



# How Would **Mae Wong Dam** Affect Forest and Wildlife?



## Introduction

Mae Wong National Park is part of Thailand's Western Forest Complex: the largest contiguous tract of forest in all of Thailand and Southeast Asia. Mae Wong National Park has been a conservation area for almost 30 years, and today the area is regarded internationally as a place that can offer a safe habitat and a home to many diverse species of wildlife. The success of Mae Wong National Park is the result of many years and a great deal of effort invested in conserving and protecting the Mae Wong forest, as well as ensuring its symbiosis with surrounding areas such as the Tung Yai Naresuan - Huai Kha Khaeng Wildlife Sanctuary, which was listed as a UNESCO World Heritage Site in 1991. The large-scale conservation of these areas has enabled the local wildlife to have complete freedom within an extensive tract of forest, and to travel unimpeded in and around its natural habitat.

However, even as Mae Wong National Park retains its status as a protected area, it stills faces persistent threats to its long-term sustainability. For many years, certain groups have attempted to forge ahead with large-scale construction projects within the National Park, such as the Mae Wong Dam. For the past 30 years, government officials have been pressured into authorizing the dam's construction within the conservation area, despite the fact that the project has never passed an Environmental Impact Assessment (EIA). It is clear, then, that if the Mae Wong Dam project should go ahead, it will have a tremendously destructive impact on the park's ecological diversity, and will bring about the collapse of the forest's natural ecosystem.

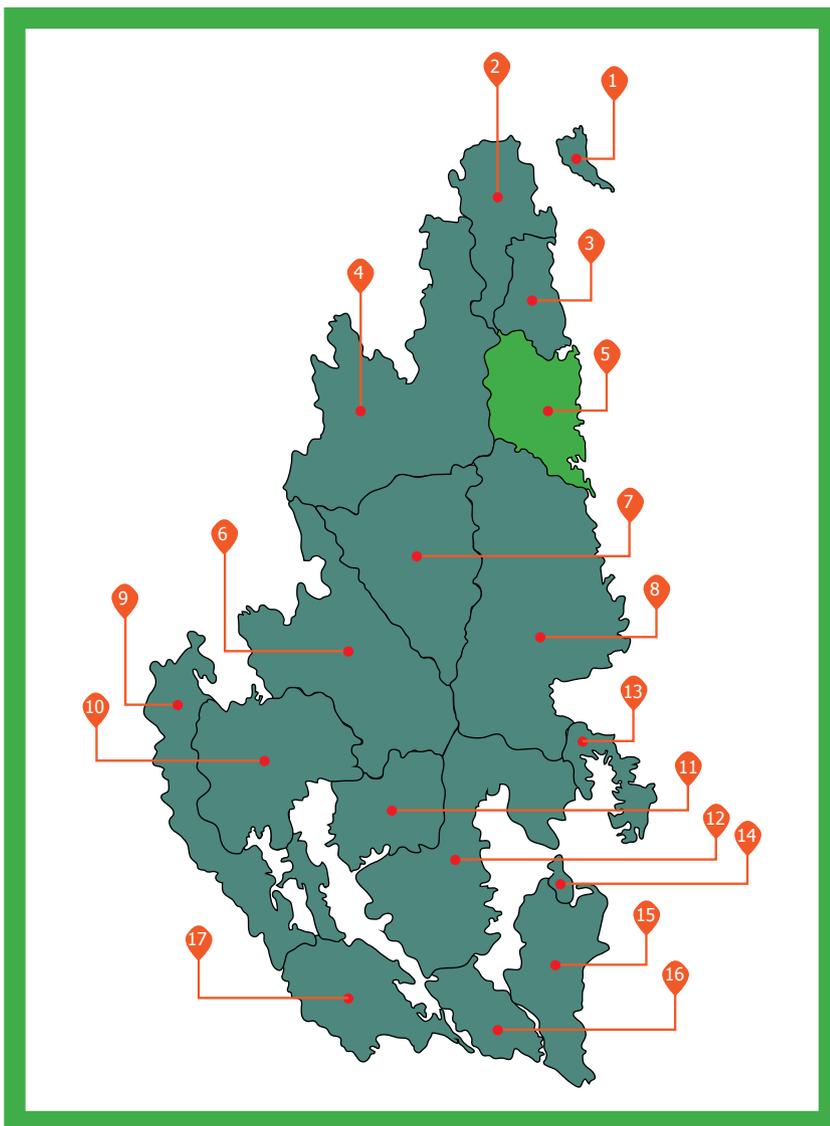
This booklet, "How Would Mae Wong Dam Affect Forest and Wildlife?" aims to incorporate all of our existing knowledge of the Mae Wong Dam project and its impact on both flora and fauna, drawing on case studies from the Cheow Lan Dam. The authors sincerely hope that no large-scale construction projects - whether they be dams, highways or any other type of infrastructure - shall take place in any of Thailand's protected areas. The abundance and diversity of our forests and wildlife is something that we must conserve and protect together, so that we can pass on this great inheritance to our children and grandchildren, to care for and to cherish for many generations to come.

July 2017

## Mae Wong Forest...

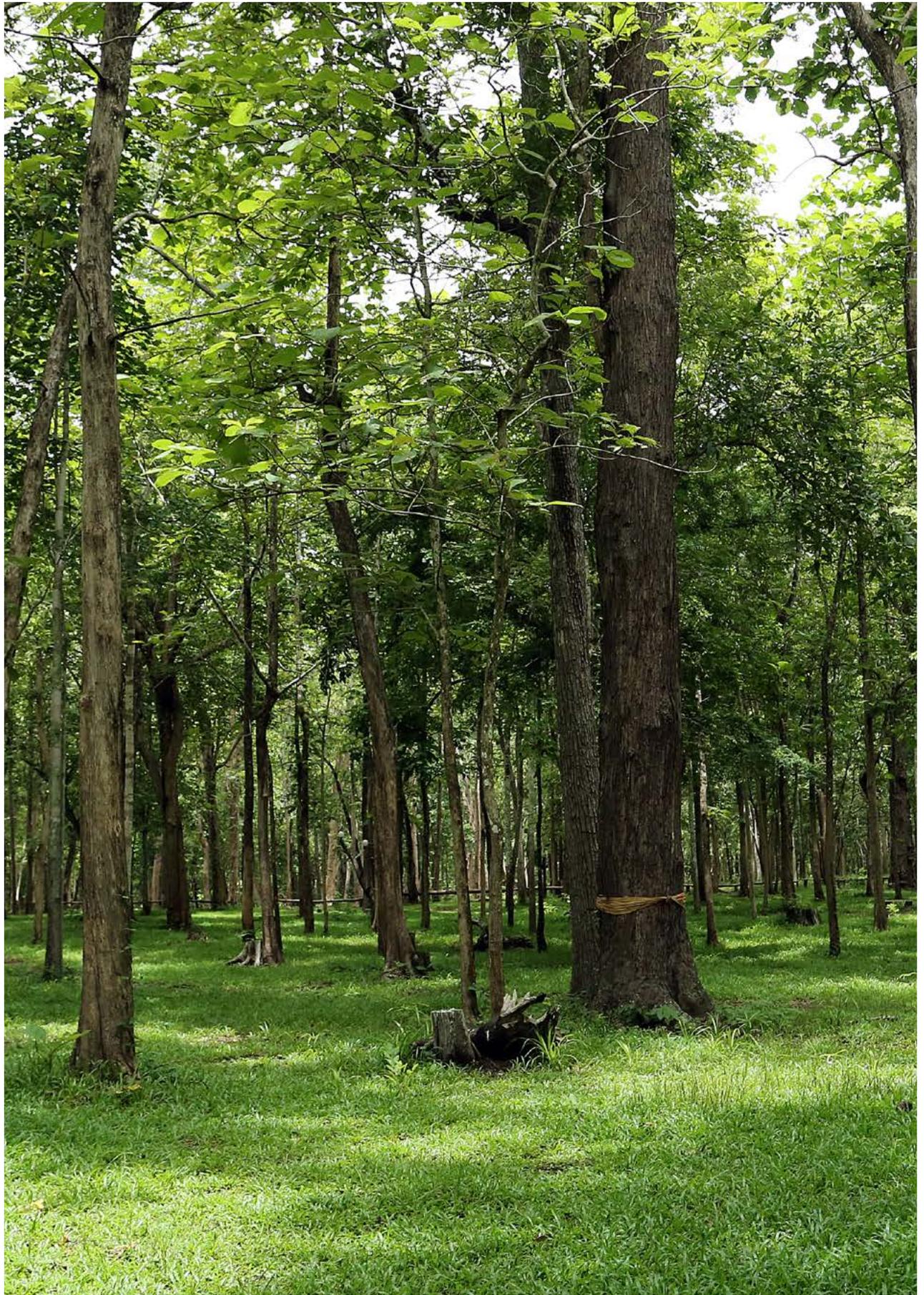
### *A center of recovery*

Mae Wong National Park covers an area of 890 sq.km. and is part of Thailand's Western Forest Complex, which remains the largest and most diverse tract of protected forest in all of Thailand and Southeast Asia, covering an area of 18,000 sq.km. Mae Wong National Park also connects with the forests of the UNESCO World Heritage site, the Huai Kha Khaeng Wildlife Sanctuary.



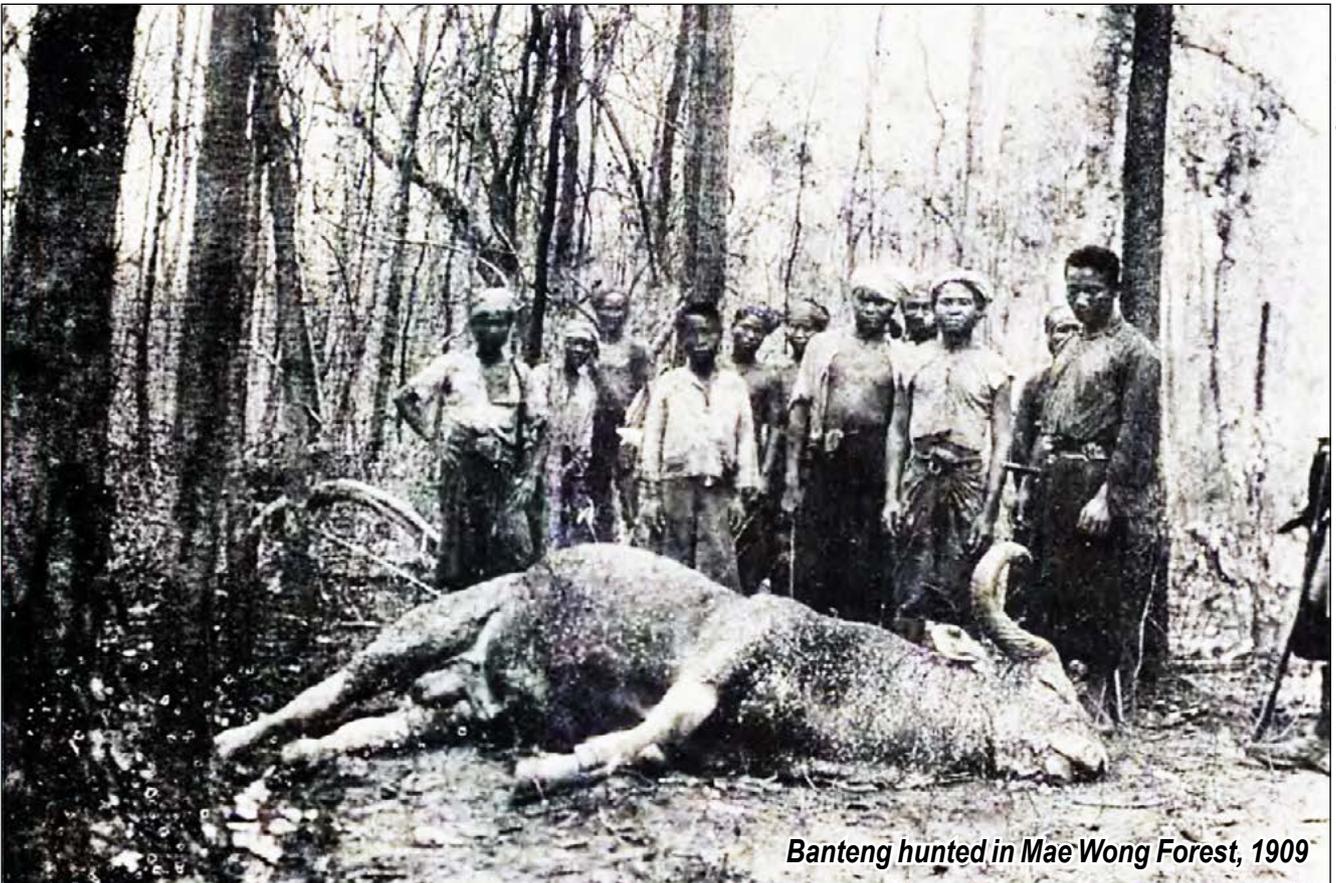
### List of protected areas in the western forest complex

