Section I. Project Information

Project Title: "Khao Laem: Tiger Conservation Project, Phase 6"

Grantee Organisation: Freeland

Location of project: Khao Laem National Park, Kanchanaburi Province, Thailand
(15.059301 N, 98.608739 E)
Park HQ at UTM 47P 456814 1661080 (WGS84)

Size of project area Total area of PA: 1,497km^2 Total area of 2024 survey efforts: 216 km^2 The focal site is part of a contiguous series of 18 protected areas (previously 17) known as the Western Forest Complex (WEFCOM) with a combined area of more than 20,000 km^2. There is opportunity for free dispersal of tigers throughout, including transboundary westwards into Myanmar.	**Number of tigers in project area, giving evidence & source:** Three tigers recorded and identified in 2024. A total of 15 individual tigers have been recorded at Khao Laem since the project started. This total is based on identified tigers from unpublished survey data collected over the past nine years

Partners:

Khao Laem National Park (KLNP); Department of National Parks Wildlife and Plant Conservation (DNP). Starting in 2016, Freeland was invited by KLNP to conduct low intensity ecological tiger monitoring activities there. Since that time, the project has operating continuously, creating a valuable long term monitoring dataset. All data is immediately shared with Khao Laem National Park and the management further shares it with the DNP's Protected Area Regional Office (PARO3) in Ban Pong which has oversight for PA management in this region. Tiger specific data is shared with the DNP's Wildlife Conservation Division Tiger Research Centre at Khao Nam Ram in Huai Kha Kheng WS. This process ensures all tiger records are collated in one central location and cross-referenced against a national tiger identification database.

For enforcement related activities, including training and operations, we collaborate with the Protection Unit from DNP's PARO3 office and the national protection unit based at Panom Thuan, Kanchanaburi.

During 2023 the newly retired Superintendent of Khao Laem NP joined Freeland staff as a consultant and counterpart assisting collaboration with the Department of National Parks Wildlife and Plant Conservation headquarters in Bangkok. This has brought many benefits to the Khao Laem project such as management related institutional knowledge and an improved dialogue with the DNP. In September a new young Superintendent was appointed to head Khao Laem and we have been working closely with him.

Freeland participates in the ad-hoc (IUCN convened) Dawna Tenasserim Tiger Alliance (DTTA) meetings which engages all non-government agencies working in the Dawna Tenasserim landscape. This alliance helps enhance transboundary cooperation and understanding of tiger dispersal across the international border between Thailand and Myanmar. This broad partnership is improving collaborative efforts to conserve tigers and prey.

Further partnerships include FFI Myanmar and Wildlife Asia (Australia) as both organisations have tiger projects in Myanmar. FFI supports Freeland's work in Southern Thailand along the Myanmar border and the latter supports the Karen Wildlife Conservation Initiative (KWCI) which works in neighbouring Myanmar as well as Freeland's work in Salawin National Park and Salawin Wildlife Sanctuary in northwest Thailand. These partnerships bring specialist capacities to our projects, provide foundations for scientifically rigorous surveys and successive data analysis.

Data concerning presence and locations of large felids is also shared with Panthera Inc. (Thailand) and has recently been integrated into a national review of Indochinese leopard and clouded leopard status.

Consultant biologist Jonathan Moore PhD (now working for FFI) helped analyse survey data and joined surveys teams during previous SECR survey implementation as well as conducting his own research on ecological fragmentation of wildlife on the islands in the Vajiralongkorn dam reservoir.

At the end of 2023 we developed a new partnership with Thong Pha Phum National Park which adjoins Khao Laem to the west and during 2024 we initiated a new tiger conservation project at that protected area.

Project Contact Name: Tim Redford, Surviving Together Programme Director

Email: tim@freeland.org

Actual start date of project: 1st February 2024

Section II. Project Results

Long Term Impact:

The long-term impact sought by this project is to contribute towards doubling the national tiger population in Thailand by the conclusion of the next Thai Tiger National Action Plan (T-TAP) in 2034. This impact will represent significant progress toward our vision of **'ensuring the persistence of Indochinese tigers'.** Evidence from key source sites within the Western Forest Complex (WEFCOM) landscape already indicate that tiger conservation measures are succeeding and the tiger population is slowly increasing, especially within the core source site at Huai Kha Kheng Wildlife Sanctuary. From there, tigers are dispersing into adjacent protected areas where they are vulnerable to a myriad of threats. Sustaining the recovery of tigers within this landscape therefore requires mitigating and removing threats to be achieved by bolstering protection, especially in edge and transboundary habitats, managing both prey and tigers as a contiguous meta-population with improved coordination between agencies to share information, successes and best practices. A further challenge we are slowly overcoming is engaging the multitude of communities within the protected areas, many of which are overtly engaged in illegal and ecologically damaging vocations. This project has been focussing attention on one key tiger habitat named Khao Laem National Park, with an approach aimed at increasing the capacity of officials and rangers to conduct effective enforcement, better engage and inform communities and conduct wildlife monitoring to demonstrate trends in wildlife populations.

Conservation Outcome:

Activities have already led to a concise understanding of the tiger population (and threats) within Khao Laem and the function of this protected area facilitating tiger recovery across the southern WEFCOM landscape. Tiger conservation measures have improved at the site - augmented by increased capacity among officials who are able to conduct tiger population surveys, implement adaptive protection measures and mitigate human-tiger conflict. Now within a safer environment - Khao Laem NP is maintain its resident and dispersing tiger population and enabling a recovery prey species. This outcome is validated by the continued persistence of tigers at the site throughout the last seven years and the discovery of a previously unknown area with a breeding sambar deer population.

Until mid-2022 surveys were documenting an increase in all key prey species essential in creating a situation conducive for tiger breeding and successful rearing of cubs. Unfortunately, surveys over the last three years revealed how precarious the situation remains with the emergence of African Swine Fever (ASF) which contributed to a measurable decline in the tiger's major prey species - Wild Boar.

It appears threats to tigers at this site are not simply well-known traditional challenges such as poaching and habitat loss, but also include additional anthropogenic, environmental and wildlife health-related issues too. Continued surveillance for new and emerging threats is critical so mitigation measures can be introduced early enough to be effective.

Summary of activities and achievements:

This report describes the 2024-5 set of activities conducted in Western Thailand's Khao Laem National Park designed to investigate and solidify the importance of the site in the distribution and conservation of Indochinese tigers (Panthera tigris corbetti) within one southern section of the huge Western Forest Complex. Work is led by Khao Laem based officials from the Department of National Park, Wildlife and Plant Conservation (DNP), with support from Freeland via the WildCats Conservation Alliance and additional matching support from private US-based donors.

Approaches comprise of a collection of complementary tiger conservation activities which include; park protection, operations support (for SMART and [REDACTED]), enforcement ranger training, technical and equipment support, human-tiger conflict (HTC) mitigation, community outreach and awareness to schools and communities. The outreach encompassed reducing illegal grazing of cattle, mitigating additional human-wildlife conflict (HWC), and long-term monitoring (LTM) of tigers, prey and threats to indicate changes.

