

The Rangers of Tangkahan

BUFFER ZONE PROTECTION IN THE LEUSER ECOSYSTEM, NORTH SUMATRA

Strategic plan 2017-2019



Our Vision

To ensure long term protection of the buffer zone and forest edge communities of the Leuser ecosystem in North Sumatra

Our Mission

To halt activities that damage the buffer zone environment and are a threat to wildlife and to assist in identifying sustainable alternative solutions for the forest edge communities living within the buffer zone of the Leuser ecosystem





The Leuser ecosystem is one of the worlds' richest, yet least known and threatened forest ecosystems. Over 2.6 million hectares span the provinces of North Sumatra and Aceh on the island of Sumatra, Indonesia, around 30% of which is made up of the Gunung Leuser National Park. This environment is the very last place on Earth where the Sumatran orangutan, tiger, elephant and rhinoceros co-exist. It acts as a life support to around four million people who live in and around it and helps regulate climate worldwide. As the human population continues to expand, combined with increasing habitat destruction and fragmentation there is increasing conflict with wildlife, particularly within forest-edge or buffer zone communities. Buffer zones are a transition area to enhance the protection of a specific conservation space and are increasingly under pressure from human activity. Wildlife cannot depict the separation between human and wild space and there is increasing human-wildlife conflict within this environment.

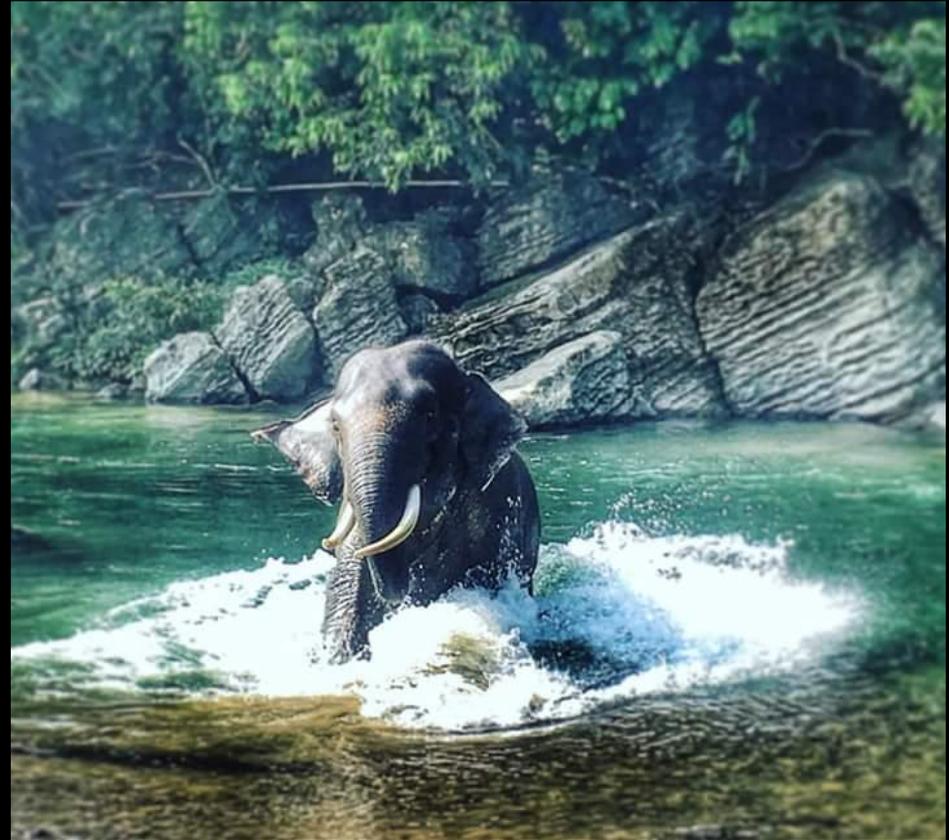
Where we work



The Rangers of Tangkahan is a community conservation initiative, established to help provide long term protection of the Leuser ecosystem buffer zone environment to benefit both wildlife and people. The Rangers of Tangkahan was formed in 2016 after founder Amy Robbins saw a need to help provide protection to the buffer zone of the Gunung Leuser National Park, after witnessing extensive destruction and wildlife conflict as well as poverty within the forest edge communities, which are closely interlinked. Buffer zones should help afford protection of a high conservation area but along the forest edge is where much of the conflict with the environment often occurs.

