusted according to the following types of equipment:

6.1 Explosives, explosives will be fined 5,000,000 to 10,000,000 Kip / kg.

6.2 All types of shells, slings, grenades, ammunition and ammunition will be adjusted from 2,000,000 to 5,000,000 Kip / time.

6.3 Chemicals (poisons) will be fined 2,000,000 to 5,000,000 Kip / kg.

6.4 Fish sauce (electric) will be fined 5,000,000 Kip / machine.

6.5 Any person with a large or small iron rod that can catch large animals and a snare will be fined 1,000,000 kip / piece.

6.6 Bat, bird or trapping nets will be fined 500,000 to 1,000,000 kip / spot.

#### 7. Clearing land for agriculture and animal husbandry in the National Park.

7.1 Burning of land in the National Park will be suspended on the use of the land with the following fines: the first fine of 5,000,000 to 10,000,000 Kip / ha, the second fine of double, the third will be prosecuted according to the relevant laws.

7.2 Burning of sand in the management area will be suspended on the use of the land with the following fines: the first fine of 2,000,000 to 5,000,000 Kip / ha, the second double fine, the third will be prosecuted according to the relevant laws.

7.3 Any person expanding the area of upland rice, paddy and garden in the protected area will be suspended from using the land and fined as follows: the first fine of 5,000,000 to 10,000,000 Kip / ha, the second fine of double, the third time will be prosecuted according to the relevant laws.

7.4 Any person who expands farmland, paddy fields and gardens in the management area without permission will be suspended from using the land and fined as follows: the first fine of 2,000,000 to 5,000,000 Kip / ha, the second fine of double, the third will be prosecuted according to the relevant law.

7.5 Any person who raises or leaves livestock in a TPZ of the National Park shall be ordered to evacuate the livestock from that area with the following fines: the first fine of 200,000 to 300,000 Kip / animal, the second fine of double, the third of which shall be prosecuted according to the relevant laws.

7.6 Any person who brings livestock into the CUZ without permission from the National Park Management Unit and the relevant parties will be ordered to move the livestock out of the area with the following fines: the first fine of 100,000 to 200,000 Kip / animal, the second fine will be doubled, and the third case will be fined.

#### 8. Setting up houses, guiding, building roads and other activities.

8.1 Any person who enters a house in the restricted area will be suspended and reclaim the land use of the land with the following fines: the first fine of 5,000,000 to 10,000,000 Kip / time, the second fine of double, the third time will be prosecuted according to the relevant laws.

8.2 Any person who enters a house in the protected area without permission from the National Park and the relevant parties will be suspended and reclaimed the area of the land with the following adjustments: the first fine of 2,000,000 to 5,000,000 Kip / time, the second fine double, the third fine.

8.3 Individuals and legal entities who smuggle, explore, extract and store minerals in the National Park without permission will be fined 10,000,000 Kip to 15,000,000 Kip, confiscate all items, vehicles and equipment used in the offense and prosecute according to the relevant laws.

8.4 Individuals, legal entities and organizations, both public and private, who are licensed to carry out activities or projects in the National Park area must comply with the Forest Law (revised version) in Chapter V on forest land leases or concessions.

#### 9. Harvesting of non-timber forest products.

9.1 Any person who collects non-timber forest products in the protected area of the National Park will be confiscated the property, vehicles and equipment used in the offense and fined as follows: the first fine of 1,000,000 Kip to 3,000,000 Kip / time / person, the second time double fine, the third time will be prosecuted.

9.2 Any person who collects non-timber forest products in the protected area of the National Park shall be confiscated the property, vehicles and equipment used in the offense and shall be fined as follows: the first fine of 500,000 to 1,000,000 Kip / time / person, the second fine shall be doubled, and the third case shall be fined.

## **PART VI FINAL PROVISIONS**

### **Article 21. Implementation.**

1. Individuals, legal entities, public and private organizations should recognize and implement this rule strictly.
2. Assign the relevant parties to bring this regulation to organize a campaign for individuals, legal entities, government organizations and the general public to recognize and implement this regulation strictly and comprehensively.

### **Article 22. Effect**

This regulation is effective and applicable from the date of signing and replaces the district regulations relating to the management of the Nam Et-Phou Louey NPA.

## ANNEX 3 – TEMPLATE GUARDIAN VILLAGE CONSERVATION AGREEMENT

1. This template of a Guardian Village Conservation Agreement (GVCA) is meant as a guide. Both the format and substance can be improved. It may be useful to develop additional annexes such as forms and templates, list of conservation-compatible socio-economic projects, etc.
2. The GVCA is an umbrella agreement that establishes a village as a guardian village. It also defines the joint commitment and duties of the village and the park administrations in broad and open terms.
3. Activities and prohibitions are covered in general terms. The GVCA purposely does not list the activities to be implemented preferring to leave this to the various plans. It also does not cover the probated uses preferring to leave this to the laws, decrees, and regulations.
4. The implementation of the GVCA requires annual plans and budget from the GVCO. Because the NPMO cannot guarantee secured financing, the GVCA is not a financial commitment. Financial commitment by the NPMO is either by approving the GVCO annual plan and budget or through signing a subsidiary agreement.
5. The GVCA is not associated with any project. Any project that operates on the Guardian village land in support of any activities associated with the national park, including village forestry is required to work with the GVCO under the terms of the GVCA. Such project shall sign a subsidiary agreement with the GV administration.



**LAO PEOPLE'S DEMOCRATIC REPUBLIC**  
**PEACE, INDEPENDENCE, DEMOCRACY, UNITY, LASTING CULTURE**

Name of Village: .....  
Name of District: .....

No.:...../.....  
Date: .....

**Guardian Village Conservation Agreement (GVCA)**

**between**

**the Nam Et Phou Louey National Park Management Office**

**and**

**the Village Administration of [name of village]**

**Article 23. This agreement is based on:**

- Land Law No. 70 / NA, 2020
- Forestry Law No. 64 / NA, 2019
- Wildlife and Aquatic Law No. 07/NA 24 December 2007.
- Protected Area Decree No. \_\_\_\_ / PM, \_\_\_\_
- Nam Et Phou Louey National Park Decree No. \_\_\_\_ / PM, Feb 15, 2019
- Decision No. \_\_\_\_ / MAFM, \_\_\_\_\_, approving the NEPL Management Plan including its regulations and zoning plan
- Minutes of Meetings between the NPMO, village community members and the district administration and signed
- An approved village map with outer boundaries showing (a) that the park land and village land overlap or are adjacent or an approved Land Use Plan or (b) that the village allocates land outside the park boundary to become part of the National Park total protection zone or controlled use zone.

**Article 24. Objective**

The GVCA establishes the village of \_\_\_\_\_ as a Guardian Village of the Nam Et Phou Louey National Park and shares the rights and duties between the NPMO and the GV in implementing National Park activities, under which the rights conferred are the rights to use and usufruct rights to the protected area resources and land as defined in Articles 125 and 126 of the Forestry Law all in application of, and compliance with, the NPMP.

## Article 25. Village land

By becoming a Guardian Village, the \_\_\_\_ village understand and agrees that its entire land must be allocated to one of the three National Park zones: the Buffer Zone or BFZ, the Controlled Use Zone or CUZ and the Total Protection Zone or TPZ. The permitted and prohibited uses in each of these zones are defined in the Forestry Law, the Protected Area Decree and the regulations annexed to the NPMP.

## Article 26. Definition

1. **Village forest Management Plan or VFMP** refers to the document that guides the implementation of forestry activities in all villages, including guardian villages, according to the Forestry Law;
2. **Use plan** refers to a plan designed by an individual, legal entity, or organization seeking to harvest, access, or otherwise use specific resources or areas, and includes the conditions of the resources, the modalities of the use, and the means of ensuring the sustainability of the resource and its use;
3. **Guardian village conservation office or GVCO** refers to an entity established by a village administration under its agriculture and forestry subunit with inclusive representation from all village units and community members and mandated to implement a guardian village conservation agreement;
4. **Guardian village permit** refers to a modality of use by which a guardian village conservation office confers on an individual, legal entity, or organization the rights to a specified use of a protected area for public, family, or business benefit in the CUZ that is allotted to the guardian village, for a duration no longer than one-year renewable;
5. **National Park Management Plan or NPMP** refers to the Strategy and the Action Plan approved by MAF decision \_\_\_ dated \_\_\_\_ and which define the vision, the regulations, the zoning, the strategy for the next 10 years and the organizational arrangement and program of activities for the next 5 years.

## Article 27. Scope and duration of the agreement

The GVCA is in effect from the date of signature until it is amended, a new GVCA replaces it or it is made void by a new legislation, a legal action or a joint decision by all parties to the GVCA.

## Article 28. Commitment of the Guardian Village Administration

The GV administration commits to request its resident to abide by the National Park regulation and more specifically in the National Park TPZ to:

- Not access unless on official duty or with a permit;
- Not carry any agriculture or livestock activity;
- Not set any fire;
- Not kill any wild animal or fish;
- Not harvest any tree or collect NTFPs.

## Article 29. Commitment of the National Park Office

The NPMO's commitment is to mobilize financing to reward the guardian village if it is fulfilling its commitment and deposit such financing into the GVCO revolving fund account with the understanding that the level of such payments is determined annually and contingent of available budget.

### **Article 30. Duties of the National Park Office**

The NPMO's duties are to:

- help establish and strengthen the GV Conservation Offices ;
- find financing to help GVCO with implementing the VFMP, the NPMP and other plans identified by the GVCO;
- assist the GVCO in preparing a Land Use Plan and Village Forest Management Plan;
- propose a National Park Zoning that complies with NPMP and optimizes the village benefits;
- help build awareness of the guardian villagers through various outreach activities;
- help the GVPO with preparing and implementing activity plans and budget;
- help the GVPO manage the CUZ and enforce prohibitions and investigate any National Park offenses detected by villagers or by NPMO patrols;
- identify users, review resources Use Plans prepared by users;
- help GVCO issue and monitor Guardian Villages Permits;
- verify and control the implementation of the GVCA and other agreed plans.

