

# Not just ivory - another threat for Asian elephants?



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## Abstract

For centuries, people have hunted and killed both African and Asian elephants for their ivory. Despite many efforts to protect these animals, elephant populations worldwide are still declining. The rapidly increasing human population on the other hand has led to elephants' *habitat* shrinking. This further endangers elephants, leading to more frequent encounters between them and humans, which only makes things worse. When trying to find a solution to this problem, we stumbled upon some disturbing findings:

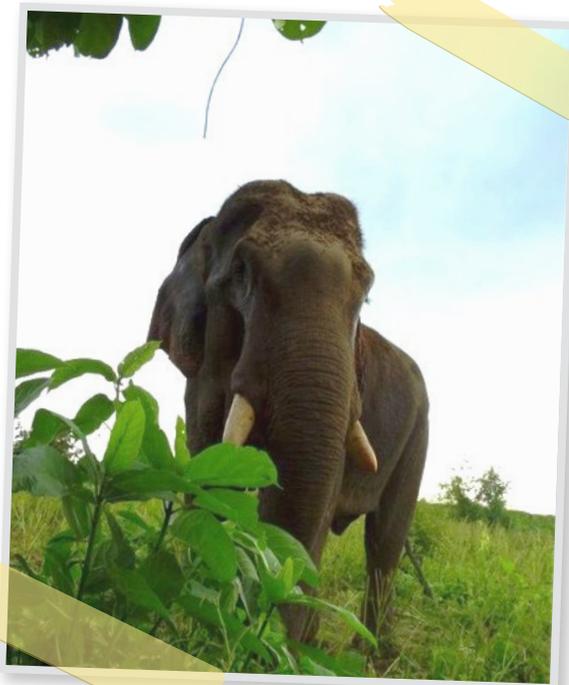
poachers in Myanmar have started to kill elephants for their skin and meat instead of just their ivory. This makes all elephants a target, including females and juveniles, not only the males who have tusks. Myanmar has the largest remaining natural areas suitable for sustaining elephants populations, so a rapid decline in their populations there would pose a great risk to their global populations.

## Introduction

People have hunted elephants for their ivory for hundreds of years. Ivory comes from the elephants' tusks - both male and female African elephants have tusks, while in Asia only some males have them (Figure 1). But why are people so interested in ivory? It's because ivory is really valuable. So valuable actually that in the 1970s around half of the elephant population in Africa disappeared. Although many governments took steps to protect their elephant populations, they are still dangerously declining.

Other factors that can contribute to the decreasing numbers of elephants are *habitat loss*, capturing live elephants (to entertain tourists or to use for labor), and escalating *human-elephant conflict* or *HEC*. Researches think that HEC is a major threat for elephants in Asia. It occurs when people and elephants share the same area, usually when humans move into an area that was previously elephant habitat. And most people believed that *poaching* (illegal hunting) for skin, meat or hair is a minor threat to elephants as opposed to poaching for ivory, HEC and the live animal trade.

In Myanmar, 133 elephants have died between 2010 and 2016 and roughly half of them because of poaching! And the bad news is that the poaching rate is increasing as people killed 25 elephants in 2016 alone.



**Figure 1:** Asian elephant (*Elephas maximus*) are the largest living animals in Asia. (Photo credit: Christie Sampson)

Finding elephant poaching occurring at our research site was a surprise. We only discovered how many elephants were being poached because the poachers killed elephants we were tracking with satellite-GPS collars.

At first our goal was to find ways to reduce HEC in three areas in Myanmar by tracking elephants and working with local communities to find ways to reduce conflict and help people act safely around elephants. But then we realized just how big of a problem poaching in Myanmar is. We are now working with the government to help stop it.