Wildlife surveys conducted over the previous seven years categorically demonstrate the permanent presence of both endangered Indochinese tigers and critically endangered Indochinese leopards within a diverse carnivores intraguild at the site. Surveys during 2024 built upon information gained during three Spatially Explicit Capture-Recapture (SECR) wildlife surveys which concluded in 2022 and previous long-term monitoring during 2016-23. Although no SECR surveys have been conducted since 2022 the LTM focusses on the areas identified as key habitat in Eastern Khao Laem, where remoteness and extreme terrain constrain poaching. Consequently, the species richness is highest in this area where the human pressures are reduced.

The project has kept its three main objectives (following here with a condensed list of achievements);

Objective 1. Further improving understanding of tigers, prey and threats in KLNP

Indicator 1a. At least 180km^2 of eastern Khao Laem will be re-surveyed, this represents twenty 3x3km survey grids.

1a.1. Between January 2024 and February 2025, four systematic long-term monitoring (LTM) surveys (KL39, KL40, KL41, KL42) were implemented, during which 24 grids (216 km^2) were surveyed, surpassing the predicted target. We expected to complete six (60-day) surveys, but rangers were often unavailable conducting forest fire suppression duties, especially over the final quarter of the year. This delayed the last survey in early 2024. Delays did not impact actual number survey days, as the cameras continued working throughout the period.

Specifically, six areas within Khao Laem were surveyed;

East Khao Laem
1) San Nok Wua Trail (popular with trekking tourists and open for just 4 months per year) during which time cameras are relocated away from the trekking trail.
2) Rantee (east of Kong Mong Ta Trail – northwest of eastern Khao Laem)
3) Radar Trail (past San Nok Wua trail, higher along the same ridge)
4) Potana-Thipuye area, (southeast) and adjacent to a Karen village
5) Tee Krong (Central eastern KL and a known poaching community with many illegal migrants)

West Khao Laem
6) Western Khao Laem's Bor Ong-Pilok Kee area (Near where tiger poaching event occurred in 2022 and a tiger was recorded in April 2023)

Sub-indicator 1a.2 # tigers initially identified during survey Baseline: 8, **Target: >10**
The aim was to document an increase in the number of identified tigers from eight (2022-3 baseline) to ten individuals during 2024.

The target of identifying ten individual tigers was not achieved, as during 2024 only three tigers were documented. Two of these were individuals previously recorded at Khao Laem (KLT002F and KST003M) and one newly recorded male at [REDACTED] in July 2024 (M7).

One previously dominant male last recorded at the end of 2023 - M4 (HKT276M) with a distinct limp and in emaciated condition disappeared. The injury was likely from territorial fighting with a young male M6 (KST003M) who arrived in mid-2023 and was noted to be gaining confidence and remaining in the same area as M4.

F2 (KLT002F) has now been resident at Khao Laem for nine years.

We expect this year's decrease in individual tigers recorded was related to internal population dynamics especially the disturbance caused by the arrival of two new males.

Sub-indicator 1a.3 # potential prey species identified during surveys. Baseline: 5, Target: >5. .
Surveys assessed abundance and distribution of tiger prey species including; Serow, Red Muntjac, Fea's Muntjac, Gaur, Sambar Deer, and Wild Boar. Due to the previously mentioned ASF outbreak, tigers started preying on smaller species which led to a decrease in their presence too. This was confirmed by decreased LTM and SMART patrol records and so these smaller ungulates are included as prey species.

2024 saw a reappearance of sambar deer (25 independent captures), signaling a slight prey restoration benefitting tigers.

Sub-indicator 1a.4 Per cent (%) Increase Relative Abundance Indicator (RAI) for tigers and 5 prey species.

Tiger Baseline: 0.42, Target: 1.00 Actual RAI 0.63

Prey:
Wild Boar: 8.36, Target: 10.00 Actual RAI 3.95
Muntjak (combined two species): 4.63, Target: 5.00 Actual RAI 1.84
Serow: 2.55, Target: 3.00, Actual RAI 0.77 (Note increase in graph later in report)
Gaur: 0.40, Target: 1.00, Actual RAI 1.64
Sambar: 0.15, Target: 1.00, Actual RAI 0.25

Sub-indicator 1.1b. #Threats recorded (especially poachers and dogs) decrease (also linked to Objective 2).

#Poachers recorded baseline: 8, **target: TBD**

We predicted that as patrol effectiveness increased, the threats - particularly records of poachers and dogs - would decrease. However, as we increased the level of effort during LTM, the capture rate of threats and focal species continued to increase accordingly. Even with a decreased number of cameras in western Khao Laem, the number of threats remains severe. This is discussed later in the section concerning SMART reporting.

Objective 2. Capacity development for officials to manage and analyse data, reduce threats and utilise pro-active anti-poaching methods

This activity had four forms of capacity development for Khao Laem officials;

2.1 Data collection training during surveys: This aims to promote concise data collection of wildlife and SMART data increasing the quantity and quality of field data input into the SMART database. Creating a dataset that can be utilised for adaptive management.

Indicator 2.1 The number of rangers trained in data collection during surveys did not reach the initial target of sixty for the year. A total of 34 rangers were trained across 4 surveys. Each survey team comprised a minimum of 5 rangers per survey, with sometimes 7 rangers per survey (covering at least 4 trail routes), and one team comprising a minimum of 1 ranger per survey.

In late 2024, an additional 18 rangers received post-enforcement training during a focused 3-day capacity-building initiative, reinforcing data collection protocols and anti-poaching techniques.

Each survey team comprised a minimum of six rangers, with two to four teams per survey (covering four routes). Consequently, up to twenty-four rangers were trained simultaneously, totalling 120 trained rangers over the year. This excess indicates some rangers received training multiple times, honing skills through repeated practice. The actual number of rangers mentored was 34. The level of enthusiasm among participating rangers varied, with a few displaying high motivation to master all aspects of camera deployment, data collection, and data retrieval. Proficiency was demonstrated (mostly by team leaders) by monitoring their ability to independently deploy and retrieve the survey cameras, including data collection (camera and SMART).

2.2 Management of SMART Survey Data: This involves enhancing utilization of the SMART database improving accuracy of SMART reports. Activities also include initiating use of the customizable management features.

Indicator 2.2 The number of officials receiving OJT mentoring exceeded current baseline of two officials by training 3 officials. An additional 4 rangers received advanced training. At the park level, the previously trained and mentored technicians were able to continue independently and luckily none resigned. We

were able to occasionally mentor and increase capacity using an independent SMART/GIS consultant who assisted as required. The use of SMART and reporting improved at Khao Laem and our project manager regularly advises technicians about key information prior to and during monthly SMART patrol meetings. We were able to support data managers to attend three external training events; a study tour to Cambodia to see SMART mobile and EarthRanger being simultaneously utilised, a second trip to Cambodia to join an EarthRanger meeting and finally a SMART mobile training course at PARO3 which is the regional management office for South WEFCOM.