### **Article 31. Duties of the District Office of Agriculture and Forestry**

Under the GVCA the DAFO duties are to:

- Assist the NPMO and advise the village administration and the GVCO in all activities of the GVCA that are related to forestry or agriculture;
- Help mobilize other sectors in the district to joint efforts in support of the GVCA implementation.

### **Article 32. Duties of the Guardian Village Administration:**

The GV administration duties are to:

- establish, assist, and supervise a Guardian Village Park Office (GVPO) to implement the GVCA on its behalf;
- causes the GVCO to set up an overseeing committee representative of the village residents, to open a bank account and recruit staff or select volunteers for its secretariat;
- disseminate and explain the content of the GVCA, the commitment of the village to the National Park and reason for establishing a GCVO to all GV residents.

### **Article 33. Duties of the Guardian Village Conservation Office:**

The GVCO's duties are to:

- Prepare and adopt bylaws for the operation of the GVCO including the operation of accounts;
- Prepare a VFMP to manage the forestland in the parts of the village land that are allocated to National Park CUZ or to village forest;
- Prepare annually an activity plan, budget and report;
- Manage funds and revenues in accordance with good fiduciary practices;
- Implement the VFMP, especially in the CUZ part of the village including (a) deterring prohibited uses, (b) opening and maintaining a boundary trail and signage between the CUZ, the TPZ and the BFZ, and (c) preventing access to TPZ to non-permit holders;
- support conservation-compatible livelihood or socio-economic subprojects proposed by villagers especially the poorest member of the community, by offering low interest loans from a revolving fund;

- verify that each prospective CUZ resource user, or user group, prepare a Use Plans that is consistent with the VFMP and the NPMP;
- issue and monitor Guardian Village Permits based (a) in the CUZ on a Use Plan, for free to Guardian Village residents and for a fee for non-Guardian Village resident and (b) in other village forestland on use rules to-be-developed and approved by the village administration.

#### **Article 34. Accounts of the GVCO**

The GVCO shall open two accounts in its name in a reputable commercial bank:

- One to finance the activities implemented by the GVCO;
- One to be used as revolving fund to finance conservation-compatible livelihood or socio-economic projects.

The GVCO may open additional accounts if necessary.

#### **Article 35. Revenues of the GVCO**

The GVCO revenues can be from the NPMO accounts, from revenues for legitimate uses with GV permits, from partner administrations, projects, or organizations as well as from conservation performance payments for ecosystem services such as carbon emission reduction.

#### **Article 36. Payments to the GVCO**

All payment by the NPMO, or representative of the NPMO or any financier, must be made to one of the GVCO accounts strictly to support (a) an approved annual plan and budget, (b) a performance target mutually agreed annually.

In addition, payment by other financiers may follow the rules establish in their specific subsidiary agreements establish under Article 16 of this GVCA.

Payment by users who are GV permit holders may be made directly to the GVCO operation account or, if in cash and, strictly deposited in the GVCO operation account. All users shall be given a receipt from a triplicate receipt book which should be available for review by the village administration, the NPMO or the NPMO auditors.

#### **Article 37. Activity planning**

To implement activities under the GVCA, the GVCO in collaboration with the NPMO, shall prepare an annual plan and budget that includes performance payment targets and socio-economic subproject to be funded from the revolving fund. Once the budget is approved, the NPMO shall release the funds on a quarterly basis based on reconciliation of expenditure. Performance payment are released toward the end of the year after verification of performance targets by the NPMO.

#### **Article 38. Reporting**

The GVCO will report once a year, before February 15 of the following year, on the implementation of all of its activities irrespective of the financing source to the Village Administration and the NPMO who will share a copy with the district administration and relevant sectors.

#### **Article 39. The National, Provincial and District-level organizations**

The party to the GVCA may request the assistance to all national, provincial, and district-level organizations in implementing the GVCA.

#### Article 40. Partnership

To implement activities under the GVCA, the NPMP, the VFMP or to support conservation-compatible socio-economic activities in the village, the GVCO may seek assistance from technical and financial partners and may enter into a sub agreement after clearance from the GV administration, the district administration and the NPMO.

Such agreement shall constitute an addendum to the GVCA and the activities supported shall be included in the annual plan and budget and the annual report.

#### Article 41. Dispute Resolution

In the event of any dispute arising out of or in connection with this Agreement, it shall be entrusted to the parties and to the parties concerned for a joint settlement of the dispute. If no solution can be found, refer to a higher authority for assistance in resolving the process and procedures in accordance with the applicable laws and regulations.

#### Article 42. Disciplinary Measures:

Relevant authorities will apply and manage fines for violations as determined by existing laws and regulations. In addition to statutory disciplinary measures, any GVCO staff or committee members who is found guilty of a National Park offense or a violation of the terms of this GVCA will be suspended from its role and

#### Article 43. Effectiveness of the Agreement

This Agreement is effective from the date of signing by all parties.

The Chief, Village of .....

The Director, Nam Et Phou Louey National  
Park Management Office

Witness

The Head, District Office of Agriculture  
and Forestry, ..... District

Witness

The Governor, ..... District\_\_\_\_\_

#### Attachments

- Map of the village land with the National Park and TPZ boundaries
- Land Use Plan (if available)
- Village Forest Management Plan (VFMP) (if available)
- Village Socio-Economic Information Report (optional)
- Participatory Data Collection Report (optional)
- Grievance Redress Mechanism.

#### Possible addendum

- Sub agreements with additional partner
- Amendment to the GVCA

## ANNEX 4 – VILLAGES LIST

1. The table below lists the 91 guardian villages by districts and provinces. The population is from investigation carried out in 2018. It will require updating during implementation.

Scenario	Name of village	Name of village Lao	Village cluster/ Kumban	No families	Population	Women	Ethnic group	LUP
	<b>Huaphan Province</b>		<b>70</b>	<b>5,428</b>	<b>33,437</b>	<b>16,202</b>	-	<b>54</b>
	Hiem	ເມືອງຮຽມ	19	1,068	6,133	2,907	-	12
1	Nam-Paung	ນ້ຳປຸງ	Sa Kok	84	361	173	Lao, Khmou	LENS2 2020
1	Phone sa ard	ໂພນສະອາດ	Sa Kok	89	462	241	Lao, Khmou	LENS2 2020
1	Sa kok	ສາກົກ	Sa Kok	63	369	163	Lao, Khmou	LENS2 2020
1	Phone kham	ໂພນຄຳ	Phan Lor	29	159	61	Lao	LENS2 2020
1	Na-Puak	ນາປວກ	Thet Sa Ban	42	261	141	Khmou	No, LUP
1	Done-khoun	ດອນຄູນ	Sa Kok	73	372	180	Lao, Khmou	LENS2 2020
1	Khon-Gnua	ຄອນງົວ	Phan Lor	65	368	174	Khmou	LENS2 2020
1	Nam-Saad	ນ້ຳສາດ	Thet Sa Ban	56	421	164	Khmou	LENS2 2020
1	Hua-Phou	ຫົວພູ	Thet Sa Ban	44	234	104	Khmou	LENS2 2020
2	Pieng-dee	ພຽງດີ	Phan Lor	42	215	104	Lao, Khmou	LENS2 2020
3	Sop-Maan	ສົບມານ	Phan Lor	32	180	62	Lao	No, LUP
3	Phan Lor	ພັນລໍ່	Phan Lor	37	231	105	Lao	No, LUP
3	Phou dan	ພູດ່ານ	Daohuang	36	205	98	Khmou	GIZ
3	Tamla nuea	ຖ້ຳລາເໜືອ	Tamla	88	610	302	Lao	No, LUP
3	Tamla tai	ຖ້ຳລາໃຕ້	Tamla	81	552	280	Lao	No, LUP
3	Paung-Pin	ປຸງປິນ	Dao Huang	40	201	100	Lao	GIZ 2012
3	Hatsa			63	340	170		LENS2 2020
4	Pieng dong	ພຽງໂດນ	Thet Sa Ban	48	253	121	Khmou	No, LUP
4	Na Phon	ນາໂພນ	Thet Sa Ban	56	339	164	Khmou, Hmong	No, LUP
	Xone	ເມືອງຊອນ	32	2,373	15,741	7,748		32
1	That	ທາດ	Xone Nua	47	282	142	Tai Deng	LENS2 2020
1	Leng	ເລັງ	Xone Nua	38	235	118	Tai Deng	LENS2 2020
1	Nam-Nern	ນ້ຳເນີນ	Buam Fat	61	451	242	Hmong	LENS2 2020
1	Buam-Fat	ບວມຝາດ	Buam Fat	41	332	154	Hmong	LENS2 2020