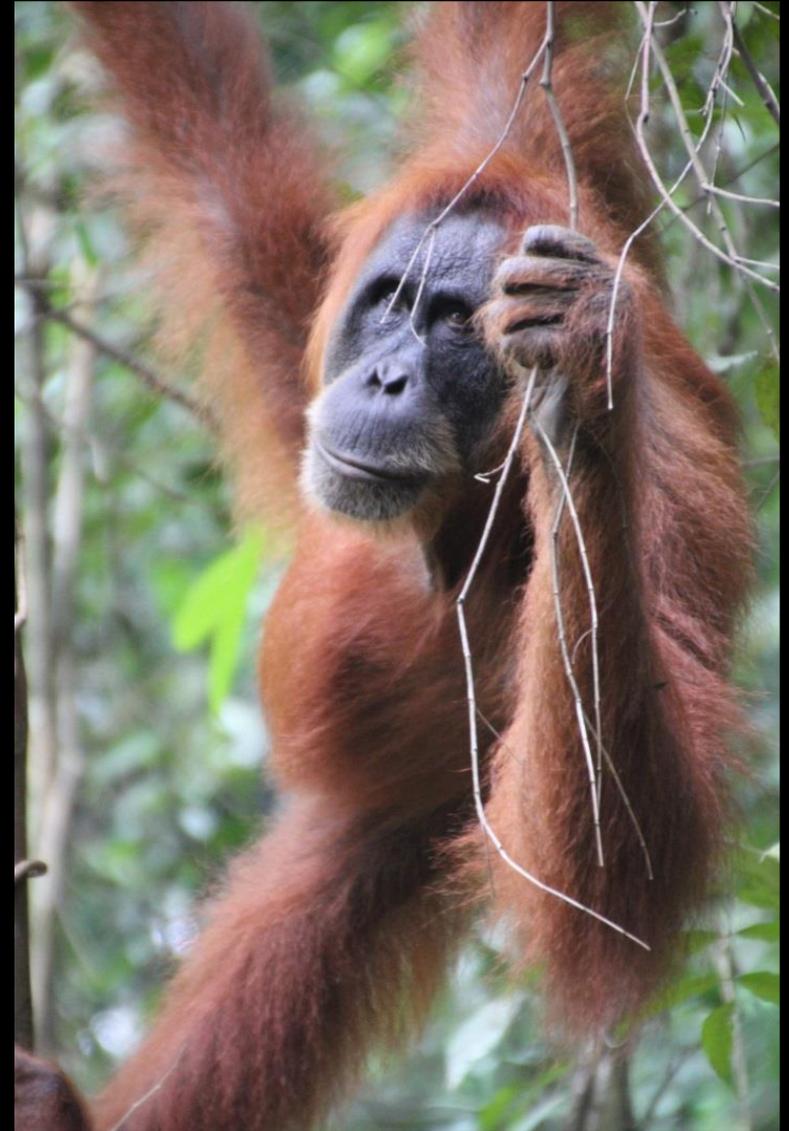


Sumatran elephants (*Elephas maximus sumatranus*) are one of four sub-species of Asian elephant. They play a critical role in healthy forest ecosystems by acting as seed dispersers. They are listed by the IUCN as **Critically Endangered** owing to the fact they have lost half their habitat in only one generation and in the same time their population has plummeted by 80%. This is due to habitat loss and human-elephant conflict (HEC).”Sumatra has experienced one of the highest rates of deforestation within the Asian elephant’s range, which has resulted in local extinctions of elephants in many areas” (WWF). As they continue to lose their range, elephants are forced into smaller fragments of forest and combined with increasing human populations and expanding agriculture they compete for space that is increasingly rare and often raid crops which are a nutritious and easy meal. According to the IUCN manual on HEC, HEC is defined as “any human-elephant interaction which results in negative effects on human social, economic or cultural life, on elephant conservation or on the environment”. Elephants are one of the biggest threats to forest edge community agriculture due to the extent and rapidity at which they damage crops which equates to significant loss of livelihood. There is often associated damage to dwellings and injury or loss of life caused by HEC. Sumatran elephants are often subject to retaliatory killing or injury due to the serious impact loss of cash crops has on the economics and socio-economics of individuals and communities.