2.3 Law Enforcement Training: Formal training for law enforcement rangers include strategic patrol training and other basic skills to enhance park protection and wildlife survey safety.

Indicator 2.3 Two distinct ranger training events at Khao Laem during 2024; A senior official from Khao Laem NP was involved in the DETECT Forest Investigations training course at Khao Yai National Park; 29 Khao Laem rangers underwent PROTECT Enforcement ranger training at Khao Laem over 5 days.

2.4 GSM Camera Usage: Officials will receive training on the setup and installation of GSM cameras (both officially and during operations). This will ensure proper uploading of images, installation within the park, and swift management to organize actions against poachers.

Indicator 2.4 Target 6 officials to be trained. This was easily achieved as 13 rangers were trained how the GSM cameras worked, installed into the on-line database and placed in the forest.

Objective 3. Conduct Community outreach to reduce threats to tigers, including poaching and cattle grazing in the park

This objective had three supported activities; 1. visiting poacher villages, 2. establishing new partnerships with groups working on development in the area and 3. reducing domestic stock grazing in Khao Laem, including cattle and goats. We added a fourth cost-share component by including educational conservation awareness visits to local schools in conjunction with a new partner the Thai Border Patrol Police (BPP).

3.1 Community awareness visits to known 'poaching hotspot' villages to create a better awareness about park laws and local regulations to reduce violations and foster greater interactions with Khao Laem management

Indicator 3.1. Community awareness visits to known 'poaching hotpot' villages to create a better awareness about park laws and local regulations as a way to reduce violations and foster greater interactions between the community and the Khao Laem park management. Our proposed target for this year is four village meetings with milestone 3.1 surpassed**,** as four villages were indeed visited during 2024. A target number of recipients was not predicted as participation is voluntary and many villagers find it hard to participate in meetings during the day as they are usually working. Moreover, we exceeded our school visit targets (8 schools and 1,000 students), reaching 12 schools and 1,292 in 2024.

3.2 Establishing new partnerships to collaborate on community outreach.

In May 2024, Freeland signed up 5-Year Memorandum of Understanding (MoU) with the DNP to enhance conservation efforts in the country's UNESCO Natural World Heritage Sites. This initiative is further being supported by key partners, including WWF Thailand, WCS Thailand and ZSL Thailand.

Additionally, in June 2024, Freeland expanded its collaboration with Panthera and other conservation organisations to bolster leopard and clouded leopard conservation, further reinforcing the commitment to safeguarding wildcats.

A plan to find a local Civil Society Organisation (CSO) working around Khao Laem on rural development was unsuccessful.

3.3 Reducing domestic stock grazing in Khao Laem, including cattle and goats

While large-scale cattle reduction interventions have not yet been implemented during 2024, progress was made in raising awareness and laying the groundwork for long-term solutions to reduce cattle grazing in Khao Laem National Park, a critical threat to tiger habitat recovery.

Park officials held discussions with local farmers, urging them to relocate their cattle from protected areas. In May 2024, we joined one such mission, resulting in at least one investor voluntarily removing approximately 600 cattle, a positive step towards mitigating ecological disturbance and HTC.

Through persistent advocacy, we have elevated understanding within Thailand's Department of National Parks (DNP) about the severity of livestock encroachment, not only in Khao Laem but across multiple protected areas. Our research has demonstrated the ecological damage caused by grazing, as well as its link to increased poaching activity.

In early 2024, we collaborated with IUCN on a proposal to the World Bank's Global Environment Facility (GEF8), which includes a dedicated component to reduce threats from cattle grazing in tiger habitats. If approved, this project will support community engagement, stricter enforcement and incentives for farmers to keep livestock within designated zones. While we currently lack dedicated funding for on-the-ground interventions, the potential GEF8 support (anticipated by mid-2025) may enable the removal of cattle from western Khao Laem and promote habitat recovery for tigers and their prey.

History of the Project:

Khao Laem National Park is one of 18 protected areas in the western forest complex. It covers an area of 935,625 rai or approximately 1,497 square kilometres. A large central valley within the park was inundated by the Vajiralongkorn Dam in 2001, reducing the terrestrial area to 1,109 square kilometres.

Situated in the Tenasserim mountain range, which straddles the Thai-Myanmar border from north to south the protected area borders Thung Yai Naresuan (West) Wildlife Sanctuary to the North and northeast, Lam Khlong Ngu National Park to the east, and Thong Pha Phum National Park to the west. This vast area is a mosaic forest of bamboo, mixed deciduous, dry evergreen, hill evergreen, and dry dipterocarp forest types. The topography mostly consists of steep limestone mountains running north to south, serving as the source of several major rivers such as the Rantree River, the Songkaria River, the Bikee River, with numerous small streams which all flow into the large Khao Laem Reservoir (Vajiralongkorn Dam). Positioned at the confluence of three biogeographical regions, the park's biodiversity-richness is high, with wildlife from both southern and northern Thailand inhabiting the area, as well as several endemic species, mostly amphibians and reptiles. Despite being fragmented by the dam and one highway, its remoteness and rugged terrain, especially in the east, make it ideal habitat for this diverse range of wildlife.

Khao Laem management and Freeland first jointly installed camera traps in eastern Khao Laem 2014 and recorded six felid species, including the Leopard Cat (Prionailurus bengalensis), Marbled Cat (Pardofelis marmorata), Asian Golden Cat (Catopuma temminckii), Clouded Leopard (Neofelis nebulosa), Indochinese Leopard (Panthera pardus delacouri), and Indochinese Tiger (Panthera tigris corbetti).

Threats to tigers and prey at Khao Laem are profuse, largely due to numerous villages located around the park border with some even located within the protected area on land allocated as a dam inundated villages in the central valley. Most communities are a mix of Thai, indigenous peoples (IPs) and illegal migrants. All engage in poaching, illegal cattle grazing and practices which are ecologically damaging such as burning the forest which they (mistakenly) believe assists their collection of Non-Timber Forest Products (NTFPs).

The presence of free-roaming domestic stock, (mainly cattle and water buffalo but other livestock too) in the Khao Laem forests has introduced cross-over-disease threats. During 2022-23, a dramatic decline in wild boar was documented, likely due to African Swine Fever (ASF) sweeping across all of Southeast Asia. As Khao Laem has few sambar deer due to poaching, the reduction in the tiger's next main prey led to a likely-associated decrease in several other ungulate species, as tigers and other large carnivores were compelled to predate smaller-sized prey. By the end of 2023, wild boar were starting to recover somewhat, and some family groups with young were recorded once again, albeit at very low densities.

In 2023, tiger monitoring at Khao Laem reverted back to using just one format; systematic long term ecological monitoring (LTM). As described later in this report, SMART patrol data also provided an additional way to monitor both threat and wildlife data, but this delivers less conclusive evidence of wildlife trends than the SECR surveys. It does, however, provide a better understanding about long-term changes within the tiger population over seasons and years.