1	Phone-xong	ໂພນຊ່ອງ	Buam Fat	54	307	157	Lao	LENS2 2020
1	Long-Gonua-par	ລອງງົວປ່າ	Buam Fat	113	846	392	Hmong	LENS2 2020
1	Houay-Teun	ຫ້ວຍຕືນ	Buam Fat	51	418	212	Lu Mien	LENS2 2020
1	Na Chack	ນາຈັກ	Xone Nua	68	564	275	Hmong	LENS2 2020
1	Vath	ວັດ	Xone Nua	122	680	346	Khmou	LENS2 2020
1	B.Bouak	ບ້ານບວກ	Xone Nua	41	260	131	Lao	LENS2 2020
1	Houay-Muoy	ຫ້ວຍເໝືອຍ	Xone Nua	207	1,705	839	Hmong	LENS2 2020
1	Nam-Ghaw	ນ້ຳງ້າວ	Xone Nua	54	312	139	Khmou	GIZ 2020
2	NongSai	ໜອງໃສ	xone Tai	64	502	239	Hmong	LENS2 2020
2	Ban-Bor	ບ້ານ ບໍ່	xone Tai	45	251	126	Lao	GIZ 2015
2	Houay Sa Hngon	ຫ້ວຍສະງອນ	xone Tai	55	541	239	Hmong	LENS2 2020
3	Na-Nom	ນາໜົມ	Xone Nua	39	250	123	Lao	GIZ 2014
3	Na Thong Por	ນາທົ່ງປໍ່	Xone Nua	66	352	185	Lao, Tai Deng	GIZ 2013
3	Sam-Sum	ສາມສຸ່ມ	Muang Kao	68	405	202	Khmou	GIZ 2015
3	Huay-Yaam	ຫ້ວຍຍາມ	Muang Kao	81	627	309	Hmong	GIZ 2018
3	Na-Kian	ນາກງຸນ	Muang Per	90	604	297	Lao, Khmou	GIZ 2019
3	Muang-Peu	ເມືອງເປີ	Muang Per	128	725	354	Tai Dam	GIZ 2018
3	Houay-Sou	ຫ້ວຍສູ້	Muang Kao	71	553	271	Hmong	GIZ 2018
3	Ban-Bong	ບ້ານບົງ	Muang Per	63	486	230	Hmong	GIZ 2017
3	B. Ngon	ບ້ານໂງ່ນ	xone Tai	94	385	198	Lao	GIZ 2015
4	Houay-Lao	ຫ້ວຍເລົາ	xone Tai	45	344	162	Hmong	GIZ 2015
4	Xone-Tai	ຊ່ອນໃຕ້	xone Tai	216	1,081	540	Tai Dam, Lao	GIZ 2015
4	Mun	ມັນ	xone Tai	68	380	203	Tai Dam	GIZ 2015
4	Nor-Mor	ນາໝໍ້	Xone Nua	60	377	188	Khmou, Lao	GIZ 2020
4	Vang-Faen	ວັງແຜນ	Muang Per	46	283	137	Khmou	GIZ 2018
4	Sop-Tiou	ສົບຕົວ	Muang Per	42	358	176	Khmou, Hmong	GIZ 2018
4	Muang-Kao	ເມືອງເກົ້າ	Muang Kao	80	487	246	Lao, Tai Deng	GIZ 2017
4	Vang-Khuang	ວັງຄວ້າງ	Muang Kao	55	358	176	Khmou, Hmong	GIZ 2016
	Hua Muang	ເມືອງຫ້ວຍເມືອງ	7	651	3,908	1,923	-	5
1	Nam-Tip	ນ້ຳຕີບ	Nam Tip	58	384	192	Khmou	LENS2 2020
1	Hom-Phan	ໂຮມພັນ	Nam Tip	90	525	264	Khmou, Phong	LENS2 2020

1	Ban-Mor	ໝໍ້	Nam Tip	55	306	161	Lao	LENS2 2020
1	Son-Khua	ສົນຂົວ	Sop Lao	197	1013	501	Khmou, Lao	CLIPAD 2017
1	Houay-Hou	ຫ້ວຍຫຼໍ່	Muang Aor	106	886	407	Hmong	LENS2 2020
3	Huay siang	ຫົວຊຽງ	Muang Phirn	85	436	208	Lao	No, LUP
3	Nam pong	ນ້ຳປັງ	Muang Phirn	60	358	190	Lao	No, LUP
	Et	ເມືອງແອດ	7	569	3,219	1,592	-	-
3	Houay Vaek	ຫ້ວຍແວກ	Muang Xoum	33	198	99	Hmong	No, LUP
3	Houay Fok (Houay ha)	ຫ້ວຍຜອກ	Muang Xoum	66	396	198	Hmong	No, LUP
4	Houay Puoak	ຫ້ວຍປວກ	Muang Xoum	63	469	225	Hmong	No, LUP
4	Ta Mo	ຕະໂມ	Muang Xoum	122	569	281	Hmong	No, LUP
4	Ka Tan	ກະຕັນ	Muang Xoum	96	496	241	Khmou, Xing Moun	No, LUP
4	B. Muang Xoum (Na Vin)	ບ້ານເມືອງຊິມ (ນາວິນ)	Muang Xoum	79	427	210	Lao, Khmou	No, LUP
4	Sop Veak	ສົບແວກ	Muang Xoum	110	664	338	Xing Moun	No, LUP
	Sam Nua	ຊຳເໜືອ	5	767	4,436	2,032	-	5
2	Houay-Mar	ບ ຫ້ວຍມ້າ	Pha Thi	270	1,803	813	Hmong, Khmou	CLIPAD 2019
2	Sop Ka	ບ ສົບກ່າ	Pha Thi	93	504	225	Lao	CLIPAD 2019
3	Muang-Gnut	ບ ເມືອງຍືດ	Pha Thi	172	818	402	Lao, Khmou	CLIPAD 2019
3	Naphieng	ນາພຽງ	Xangkham	68	336	145	Hmong	CLIPAD 2016
4	Kor-Hai	ບ ກໍ່ໄຮ	Pha Thi	164	975	447	Hmong	CLIPAD 2019
	<b>Luangprabang</b>	<b>ຫລວງພະບາງ</b>	<b>17</b>	<b>1,368</b>	<b>8,148</b>	<b>3,995</b>		<b>9</b>
	Phonthong	ໂພນທອງ	17	426	2,698	1,330		3
2	Poungbo	ປຸ່ງບໍ່	Phone Thong	96	819	402	Tai Dam	LENS2 2020
2	Donngeun	ດອນເງິນ	Phone Thong	99	580	297	Khmou	LENS2 2020
2	Nabeung	ນາເບິງ	Phone Thong	112	523	254	Tai Deng, Khmou	LENS2 2020
3	Longgnang	ລ້ອງຮາງ	Na Xone	69	478	237	Hmong	No, LUP

3	Hinhae	ຫີນແຕ່	Na Xone	50	298	140	Khmou	No, LUP
	Viengkham	ວຽງຄໍາ	7	419	2,434	1,193		3
1	Paklao	ບ ປາກລາວ	Muang Mouay	76	446	225	Khmou	LENS2 2020
1	Houaygon	ບ ຫ້ວຍໂກນ	Muang Mouay	45	348	172	Khmou	LENS2 2020
1	Navean	ບ ນາແວນ	Sop HuangKong Keang	71	383	186	Khmou	GIZ 2010
1	Houayphiang	ບ ຫ້ວຍພຽງ	Sop HuangKong Keang	47	232	106	Khmou	GIZ 2010
1	Nam-Lao	ນໍ້າລາວ	Sam Sum Khong Muang	78	482	226	Khmou	GIZ 2010
1	Nanoy	ບ ນານ້ອຍ	Sam Sum Khong Muang	51	251	134	Khmou, Lao	TABI
2	Nakang	ບ ນາກາງ	Vang Bong Khong Khaeng	51	292	144	Khmou	No, LUP
	Phonxay	ໂພນໄຊ	3	358	2,021	966		3
1	Viengchaleun	ວຽງຈະເລີນ	Phone Thong	130	821	403	Khmou	TABI 2013
1	Buakkham	ບວກຄໍາ	Phone Thong	124	726	347	Khmou	TABI 2013
1	Pak Vang	ປາກວັງ	Don Kham	104	474	216	Lao	TABI 2013
	Pakseng	ປາກແຊງ	2	165	995	506		-
1	Houaythong	ຫ້ວຍທອງ	Buam Khuone	75	490	247	Khmou	No LUP
1	Bouamkhoun (Kiou-uad)	ບວມຄູນ	Buam Khuone	90	505	259	Khmou	No LUP
	<b>Xiengkhuang Province</b>		<b>4</b>	<b>392</b>	<b>2,201</b>	<b>1,108</b>		<b>4</b>
	Phoukout	ເມືອງ ພູກູດ	4	392	2,201	1,108		4
1	Long Khao (Sop Kaun, Na Buan, Don Jai)	ລ້ອງຄາວ (ຄຸ້ມສົບກິນ, ນາເບືອນ, ດອນໃຈ)	Jut Sum Done Jai	100	533	280	Lao, Khmou	LENS2 2020
1	Sop Khaw	ສົບຄາວ	Jut Sum Done Jai	70	406	199	Lao, Khmou	LENS2 2020
1	Pieng Dee	ພຽງດີ ( ສົບມ່ວງ)	Jut Sum Done Jai	73	392	193	Lao, Khmou	LENS2 2020
3	Long Khan (Sy Som boun, Na Baen)	ລ້ອງຄານ (ສີສົມບຸນ, ນາແບ່ງ)	Jut Sum Done Jai	149	870	436	Lao, Khmou	LENS2 2020
	<b>Total</b>		<b>91</b>	<b>7,188</b>	<b>43,786</b>	<b>21,305</b>		<b>67</b>

## ANNEX 5 – SPECIES LIST

1. Sources of information for this list are (a) WCS web site<sup>74</sup>, (b) Davidson (1998 and 1999), (c) Stuart (1998) (d) Eaton (2020), and (e) verification by Rasphone and White, 2020.
2. For most species confirmed as present, usually the abundance, distribution and trend are unknown. When it is known, a special mention is made.
3. The number of mammal species is 102 of which 40 species are bats. Among mammals 5 are known extirpated. Bird numbers are reported to be 316 of which one is extirpated. Amphibian and reptile records show 27 species, two of which are very unlikely. No list is available on plants, fish, or insects.
4. There are 41 species listed as either CR, EN, VU (critical species) on the 2020 IUCN red data list. Of these 4 are most likely out of range bringing the number of potentially present species to 37. Since 4 are extirpated, the number of realistic, critical species is 33. Of these 10 are unconfirmed and 23 are confirmed.

CR, EN, VU	# potentially present			% potentially present		
	# likely present	# confirmed		% likely present	% confirmed	
Nam Et Phou Louey	37	33	23			
Xe Sap	37	35	34	100%	106%	148%
Nakai Nam Teun	35	30	25	95%	91%	109%
Kung Xe No Ma	34	30	16	92%	91%	70%
Him Nam No	32	26	11	86%	79%	48%
Nam Kading	31	27	17	84%	82%	74%
Nam Phoui	31	28	27	84%	85%	117%
Nam Ha	29	25	16	78%	76%	70%
Nam Khan	28	23	13	76%	70%	57%
Phou Him Boun	25	22	11	68%	67%	48%

2. When the list of NEPL critical species is compared – as in the graph above -- with some of the other important Lao protected areas, it appears that several of them, especially those of the Annamites, compare well and possibly exceed NEPL. For example, of the 37 species potentially present in NEPL 34 are confirmed in Xe Sap, 25 in Nakai Nam Theun but only 23 in NEPL.
3. What might make the critical species of NEPL especially valuable is the importance of some of these populations. For example, some carnivore populations, like the dhole or the clouded leopard, are of significant size and the territory available to them (i.e., the national park TPZ) is substantial.