1. Khao Sanamprieng Wildlife Sanctuary
2. Khlong Wang Chao National Park
3. Khlong Lan National Park
4. Umphang Wildlife Sanctuary
5. **Mae Wong National Park**
6. Thung Yai Naresuan Wildlife Sanctuary (West)
7. Thung Yai Naresuan Wildlife Sanctuary (East)
8. Huai Kha Khaeng Wildlife Sanctuary
9. Thong Pha Phum National Park
10. Khao Laem National Park
11. Lam Khlong Ngu National Park
12. Khuen Srinagarindra National Park
13. Phu Toei National Park
14. Chaloem Rattanakosin National Park (Tham Than Lot)
15. Salakpra Wildlife Sanctuary
16. Erawan National Park
17. Sai Yok National Park





***Mae Wong National Park saw extensive logging and hunting before gaining national park status.***



***Banteng hunted in Mae Wong Forest, 1909***

Mae Wong forest saw extensive human use before being given National Park status. Hill tribes and indigenous people lived permanently in some areas for generations, practicing rotational swidden agriculture and subsistence hunting. Later, in the early 1980s, the teak forests of Mae Wong were opened up as timber concessions and extensively logged by timber companies. A network of logging roads were built, which facilitated intensive commercial wildlife poaching that began in conjunction with logging operations. Commercial poaching served a growing trade in wildlife products in surrounding towns, including meat, antlers and banteng horns, as well as gaur, sambar, serow, muntjac, leaf monkeys, pangolins, civets, and many reptiles.

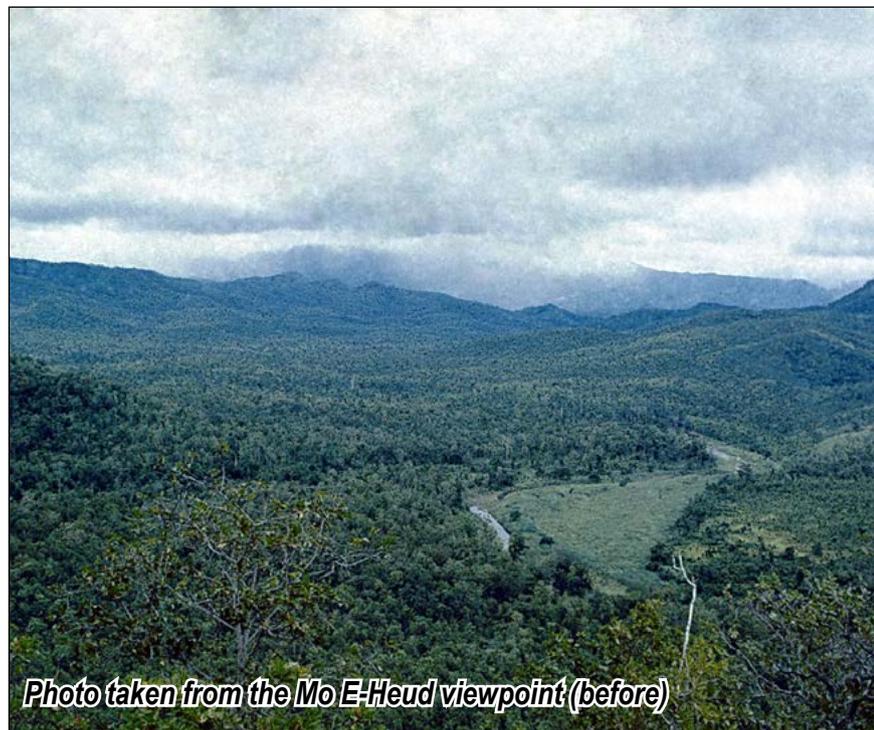
After logging concessions were exhausted, Mae Wong was given National Park status. At this time, its local inhabitants were also relocated from the area and allocated land outside of the park's borders. At present, the park still shows signs of heavy activity from the past, such as old tree stumps and large abandoned farms, especially on the mountains of Umphang district in Tak province. The remaining teak tree stumps, especially, are a remnant of the logging concessions issued in the past, which extended right up to the banks of the Mae Wong stream, also known as Huai Mae Raewa. Effects of previous activities can also be seen in the number of large wild animals in the area that have been hunted to either extinction or near extinction, such as wild elephants and banteng, which have almost disappeared from Mae Wong forest. Meanwhile, at the Mae Raewa river rapids, known as "Kaeng Lan Nok Yoong," there is no longer a trace of the peafowl that used to live there, and no longer can their calls be heard.



When it was first awarded its status as a protected area more than three decades ago, Mae Wong National Park was under the authority of the Royal Forest Department which is now known as the Department of National Parks, Wildlife, and Plant Conservation. During those three decades, the government allocated billions of baht to conserve and protect the area. Especially, the rangers who have dedicated their lives to the preservation of the forest and wildlife from smugglers and poachers for several generations. The park has also received support from a number of conservation organizations, as well as close cooperation from the public sector.

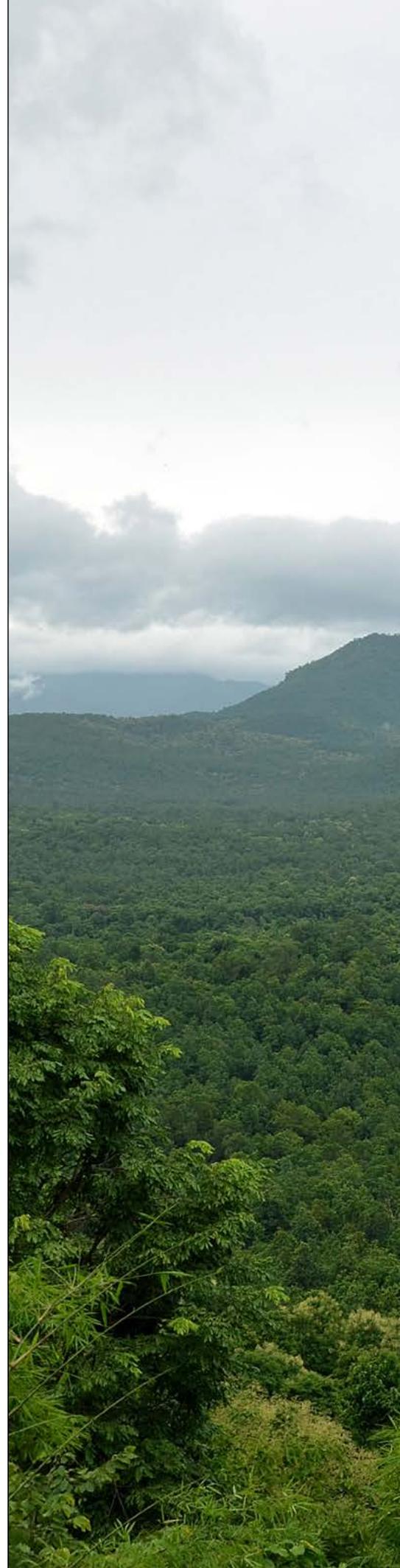
In today's Mae Wong forest, it is clear that many species of wildlife have already begun to return to the area. This is a tremendous success in terms of maintaining the area's current animal populations and reviving those that have fled or been depleted. It is also important to consider the maintenance and preservation of the Mae Wong forest itself and the wider forest complex, especially the World Heritage Site Thung Yai Naresuan – Huai Kha Khaeng. These efforts have made it possible for the local wildlife to have complete freedom within an extensive tract of forest, and to travel unimpeded in and around their natural habitat.

At present, Mae Wong National Park represents an international symbol of hope in the global campaign to revive the tiger, as well as many endangered species that are nearing extinction due to human encroachment, such as wild elephants, banteng, gaur, sambar deer, rufous-necked hornbills, tapirs, otters, and peafowl. Mae Wong forest is therefore regarded as a great source of hope for the conservation and recovery of Thailand and the world's wildlife.



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*Photo taken from the Mo E-Heud viewpoint (before)*