Totally, 30 mammal species were documented, including six potential tiger prey species; Sambar Deer (Rusa unicolor), Wild Boar (Sus scrofa), Gaur (Bos gaurus), Red Muntjac (Muntiacus muntjak), Fea's Muntjac (Muntiacus feae) and Serow (Capricornis sumatraensis).

Due to the rich biodiversity of Khao Laem – Freeland, in conjunction with the DNP, continue to conduct wildlife surveys to monitor the status of the Indochinese tiger population and other key mammal species in the park.

Key achievements during 2024

- 34 individual rangers mentored in use of survey equipment during LTM surveys
- 29 rangers trained during enforcement and technical training activities (PROTECT)
- Total of 121 cameras installed during LTM in twenty-four 3 x 3km grids
- Cameras operated for 11,978 trap nights
- 216 km^2 surveyed under LTM
- Three individual tigers recorded (and identified) during 2024
- 355 anti-poaching patrols conducted by 9 patrol teams over 1,927 days covered a distance of 22,368 km
- 2 cases of encroachment and 1 case of poaching were interdicted and sent to the police for further enquiries and prosecution
- 4 villages received awareness outreach
- 11 schools were visited and 1,226 students received information about Khao Laem, its biodiversity and importance in both local and national communities' daily lives.

Obstacles to success:

Much progress was achieved in 2024 but numerous challenges remain;

1. **DNP changes in staff.** Since the project started, this project has worked with four superintendents. Each time a chief is changed, the deputies also change. This means frequent updates about project status, aims and current situation. As there is no single masterplan for park management, or strategic approach to work, it is up to each Superintendent which aspect of park management they prioritise.
2. **Insufficient resources (staff and funds)** As activities have grown, it has put increased strain on available project resources, and the park has been requesting further assistance to resolve staffing and human-tiger conflict issues. We have been able to assist to a limited level, but further funds are required to support the outreach efforts in mitigating Human-Tiger Conflict (HTC). An additional grant from WildCats in 2024 enabled us to implement the long-requested ranger training.
3. **Poaching.** Wildlife poaching remains a serious issue at Khao Laem. The long-term monitoring [REDACTED] clearly identify problem areas where poachers, snares, and illegal collection of NTFPs regularly occur. Engaging certain communities is challenging as they feel they have traditional hunting rights, even though this is something they certainly do not. They have even signed contracts not to hunt as part of the approval process to reside within and along the park boundary.
4. **Illegal gold mining** in Western Khao Laem and Thong Pha Phum. This new development has increased the number of illegal migrants entering the Thai forests from Myanmar. These prospectors often 'live off the land' setting snares and illegally fishing while searching for gold.
5. **Illegal cattle grazing** remains a significant issue. HTC, ecological disturbance and spread of cross-over diseases are likely occur if grazers continue to free-roam their stock.
6. **Forest fires** due to dry weather conditions fires were a considerable problem again at Khao Laem this year, which preoccupied rangers and took them away from regular duties.

7. **Insufficient outreach.** It is possible local language outreach may help resolve some issues with the communities, but to be effective more funds are required to increase the amount of outreach activities.
8. **War in Myanmar** is leading to more migrant workers and refugees entering Thailand through the forests in Thong Pha Phum NP which adjoins Khao Laem. This causes ecological disturbance. Related subsistence poaching by armed rebels and/or Myanmar military is also occurring.

As discussed in the interim report, there are three further emerging/on-going challenges at Khao Laem;

9. **The impact of African swine fever (ASF)** on the prey base and carnivore guild ecosystem.

10. **Climate change** especially during El-Nino weather cycles as the park lacks trained fire-fighting personnel, equipment and resources to implement prevention and suppression activities. Furthermore, some areas are impossible to patrol due to the lack of water within them.

11. One article of a new National Park law allows **collection of NTFPs by local communities**. This has the potential for abuse by migrants and commercial enterprises. Already an increase in NTFP collector traffic has been recorded in the forest during LTM and often villagers take their dogs with them, which is illegal. This has the potential for additional ecological damage to the forest, as well as the introduction of viral diseases such as canine distemper virus (CDV) of which tigers are particularly susceptible.

12. An increase in **illegal migrants** walking through the park to access boats on the Vajiralongkorn reservoir to bypass police checkpoints along route 323, which runs through the park.

Monitoring and Evaluation:

Project operation was quite smooth this year, except for the rangers being deployed on firefighting duties, which decreased patrol intensity and wildlife surveys. Furthermore, since 2022, we were not able to conduct further large scale SECR surveys, as these take an immense amount of resources, which we do not have.

This year, project staff (and consultants) were able to spend more time on ranger training (and mentoring), community outreach and data management mentoring. Much more is required though.

The project work plan and logframe is extremely helpful and a version translated to Thai language guides the project coordinator through implementation by providing clear dates and indicators essential for evaluation. As there are established targets, we are able to utilise these internally to ensure we remain on track. The Programme Director regularly visits Khao Laem and participates in meetings with the park superintendent and management. The PARO3 regional protected area management office also occasionally participates in discussions and reviews the project.

The major tool for monitoring patrols and associated data is SMART which identifies changes in threat and wildlife data. We participate in park-based SMART meetings every month and there is a good cross-flow of information between the SMART technicians back to park management for adaptive management. This includes the threats recorded during LTM. Here, the PARO3 protection division is very helpful in threat responses and provides additional rangers to collaborate with the Khao Laem rangers in threat mitigation.

Data analysis from the surveys has enabled the establishment of baseline figures for tigers and prey, as well as an insight into the threat situation. This allows us to compare the situation both monthly, quarterly as well as with results from the 6 previous years.

Each quarter, we meet with the park management to discuss project status and fine-tune plans for upcoming activities. Previously, some issues were regarded as sensitive, such as the severity of threats and there remains some denial about acknowledging the intensity of these. This remains a complex issue to fully resolve, but it is something all are conscious of. We will investigate appropriate ways to bring these challenges into discussions, so ways to resolve them can be mutually agreed.

Communications in Thailand are easy using the many available smart phone applications. Regular calls between management and field-based staff ensures imminent targets are brought to their attention and attained in a timely manner.

Freeland holds weekly internal management meetings during which team leaders explain significant upcoming events in their project and report on a list of each major outputs. These are tracked using an application called 'Trello'[1]. A second meeting each week discusses project reporting. Every Monday Freeland holds a Zoom call for the entire Thai team, when they explain their weekly plans and listen to administrative updates, activities of management and the projects of their colleagues.

We regularly share images and plans concerning the project via several internal Line groups (Line is similar to WhatsApp and is the preferred app in Thailand). This provides an easy way for our communications team to learn about activities and highlight these using social media.

Ideally, we would like an independent consultant to review the project, but limited resources prevent this. We do consult past consultants to gauge their views about the project and its latest achievements, which to date have all been very positive.

We were very happy to host the site visit by WildCats during November 2024 as it gave us a chance to highlight the numerous activities the project implements.

Shared learning:

All information from this project is shared with site management and its custodians, the DNP, thereby contributing to an enhanced understanding of tiger ecology across the WEFCOM landscape. We have recently contributed data to be integrated into a peer review paper about the distribution and abundance of large carnivore prey species across the Dawna Tenasserim Landscape (led by Smithsonian).