Group	Names	Scientific Names	NEPL Status 2020	IUCN red list status (2020)	Lao Category (2008)

<sup>74</sup> <http://www.namet.org/about/wildlife/species/>

Pangolins	Sunda Pangolin	<i>Manis javanica</i>	Confirmed 2020 (camera trapped)	CR	I
	Chinese Pangolin	<i>Manis pentadactyla</i>	Likely but unconfirmed. Rasphone reports a 2014 camera tap photo.	CR	I
Lorises	Bengal Slow Loris	<i>Nycticebus bengalensis</i>	Confirmed 2020 (night safari)	VU	I
	Pygmy Slow Loris	<i>Nyctibeus pymaeus</i>	Confirmed 2020 (night safari)	VU	I
Gibbons	Northern White-cheeked Gibbon	<i>Nomascus leucogenys</i>	Confirmed 2020. >57 groups 2014-15 <sup>75</sup> . Survey planned 2020	CR	I
Langurs	Phayre's Langur (or Payre's Leaf Monkey)	<i>Trachypithecus phayrei</i>	Confirmed 2020.	EN	I
Macaques	Stump-tailed Macaque	<i>Macaca arctoides</i>	Confirmed 2020. Widespread and abundant.	VU	II
	Northern Pig-tailed macaque	<i>Macaca leonina</i>	Confirmed, 2020	VU	II
	Assamese Macaque	<i>Macaca assamensis</i>	Confirmed 2020	NT	II
	Rhesus Macaque	<i>Macaca mulatta</i>	Confirmed 2020	LC	II
Canines	Dhole	<i>Cuon alpinus</i>	Confirmed 2020.	EN	I
Bears	Asian Black Bear (or Asiatic Black Bear)	<i>Ursus thibetanus</i>	Confirmed 2020	VU	I
	Sun Bear	<i>Helarctos malayanus</i>	Confirmed 2020	VU	I
Weasels	Back-striped Weasel	<i>Mustela strigidorsa</i>	Likely but unconfirmed. Last confirmed records 2003 - 2006	LC	I
	Yellow-bellied Weasel	<i>Mustela kathiah</i>	Unconfirmed	LC	I
Otters	Oriental Small-clawed Otter	<i>Aonyx cinereus</i>	Likely but unconfirmed. Last confirmed records 2003 - 2006	VU	I
	Smooth-coated Otter	<i>Lutrogale perspicillata</i>	Unconfirmed	VU	I
	Eurasian Otter	<i>Lutra lutra</i>	Likely but unconfirmed. Regular	NT	I

<sup>75</sup> Syxaiyakhamthor et.al, 2019

			sighting of unrecognized otter sp.		
Civets	Owston's Civet	<i>Chrotogale owstoni</i>	Confirmed 2020.	EN	I
	Binturong	<i>Arctictis binturong</i>	Confirmed 2020.	VU	I
	Spotted Linsang	<i>Prionodon pardicolor</i>	Confirmed 2020.	LC	I
	Large Indian Civet	<i>Viverra zibetha</i>	Confirmed 2020.	LC	II
	Small Indian Civet	<i>Viverricula indica</i>	Confirmed 2020.	LC	II
	Masked Palm Civet	<i>Paguma larvata</i>	Confirmed 2020.	LC	II
	Common Palm Civet	<i>Paradoxurus hermaphroditus</i>	Confirmed 2020.	LC	II
	Small-toothed Palm Civet	<i>Arctogalidia trivirgata</i>	Unconfirmed	LC	II
Felines	Indochinese Tiger	<i>Panthera tigris corbetti</i>	Unlikely. Last record 2014. Suspected tiger scrape 2018 & prints 2016 @ same location	EN	I
	Indochinese Leopard	<i>Panthera pardus delacouri</i>	Unlikely Last record 2004. Likely extirpated	VU	I
	Mainland Clouded Leopard	<i>Neofelis nebulosa</i>	Confirmed, distribution known, decreasing	VU	I
	Asian Golden Cat	<i>Catopuma temminckii</i>	Confirmed 2020, distribution known	NT	I
	Marbled Cat	<i>Pardofelis marmorata</i>	Confirmed 2020, distribution known, decreasing	NT	I
	Leopard Cat	<i>Prionailurus bengalensis</i>	Confirmed 2020, distribution known, decreasing	LC	I
Martens	Yellow-throated Marten	<i>Martes flavigula</i>	Confirmed, 2020	LC	II
Badgers	Greater Hog Badger	<i>Arctonyx collaris</i>	Confirmed, 2020	VU	II
	Ferret Badger sp.	<i>Melogale sp.</i>	Confirmed	LC	II
Mongoose	Crab-eating mongoose	<i>Herpestes uva</i>	Confirmed	LC	II
	Javan mongoose	<i>Herpestes javanicus</i>	Unconfirmed	LC	II
Elephant	Asian Elephant	<i>Elephas maximus</i>	Likely. Villager observation	EN	I

			in Sokpa 2015 and 2019 <sup>76</sup> .		
Rhinoceros	Javan rhinoceros	<i>Rhinoceros sondaicus</i>	Extirpated. Villagers report presence until 1990's	CR	I
Wild Cattle	Banteng	<i>Bos javanicus</i>	Extirpated. Possible presence until 1950's.	EN	I
	Gaur	<i>Bos gaurus</i>	Unlikely. Last record 2014. In 2020 hunters report tracks around Phou Khoum.	VU	I
Deer	Sambar	<i>Rusa unicolor</i>	Confirmed 2020	VU	I
Muntjacs	Roosevelts Munjack (or Roosevelt Munjack group given discussions on darker Muntjac)	<i>Muntiacus rooseveltorum</i>	Confirmed 2020	DD	I
	Red Muntjac	<i>Muntiacus muntjac</i>	Confirmed. 2020.	LC	II
Serows	Indochinese Serow (or Mainland Serow)	<i>Capricornis milneedwardsii</i>	Confirmed 2020. Abundant.	VU	I
	Chinese (Grey Long Tailed) Goral	<i>Naemorhedus griseus</i>	Unconfirmed unlikely (but widely reported by hunters)	VU	I
Pigs	Eurasian Wild Pig	<i>Sus scrofa</i>	Confirmed 2020	LC	III
Porcupines	East Asian Porcupine	<i>Hystrix brachyuran</i>	Confirmed 2020	LC	I
	Asian Brush-tailed Porcupine	<i>Atherurus macrourus</i>	Confirmed 2020	LC	II
Squirrels	Black Giant Squirrel	<i>Ratufa bicolor</i>	Confirmed	NT	I
	Pallas's Squirrel	<i>Callosciurus erythraeus</i>	Confirmed	LC	III
	Inornate Squirrel	<i>Callosciurus inornatus</i>	Confirmed	LC	III
	Red-cheeked Squirrel	<i>Dremomys rufigenis</i>	Confirmed	LC	III
	Striped squirrels (4 possible species)	<i>Tamiops sp.</i>			III
	Giant flying squirrels (>10 possible species)	<i>Petaurista sp.</i>	Confirmed		III
	Hylopetes (flying squirrels)(5 possible species)	<i>Hylopetes sp.</i>			III

<sup>76</sup> Source PAFO Houaphanh. It should be noted that this area is largely unvisited by NEPL staff.

Bamboo Rats	Large Bamboo Rat	<i>Rhizomys sumatrensis</i>		LC	III	
	Rat Hoary bamboo rat	<i>Rhizomys pruinosus</i>		LC	III	
	Bay bamboo rat	<i>Cannomys badius</i>		LC	III	
Forest Rats	Forest rats	<i>Rattus spp.</i>	Confirmed		III	
Treeshrews	Northern treeshrew	<i>Tupaia belangeri</i>		LC	III	
Bats	Pteropodidae	Greater short-nosed fruit bat	<i>Cynopterus sphinx</i>		LC	III
		Cave nectar bat	<i>Eonycteris spelaea</i>		LC	III
		Long-tongued fruit bat	<i>Macroglossus sobrinus</i>		LC	III
	Rhinolophidae	Woolly horseshoe bat	<i>Rhinolophus Luctus</i>		LC	III
		Bouret's horseshoe bat	<i>Rhinolophus paradoxolophus</i>		LC	III
		Marshall's horseshoe bat	<i>Rhinolophus marshalli</i>		LC	III
		Big-eared horseshoe bat	<i>Rhinolophus macrotis</i>		LC	III
		Unidentified (possibly new, Davidson, 1998)	<i>Rhinolophus sp. I</i>			III
		Pearson's horseshoe bat	<i>Rhinolophus pearsoni</i>		LC	III
		Rhinolophus pusillus	<i>Rhinolophus pusillus</i>		LC	III
		Lesser brown horseshoe bat	<i>Rhinolophus steno</i>		LC	III
		Thomas's horseshoe bat	<i>Rhinolophus thomasi</i>		LC	III
		Intermediate horseshoe bat	<i>Rhinolophus affinis</i>		LC	III
		Hipposideridae	Malayan tailless leaf-nosed bat	<i>Coelops robinsoni</i>	Unconfirmed unlikely. Spotted in 1997 near Ban Namsat (Davidson, 1998) <sup>77</sup>	VU
Vespertilionidae	Pomona roundleaf bat	<i>Hipposideros pomona</i>		LC		
	Ashy roundleaf bat	<i>Hipposideros cineraceus</i>		LC		
	Intermediate roundleaf bat	<i>Hipposideros larvatus</i>		LC		
	Great roundleaf bat	<i>Hipposideros armiger</i>		LC		
	Stoliczka's trident bat	<i>Aselliscus stoliczkanus</i>		LC		
	Himalayan whiskered bat	<i>Myotis siligorensis</i>		LC		
	Wall-roosting mouse-eared bat	<i>Myotis muricola</i>		LC		