*Photo taken from the Mor E-Heud viewpoint (as it is now)*



*Tiger*



*Dhole*



*Sunbear*



*Gaur*



*Asian Golden Cat*



*Malayan Porcupine*



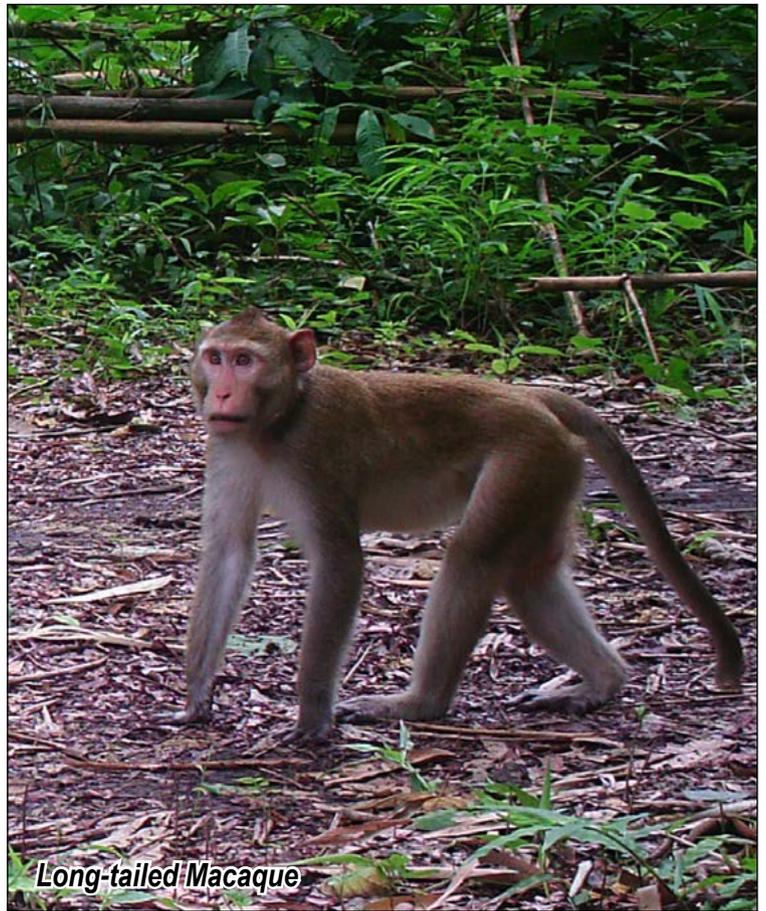
*Large Indian Civet*



*Serow*



*Elephant*



*Long-tailed Macaque*

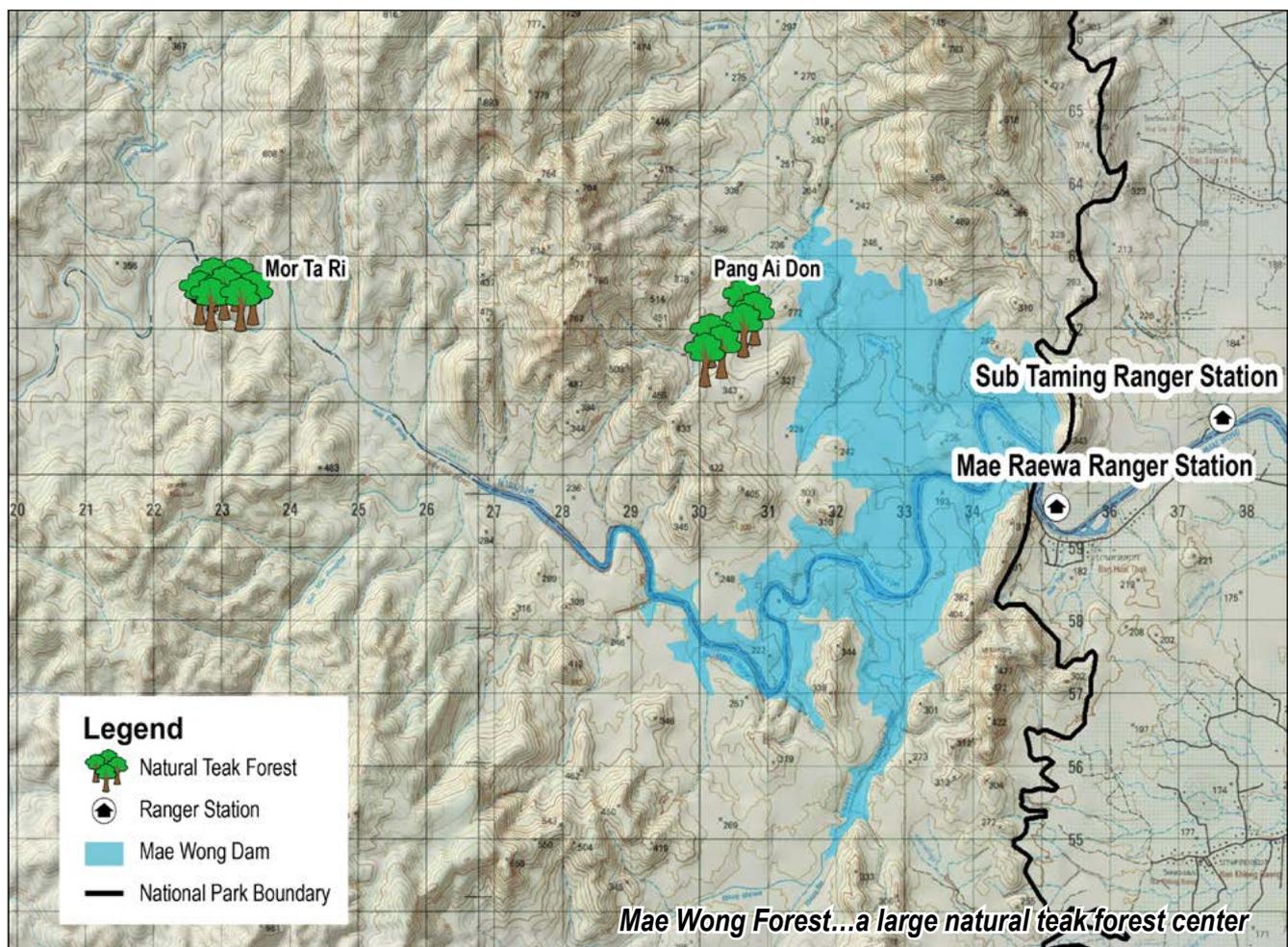
## Mae Wong Forest...

### *A large natural teak forest center*

It is heartening to know that in the Huai Mae Raewa area of the Mae Wong forest there still remains a large tract of natural teak (*Tectona grandis*) that has been able to escape logging in years gone by. These teak forests are regarded both as an invaluable national resource and an important source of biological diversity. As such, Mae Wong's natural teak forest is one of only two that still remain in Thailand. Moreover, many teak trees that were previously felled as part of logging concessions have now re-sprouted in their former locations, and are growing so tall that they appear to have been given a new lease of life. The return of Mae Wong's teak trees shows that, after more 30 years of conservation, the forest has now begun to revive itself.



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Large natural teak forest tract and the fertile area that will be flooded and destroyed if construction of the Mae Wong Dam goes ahead.



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## Mae Wong Forest... Mae Raewa riverine forest – a home and habitat for wildlife

The Mae Wong forest is partly covered by riverine forest, which offers an important and exclusive habitat for many types of wildlife in the area. At present, Thailand's riverine forest area is being disrupted by human activity, and its natural ecosystem destroyed. This means that there are now only a few locations in Thailand that can still offer food sources and a center of recovery for those animals that inhabit the riverine forest. One such area is the "Mae Wong stream" in the Huai Mae Raewa area. This area is home to a complex ecosystem with high levels of biological diversity, both in terms of plants and wildlife.

Recent surveys by the Department of National Parks, Wildlife and Plant Conservation have revealed new species of wildlife in areas which where they have never previously been observed. Such animals include Walston's Tube-nosed bat (*Murina walstoni*) and Doi Suthep Caecilian (*Ichthyophis youngorum*). The sighting of such creatures demonstrates the area's unique ability to support diverse types of wildlife, some of which cannot be found elsewhere. Apart from being a home to its animal inhabitants, Mae Raewa also benefits residents who live nearby in terms of food and economic opportunities.



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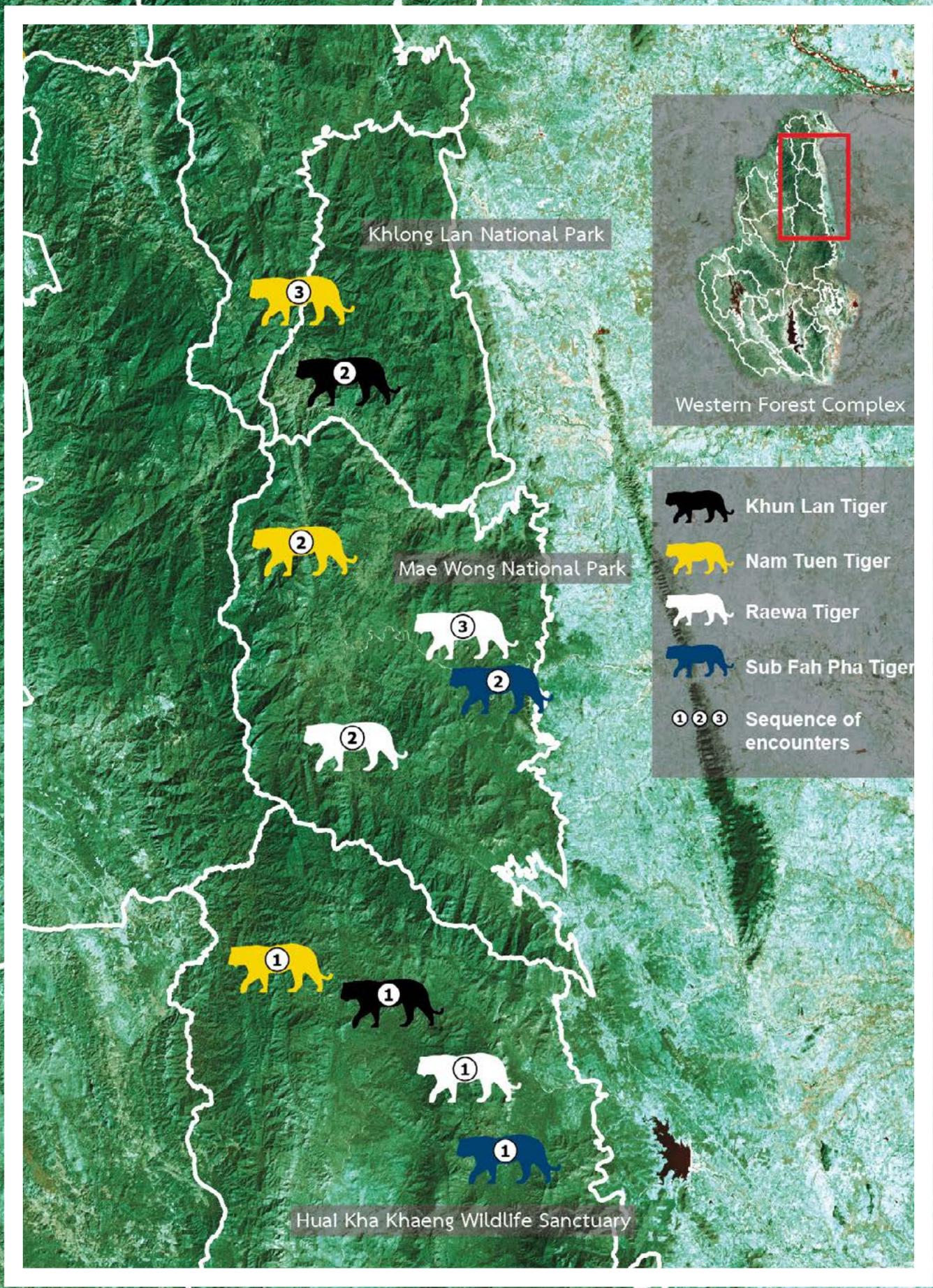


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**Map showing trails of four tigers that dispersed from the Huai Kha Khaeng Wildlife Sanctuary into Mae Wong-Klong Lan National Parks**

## Mae Wong Forest...

### *A place of hope for tiger recovery*

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***Khun Lan Tiger***

© DNP & WWF-Thailand



***Nam Tuen Tiger***

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***Raewa Tiger***

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***Sub Fah Pha Tiger***

Tigers are currently facing extinction due to poaching, reduced numbers of prey in the wild, and loss of habitat caused by human activity. For example, from a global population of around 3,000, Thailand has only around 200 tigers remaining. The Western Forest Complex is thought to be the most suitable and most abundant habitat for Thailand's remaining tigers, but in other locations around Thailand, the local population of tigers has dropped to such an extent that the remaining animals cannot breed, and in many areas tigers are already extirpated.