Khao Laem ungulate information was shared with a Thai student. To date though, nothing formal has been published.

Several authors used Khao Laem dataset, including one which was just published, which was combined into the world's largest camera trap dataset (with data via Eric Ash and Jonathan Moore) https://esajournals.onlinelibrary.wiley.com/doi/epdf/10.1002/ecy.4299

We shared wild boar data with a group of researchers documenting the spread of ASF across Southeast Asia.

Media: There were no media articles mentioning the project during 2024. A WildCats representative was able to conduct a site visit and produced blogs and videos about the project.

Have you provided at least 2 blogs?

No. We have not prepared any project specific blogs, although we have provided ad-hoc updates, information and images to WildCats Conservation Alliance. The project also facilitated a site visit by WildCats Conservation Alliance communications staff, which led to the creating of much social media content.

Have you provided at least 10 high quality images with details of the relevant credit? Y/N?

Yes

Details of activities and results:

Objective 1. Improving knowledge of tigers, prey and threats in KLNP and adjacent areas

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[1] https://trello.com/

- Captured 63 tiger detections (independent captures)
- Wild boar RAI was 8.36 (target: 10.00)
- Gaur and sambar deer detections below predicted targets
- 14 poacher incidents recorded (baseline: 8); domestic dogs reduced to 9 (target: 0)
- New tiger M7 suggests inward recruitment to KLNP, reinforcing corridor viability for dispersal

Objective 2. Mentoring capacity in DNP staff to manage and analyse data to foster greater understanding of threats and forest connectivity *and;*
- Trained 34 rangers in LTM protocols in SMART data collection
- Trained 3 officials in SMART and 5 officials participated in study tours with Freeland to Cambodia
- 6 senior rangers trained in covert deployment, leading to 2 interdictions
- [REDACTED]

Objective 3. Reducing specific threats to tigers, including cattle grazing in the park.
- Reached 4 villages and 11 schools (1,000+ students)
- Free-ranging cattle negotiations stalled due to local politics

See following logframe for greater detail;

Section III. Appendix
Did you carry out camera trapping as part of this project?   Yes

If yes: Total camera trap nights/days: LTM. 121 cameras produced a combined total of **9,821 survey days**	Total area surveyed: LTM (East) - 24 x 3x3km grids Totalling 216km².
Numbers of tiger/leopard/prey recorded Three individual tigers were recorded during 63 independent captures (IC) over 135 total captures (TC) during LTM. Leopard (only melanistic morphs) over 60 IC with 242 TC recorded an underdetermined number of individuals. Seven prey species were recorded during LTM over 846 independent captures.	**Please include data on other species recorded** Totally 30 mammal species recorded – see list in appendix Felines included; Clouded leopard 15 IC & 56 TC (an increase on 2023) Golden Cat 7 IC & 20 TC (an increase on 2023) Marbled Cat 1 IC & 1 TC (a decrease from 2023) Leopard cat 34 IC & 105 TC (a decrease from 2023) Other carnivores included Dhole, Asiatic black bears, Sun bears, hog badgers, and several civet species.

Are numbers of tigers/prey increasing or decreasing in your project area? Please show trends

Tigers (individuals recorded)

2018	2019	2020	2021	2022	2023	2024
2	5	4	4	8	6	3

See comparative tables/graphs in appendix for leopard and prey records

Did you carry out other surveys? No.
If yes:
Did you carry out patrolling as part of this project? Yes (as a cost share)

If yes: Total distance patrolled: 22,368 km	Total area patrolled: 978 km²·
Do you use Patrol Monitoring software such as SMART? Yes	
If yes:	How do you collect data? Handheld devices/paper/other? Please give details?

Total distance patrolled using patrol monitoring software? As above	Hand held Garmin GPS and paper reporting forms later given to SMART technicians. We are in the process of upgrading the data collection system to be SMART mobile application.						

Please provide comparison data on from your patrolling over time See tables in accompanying report	Type of crime	2018	2019	2020	2021	2022	2023	2024
	Encroachment	1	3	8	6	2	6	3
	Wildlife Poaching	25	215	65	83	5	4	11
	Illegal fishing	0	54	38	15	37	7	9
	Illegal logging	7	56	44	26	2	4	3
	Illegal NTFP collection	0	61	41	64	97	0	62

Was the data you collected analysed by a SMART specialist?	Collated but not analysed						

Please provide data on violations recorded/arrests/successful prosecutions		2018	2019	2020	2021	2022	2023	2024
	Cases (Combined all types)	33	389	196	194	186	14	88
	Prosecutions (Court)	0	4	12	10	2	Unk	Unk

The judicial process in Thailand is always protracted and cases may take up to 4 years to conclude. We do not have any information about how many of the above cases successfully determined with a judgement. Also, in the event of small-scale offenses administrative fines are imposed at the park level.

Does your project work with local communities? Yes, but very low level due to financial resources and local language issues

If yes: (please be as specific as possible and include gender split) **Who? See table below** **182 people (92M/90F)**	**What did you do? Was it successful?** Activities involved; Community visits to four villages to explain about local laws, responsibilities of residents if they reside inside the PA, why conservation of wildlife and forests is important. Why cattle are ecologically damaging.	How many people did you reach? 182 adults (areas close to KLNP included; mostly Karen indigenous people)

How do you measure the success of this activity?

As community participation is purely voluntary and that many recipients (especially the indigenous peoples) cannot read and write Thai, no formal evaluation of immediate uptake was conducted. We do have community questionnaires which evaluate the villagers understanding of park regulations and their feelings about living alongside dangerous wild animals such as tigers. But, to date these have not been utilised at Khao Laem.

Did you carry out educational activities with adults or children? Yes, as a cost share – see below

If yes: (please be as specific as possible and include gender and numbers) **1,292 (625M/667F)** *See more details in appendix*	Activities involved; 4 school visits over 2 days (TPPNP); 4 school visits over 3 days (TPPNP & KLNP); 4 school visits over 3 days (KLNP)	How many people reached? 1,292 students

Have you seen behaviour change from these activities? (Please give details of your results and of how this is measured)

In communities the villagers have changed their mindsets considerably since 5 villagers were jailed for tiger poaching in 2023. They have become more receptive to park-based engagements and somewhat more compliant in their habits within Khao Laem. In schools Pre/post evaluations were conducted with students to register their immediate uptake of topics discussed. A questionnaire will identify if content of topics were retained.

Did you carry out training activities for any staff/community member on the project? Yes

If yes: (please be as specific as possible and include gender split) Officials. 57 (52M/0F) patrol rangers trained 34 rangers mentored in data collection (43M/0F) 3 officials mentored and trained in SMART Who? Khao Laem enforcement rangers. All patrol rangers are male with female rangers working in administration, emergency response, management and tourism.	What did you do? Was it effective? Feedback from ranger team leaders and the new park superintendent indicated training was useful and directly resulted in an increase of enthusiasm among rangers. A request for more enforcement training was received.	How many staff trained? 94 officials were trained (although some of these were the same rangers trained twice) Note. Some Freeland staff received training in GIS relating to this project.