<sup>77</sup> Very unlikely as the species is normally restricted to Malaysia and Indonesia

	Hairy-faced bat	<i>Myotis annectans</i>		LC	
	Horsfield's bat	<i>Myotis horsfieldii</i>		LC	
	Emarginate harlequin bat	<i>Scotomanes ornatus</i>		LC	
	Greater Asiatic yellow bat	<i>Scotophilus heathii</i>		LC	
	Serotine bat	<i>Eptesicus serotinus</i>		LC	
	Collared Sprite	<i>Thainycteris aureocollaris</i> ( <i>Arielulus aureacollaris</i> )		LC	
	Lesser bamboo bat	<i>Tylonycteris pachypus</i>		LC	
	Greater bamboo bat	<i>Tylonycteris robustula</i>		LC	
	Pipistrelle hypsugo sp.	<i>Pipistrellus (Hypsugo) sp.</i>			
	Common pipistrelle sp.	<i>Pipistrellus (Pipistrellus) sp.</i>			
Miniopterinae	Western bent-winged bat	<i>Miniopterus magnater/schreib</i>		LC	
Murininae	Rufous tube-nosed bat	<i>Murina leucogaster</i>		LC	
	Round-eared tube-nosed bat	<i>Murina cyclotis</i>		LC	
	Scully's tube-nosed bat	<i>Murina tubinaris</i>		?	
	Greater hairy-winged bat	<i>Harpiocephalus mordax</i>		?	
	Grove-tooth bat or peter's trumpet eared bat	<i>Phoniscus atrox / jargori</i>		LC	
Kerivoulinae	Papillose woolly bat	<i>Kerivoula papillosa</i>		LC	
	Hardwicke's woolly bat	<i>Kerivoula hardwickii</i>		LC	
Molossidae	European free-tailed bat	<i>Tadarida teniotis</i>		LC	
<i>Birds</i>					
Group	Names	Scientific Names	NEPL Status 2020	IUCN red list status (2020)	Lao Category (II008)
Partridges	Bar-backed Partridge	<i>Arborophila brunneopectus</i>	Dav. 1998	LC	I
	Rufous-throated Partridge	<i>Arborophila rufogularis</i>	Eaton 2020	LC	II
	Scaly-breasted Partridge	<i>Arborophila charftonii</i>	Dav. 1998	LC	II
	Mountain Bamboo Partridge	<i>Bambusicola fytchii</i>	Dav. 1998	LC	II
Peafowl	Green Peafowl	<i>Pavo muticus</i>	Extirpated. Not seen since 1950's	EN	I
	Red Junglefowl	<i>Gallus gallus</i>	Dav. 1998	LC	II
	Silver Pheasant	<i>Lophura nycthemera</i>	Dav. 1998	LC	I

	Grey Peacock Pheasant	<i>Polyplectron bicalcaratum</i>	Dav. 1998	LC	I
Piculets	Speckled Piculet	<i>Picumnus innominatus</i>	Dav. 1998	LC	III
	White-browed Piculet	<i>Sasia ochracea</i>	Dav. 1998	LC	III
Woodpeckers	Grey-capped Pygmy Woodpecker	<i>Dendrocopos canicapillus</i>	Dav. 1998	LC	II
	Stripe-breasted Woodpecker	<i>Dendrocopos atratus</i>	Dav. 1998	LC	II
	Crimson-breasted Woodpecker	<i>Dendrocopos cath pharius</i>	Dav. 1998	LC	II
	Rufous Woodpecker	<i>Celeus brachyurus</i>	Dav. 1998	LC	II
	Lesser Yellownape	<i>Picus chlorolophus</i>	Dav. 1998	LC	II
	Greater Yellownape	<i>Picus flavinucha</i>	Dav. 1998	LC	II
	Grey-headed Woodpecker	<i>Picuscanus</i>	Dav. 1998	LC	II
	Greater Flameback	<i>Chrysocolaptes Jucidus</i>	Dav. 1998	LC	II
	Pale-headed Woodpecker	<i>Gecinulus grantia</i>	Dav. 1998	LC	II
	Bay Woodpecker	<i>Blythipicus pyrrhotis</i>	Dav. 1998	LC	II
	Heart-spotted Woodpecker	<i>Hemicurus canente</i>	Dav. 1998	LC	II
	Red-collared Woodpecker	<i>Picus rabieri</i>	Eaton 2020	NT	I
Barbets	Great Barbet	<i>Megalaima virens</i>	Dav. 1998	LC	II
	Lineated Barbet	<i>Megalaima lineata</i>	Dav. 1998	LC	III
	Green-eared Barbet	<i>Megalaima faiostriata</i>	Dav. 1998	LC	III
	Golden-throated Barbet	<i>Megalaima franklinii</i>	Dav. 1998	LC	III
	Blue-throated Barbet	<i>Megalaima asiatica</i>	Dav. 1998	LC	III
	Blue-eared Barbet	<i>Megalaima atistralis</i>	Dav. 1998	LC	III
	Moustached Barbet	<i>Psilipogon incognitus</i>	Eaton 2020	LC	III
Hornbills	Great Hornbill	<i>Buceros bicornis</i>	Confirmed, 2020	VU	I
	Rufous-necked Hornbill	<i>Aceros nipalensis</i>	Confirmed, 2020	VU	I
	Oriental Pied Hornbill	<i>Anthracoseros albirostris</i>	Dav. 1998	LC	II
Hoopoe	Common Hoopoe	<i>Upupa epops</i>	Dav. 1998	LC	I
Trogon	Red-headed Trogon	<i>Harpactes erythrocephalus</i>	Dav. 1998	LC	III
Kingfishers	Blyth's Kingfisher	<i>Alcedo hercules</i>	2020, Confirmed. Regular on Nam Nern river.	NT	III

	Common Kingfisher	<i>Alcedo atthis</i>	Dav. 1998	LC	II
	White-throated Kingfisher	<i>Halcyon smymensis</i>	Dav. 1998	LC	III
	Black-capped Kingfisher	<i>Halcyon pileata</i>	Dav. 1998	LC	III
	Crested Kingfisher	<i>Megaceryle lugubris</i>	Dav. 1998	LC	III
Bee-eaters	Blue-bearded Bee-eater	<i>Nyctyomys athertoni</i>	Dav. 1998	LC	III
Cuckoos	Large Hawk Cuckoo	<i>Hierococcyx spa,verioides</i>	Dav. 1998	LC	III
	Hodgson's Hawk Cuckoo	<i>Hierococcyx fugax</i>	Dav. 1998	LC	III
	Indian Cuckoo	<i>Cuculus micropteros</i>	Dav. 1998	LC	III
	Oriental Cuckoo	<i>Cuculus orientalis</i>	Dav. 1998	LC	III
	Lesser Cuckoo	<i>Cuculus poliocephalus</i>	Dav. 1998	LC	III
	Banded Bay Cuckoo	<i>Cacomantis sonneratii</i>	Dav. 1998	LC	III
	Plaintive Cuckoo	<i>Cacomantis merolinus</i>	Dav. 1998	LC	III
	Drongo Cuckoo	<i>Sumiculus lugubris</i>	Dav. 1998	LC	III
	Green-billed Malkoha	<i>Phaenicophaeus tristis</i>	Dav. 1998	LC	III
	Greater Coucal	<i>Centropus sinensis</i>	Dav. 1998	LC	III
	Lesser Coucal	<i>Centropus bengalensis</i>	Dav. 1998	LC	III
	Violet Cuckoo	<i>Chrysococcyx xanthorhynchus</i>	Eaton 2020	LC	III
Swifts	Himalayan Swiftlet	<i>Collocalia brevirostris</i>	Dav. 1998	LC	III
	Cook's Swift	<i>Apus cooki</i>	Eaton 2020	LC	III
	Asian Palm Swift	<i>Cypsiuros balasiensis</i>	Dav. 1998	LC	III
	Fork-tailed Swift	<i>Apus pacificus</i>	Dav. 1998	LC	III
	House Swift	<i>Apus affinis</i>	Dav. 1998	LC	III
Boobooks	Brown Boobook	<i>Ninox scutulata</i>	Eaton 2020	LC	III
Owls	Oriental Bay Owl	<i>Phodilus badius</i>	Dav. 1998	LC	II
	Mountain Scops Owl	<i>Otus spilocephalus</i>	Dav. 1998	LC	II
	Collared Scops Owl	<i>Otus lempiji</i>	Dav. 1998	LC	II
	Spot-bellied Eagle Owl	<i>Bubo nipalensis</i>	Dav. 1998	LC	II
	Collared Owlet	<i>Glaucidium brodiei</i>	Dav. 1998	LC	II
	Asian Barred Owlet	<i>Glaucidium cuculoides</i>	Dav. 1998	LC	II
	Brown Hawk Owl	<i>Ninox scutulata</i>	Dav. 1998	LC	II
Frogmouths	Hodgson's Frogmouth	<i>Batrachostomus hodgsoni</i>	Dav. 1998	LC	III