## Methods

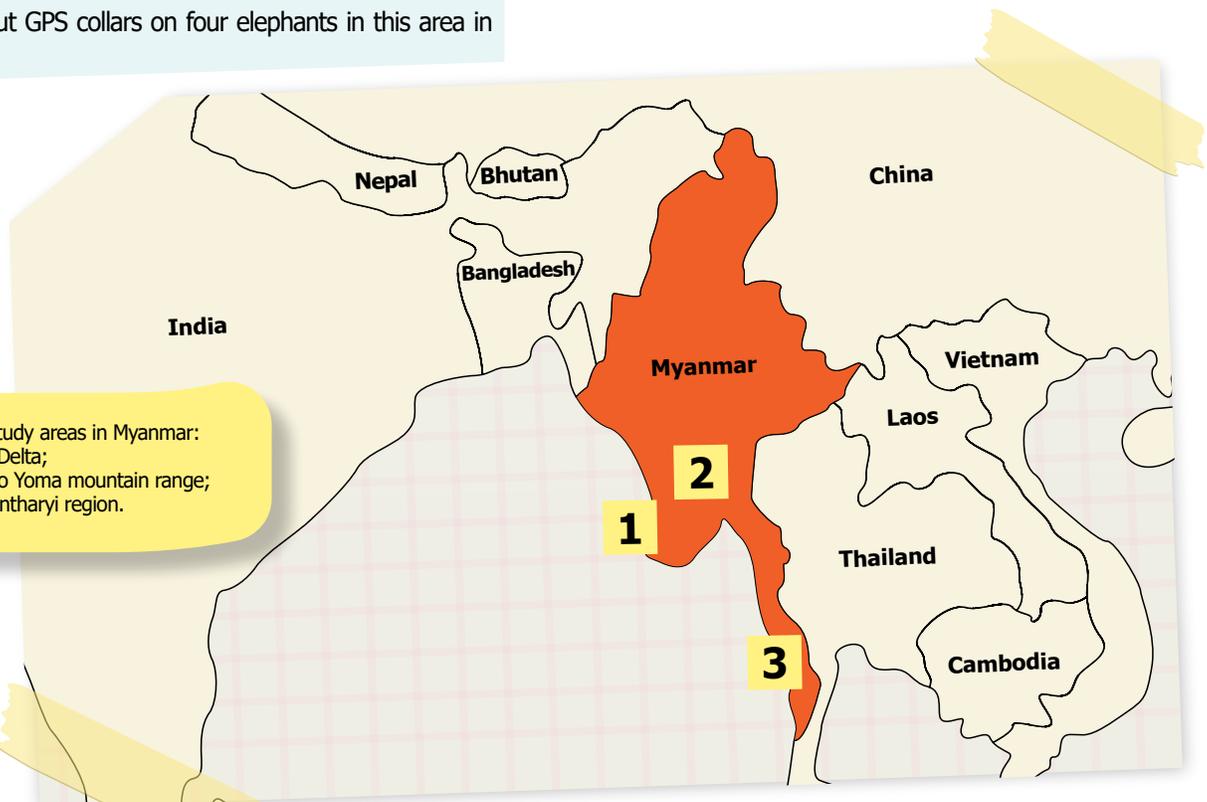
Our study focused on three areas in Myanmar with high HEC (see Figure 2):

- ① **Bago Yoma mountain range** (south central Myanmar): The construction of two dams led to elephant habitat loss, and 3-6 people die each year there because of HEC. Between December 2014 and January 2017, we put GPS collars on 15 elephants in this area to track the elephants' whereabouts with help of satellites.
- ② **Ayeyarwaddy Delta** (west coast of Myanmar): this elephant habitat is fragmented because of agriculture. People farm this area for rice, teak, rubber and peppercorn. At least four people died in 2016 due to HEC.
- ③ **Tanintharyi region** (most southern region of Myanmar): the creation of many oil palm and rice plantations led to habitat loss in this area as well. We expected more live captures here for illegal international trade because the area is near the border of Thailand. We put GPS collars on four elephants in this area in March 2017.

We identified poaching events three different ways:

- ① Tracking the movements of our collared elephants
- ② Talking to local people, who reported several sites with dead elephant remains to a community education outreach program ("Human-elephant Peace"). This program travels to schools and community centers to help people learn about elephants and avoid encounters with them.
- ③ Reports about dead elephants from anti-poaching patrols organized by the local government

After collecting all these data, we tried to assess the impact of poaching on the elephant population in the Bago Yoma, where we had collared to most elephants.



**Figure 2:** Our study areas in Myanmar:  
1) Ayeyarwaddy Delta;  
2) Southern Bago Yoma mountain range;  
3) Southern Tanintharyi region.

## Results

Unfortunately, between March 2015 and June 2017, we found the dead bodies of five of the collared elephants in the Bago Yoma area. In the meantime, two other GPS collars of our elephants stopped transmitting. We suspected these two elephants had been taken by poachers as well as their last tracked moves indicated they had been injured or sick and their bodies vanished when we went out to find them. All of these seven elephants were adult males and only one had tusks.

We also discovered the dead bodies of 11 more elephants without collars in Bago Yoma. The data from the 15 collared elephants from this district suggests that if poaching keeps occurring at the same rate, the local population of elephants in the Bago Yoma will be reduced by 70% in less than a year (Figure 3).

The estimation of the population survival rate is 30% in less than 300 days. Do you think this is high or low?