Thanks to the dedicated work and research of the Department of National Parks, Wildlife and Plant Conservation, and thanks also to the support of public and private partner organizations, both national and international, it is now clear that the tiger population of the Mae Wong forest is growing. One part of the population has already moved outwards from the Huai Kha Khaeng Wildlife Sanctuary, and if we can prevent poaching of the animals and enforce stringent and continuous protection of the area, scientists estimate that, in around 10 years, Mae Wong National Park will have a substantial tiger population. It is also thought that the vast ecological diversity of the Mae Wong forest will become an increasingly important factor in attract tourists and visitors to the area, which will in turn offer a source of income for the local people and the wider national economy. Such is the case in India and Nepal, where the famous national parks visitors from around the globe hoping to catch a glimpse of tiger, wild elephant, gaur, sambar deer and other species.



Female tiger (MKF1) and cub of 15 months as seen by camera trap.

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Female tiger (MKF3) and tiger cub of four months as seen by camera trap.



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Footprints, scat, and urine sprayed to mark territory are all used as important indicators in tiger research.



## Mae Wong Forest...

### *Return of the sambar deer*

At present, sambar deer are classified by the IUCN as Vulnerable. In the past, the sambar deer in Mae Wong forest have been hunted to near-extinction, but after the area received protection as a national park, the deer population began to replenish itself. The sambar deer are now often seen by visitors. They also leave traces such as footprints and chewed grass, especially in the areas along the banks of the Mae Raewa, which is an important habitat and a food center for these hoofed animals. The sambar deer are also a main source of food for the tiger and other predators. The conservation of the wild deer is therefore crucial for the conservation of these large predators.



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## Mae Wong Forest...

### *Otters – an indicator of water quality*

The presence of wild otters in the Mae Wong area provides an indication of the water quality in the forest, as the otter will only live in streams of clean water. The Mae Wong stream, especially the Mae Raewa area, offers a suitable and important habitat for otters and other aquatic animals. The presence of otters in Mae Wong also indicates an abundance of fish - the otter's main source of food - and a strong and healthy ecosystem more generally.



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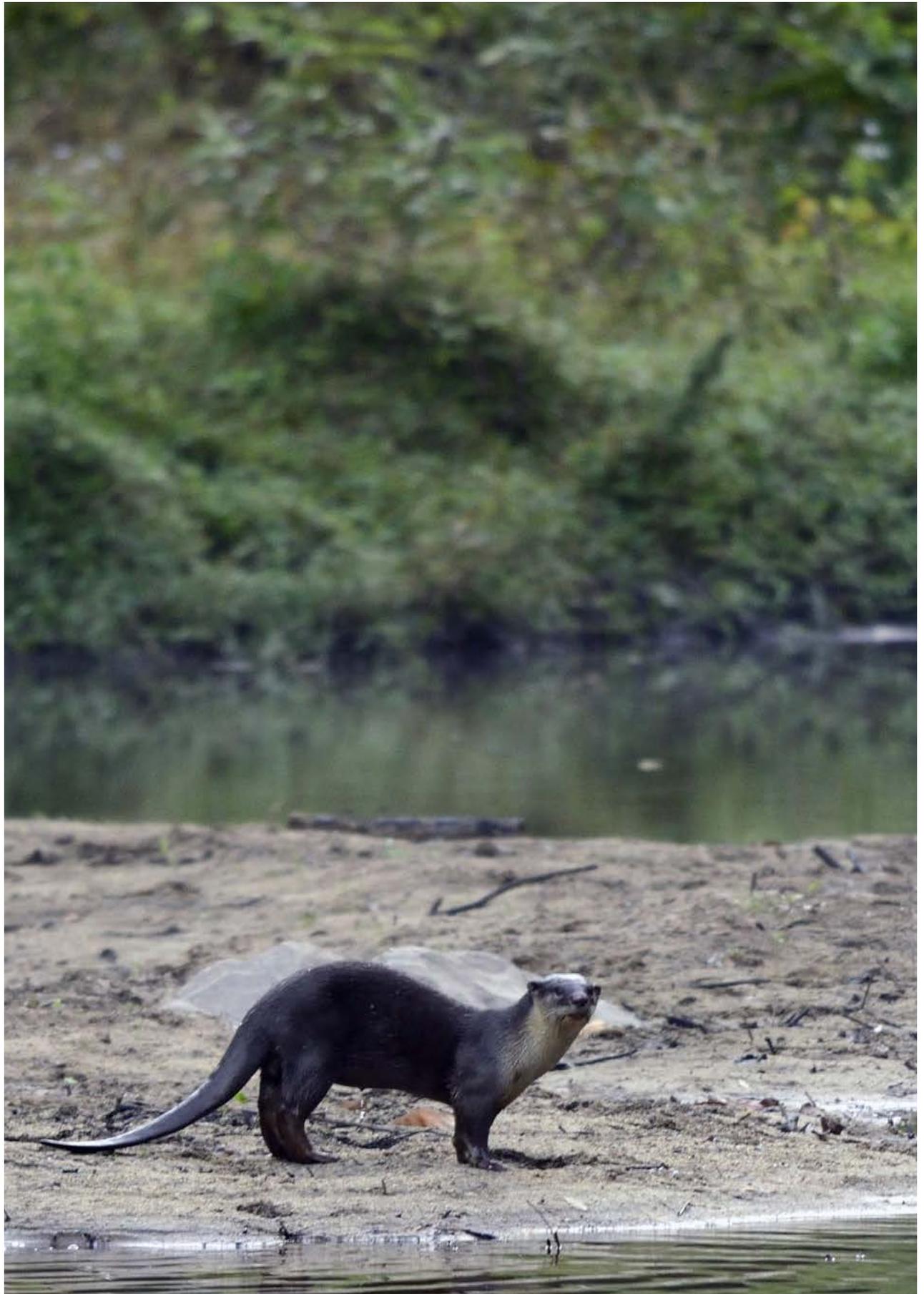
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*Riverine forest at Mae Raewa – a big hope site for conservation and recovery of wildlife.*

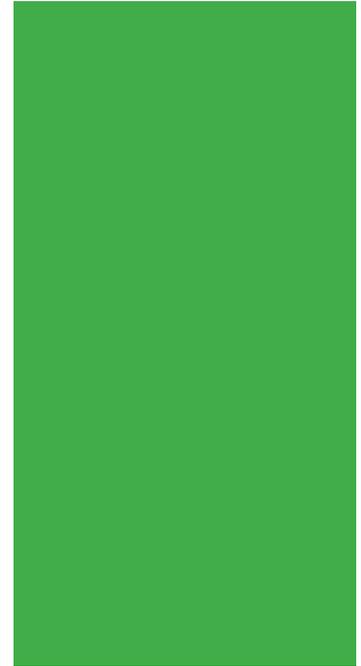
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## **Mae Wong Forest...**

### ***The successful revival of the green peafowl in the wild***

The green peafowl was extirpated from the Mae Wong forest due to heavy poaching and the destruction of the flat beaches of the Mae Wong stream prior to the Mae Wong forest becoming a conservation area. As part of its efforts to revive the peafowl population, the Department of National Parks, Wildlife and Plant Conservation has initiated a project to release peafowl into the wild in Mae Wong National Park. Specifically, the area of the Mae Raewa stream, or Kaeng Lan Nok Yoong, is thought to be one of the areas that is most suitable for the survival of the peafowl once released.

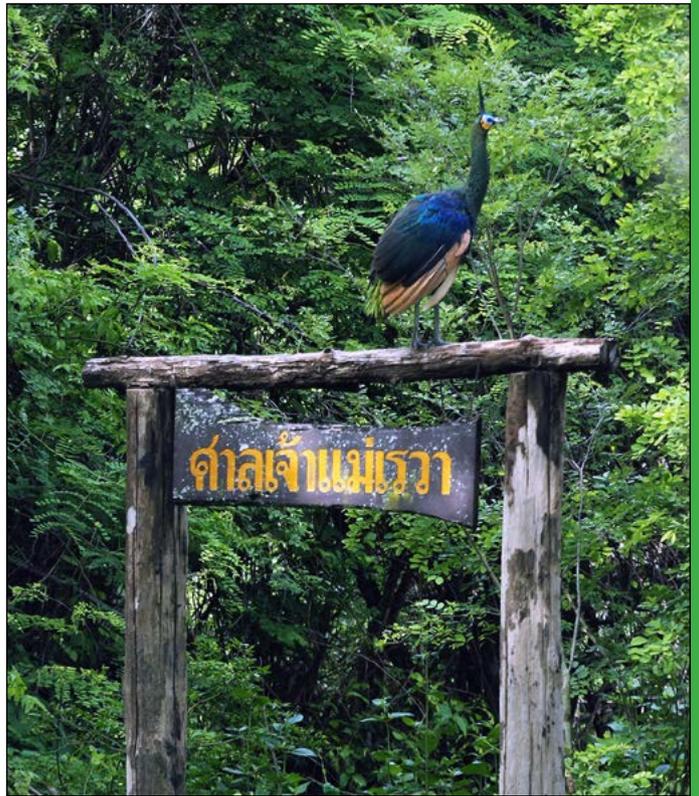
At present, the peafowl that have been released back into the wild can support themselves, reproduce, and move around the area with ease. According to the latest data, the peafowl appear to have migrated to a more northern area of the park. The return of the peafowl has brought new sounds, new colors, and a new brightness to the Mae Wong forest, and has given the peafowl a new chance at life.



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The green peafowl at Kaeng Lan Nok Yoong have been successfully reintroduced.



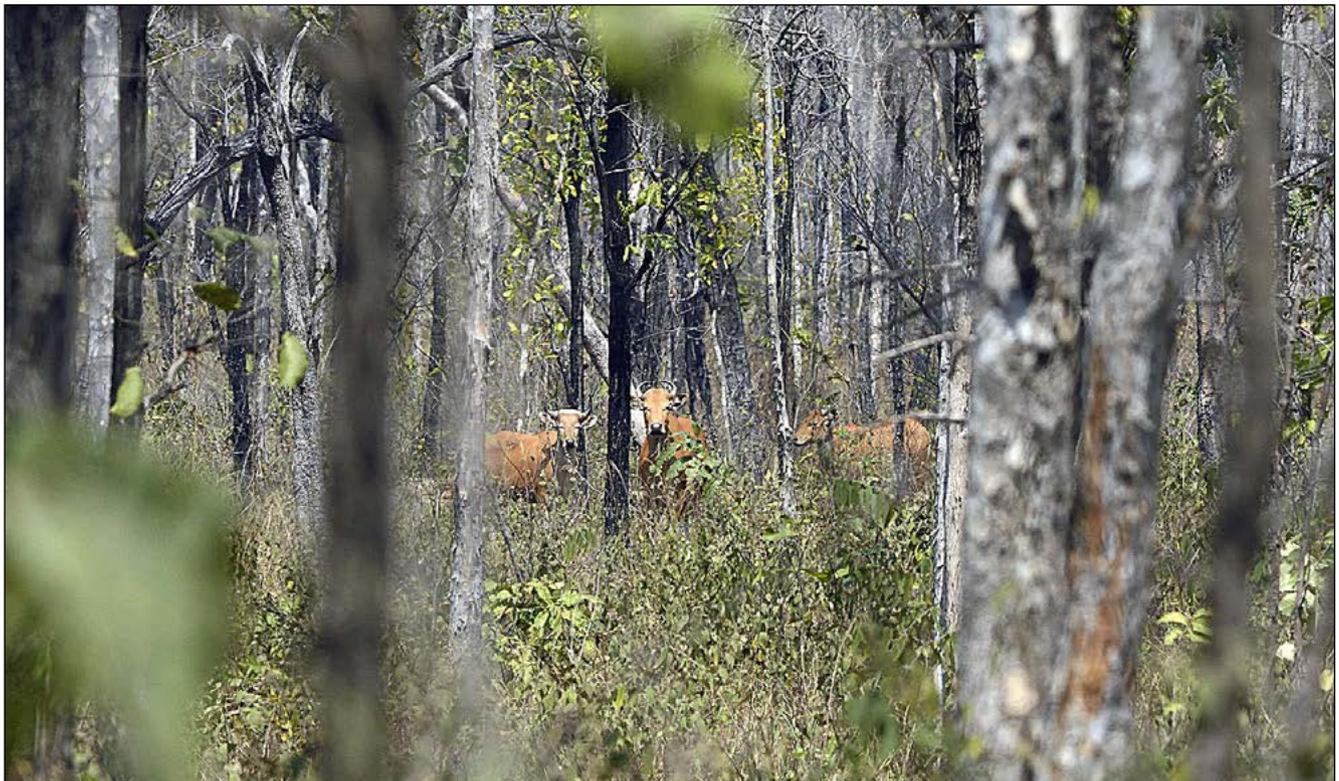
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## **Mae Wong Forest...**