Nightjars	Large-tailed Nightjar	<i>Caprimulgus macrurus</i>	Dav. 1998	LC	III
Doves	Oriental Turtle Dove	<i>Streptopelia orientalis</i>	Dav. 1998	LC	III
	Spotted Dove	<i>Streptopelia chinensis</i>	Dav. 1998	LC	II
	Barred Cuckoo Dove	<i>Macropygia unchall</i>	Dav. 1998	LC	III
	Emerald Dove	<i>Chalcophaps indica</i>	Dav. 1998	LC	III
Pigeons	Thick-billed Green Pigeon	<i>Treron curvirostra</i>	Dav. 1998	LC	II
	Pin-tailed Green Pigeon	<i>Treron apicauda</i> -	Dav. 1998	LC	II
	Mountain Imperial Pigeon	<i>Ducula badia</i>	Dav. 1998	LC	III
	Ashy Wood Pigeon	<i>Columba pulchricollis</i>	Eaton 2020	LC	III
Waterhens	White-breasted Waterhen	<i>Amauromis phoenicurus</i>	Dav. 1998	LC	III
Woodcocks	Eurasian Woodcock	<i>Scolopax rostricola</i>	Dav. 1998	LC	III
Lapwings	Grey-headed Lapwing	<i>Vanellus cinereus</i>	Dav. 1998	LC	III
Practicoles	Oriental Pratincole	<i>Glareola maldivarum</i>	Dav. 1998	LC	III
Raptors	Oriental Honey-buzzard	<i>Pemis ptilorhyncus</i>	Dav. 1998	LC	III
	Crested Serpent Eagle	<i>Spilomis cheela</i>	Dav. 1998	LC	III
	Crested Goshawk	<i>Accipiter trivirgatus</i>	Dav. 1998	LC	III
	Shikra	<i>Accipiter badius</i>	Dav. 1998	LC	III
	Grey-faced Buzzard	<i>Butastur indicus</i>	Dav. 1998	LC	III
	Black Eagle	<i>Ictinaetus malayensis</i>	Dav. 1998	LC	III
	Mountain Hawk Eagle	<i>Spizaetus nipalensis</i>	Dav. 1998	LC	III
	Pied Falconet	<i>Microhierax melanoleucos</i>	Dav. 1998	LC	III
	Amur Falcon	<i>Falco amurensis</i>	Dav. 1998	LC	III
Hérons	Little Egret	<i>Egretta garzetta</i>	Dav. 1998	LC	II
	Intermediate Egret	<i>Mesophyx intennedia</i>	Dav. 1998	LC	II
	Chinese Pond Heron	<i>Ardeola bacchus</i>	Dav. 1998	LC	III
	Little Heron	<i>Butorides striatus</i>	Dav. 1998	LC	III
	Striated Heron	<i>Butorides striata</i>	Eaton 2020	LC	III
Pitta	Blue-naped Pitta	<i>Pitta nipalensis</i>	Dav. 1998	LC	II
	Rusty-naped Pitta	<i>Pitta oatesi</i>	Dav. 1998	LC	II
	Hooded Pitta	<i>Pitta sordida</i>	Dav. 1998	LC	II
	Eared Pitta	<i>Hydromis phayrei</i>	Eaton 2020	LC	II

Broadbills	Silver-breasted Broadbill	<i>Serilophus lunatus</i>	Dav. 1998	LC	III
	Long-tailed Broadbill	<i>Psarisomus dalhousiae</i>	Dav. 1998	LC	III
	Asian Fairy Bluebird	<i>Irena puella</i>	Dav. 1998	LC	III
Leafbirds	Blue-winged Leafbird	<i>Chloropsis cochinchinensis</i>	Dav. 1998	LC	III
	Orange-bellied Leafbird	<i>Chloropsis hardwickii</i>	Dav. 1998	LC	III
Shrikes	Brown Shrike	<i>Lanius cristatus</i>	Dav. 1998	LC	III
	Burmese Shrike	<i>Lanius colluriooides</i>	Dav. 1998	LC	III
	Long-tailed Shrike	<i>Lanius schach</i>	Dav. 1998	LC	III
	Grey-backed Shrike	<i>Lanius tephronotus</i>	Dav. 1998	LC	III
Magpies	Common Green Magpie	<i>Cissa chinensis</i>	Dav. 1998	LC	III
	Indochinese Green Magpie	<i>Cissa hypoleuca</i>	Eaton 2020	LC	III
	Grey Treepie	<i>Dendrocitta formosae</i>	Dav. 1998	LC	III
	Ashy Woodswallow	<i>Artamus fuscus</i>	Dav. 1998	LC	III
Orioles	Slender-billed Oriole	<i>Oriolus tenuirostris</i>	Dav. 1998	LC	III
	Maroon Oriole	<i>Oriolus traillii</i>	Dav. 1998	LC	III
	Large Cuckooshrike	<i>Coracina macei</i>	Dav. 1998	LC	III
	Black-winged Cuckooshrike	<i>Coracina melaschistos</i>	Dav. 1998	LC	III
	White-bellied Erpornis	<i>Erpornis zantholeuca</i>	Eaton 2020	LC	III
Minivets	Grey-chinned Minivet	<i>Peticrocrotus solatis</i>	Dav. 1998	LC	III
	long-tailed Minivet	<i>Peticrocrotus ethologus</i>	Dav. 1998	LC	III
	Short-billed Minivet	<i>Peticrocrotus brevirosttis</i>	Dav. 1998	LC	III
	Scarlet Minivet	<i>Peticrocrotus flammeus</i>	Dav. 1998	LC	III
	Bar-winged Flycatcher-shrike	<i>Hemipus picatus</i>	Dav. 1998	LC	III
Fantails	Yellow-bellied Fantail	<i>Rhipidura hypoxantha</i>	Dav. 1998	LC	III
	White-throated Fantail	<i>Rhipidura albicollis</i>	Dav. 1998	LC	III
Drongos	Ashy Drongo	<i>Dicrurus leucophaeus</i>	Dav. 1998	LC	III
	Bronzed Drongo	<i>Dicrurus aeneus</i>	Dav. 1998	LC	III
	lesser Racket-tailed Drongo	<i>Dicrurus remifer</i>	Dav. 1998	LC	III
	Spangled Drongo	<i>Dicrurus hottentottus</i>	Dav. 1998	LC	III
	Greater Racket-tailed Drongo	<i>Dicrurus paradiseus</i>	Dav. 1998	LC	III

	Hair-crested Drongo	<i>Dicrurus hottentottus</i>	Eaton 2020	LC	III
	Black-naped Monarch	<i>Hypothymis azurea</i>	Dav. 1998	LC	III
	Asian paradise-flycatcher	<i>Terpsiphone paradisi</i>	Dav. 1998	LC	III
	Common lora	<i>Aegithina tiphia</i>	Dav. 1998	LC	III
	Large Woodshrike	<i>Tephrodomis gularis (or virgatus)</i>	Dav. 1998	LC	III
	Brown Dipper	<i>Cinelus pallasii</i>	Dav. 1998	LC	III
Thrush	Chestnut-bellied-Rock Thrush	<i>Monticola rufiventris</i>	Dav. 1998	LC	III
	Blue Whistling Thrush	<i>Myophonus caeruleus</i>	Dav. 1998	LC	III
	Siberian Thrush	<i>Zoothera sibirica</i>	Dav. 1998	LC	III
	Dark-sided Thrush	<i>Zoothera marginata</i>	Dav. 1998	LC	III
	Eyebrowed Thrush	<i>Turdus obscurus</i>	Dav. 1998	LC	III
	Lesser Shortwing	<i>Brachypteryx leucophrys</i>	Dav. 1998	LC	III
Flycatchers	Dark-sided Flycatcher	<i>Muscicapa sibirica</i>	Dav. 1998	LC	III
	Asian Brown Flycatcher	<i>Muscicapa dauurica</i>	Dav. 1998	LC	III
	Ferruginous Flycatcher	<i>Muscicapa ferruginea</i>	Dav. 1998	LC	III
	Slaty-backed Flycatcher	<i>Ficedula hodgsonii</i>	Dav. 1998	LC	III
	Red-throated Flycatcher	<i>Ficedula J.J.BNa</i>	Dav. 1998	LC	III
	White-gorgeted Flycatcher	<i>Ficedula monileger</i>	Dav. 1998	LC	III
	Snowy-browed Flycatcher	<i>Ficedula hyperythra</i>	Dav. 1998	LC	III
	Little Pied Flycatcher	<i>Ficedula westermanni</i>	Dav. 1998	LC	III
	Verditer Flycatcher	<i>Eumyias thalassina</i>	Dav. 1998	LC	III
	Grey-headed Canary Flycatcher	<i>Culicicapa ceylonensis</i>	Eaton 2020	LC	III
	large Niltava	<i>Niltava grandis</i>	Dav. 1998	LC	III
	Small Niltava	<i>Niltava macgrigoriae</i>	Dav. 1998	LC	III
	Rufous-bellied Niltava	<i>Niltava sundara</i>	Dav. 1998	LC	III
	White-tailed Flycatcher	<i>Cyomis concrotus</i>	Dav. 1998	LC	III
	Hainan Blue Flycatcher	<i>Cyomis hainanus</i>	Dav. 1998	LC	III
	Pale Blue Flycatcher	<i>Cyomis unicolor</i>	Dav. 1998	LC	III
	Hill Blue Flycatcher	<i>Cyomis banyumas</i>	Dav. 1998	LC	III
	Pygmy Blue Flycatcher	<i>Muscicapella hodgsoni</i>	Dav. 1998	LC	III