Sumatran orangutans (*Pongo abelii*) are one of our closest living relatives and the most intelligent non-human great ape. They are classified by the IUCN as **Critically Endangered** and are among the 25 most endangered primates in the world. Around 90% of all remaining Sumatran orangutans live in the Leuser ecosystem and they are under imminent threat of extinction with the current rate of habitat loss. Sumatran orangutans are almost exclusively arboreal, or tree dwelling and need large rainforest trees for locomotion, food and sleeping sites. Orangutans have the slowest life histories of any mammal except for humans. Because they are not a social species and learn through observation they need to spend a minimum of seven years with their mother before they have the necessary skills to survive on their own. Orangutans only have one offspring at a time every eight to nine years so populations are naturally slow growing.

Orangutans are frugivorous and play a key role in healthy ecosystem function through seed dispersal over a huge range. If orangutans disappear, so too will certain tree species. Orangutans are **threatened** by habitat loss and hunting despite legal protection status since 1931 in Indonesia. As forest is increasingly encroached on and converted into agriculture and cultivated, orangutans come into conflict with humans through crop raiding. Often gardens and farms have no forested perimeters, making the boundary between agriculture and forest indistinguishable. When females are killed their babies are taken and sold into the illegal pet trade.



STRATEGIC IMPERATIVES

These four strategic imperatives outline critical actions required to achieve our vision of ensuring long term protection of the buffer zone and forest edge communities of the Leuser ecosystem in North Sumatra