### ***A hope for a future banteng revival***

In the past, Mae Wong National Park provided habitat for many banteng, which could be seen in the flat areas of the park and in the dry dipterocarp forests. Due to heavy poaching, however, banteng were extirpated from the Mae Wong forest. An important photograph, which demonstrates the extent of the hunting of the bantengs in the Mae Wong forest, was taken by Mr. A. A. Porter in 1909.

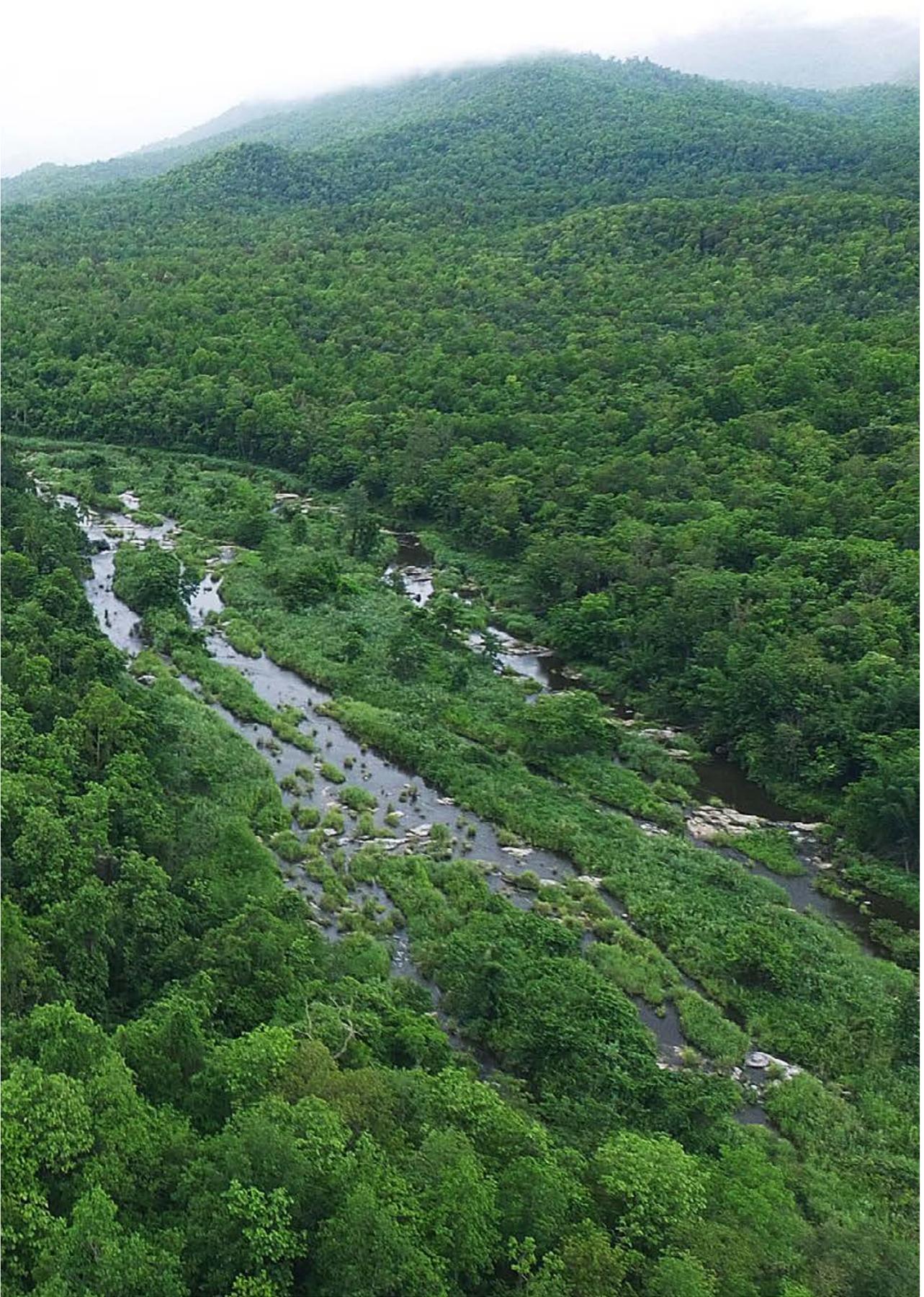
There is, however, still hope of reintroducing banteng into its former habitat in Mae Wong National Park. The area near Mae Raewa Park Station is thought to be a suitable habitat for banteng. This is because banteng prefer to live in flat areas with grasslands, dry dipterocarp forest, mixed deciduous forest or open forest. With this being so, the Mae Raewa area would offer the perfect habitat for banteng when they are returned to the wild in the future. Additionally, the new population group will be able to connect with the banteng population in the Huai Kha Khaeng Wildlife Sanctuary, which will lead to an overall increase of the banteng population in the Western Forest Complex, and allow the banteng to produce even stronger offspring.



© K. Waitanyakan



*Banteng living in the dry dipterocarp forest in the Huai Kha Khaeng WS.*



## ***Mae Wong Dam... Three decades of attempts to destroy our natural heritage***

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For over 30 years, certain groups have pushed for the construction of the “Mae Wong Dam Project” inside the protected area. This is in spite of the fact that each time the project undergoes an environmental impact assessment, it is shown that if the Mae Wong Dam goes ahead, it would have serious negative effects on the local wildlife, and would lead to the collapse of the wider ecosystem. Moreover, the construction of the Mae Wong Dam will not solve or alleviate any of the problems currently faced by local residents in the area. Development projects should not be allowed to take place within the protected area, and should not be allowed to destroy the ecosystem therein or impact any of the wildlife currently facing extinction.

## ***Mae Wong Dam... Destroying the resources of the people of Nakhon Sawan***

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As a percentage of its land area, only 30% of Thailand’s forest coverage still remains, and only 12% of that coverage is made up of virgin forest. Given the importance of forests for maintaining watersheds, Thailand cannot afford to lose any more of its forested areas, large or small. In Nakhon Sawan, only 3% of the province’s land is covered by forest, and of that 3%, the Mae Wong forest is the only natural forest that still remains. It is also a key water source for the Mae Khlong - one of Thailand’s main waterways. Nakhon Sawan’s remaining forest, therefore, is simply too valuable to be destroyed. It should remain a source of pride for the people of Nakhon Sawan, and a shared inheritance to be passed down to future generations and beyond (Kutintara, 2013).



## **Mae Wong Dam...** *A golden opportunity for poachers and illegal loggers*

The construction of the Mae Wong Dam would allow people to encroach into the Mae Wong forest. Increased access as a result of the dam will also open up greater opportunities for hunting and smuggling plants and wildlife, and will lead to further deforestation due to road building prior to construction. Animals whose populations are currently recovering will lose important grazing areas and other food sources along the riverbanks. As such, their survival will be threatened both during and after the building of the dam. It is clear, then, that the dam will bring greater problems to the area in terms of hunting, even more so given that the animals are so difficult to protect. It is easy, for example, for hunters to use boats or rafts to enter the area once a dam is constructed. Similar scenes of degradation and extinction of the local wildlife can be found in almost every forest in Thailand where a reservoir has been constructed.



## Mae Wong Dam... Will degrade the forest and ecosystem of the protected area

After 30 years of National Park status, it is clear that the Mae Raewa area of the Mae Wong forest is in the process of natural regeneration. Young trees are growing and have taken root in dense areas of forest, especially in areas that were previously home to logging concessions. Another impressive development is that of the natural teak forest alongside Huai Mae Raewa. In this area, which has previously experienced severe deforestation, many of the teak trees are now huge and have grown to cover the teak stumps left over from before. As shown by the example of Huai Mae Raewa, a natural landscape will regenerate itself following destruction, if given the opportunity. Original large perennial trees, which reforestation destroyed in the past, can now be seen throughout this area, such as the *Anisoptera curtisii*, *Lagerstroemia tomentosa* and the *Lannea coromandelica* which line the hilly banks of the Mae Raewa. Dry dipterocarp forest of this kind is exquisitely beautiful, but is, nowadays, increasingly rare. Some of its trees, such as *Shorea obtusa* or *Shorea siamensis*, have been growing for centuries, and now have trunks that are almost 1 meter in diameter. This kind of deciduous dipterocarp forest, which now stands among grasslands and cycads, is a clear reflection of the success of the conservation work at Mae Wong and our ongoing efforts to preserve the forest's beautiful ecosystem.