	Grey-headed Canary Flycatcher	<i>Culicicapa ceylonensis</i>	Dav. 1998	LC	III
Robins	Orange-flanked Bush Robin	<i>Tarsiger cyanurus</i>	Dav. 1998	LC	III
	Oriental Magpie Robin	<i>Copsychus saularis</i>	Dav. 1998	LC	III
	White-rumped Shama	<i>Copsychus malabaricus</i>	Dav. 1998	LC	III
	Plumbeous Water Redstart	<i>Rhyacomis fufiginosus</i>	Dav. 1998	LC	III
	White-tailed Robin	<i>Miomela leucura</i>	Dav. 1998	LC	III
Forktails	Slaty-backed Forktail	<i>Enicurus schistaceus</i>	Dav. 1998	LC	III
	White-crowned Forktail	<i>Enicurus leschenaulti</i>	Dav. 1998	LC	III
	Green Cochoa	<i>Cochoa viridis</i>	Dav. 1998	LC	III
Chats	Common Stonechat	<i>Saxicola torquata</i>	Dav. 1998	LC	III
	Pied Bushchat	<i>Saxicola caprata</i>	Dav. 1998	LC	III
	Jerdon's Bushchat	<i>Saxicola jerdoni</i>	Dav. 1998	LC	III
	Grey Bushchat	<i>Saxicola ferrea</i>	Dav. 1998	LC	III
Starlings	Chestnut-tailed Starling	<i>Stumus malabaricus</i>	Dav. 1998	LC	III
Mynas	Hill Myna	<i>Gracula religiosa</i>	Dav. 1998	LC	II
Nuthatches	Beautiful Nuthatch	<i>Sitta formosa</i>	Likely but Unconfirmed (Dav. 1998)	VU	III
	Chestnut-bellied Nuthatch	<i>Sitta castanea</i>	Dav. 1998	LC	III
	Velvet-fronted Nuthatch	<i>Sitta frontalis</i>	Dav. 1998	LC	III
Tits	Yellow-cheeked Tit	<i>Parus spilonotus</i>	Dav. 1998	LC	III
	Sultan Tit	<i>Melanochlora sultanea</i>	Dav. 1998	LC	III
	Yellow-browed Tit	<i>Sylviparus modestus</i>	Dav. 1998	LC	III
	Black-throated Tit	<i>Aegithalos concinnus</i>	Dav. 1998	LC	III
	Green-backed Tit	<i>Parus monticolus</i>	Eaton 2020	LC	III
Martins and swallows	Dusky Crag Martin	<i>Hirundo cqcncolor</i>	Dav. 1998	LC	III
	Barn Swallow	<i>Hirundo rustica</i>	Dav. 1998	LC	III
	Striated Swallow	<i>Hirundo striolata</i>	Dav. 1998	?	III
	Asian House Martin	<i>Delichon dasypus</i>	Dav. 1998	LC	III
	Red-rumped Swallow	<i>Cecropis daurica</i>	Eaton 2020	LC	III
Bulbul	Striated Bulbul	<i>Pycnonotus striatus</i>	Dav. 1998	LC	III
	Black-crested Bulbul	<i>Pycnonotus melanicterus</i>	Dav. 1998	LC	III
	Red-whiskered Bulbul	<i>Pycnonotus jocosus</i>	Dav. 1998	LC	III

	Brown-breasted Bulbul	<i>Pycnonotus xanthorThous</i>	Dav. 1998	LC	III
	Sooty-headed Bulbul	<i>Pycnonotus aurigaster</i>	Dav. 1998	LC	III
	Flavescent Bulbul	<i>Pycnonotus flavescens</i>	Dav. 1998	LC	III
	Puff-throated Bulbul	<i>Alophoixus pallidus</i>	Dav. 1998	LC	III
	Grey-eyed Bulbul	<i>Iole propinqua</i>	Dav. 1998	LC	III
	Ashy Bulbul	<i>Hemixos flavala</i>	Dav. 1998	LC	III
	Mountain Bulbul	<i>Hypsipetes meclllandii</i>	Dav. 1998	LC	III
	Black Bulbul	<i>Hypsipetes leucocephalus</i>	Dav. 1998	LC	III
	Hill Prinia	<i>Prinia atrogularis</i>	Dav. 1998	LC	III
Prinias	Rufescent Prinia	<i>Prinia rufescens</i>	Dav. 1998	LC	III
	Grey-breasted Prinia	<i>Prinia hodgsonii</i>	Dav. 1998	LC	III
	Yellow-bellied Prinia	<i>Prinia flaviventris</i>	Dav. 1998	LC	III
	Plain Prinia	<i>Prinia inomata</i>	Dav. 1998	LC	III
White-eyes	Oriental White-eye	<i>Zosterops palpebrosus</i>	Dav. 1998	LC	III
	Japanese White-eye	<i>Zosterops japonicus</i>	Dav. 1998	LC	III
Tesias	Slaty-bellied Tesia	<i>Tesia olivea</i>	Dav. 1998	LC	III
	Grey-bellied Tesia	<i>Tesia cyaniventer</i>	Eaton 2020	LC	III
	Chestnut-headed Tesia	<i>Cettia castaneocoronata</i>	Eaton 2020	LC	III
	Asian Stubtail	<i>Urosphena subulata</i>	Dav. 1998	LC	III
Warblers	Pale-footed Bush Warbler	<i>Cettia pallidipes</i>	Dav. 1998	LC	III
	Russet Bush Warbler	<i>Bradypterus seebohmi</i>	Dav. 1998	LC	III
	Lanceolated Warbler	<i>Locustella lanceolata</i>	Dav. 1998	LC	III
	Black-browed Reed Warbler	<i>Acrocephalus bistrigiceps</i>	Dav. 1998	LC	III
	Thick-billed Warbler	<i>Acrocephalus aedon</i>	Dav. 1998	LC	III
	Mountain Tailorbird	<i>Phyllergates cucullatus</i>	Dav. 1998	LC	III
	Common Tailorbird	<i>Orthotomus sutorius</i>	Dav. 1998	LC	III
	Dark-necked Tailorbird	<i>Orthotomus atrogularis</i>	Dav. 1998	LC	III
	Dusky Warbler	<i>Phylloscopus fuscatus</i>	Dav. 1998	LC	III
	Radde's Warbler	<i>Phylloscopus schwarzi</i>	Dav. 1998	LC	III
	Pallas's Leaf Warbler	<i>Phylloscopus proregulus</i>	Dav. 1998	LC	III

	Lemon-rumped (or Chinese leaf) Warbler	<i>Phylloscopus chloronotus (or shishuanensis)</i>	Dav. 1998	LC	III
	Yellow-browed Warbler	<i>Phylloscopus inornatus</i>	Dav. 1998	LC	III
	Hume's Warbler	<i>Phylloscopus humei</i>	Dav. 1998	LC	III
	Two-barred Warbler	<i>Phylloscopus plumbeitarsus</i>	Eaton 2020	LC	III
	Greenish Warbler	<i>Phylloscopus trochiloides</i>	Dav. 1998	LC	III
	Pale-legged Leaf Warbler	<i>Phylloscopus teneflipes</i>	Dav. 1998	LC	III
	Blyth's Leaf Warbler	<i>Phylloscopus reguloides</i>	Dav. 1998	NT	III
	White-tailed Leaf Warbler	<i>Phylloscopus davisoni</i>	Dav. 1998	LC	III
	Yellow-vented Warbler	<i>Phylloscopus cantator</i>	Dav. 1998	LC	III
	Golden-spectacled Warbler	<i>Seicercus burkii</i>	Dav. 1998	LC	III
	Grey-cheeked Warbler	<i>Seicercus poliogenys</i>	Dav. 1998	LC	III
	Chestnut-crowned Warbler	<i>Seicercus castaniceps</i>	Dav. 1998	LC	III
	Rufous-faced Warbler	<i>Abroscopus albogularis</i>	Dav. 1998	LC	III
	Yellow-bellied Warbler	<i>Abroscopus superciliaris</i>	Dav. 1998	LC	III
	Buff-barred Warbler	<i>Phylloscopus pulcher</i>	Eaton 2020	LC	III
	Alström's Warbler	<i>Phylloscopus soror</i>	Eaton 2020	LC	III
Laughingthrushes	White-crested Laughingthrush	<i>Garrulax leucolophus</i>	Dav. 1998	LC	III
	Greater Necklaced Laughingthrush	<i>Garrulax pectoralis</i>	Dav. 1998	LC	III
	Grey Laughingthrush	<i>Garrulax maesi</i>	Dav. 1998	LC	III
	Black-throated Laughingthrush	<i>Garrulax chinensis</i>	Dav. 1998	LC	III
	Rufous-vented Laughingthrush	<i>Garrulax gularis</i>	Dav. 1998	LC	III
	Spot-breasted Laughingthrush	<i>Garrulax merulinus</i>	Dav. 1998	LC	III
	Chinese hwamei	<i>Garrulax canorus</i>	Dav. 1998	LC	III
	White-browed Laughingthrush	<i>Garrulax sannio</i>	Dav. 1998	LC	III
	Chestnut-crowned Laughingthrush	<i>Garrulax erythrocephalus</i>	Dav. 1998	LC	III
	Red-tailed Laughingthrush	<i>Garrulax milnei</i>	Dav. 1998	LC	III
Babblers	Buff-breasted Babbler	<i>Pellomeum tickelli</i>	Dav. 1998	LC	III
	Spot-throated Babbler	<i>Pellomeum albiventris</i>	Dav. 1998	LC	III
	Puff-throated Babbler	<i>Pellomeum ruficeps</i>	Dav. 1998	LC	III

	Large Scimitar Babbler	<i>Pomatorhinus hypoleucos</i>	Dav. 1998	LC	III
	Spot-breasted Scimitar Babbler	<i>Pomatorhinus erythrocnemis</i>	Dav. 1998	LC	III
	White-browed (or streak-breasted) Scimitar Babbler	<i>Pomatorhinus schisticeps (or ruficollis)</i>	Dav. 1998	LC	III
	Red-billed Scimitar Babbler	<i>Pomathorhinus ochraceps</i>	Dav. 1998	LC	III
	Coral-billed Scimitar Babbler	<i>Pomathorhinus ferruginosus</i>	Dav. 1998	LC	III
	Streak-breasted Scimitar Babbler	<i>Pomatorhinus ruficollis</i>	Eaton 2020	LC	III
	Streaked Wren Babbler	<i>Napothera brevicaudata</i>	Dav. 1998	LC	III
	Eye-browed Wren Babbler	<i>Napothera epilepidota</i>	Dav. 1998	LC	III
	Pygmy Wren Babbler (Pygmy Cupwing)	<i>Pnoepyga pusilla</i>	Dav. 1998	LC	III
	Spotted Wren Babbler	<i>Spelaeomis fonnosus</i>	Dav. 1998	LC	III
	Rufous-fronted Babbler	<i>Stachyris rufifrons</i>	Dav. 1998	LC	III
	Golden Babbler	<i>Stachyris chrysaea</i>	Dav. 1998	LC	III
	Grey-throated Babbler	<i>Stachyris nigriceps</i>	Dav. 1998	LC	III
	Spot-necked Babbler	<i>Stachyris striofata</i>	Dav. 1998	LC	III
	Striped Tit-Babbler	<i>Macronus gularis</i>	Dav. 1998	LC	III
	Chestnut-capped Babbler	<i>Timalia pifeata</i>	Dav. 1998	LC	III
	Yellow-eyed Babbler	<i>Chrysomma sinense</i>	Dav. 1998	LC	III
	Clicking Shrike Babbler	<i>Pteruthius intermedius</i>	Eaton 2020	LC	III
	Silver-eared Mesia	<i>Leiothrix argenteauris</i>	Dav. 1998	LC	III
	White-browed Shrike Babbler	<i>Pteruthius flaviscapis</i>	Dav. 1998	LC	III
	Black-eared Shrike Babbler	<i>Pteruthius melanotis.</i>	Dav. 1998	LC	III
	Chestnut-fronted Shrike Babbler	<i>Pteruthius aenobarbus</i>	Dav. 1998	LC	III
	White-hooded Babbler	<i>Gampsorhynchus rufulus</i>	Dav. 1998	LC	III
	Spectacled Barwing	<i>Actinodura ramsayi</i>	Dav. 1998	LC	III
Minlas	Blue-winged Minla	<i>Minla cyanouroptera</i>	Dav. 1998	LC	III
	Chestnut-tailed Minla	<i>Minta strigula</i>	Dav. 1998	LC	III
	Red-tailed Minla	<i>Minta ignotincta</i>	Dav. 1998	LC	III
Fulvettas	Rufous-winged Fulvetta	<i>Alcippe castaneiceps</i>	Dav. 1998	LC	III
	Rufous-throated Fulvetta	<i>Alcippe rufogularis</i>	Dav. 1998	LC	III