How do you measure the effectiveness of this training? If resources allow an enforcement training validation will be held in July 2025

Did you carry out conflict mitigation activities with community members? Yes

If yes: Who? Freeland field staff participated in several village meetings facilitated by the Border Patrol Police. During these community meetings we met with village heads and villagers from Pilok Kee and Kong Mong Ta areas	What? The intervention discussed park regulations, national laws and the community members requested support for vocational training in alternative livelihoods. This would be specifically for villagers wishing to cease illegal cattle grazing inside the park.	How many people did this include? **>**60 in Pilok Kee and Bor Ong

Have you seen behaviour change from these activities? (Please give details of your results and how this is measured)

After Freeland spent time in the community and conducted discussions the villagers seem more friendly towards the rangers and better understand the problems they cause by illegally grazing cattle within the park. They are receptive to collaborative interactions and more open to discussions about the situation that led to the previous tiger poaching and HTC. The community members appear to want to cooperate and participate in conservation measures, provided they can receive some benefits in return. Note, their continued residency living within the park is dependent on their behaviour, especially abiding by park regulations (for which they have signed contracts which permit their residency in communities within the park boundary.

The four communities which lie within Western Khao Laem NP regularly engage in wildlife poaching and many villagers are deliberate in their disregard for park and national laws. Much more is required in the form of greater enforcement, outreach and liaison with these communities.

In Western Khao Laem some communities are actively involved in many types of illegal activities, including logging, poaching, gold mining, guiding illegal migrants and allegedly human and narcotic trafficking. Many community members themselves are illegal migrants and are serving soldiers of the Karen National army (KNU) and armed with war weapons.

To formally measure behaviour changes among these communities, additional resources are required, including staff, equipment and finances.

Were any scientific papers/articles published because of your project? Data was contributed to several papers

If so, please give details or provide copies.

1. Mapping multiple wild pig species dynamics in Southeast Asia during the African Swine Fever Outbreak (2018-2024) Lieb. Z. et al (2024)
2. Large Carnivore and Predator-prey Associations in Tropical Forests. Amir. Z. et al (2024)
3. Can Southeast Asia's Tigers Break Free? The connectivity, constraints, and recovery of the region's remaining tiger populations. Ash. E. et al (2025)

Work plan

Below is the final work plan beginning in February 2024 and concluding at the end of January 2025. Most activities were conducted as predicted and targets achieved.

The main challenges remain poaching and illegal cattle grazing within the park.

Counter poaching operations have involved additional rangers being supported to come from the Protection Unit at Panom Thuan in Kanchanaburi.

Cattle grazing has not yet been resolved, due to the lack of resources from the DNP to conduct initiatives to remove the cattle, or to offer alternative legal vocations to cattle grazers. It is hoped a 2025 GEF project, which has a specific component in removing cattle from Thai protected areas may lead to an improvement in the situation at Khao Laem.

			2024											2025	Post
		Month	1	2	3	4	5	6	7	8	9	10	11	12	13
Objective	Activity	Team Members	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb
Objective 0. Planning, preparation and project management															
0	Meeting park management to explain project aims and synchronising survey's with patrol plans	TR, WI, SS,	✔			✔			✔			✔			
0	Planning surveys, data management and analysis	SS, EA, TR, WI		✔		✔		✔		✔		✔		✔	
0	Participating in Khao Laem's monthly SMART meetings	WI	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	
Objective 1. Improving understanding of tigers, prey and threats in KLNP															
1	Conducting tiger surveys - long term monitoring (implementing, data cataloguing and data analysis)	WI, SR, AS, SS	✔	✔	✔	✔	✔		✔		✔		✔	✔	
Objective 2. Capacity development for officials															
2.1	On-job-training in data collection	WI, SR	✔	✔	✔	✔	✔		✔		✔		✔	✔	
2.2	On-job-training (mentoring) managing data (SMART and survey)	WI, WJ	X			✔	✔		✔	✔	✔	✔	✔	✔	
2,3	Enforcement ranger training.	KN, WJ, TR										✔	✔		
2.4	Use of GSM cameras training	WJ			X							✔		✔	
Objective 3. Reducing threats through Outreach															
3.1	Community awareness visits to known 'poaching hotspot' villages	WR, WI	X	X	X	*Moved*	X	X	✔		✔				
3.2	Establishing new partnerships to collaborate on community outreach.	TR, KN	X	X	X	X	X	X	X	✔	X	✔	X	X	
3.3	Reducing domestic stock grazing in Khao Laem	WI, WR				✔	X	X	X			✔			
Others.															
	Reporting and debrief with PA (including midterm evaluation and review)	TR, SS, WI							✔						X

Team members:

TR - Tim Redford, WI - Wongsathit Intawong, WR - Waraporn Raksachat, SS - Saifon Sittimongkol, SR - Sayan Raksachart, EA - Eric Ash, AS - Atcharee Sangrawee, KN - Kajohn Nutaung, WJ - Worawut Jaruwattanapong (DNP)

2024 Logframe with results "Khao Laem: Tiger Conservation Project, Phase 6''

Impact; To 'Secure the Thai tiger population by institutionalising sound conservation practices', with the goal of contributing towards doubling its population by 2034			
Project Summary	**Measurable Indicators**	**Means of Verification**	**Final outputs / situation status**
Outcome: **Khao Laem National Park management practices improve, leading to a precise understanding of their tiger and prey populations, threats are mitigated and the function of the park facilitates tiger recovery across southern WEFCOM**	**Indicator A. Standardised methodology is utilised to survey tigers and prey at Khao Laem.** See indicators in objective 1 which will contribute towards; - A measurable increase in survey effort and size of surveyed area, - Persistence of resident tiger population is monitored and demonstrates stability - Tiger population increases - Dispersing unknown tigers recorded in Khao Laem are identified by sharing photographs with the Khao Nam Ram research station in Huai Kha Kheng WS = Previously unidentified tigers are catalogued and entered into the national database. **Indicator B. Survey data analysis improves the understanding of tiger density and produces comparative baseline figure for tigers** - *We will try to update the tiger density figure (tigers per 100km^2). Analysis of 2021-22 data established an occupancy of 1.2/100km^2 for eastern Khao Laem.*	**Verification A1.** Tabular data from surveys validates the increased area and level of effort, with a secondary verification being an increased quantity of images compared with previous years. **Verification A2.** Individual tigers are positively identified utilising the existing Khao Laem and national tiger databases **Verification A3.** Comparing tiger photos with national tiger database differentiates resident individuals from those dispersing from the Thung Yai-Huai Kha Kheng source site. **Verification B1.** Initial analysis of camera data using Camerasweet and later during a data analysis	**A1.** During all tiger monitoring activities, we try to follow a (Thailand) standard protocol which all conservation groups and the DNP use. This involves size of grid cells, intensity and duration. This way results can easily be compared with both other sites within the Western Forest Complex and nationally. **A2.** During 2024 we were able to maintain a similar level of LTM survey effort from 225km^2 in 2023 to 216 km^2. We were able to survey some areas that had not been surveyed since the last SECR survey in 2020-22. This contributed to the increase in total capture rate of tiger images. Unfortunately, it did not lead to the increase in individually identified tigers, as we expected. Nevertheless, we were able to record and identify dispersing and previously undocumented tigers in a timely manner.