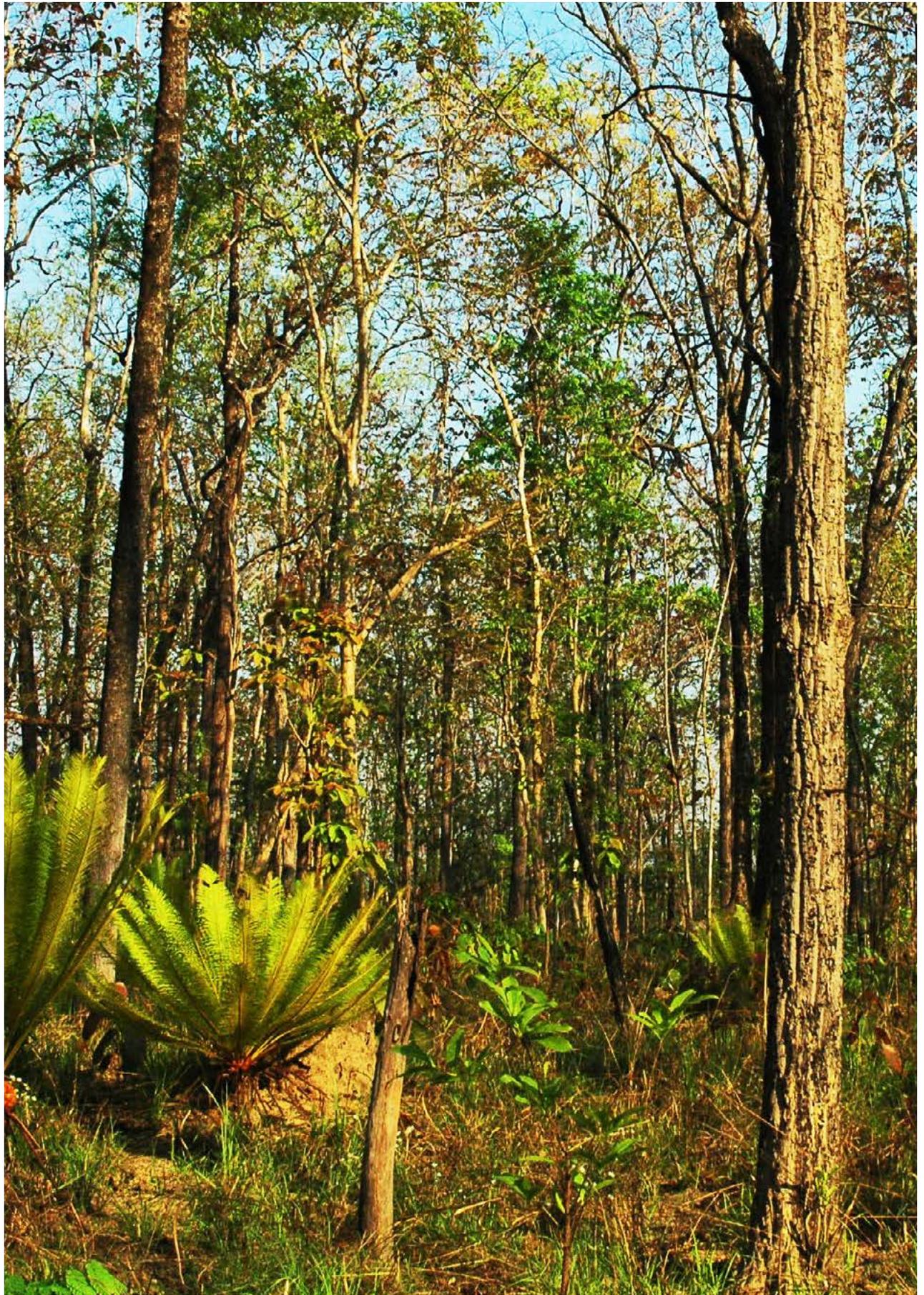
If the Mae Raewa area is given over to the Mae Wong Dam, it will cause huge devastation to the forest's ecosystem within the conservation area, and will lead to flooding of a forest that stands at an elevation of less than 200 meters above sea level. Moreover, the forests adjoining the reservoir will be cut down and trees smuggled out of the area in a way that will be impossible to curtail. This same pattern of reservoir construction followed by huge ecological destruction can be observed at almost every reservoir in Thailand, whether large or small. The grandiosity and beauty of these trees, such as the *S. obtusa*, *A. curtisii*, and *Pentacme siamensis* is immeasurable. The same applies to the large tracts of natural teak forests in Mae Wong, whose revival is invaluable and whose beauty is unmistakable. Such plants will not grow any higher, and it would be tragic for us all if we were to be the cause of their destruction.



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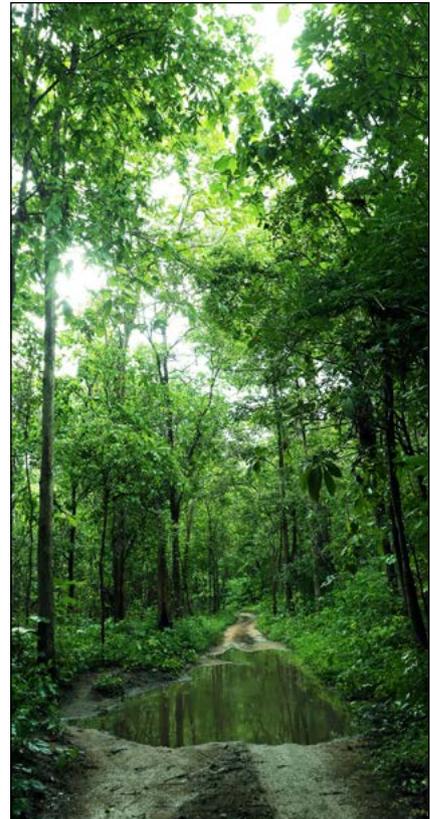
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## **Mae Wong Dam... *A disaster for the lowland riverine forest ecosystem***

The construction of Mae Wong Dam will destroy many areas along the banks of the Mae Wong river, including areas that provide habitats and important food sources for much of the local wildlife. Such areas have the highest level of biological diversity in the National Park, and, if damaged, the elements that come together to produce such diversity, and the fragile ecosystem system it binds together, will not return. No amount of money will be able to bring back an ecosystem of such abundance and complexity again.

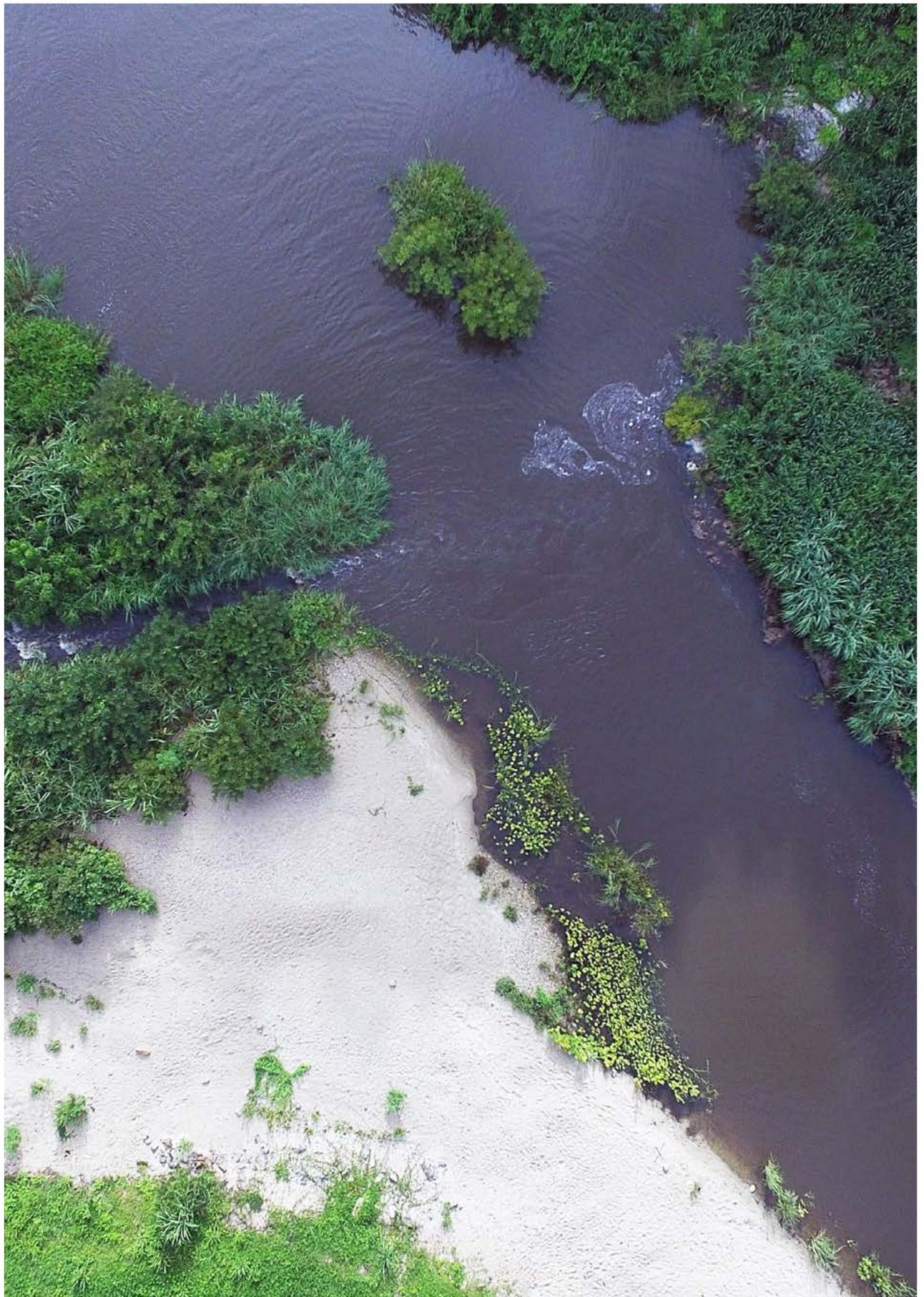
The low-lying areas of the Mae Wong forest play an important role in enabling the local wildlife to move freely between the Lower Western Forest Tract (Huai Kha Khaeng Wildlife Sanctuary) and the Upper Western Forest Tract (Khlong Lan National Park, Khlong Wang Chao National Park, Taksin Maharaj National Park, Umphang Wildlife Sanctuary, and Mae Teun Wildlife Sanctuary, and Om Koi Wildlife Sanctuary) [Kutintara, 2013]. Unfortunately, however, wildlife habitat will be significantly affected by the construction of Mae Wong Dam, should it go ahead. One direct impact on the animals will be the reduction of their living space, hunting grounds and other sources of food, with such areas being submerged under water. This could lead to the death of many species in the area, as the animals attempt to escape the flood waters.



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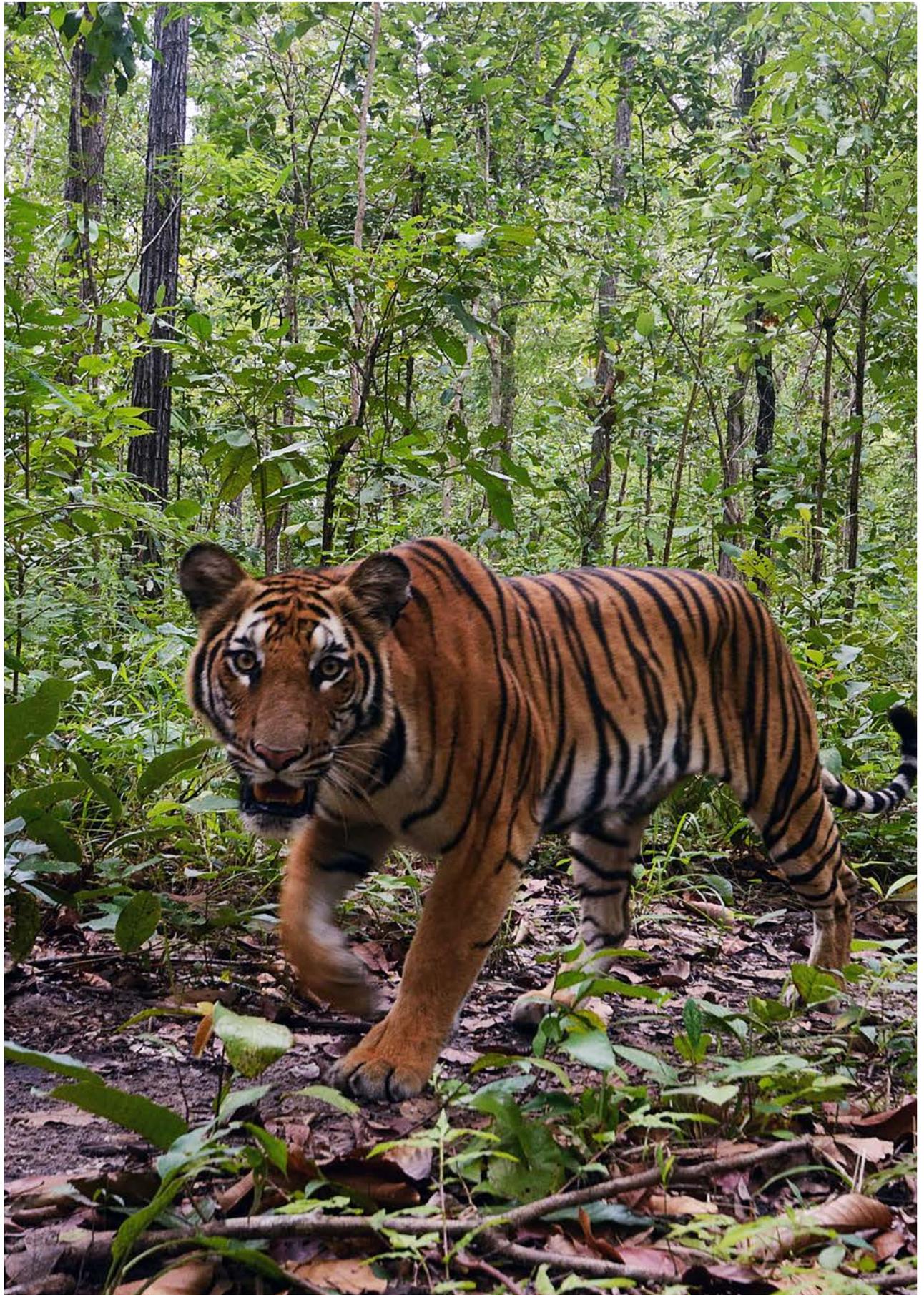
## **Mae Wong Dam... *A disaster for the survival of the tiger and other wildlife***