	Rusty-capped Fulvetta	<i>Alcippe dubia</i>	Dav. 1998	LC	III
	Brown-cheeked Fulvetta	<i>Alcippe poioicephala</i>	Dav. 1998	LC	III
	Yunnan fulvetta	<i>Alcippe fratercula</i>	Eaton 2019	?	III
	Grey-cheeked Fulvetta	<i>Alcippe morrisonia</i>	Dav. 1998	LC	III
Sibias	Rufous-backed Sibia	<i>Heterophasia annectans</i>	Dav. 1998	LC	III
	Long-tailed Sibia	<i>Heterophasia picaoides</i>	Dav. 1998	LC	III
Yuhinas	Striated Yuhina	<i>Yuhina castaniceps</i>	Dav. 1998	LC	III
	Whiskered Yuhina	<i>Yuhina flavicollis</i>	Dav. 1998	LC	III
	White-bellied Yuhina	<i>Yuhina zanthofoeuca</i>	Dav. 1998	LC	III
Parrotbills	Grey-headed Parrotbill	<i>Paradoxomis gufaris</i>	Dav. 1998	LC	III
	Spot-breasted Parrotbill	<i>Paradoxomis guttaticollis</i>	Dav. 1998	LC	III
	Golden Parrotbill	<i>Paradoxomis verreauxi</i>	Dav. 1998	LC	III
	Greater Rufous-headed Parrotbill	<i>Paradoxomis ruficeps</i>	Dav. 1998	LC	III
Flowerpeckers	Thick-billed Flowerpecker	<i>Dicaeum agile</i>	Dav. 1998	LC	III
	Yellow-vented Flowerpecker	<i>Dicaeum chrysonheum</i>	Dav. 1998	LC	III
	Yellow-bellied Flowerpecker	<i>Dicaeum mefanoxanthum</i>	Dav. 1998	LC	III
	Plain-Flowerpecker	<i>Dicaeum concolor</i>	Dav. 1998	LC	III
	Fire-breasted Flowerpecker	<i>Dicaeum ignipectus</i>	Dav. 1998	LC	III
Sunbirds	Ruby-cheeked Sunbird	<i>Anthreptes singalensis</i>	Dav. 1998	LC	III
	Purple-naped Sunbird	<i>Hypogramma hypogrammicum</i>	Dav. 1998	LC	III
	Mrs Gould's Sunbird	<i>Aethopyga gouldiae</i>	Dav. 1998	LC	III
	Black-throated Sunbird	<i>Aethopyga saturata</i>	Dav. 1998	LC	III
	Crimson Sunbird	<i>Aethopyga siparaja</i>	Dav. 1998	LC	III
Spiderhunters	Little Spiderhunter	<i>Arachnothera longirostra</i>	Dav. 1998	LC	III
	Streaked Spiderhunter	<i>Arachnothera magna</i>	Dav. 1998	LC	III
Sparrows	Eurasian Tree Sparrow	<i>Passer montanus</i>	Dav. 1998	LC	III
Wagtails	Forest Wagtail	<i>Dendronanthus indicus</i>	Dav. 1998	LC	III
	Yellow Wagtail	<i>Motacilla flava</i>	Dav. 1998	LC	III
	Grey Wagtail	<i>Motacilla Cinerea</i>	Dav. 1998	LC	III
Pipits	Paddyfield Pipit	<i>Anthus rufulus</i>	Dav. 1998	LC	III

	Olive-backed Pipit	<i>Anthus hodgsoni</i>	Dav. 1998	LC	III	
Munias	White-rumped Munia	<i>Lonchura striata</i>	Dav. 1998	LC	III	
	Scaly-breasted Munia	<i>Lonchura punctulata</i>	Dav. 1998	LC	III	
	Common Rosefinch	<i>Carpodacus erythrinus</i>	Dav. 1998	LC	III	
	Spot-winged Grosbeak	<i>Mycerobas mefanozanthos</i>	Dav. 1998	?	III	
Buntings	Crested Bunting	<i>Melophus Lathamii</i>	Dav. 1998	LC	III	
	Chestnut-eared Bunting	<i>Emberiza fucata</i>	Dav. 1998	LC	III	
	Little Bunting	<i>Emberiza pusilla</i>	Dav. 1998	LC	III	
	Yellow-breasted Bunting	<i>Emberiza aureola</i>	Likely but unconfirmed. Dav. 1998	CR	III	
	Chestnut Bunting	<i>Emberiza rotula</i>	Dav. 1998	LC	III	
<i>Reptiles and Amphibians</i>						
Group	Names	Scientific Names	NEPL Status 2020	IUCN red list status (2020)	Lao Category (II008)	
Salamanders	Lao Salamander	<i>Laotriton laoensis</i>	Unlikely. WCS survey 2013 did not find it. A WCS staff claim seeing a locally taken photo (recent).	EN	I	
		Knobby Newt	<i>Tylototriton podichthys</i>	Confirmed	LC	
Softshelled Turtles	Yangtze Giant Soft-shelled Turtle	<i>Rafetus swinhoei</i>	Unconfirmed Unlikely <sup>78</sup> . Large turtle that matches description reported by villagers but easily mistaken for large Asiatic Softshell turtle	CR	I	
		Wattle-necked Softshell Turtle	<i>Palea steindachneri</i>	Confirmed (Sitthivong, 2020)	EN	I
		Asiatic softshell turtle	<i>Amyda cartilaginea</i>	Confirmed 2020. Abundant	VU	I
Hard-shelled Turtles	Big-headed Turtle	<i>Platysternon megacephalum</i>	Confirmed, 2020	EN	I	
		Four-eyed Turtle	<i>Sacalia quadriocellata</i>	Likely but Unconfirmed.	EN	I

<sup>78</sup> Could be "do dtob" a term could be used for large asiatic softshelled turtles, normally called "pa fa"

	Spiny turtle	<i>Heosemys spinosa</i>	Unconfirmed, Unlikely Stuart, 1998, cites one unnamed village claim that it is in one pool.	EN	I
Tortoises	Impressed Tortoise	<i>Manouria impressa</i>	Confirmed 2020. Not rare.	VU	I
Pythons	Burmese Python	<i>Python molurus</i>	Confirmed 2020. Not rare.	VU	I
	Reticulated Python	<i>Python reticulatus</i>	Stuart, 1996	LC	I
Agama Lizard	Agama lizard (Brown prisklenape)	<i>Acanthosaura lepidogaster</i>	Stuart, 1996	LC	II
Monitor Lizards	Bengal Monitor	<i>Varanus bengalensis</i>	Confirmed 2013-17	LC	II
	Water Monitor	<i>Varanus salvator</i>	Stuart, 1996	LC	II
Skink	Skink	<i>Mabuya sp.</i>	Stuart, 1996		II
Typical snakes	Tremerodytes	<i>Tremerodytes sp. (or Sinonatrix sp)</i>	Stuart, 1996		II
	Beauty rat snake	<i>Elaphe taeniura</i>	Stuart, 1996	LC	II
	Black-banded Trinket Snake (Red bamboo snake or Red mountain racer)	<i>Oreocryptophis porphyraceus (or Elaphe porphyracea)</i>	Stuart, 1996	LC	II
	White banded wolf snake	<i>Lycodon subcinctus,</i>		LC	II
	Colubrids (or Kukkris)	<i>Oligodon spp.</i>	Stuart, 1996		II
Elapid snakes	Malayan krait	<i>Bungarus candidus</i>	Stuart, 1996	LC	II
Vipers	Pit vipers (more than 5 possible species)	<i>Trimeresurus spp.</i>	Stuart, 1996		II
Frogs and Toads	Asian horned frog, True toads, Typical frogs, Tree frogs, Narrow-mouthed frogs	<i>Megophrys, Bufo, Amolops, Rana, Micrixalus, Polypedates, Rhacophorus, Microhyla</i>	Stuart, 1996		III
	Kuhl's creek frog	<i>Rana kuhlii</i>	Stuart, 1996	LC	III
	Green mountain frog	<i>Rana livida</i>	Stuart, 1996		III
	Boie's wart frog / rice field frog / Asian grass frog	<a href="#"><i>Fejervarya limnocharis</i></a> / <i>Rana limnocharis</i>	Stuart, 1996	LC	III
	Painted chorus frog	<i>microhyla butleri</i>	Stuart, 1996	LC	III
	Dark-sided chorus frog	<i>Microhyla heymonsi</i>	Stuart, 1996	LC	III
	Common tree frog	<i>polypedates leucomystax</i>	Stuart, 1996	LC	III
	Wallace's flying frog	<i>Rhacophorus nigropalmatus</i>	Stuart, 1996	LC	III



## ANNEX 6 – REFERENCE LIST

1. References are listed chronologically and in 4 categories.
  - Legal documents
  - Government strategies and plans
  - Lao relevant publications and reports
  - NEPL project or activity documents
  - NEPL technical or scientific publications

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