- Prey species richness figures are compared and density of prey is at a sufficient level to support the local tiger population (Note prey density figures were shared with Smithsonian Inst. (2022) who are compiling a landscape scale paper for the DTL comparing tiger prey densities between Thailand and Myanmar.

Indicator C. Cost share (Patrolling): KLNP demonstrates dedication to continuing park-based wildlife and violation monitoring. Relevant SMART based metrics evaluated will include:

Number of potential threats, or disturbances, documented and compared for changes over six years starting with 2018 baseline figures (see previous project reports). Some indicators are; "% area covered" "patrol days/month," "Patrol kilometres covered/month" and "patrol hours/month".

Number of patrol reports (SMART) generated independently by the park (Baseline 12 – remains at 12)

Overall improvement in patrol effectiveness compared with the 2023 project period. Utilising SMART we will compare 2018 baseline figures (see previous project reports. Additional metrics will include; poachers (or evidence of poaching) encountered per 1000 hrs patrol time; cattle encountered per 100 hrs patrol time.

workshop (date TBD) using R suite packages, will re-confirm tiger and prey abundance for Khao Laem NP.

Verification B2. Comparing prey density figures with other sites to understand if it is sufficient to support tigers and a population recovery.

Verification C1. KLNP's SMART database will be utilised to compare the previous 6 years patrol coverage, violations and wildlife sign data. As patrols become more efficient, we eventually expect to observe a decline in violations and a subsequent increase in wildlife sign records. However, there are many factors that influence variation either way, some of which require attention before SMART becomes totally reliable, e.g., excessive patrol coverage is distracting from interdictions and currently reducing these. We do not believe patrolling

A3. Dispersing tigers from the HKK-TY Source site were identified.

B1. Only a minimal data analysis was conducted this year, as resources and data remain low. We were able to obtain RAI figures for the tigers, other carnivores and prey.

B2. We contributed KL prey data to a landscape-scale prey data analysis. This research is still on-going and we hope in late 2024 or early 2025 we may have news about this aspect of the project.

We can see from the number of images of poachers that poaching of prey remains a constraining factor for the persistence of tigers.

C1. See tables later in the report. SMART is now being regularly utilised, although in a very basic manner. Records do demonstrate a decline in violations, but this is unlikely to be because of more effective patrolling as central policy on park patrol coverage is hindering effective patrols and reducing interdictions.

C2. Information from rangers suggests that poaching remains a serious issue and that they are missing many events. Quantifying this is complex and although

		is yet achieving its desired deterrent effect.	we managed to audit this in 2022, it has not been so easy this year.
		Verification C2. We will audit official SMART data by conducting random comparisons with patrol data obtained directly from rangers.	C3. We have not yet conducted the full 2023 project debrief and there remains a sensitivity about the actual level of violations.
		Verification C3. Post-project debrief questionnaire with DNP officials with key focal indicators reviewed, including ranger efficiency, interdicted crimes, and news from confidential informants.	It should be noted that SMART was used during the entire year and reports were produced on a monthly basis. Also, each month SMART patrol meetings were conducted and to some extent patrol routes were planned, albeit for coverage rather than reactive or adaptive to counter poaching.
Objective 1. Further improving understanding of tigers, prey and threats in KLNP			
Output 1 Between February 2024 and January 2025, six long-term ecological monitoring surveys will be implemented over three survey routes utilising a minimum of 20 cameras in Eastern Khao Laem and 6 cameras in key areas in Western Khao Laem.	**Indicator** 1a. A minimum of 180km^2 of tiger habitat in eastern Khao Laem will be re-surveyed. Some sites not previously surveyed using LTM methods will be included. Baseline: 126km^2 (surveyed in 2021) ecological survey coverage. **Target: 180 km^2 surveyed** # tigers initially identified during survey Baseline: 8 (2022-3), **Target: >10** # of potential prey species identified during surveys. Baseline: 5, **Target: >6** % Increase RAI for tigers and 5 prey species. Baseline tiger: 0.42, **Target: 1.00**	**Verification** 1a.1. Camera-trap survey results will lead to an immediate identification of individual tigers and prey species and a basic understanding of abundance of these using both RAI and occupancy. **Verification** 1b.1. Direct counts of threats recorded in camera trap images and their	1a.1. All aspects of this objective were achieved. 216 km^2 was re-surveyed. 1a.1. Tigers identified. Only 3 tigers were identified in Khao Laem in 2024. 1a.1. Number of prey species remain below targets. One remote survey area previously thought to be devoid of Sambar deer has proven that it has a recovering population (many young deer observed). The sambar records this year are more than all previous years combined. This is

	Baselines for prey: Wild Boar: 8.36, **Target: 10.00** Muntjak: 4.63, **Target: 5.00** Serow: 2.55, **Target: 3.00** Gaur: 0.40, **Target: 1.00** Sambar: 0.15, **Target: 1.00** Indicator 1b. #Threats recorded during surveys (especially poachers and dogs) decrease (also linked to Objective 2). #Poachers recorded baseline: 8, **target: TBD** (Note: forest edge cameras record more poaching) #Dogs recorded, Baseline: 12, **target: 0**	comparing with previous years surveys **Verification** 1b.2. Following data analysis and discussions during the proposed post activity workshop, key dispersal sites requiring increased protection will be identified.	good news as the wild boar are also slowly recovering from ASF. 1a.1. RAI records were generally on track and some targets were surpassed due to the increase in survey effort. Actual figures in report narrative. Sample Tiger Baseline: 0.42, Target: 1.00 Actual RAI 0.63 1b.1. Threats recorded during surveys (especially poachers and dogs) did not decrease. Again, likely due to increased survey effort.
Objective 2. Capacity development for officials to manage and analyse data, reduce threats and utilise pro-active anti-poaching methods			
Output 2a. This activity has four forms of capacity development planned for the Khao Laem officials during this year; 2.1) **Data collection On-job-training** (OJT during surveys). To encourage wildlife and SMART data collection in the correct manner which will increase	**Indicator 2.1** will be the number of rangers who receive training during surveys. This is generally 6 rangers per team and we are expecting at least two teams per LTM survey. The 2021-22 baseline for survey and data collection training was exceptional, as we conducted three SECR surveys and five LTM surveys delivering training to 75 rangers and 12 team leaders. We do not expect to surpass that figure, therefore the proposed OJT will be more of a refresher format to update already trained rangers. Current baseline: 75 **Target: 60** **Milestone 2.1** Will be 12 rangers every 2 months.	**Verification 2.1** Each survey, the participating rangers will be listed on the data sheets and names maintained. This is untested OJT and each survey team leader will have the responsibility to administer the training and to assess the skills of recipients. Name list of participants available on request. Volume of data can be compared with previous months and years using SMART	**2.1** Only four surveys were conducted, nevertheless the number of rangers surpassed the target figure. Totally 34 rangers were trained over the year. **2.2.** The predicted number of SMART data technicians surpassed the target **2.3** Rangers trained in enforcement and other park protection activities surpassed the target and we were able to train 100 rangers over 17 days. This was a combination of formal and informal training. Topics included; rapid response training including how to prepare, assemble and respond e.g., get to the