## Discussion

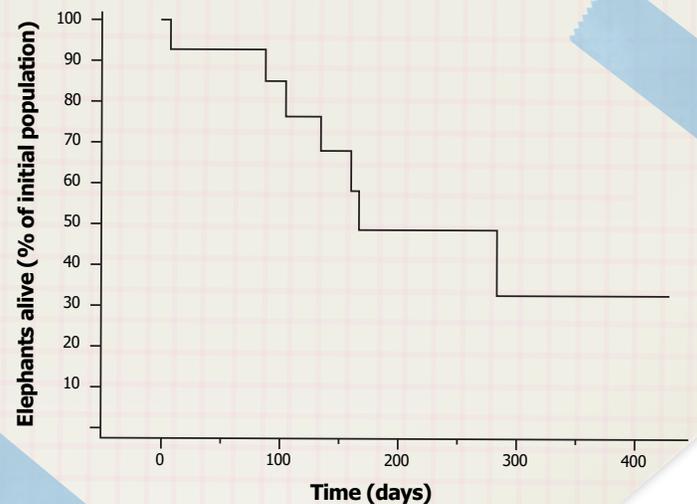
It is safe to say that people are killing elephants for their skin and meat. Before this study, there were reports of an illegal skin and meat trade, but this is the first time we are seeing how widespread it is. Community members reported that poachers quickly move these elephant products across the border, usually to China, India, or Thailand, which suggests the participation of well-organized criminals. People use elephant skin and bones to produce a medicinal paste, elephant skin to make bracelets (which can cost over \$100 each), and elephant feet and trunks for furniture or decoration.

Killing elephants for ivory is bad enough, but at least ivory poachers target only male elephants with tusks. (Some male and all female Asian elephants don't have full tusks.)

## Conclusion

Elephants are intelligent, sensitive animals but their species is endangered. Their population is declining even more rapidly now as poachers are hunting them for their meat and skin as well as for ivory.

Most of the elephants we found were missing their skins and other body parts. And this isn't only happening in one small area. Our team found over 40 more dead elephants in the two other regions we work in, including an entire herd of 20 adult and baby elephants at a single site in the Ayeyarwady Delta region. Many of these animals had their skins removed as well.



**Figure 3:** Estimation of the elephant population survival in Bago Yoma study site over a 1.2 year period

Skin and meat is something all elephants have, so now females and juveniles (and males without tusks) are targets as well. This is disturbing news since elephants have low *reproduction rates*, and females able to carry babies are much more important for the survival of the population than any single tusked male.

Our estimated population *survival rate* suggests that if poaching continues at the current rate, the survival of all elephants in Myanmar is at risk. So what can we do to save them? The best chance for Asian elephants may be to immediately stop the trade of elephant products, as well as to support the preservation of natural areas in Myanmar. Unfortunately, these landscapes are being rapidly transformed to agricultural sites.

We hope that our findings will increase the awareness and encourage governments to take further steps in conserving elephant populations.

Each one of us can make a difference as well. Don't support the illegal ivory trade, don't buy or sell ivory and other elephant

products! Reducing the demand of these products is a big step in helping to keep Asian elephants alive.

## Glossary of Key Terms

**Habitat** - the place or type of place, where an organism lives.

**Habitat loss** - natural or human activities damage the habitat so that it can no longer support the species and populations.

**Human-elephant conflict (HEC)** - agricultural activities lead to habitat loss and fragmentation (=cutting habitat into smaller pieces) for elephants, which brings them closer to people. This often leads to conflict between elephants foraging for food and local people. Both elephants and people get killed in this conflict.

**Poaching** - illegal hunting of wildlife.

**Reproduction rate** - the rate at which a given species or their population produces offspring (babies).

**Survival rate** - percentage of organisms in a study still alive after a certain period of time.

## REFERENCES

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WWF: Asian elephant facts

[http://wwf.panda.org/what\\_we\\_do/endangered\\_species/elephants/asian\\_elephants/index.cfm](http://wwf.panda.org/what_we_do/endangered_species/elephants/asian_elephants/index.cfm)

The Guardian: Can elephants and humans live together?

<https://www.theguardian.com/environment/2017/mar/06/can-elephants-and-humans-live-together>

## Check your understanding

- 1 Why is it even more disturbing that poachers kill Asian elephants for skin and meat now? (instead just for ivory?)
- 2 What is the main reason for Human Elephant Conflict (HEC)?
- 3 Why do you think conservation of Myanmar's natural areas is important for the Asian elephant population?
- 4 Can you think of any other illegal wildlife trade?