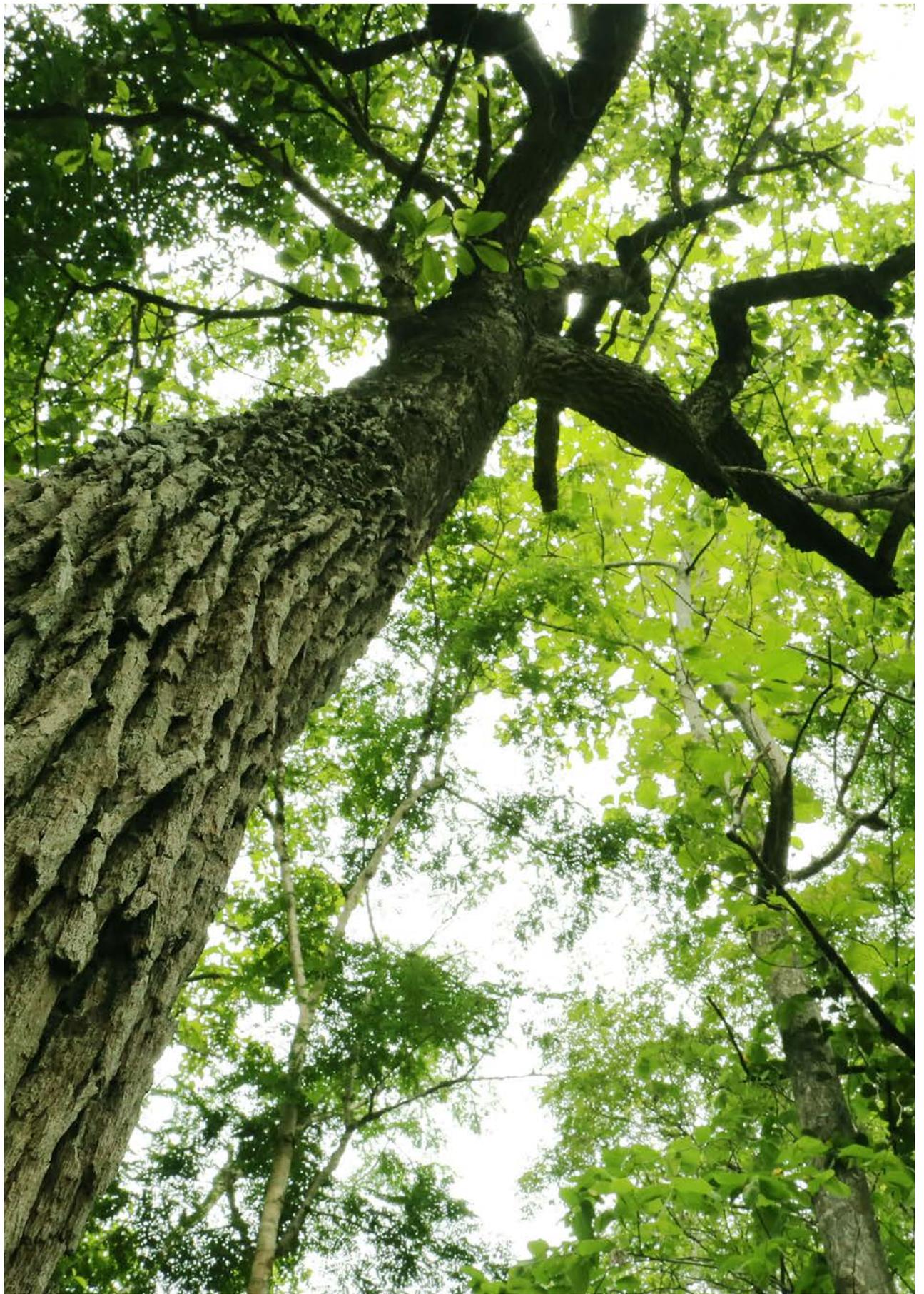
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The construction of the Mae Wong Dam will cause much of the surrounding forest to be flooded. This will destroy species and habitats. It will disrupt the ranges of the tiger, the sambar deer and other hoofed animals that reside in the Western Forest Complex. It will also adversely affect other types of animals that live in the Mae Raewa area of the Mae Wong National Park. Left without habitat or sources of food, the animals affected by the dam's construction will be unable to adapt and survive in a new and unfamiliar environment. The otters that live in the river, for example, will naturally be affected by changes in and around the water, whether they be physical or biological changes. Similarly, the one area of the Mae Wong forest that is suitable for recovery of banteng will be lost, along with all hope of rebuilding the banteng population to its former strength. Many mammals, birds, amphibians, reptiles, and others will not be able to escape the flooding and will die. Such an outcome would be regarded as an unforgivable crime against an invaluable ecosystem and wildlife that are struggling to recover from past exploitation.

Also included among the dam's list of casualties would be the destruction of the hope, determination and dedication of all those who have worked so hard to protect the area, preserve its natural resources and look after the wildlife. The presence of tiger in Thai forests, for example, demonstrates the tremendous success of conservation work in Mae Wong forest, and also shows that Thailand can play a key role in protecting and regenerating the world's tiger population, as previously pledged at the Global Tiger Summit.

The importance of the tiger as a source and symbol of national pride must not be overlooked. As the tiger slides closer towards extinction, we demonstrate that we can live in harmony with all of the world's wildlife in our efforts to protect this rare and wondrous creature from harm.





## **Mae Wong Dam...**

### ***Serious concerns raised by plant and wildlife scientists***

In Thailand, large-scale development projects must pass an Environmental Impact Assessment (EIA) or an Environmental and Health Impact Assessment (EHIA) before construction. The Mae Wong Dam is categorized as such a project - large in scale and environmentally dangerous - so it too must pass an EIA or EHIA. Over the past 30 years, as certain groups have applied greater pressure for the Mae Wong Dam to go ahead, EIAs have been conducted by numerous research institutes and government agencies, as commissioned by the Royal Irrigation Department. However, the latest study, carried out by a private consulting company, has proved to be a source of much controversy and dispute. Below is a list of all the findings of the study that have caused doubt or have been disputed by prominent scientists:

1. The EHIA claims that there are no large animals, such as sambar deer, residing in the central area of the project where the reservoir is scheduled to be built. Instead, the EHIA claims that such animals can be found only in the deep forest, at the back of the area that will be flooded.

- In reality: There are abundant traces of sambar deer in the central area of the project where the reservoir will be constructed, and even in nearby areas where the dam wall is to be placed, traces of sambar deer can be found.
- Doubts: If the officials who conducted the EHIA had performed a thorough ground survey of the area, then it would not be possible for them to avoid finding evidence of sambar deer.

2. The EHIA claims that the finished reservoir will be a valuable water source for local wildlife.

- In reality: There is no large-scale reservoir in Thailand that has brought any advantages to the local wildlife in terms of an accessible water source. Instead, such reservoirs present a danger to the animals themselves, as humans can access the surrounding forest more easily. This inevitably leads to a significant increase in hunting of the animals and greater deforestation of the area around the reservoir. As a result, the wildlife population is reduced.
- Doubts: Those who conducted the EHIA should present evidence to support their claim by showing that even one of Thailand's existing reservoirs has offered tangible, demonstrable benefits to the local wildlife. They should also produce a detailed analysis of the negative impacts that reservoir construction has on local wildlife.

3. The EHIA claims that, in the area where the Mae Wong reservoir will be built, there are mostly small or medium sized trees and only a small number of large trees.

- In reality: According to the Department of National Parks, Wildlife and Plant Conservation, there are still many large trees within the Mae Wong Dam project area. The department also notes that anyone who visits the area in person would inevitably see large and valuable trees, such as *Tectona grandis*, *Dalbergia oliveri*, *Azelia xylocarpa*, *Xylia xylocarpa* and many *Dipterocarp spp.* Such trees are centuries old and densely populate certain parts of the project area.
- Doubts: The officials who conducted the EHIA failed to apply any sort of systematic approach to their evaluation of the forest's ecosystem. Specifically, the EHIA looked at the local plant life only on the basis of its monetary value, which in the context of an environmental impact report is simply unacceptable. This is because, as noted above, the forest ecosystem is worth much more to the people of Thailand than its monetary value.