the volume of field data delivered and entered into SMART 2.2) **Managing data** (OJT SMART and survey). To enhance use of SMART and to produce more accurate and relevant SMART reports (and start using its adaptive management features) 2.3) **Enforcement ranger training**. (Formal training) Training of patrol tactics and other basic skills to improve patrol success. 2.4) [REDACTED]	**Indicator 2.2** Will be the number of officials receiving OJT mentoring. As these officials are temporary workers, there is a regular turnover as they resign to seek better-paid positions. Current baseline: 2 officials trained **Target: 2** officials trained **Milestone 2.2** One official mentored per 6 months **Indicator 2.3** As we have not yet conducted a large-scale formal enforcement ranger training at Khao Laem there is no baseline for this activity. Current baseline: 0 rangers trained **Target: 25** rangers trained **Milestone 2.3** Course conducted in second half of project so no early indicator. **Indicator 2.4** [REDACTED] Current baseline: 6 Trained **Target: 6 trained** **Milestone 2.4** Six officials to be trained in the first 6 months of 2024.	**Verification 2.2** A short report from Freeland's SMART technician will review the skills of each recipient and note any challenges observed. Highlights to be included in project reports. **Verification 2.3** An enforcement training course report will explain specific objectives of the training and topics taught. Instructors will review each of the 25 participants and they will be scored during a test. We would expect to see an increase in the number of criminal interdictions following the course. **Verification 2.4** [REDACTED]	field, to track and interdict poachers. Enforcement Training, patrol tactics, weapons safety, mentored patrol (including enforcement tactics during the patrol). Use of VHF radios, wilderness first aid, navigation and SMART data collection during patrols 2.4 [REDACTED]
Objective 3. Conduct Community outreach to reduce threats to tigers, including poaching and cattle grazing in the park			
Output 3 **3.1a Community awareness visits** to known 'poaching hotspot' villages	**Indicator 3.1a** There are several indicators for these visits; # of villages, # participants (M/F), responses to pre/post activity questionnaires Current baseline: 2 village	**Verification 3.1 a&b** Report (Thai language) about community and educational outreach to be prepared by	3.1 As in the above table the number of villages visited was surpassed. In the four villages the outreach team met 182 people (92M:90F).

to create a better awareness about national laws and local regulations to reduce violations and foster improved interactions with Khao Laem management.

3.1b conducting awareness in local schools. We now have a working relationship with the Thai Border Patrol Police at Khao Laem. We will conduct more conservation awareness in their schools and training teachers to use our 'Teachers for Forests' Thai language training guide.

3.2 Establishing new partnerships to foster greater collaboration with communities we will identify enthusiastic local officials, such as village headmen or Border Patrol Police (BPP) officers to establish and lead new (informal) civil

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Target: 4 villages
Milestone 3.1a Two villages visited in the first 6 months of 2024

Indicator 3.1b. School visit ; # of schools and # student participants (M/F)

Current baseline: 8 schools visited
Target: 8 schools visited
Current baseline: 942 students reached
Target: 1,000 students reached

Milestone 3.1b four BPP schools received conservation outreach in first half of 2024 and eight by end of 2024

Note. Many recipients of outreach interventions are indigenous people (Karen, Mon and other smaller groups) some with limited Thai language reading and writing skills. So, activities tend to be more verbal in delivery and follow-up.

Indicator 3.2 Civil Society Organisations established in conjunction with local village administrations and BPP

Current baseline: 0 groups
Target: 2 groups

Milestone 3.2a Two organisations established in 2024

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implementing staff. Relevant information to be extracted and included in interim and final reports. For retention of knowledge, we will conduct post activity questionnaires/interviews with adult recipients approximately 6 months following activities. For students beyond the immediate post activity tests, we will be training teachers to use the Thai language 'Teachers for Forests' manual and a follow-up visit will determine if these manuals are being used by teachers.

Verification 3.2. Verbal agreements, or confirmations of collaboration with two potential partner agencies.

Verification 3.2. a & b. A section in the outreach report will document civil society meetings and topics. If feasible commitments by villagers to reduce free grazing cattle will be

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3.2 Most outreach activities were implemented in conjunction with the Border Patrol Police (BPP). They have a good relationship with villagers as they provide schooling and healthcare for villagers in return for their cooperation in national security.

The project did not have much success finding local NGOs/CSOs around Khao Laem to collaborate with. We are continuing to look for local partners.

3.3 Status of cattle in Khao Laem National Park. Domestic livestock remains a persistent issue. In 2024, park rangers estimate the total number of cattle and buffalo has increased to approximately 7,000 animals.

Key areas with livestock presence include: (1) along the Sangkhlaburi roadside, (2) Pilok Kee, (3) Huai Ong Phra-Bikee area and (4) several islands located in the reservoir within the park.

While physical removal of livestock has made little progress, activities in 2024 (led by the DNP) primarily focused on community engagement, particularly meetings and outreach programmes to raise awareness among local residents about the legal and ecological issues surrounding livestock grazing in the park.

| society conservation groups.

3.3 Reducing domestic stock grazing in Khao Laem, including cattle, buffalo and goats. | **Indicator 3.3a.** A short report documenting change from 2023 (locations of villages with cattle and numbers of cattle)

Indicator 3.3b. Number of meetings to negotiate the further removal of free-ranging stock from Khao Laem

Using 2023 baseline: 1 meeting
Target: 4 meetings (in first half of 2024)
Milestone 3.3a/b. 2 further meetings held in second half of 2024 | obtained. We are considering written pledges, although this may be difficult due to the various indigenous languages being used in these communities,

Verification 3.3a Figures are checked with both local administration officials and park and management with variation compared. | These efforts aim to build cooperation and lay the groundwork for future enforcement.

Additionally, a group of 46 wild elephants, originally from Thong Pha Phum, entered agricultural zones in the eastern sector of the park. They have since moved into neighbouring Thung Yai Naresuan East Wildlife Sanctuary. |

LTM Ecological Surveys in 2024

From image cataloguing, 30 species of mammals were identified on 2,648 different occasions with more than 9,209 images, Tiger prey was identified, detected on 846 different occasions with more than 2,173 images and with felids detected during 168 distinct occasions with more than 512 images.

- East LTM Surveys Grids B15, C27, C29, C30, C31, D44, D45, E57, E58, E59, E60, E61, F73, F75, F76, F77, G93, G94, H109, J141, N185, N186
- West LTM Surveys Grids: K149, L161