PATROLS

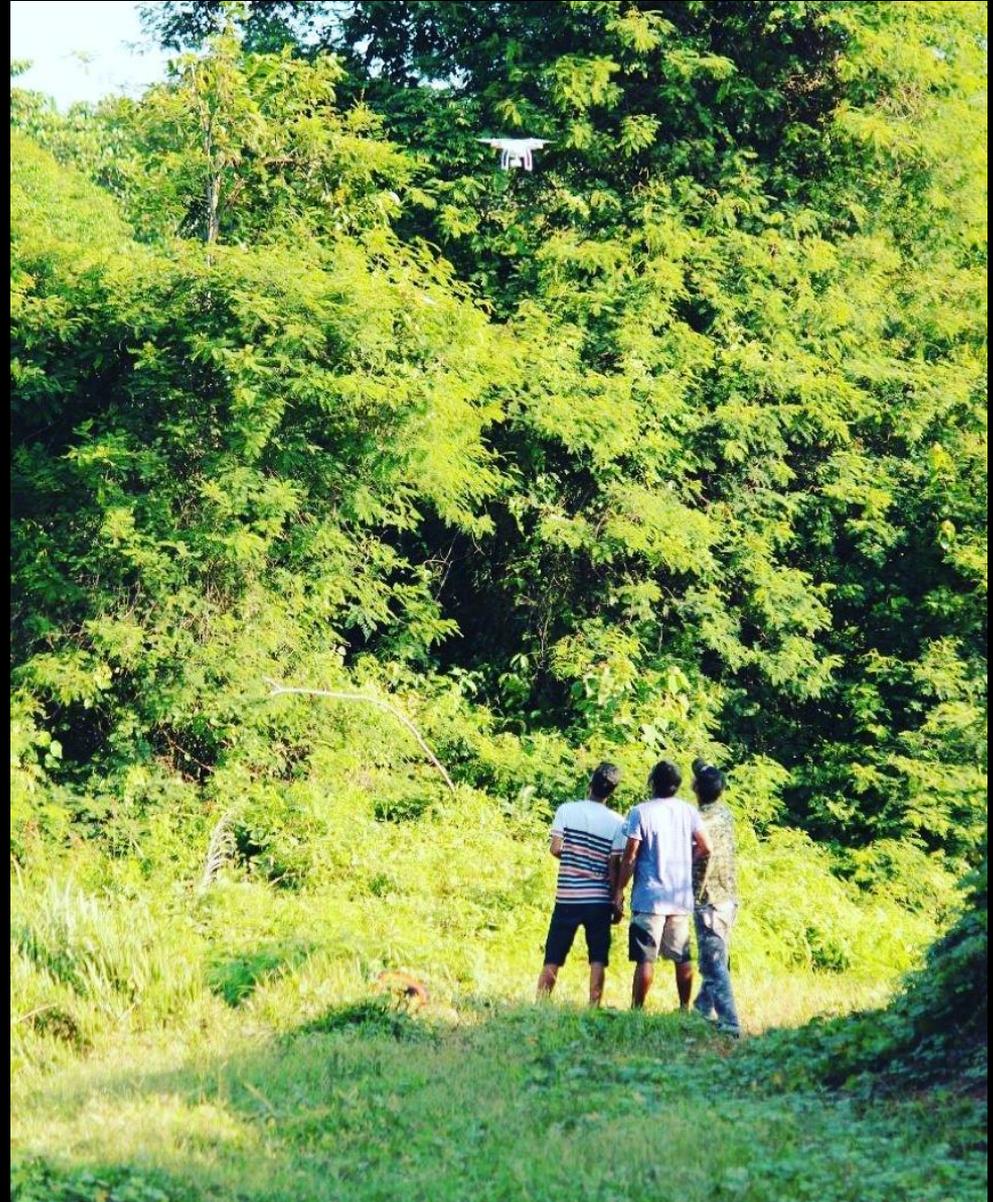
Aim: Specialised patrol unit removing snares monitoring and collecting data from the Leuser ecosystem buffer zone for 20 days per month by 2018

Our patrol unit comprises a team of 10 rangers from the community of Tangkahan and two porters from neighbouring communities. Patrols occur monthly with the unit spending 10 days per month in the buffer zone of the Leuser ecosystem in the communities of Tangkahan, Sumber Waras, Batu Rongring, Gelugur and Pamah Semilir. By early 2018 (budget dependent) we aim to have the patrol unit in the field for 20 days per month and within two years we aim to employ an additional three teams in other communities.



Patrols will:

- ❖ Collect data: using the program Cybertracker on Samsung tablets the patrol unit will catalogue the flora and fauna of the buffer zone in our focal areas – never done before
- ❖ Collect intelligence to help us determine future conservation strategies
- ❖ Removal of poachers' traps/snares; and act as a deterrent to law breakers
- ❖ Conduct research: monitoring and recording of illegal activity (poaching, logging) to help determine the level of reliance of each community on such activity; camera trap surveys – we aim to have a minimum of six cameras donated to help document the presence of wildlife within the buffer zone
- ❖ Conduct aerial surveys utilising drones to document the existing borders between the forest edge communities and the Gunung Leuser National Park. This will help determine encroachment over time
- ❖ Utilise drones to help locate wild elephant herds before they come into community gardens and to help identify their behavioural patterns within the buffer zone
- ❖ Expand to produce additional pilot teams in three other forest edge communities within two years to further expand buffer zone protection



COMMUNITY ENGAGEMENT

Aim: Hold five local community engagement sessions per month to ensure The Rangers of Tangkahan program maintains a mutually beneficial relationship with the local communities and helps to provide financial, educational and social outcomes.