Additionally, there are still many other issues regarding the EHIA that have been raised by plant and wildlife scientists, such as:

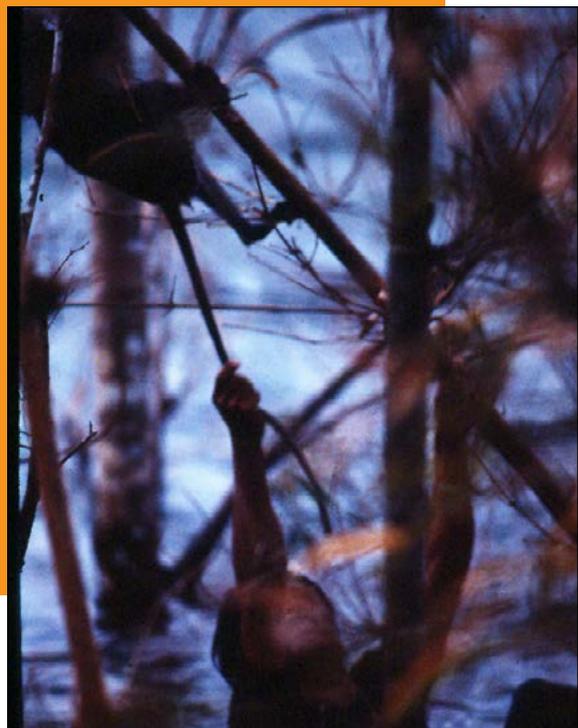
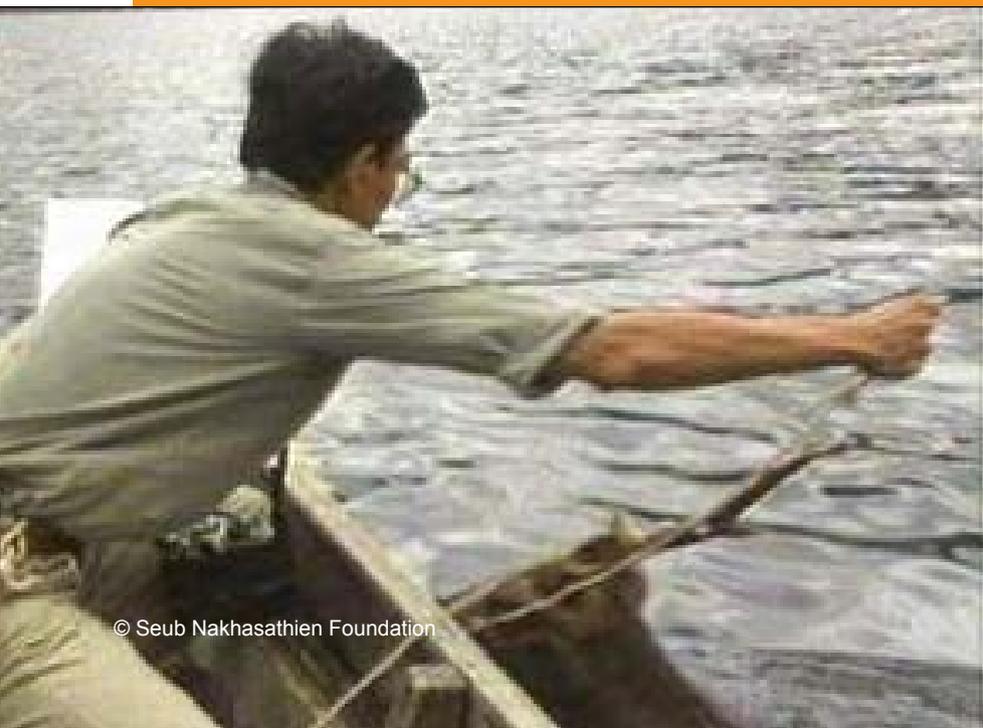
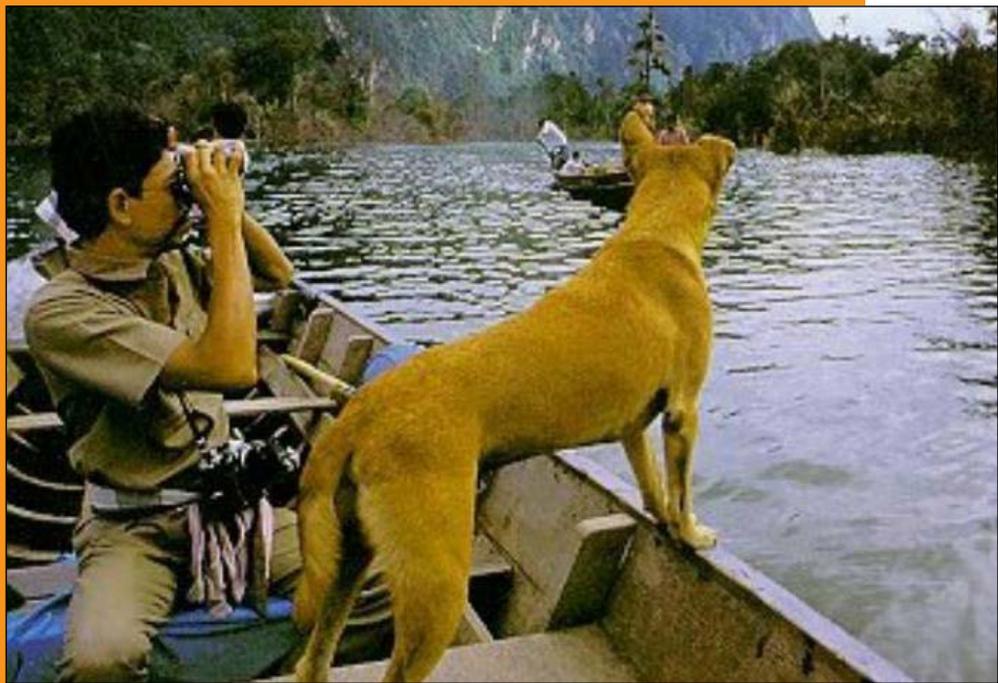
- Why was there no assessment of the potential impacts of hunting and smuggling outside of the reservoir area, despite the fact that this has been a long-term and ongoing problem at all of Thailand's large-scale reservoirs?

- Why was there no assessment of the potential damage caused by the destruction of the habitats of many species that are known to be under global threat of extinction? Such animals would include those which reside both in and around the project area, including tiger, sambar deer, gaur, smooth-coated otter and others. The officials who conducted the EHIA simply concluded that the animals would move to another location but in truth, there is only one remaining habitable forest tract beside the Mae Wong stream in the Mae Wong National Park, and this area will be completely flooded by the Mae Wong Dam. It is therefore unknown where the animals will move to and whether they would resettle at a new location.

- Why was there no impact assessment regarding the smuggling of large trees from around the reservoir area? Due to the dense coverage of natural teak and other large trees in the area, there is no doubt that illegal loggers will move in. Those who have the opportunity to visit the area will no doubt surely feel disheartened when they find that the construction of the Mae Wong Dam will bring about the worst deforestation of the area since the end of its logging concessions over 30 years ago.

- Why was there no assessment of the future potential of the forest's ecosystem as it undergoes further regeneration? After 30 years of continuous conservation, the plant and animal ecosystems of the Mae Wong forest have been revived to a remarkable degree. For example, from the stumps of teak trees that were previously felled, new shoots have grown more than 20 m high; large numbers of sambar deer have returned to the area alongside the Mae Wong stream; the peafowl population has recovered after being reintroduced, and can now, after being hunted to near extinction, breed freely with their distinctive bird calls echoing through the forest once again; tigers, leopards and many other types of predator have followed the movements of their hoofed prey and resettled on the banks of the Mae Wong stream. The success of such recovery efforts correlates directly with the income raised from eco-tourists visiting the area, as is the case at many of Thailand's national parks. Additionally, Mae Wong's abundant forest and complex ecosystem still provide many other ecological services to local residents in the area. The EHA, however, has taken none of these factors into account.





## ***The case of the Cheow Lan Dam...***

### ***A tragedy and catastrophe for thailand's wildlife and ecosystem that must never be repeated***

The construction of a hydroelectric power station at the Cheow Lan Dam in Surat Thani Province was planned and ordered by the Thai cabinet. Since its completion in 1986, however, the dam has brought about significant damage to the surrounding landscape, which was previously home to an abundant forest that stretched across hills and mountains. The Cheow Lan Dam led to the formation of many small islands. This affected the local wildlife in a number of ways, both directly and indirectly. Habitats, food sources, mating grounds and other safe areas were flooded and destroyed. Some types of animal that lived exclusively in the lowland forest were unable to move to another area on higher ground; some animals were unable to escape the floodwaters or find a safe area in which to resettle; and some animals gathered in confined spaces on sinking islands. Later, as the floodwaters rose and the islands were submerged, the animals left stranded on them were forced to compete for limited living space and go without food. Some of these animals went without food until they starved to death – their carcasses being left to rot among the trees and branches where they fell. This is a heart-rending image for us to think about today, and one that we should never be so cruel as to allow to be repeated.

Sueb Nakhasathien, an official from the Royal Forest Department who led a wildlife rescue team in the Cheow Lan area in 1987, reported the impact of the Cheow Lan Dam on the local wildlife as follows:

- Enormous loss of plant and animal life at the low-lying waters on the banks of Khlong Saeng.
- Flooding of animal habitats and food sources, leaving insufficient space and food for remaining wildlife, and leading directly to a steep decline in animal populations.
- More than 70% of the local wildlife affected directly or indirectly.
- The local area fragmented into pieces, thus causing populations of large animals still rearing their young - such as elephant, gaur, banteng, tapir, tiger and leopard - to be short of living space, surrounded by water, and unable to travel between different areas. Fragmented wildlife populations were therefore unable to mate with one another, causing the quality of the gene pool in such species to deteriorate.
- Animals which lived exclusively in the low-lying plains were unable to be helped.

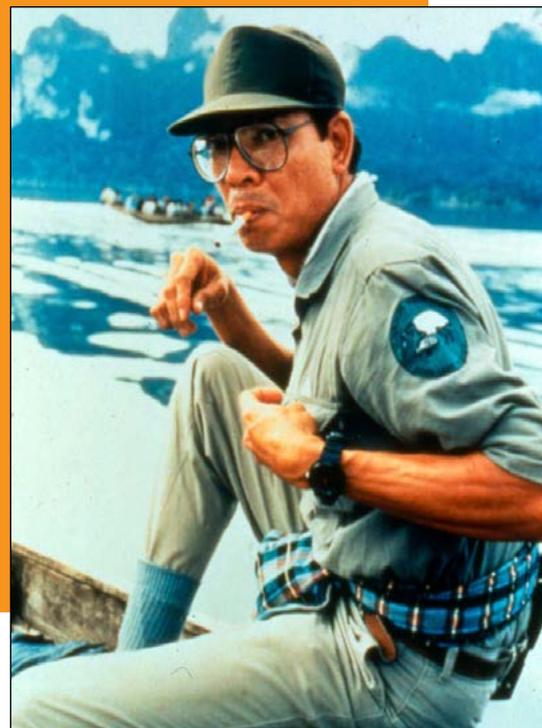
- Despite having received some assistance, many animals died due to lack of food, being unable to adapt to the rapid change in conditions. Some of the animals were even hunted and killed by humans as they were stranded on the islands, or as they attempted to escape the floodwaters.

- Due to a lack of reliable data, it was not possible to assess the success of the assistance provided to the animals during that time. Analysis of the wildlife situation prior to the building of the dam has proved insufficient, and provisions for follow-up studies of the wildlife situation were also lacking.

- The dam building process destroys wildlife population centers through the destruction of habitats and important food sources. Such wildlife is the lifeblood of the forest, and something which humans cannot replenish.

The above case study offers an important lesson – a lesson that future generations should be aware of and should refer to when considering the advantages and disadvantages of dam building in Thailand. In particular, the construction of dams in established protected areas is something that must not be allowed to continue, given that Thailand has invested huge sums of money and manpower in maintaining and conserving its remaining forests and wildlife. Apart from the fact that development projects such as dams increase the likelihood that Thailand’s remaining conservation areas will be destroyed, such projects also have long-term effects on the environment, which will be felt by Thai society and will inevitably feed into the problem of global climate change. What’s more, we should also consider our responsibilities with regard to the environmental commitments that Thailand has pledged to the rest of the global community, especially on issues such as forest and water source conservation, and the protection of wildlife threatened by extinction. This includes all of the biological diversity that we currently enjoy and should maintain for future generations. The tragedy and disaster unleashed by the building of the Cheow Lan Dam should therefore be the last time society chooses to decimate our wildlife, devastate our ecosystems, and destroy the very items of natural beauty and abundance that should be the inheritance we leave for our children and following generations.





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