Community engagement is an important aspect of the program as it is vital we have the support of the communities we are targeting and that they join us on our journey and are committed to change.

The rangers currently spend five days per month socialising with our focal communities, exploring how they receive income and the types of illegal activity they are engaging in, with the goal of determining a benchmark so that when we are identifying sustainable alternatives to those that harm the environment, they will reap the financial benefits. We have been fortunate to have had commitment to collaboration with the village leaders of each community – the first step in local engagement.



We will:

- ❖ Consult with local community groups to determine how best to develop alternative sustainable income sources to conflict palm oil, illegal wildlife trade, bush meat and logging
- ❖ Provide educational outreach to local community groups, including children to provide basic ecological knowledge on the importance of ecosystem function, biodiversity, habitat protection and native wildlife for the long term benefit of their own community
- ❖ Build awareness of conservation issues among forest edge communities and authorities

HUMAN-WILDLIFE CONFLICT

Aim: Train a specialist human-orangutan conflict mitigation team in collaboration with Orangutan Information Centre (OIC) to eliminate the high rate of human-wildlife conflict within the Leuser ecosystem buffer zone by 2018.

Foot patrol surveys conducted in 2016 within the buffer zone found extensive wire and rope snares that had been set to indiscriminately trap wildlife. The socialisation component of this program has already provided anecdotal evidence of communities snaring Sumatran tigers and countless other species to use as both food and an income source.

Orangutans and elephants are the main conflict species due to crop raiding behaviour. Based on observations, local farmers believe they can lose up to 80% of their durian crops to orangutan raiding. Currently no scientific research has been conducted in the area to determine this nor are there any conflict mitigation programs in place to eliminate villages taking matters into their own hands and harming or killing orangutans. Elephants often crop-raid and are targeted in retribution with poisoning, trapping or shooting.



By mid-2017 the ranger team have removed over 250 snares from the Leuser ecosystem buffer zone

We will:

- ❖ Train a specialist human-orangutan conflict mitigation team, to respond to sightings of orangutans within the buffer zone
- ❖ Collaborate with Orangutan Information Centre (OIC) who will provide the specialist training and ongoing support needed to upskill a dedicated response team
- ❖ Invite members from each of our focal communities to be part of the team and will include an education outreach component to provide basic ecological and behavioural knowledge of orangutans and why they come into communities
- ❖ Develop a hotline and printed posters to distribute amongst the villages to contact the response team if an orangutan is sighted
- ❖ Utilise drones and camera traps to help document behavioural and temporal patterns of crop raiding elephants
- ❖ Collaborate with international experts to help develop long term, effective mitigation and prevention strategies for elephant conflict



RESEARCH

Aim: to provide local and international research opportunities in collaboration with local communities and the Taman Nasional Gunung Leuser (TNGL) office.

To collaborate with other NGOs and TNGL as we are the only community driven patrol team focussing on buffer zone protection

We will:

- ❖ Collaborate with other organisations for species-specific research initiatives. There are species for which little is known that present good opportunities for research, such as Marbled cats
- ❖ Conduct qualitative and quantitative research in forest edge communities to determine extent of elephant conflict in order to customise intervention strategies
- ❖ Collaborate with experts, students and researchers to collect data to assist with human-elephant conflict mitigation, in order to help implement a tool kit of long term mitigation and preventative measures
- ❖ Produce a catalogue of Leuser ecosystem buffer zone flora and fauna
- ❖ Produce aerial maps of all the forest edge communities in which we work



Sun bear (*Helarctos malayanus*) foot prints in the Leuser ecosystem buffer zone

PRIORITY PROJECTS 2017-2018 (\$AUS)

1.	Patrol unit		69,083
	10x full time salaries	42759	
	2x porters	8504	
	Logistics/transport	11540	
	Operational costs	6280	
2.	HOCRU training		4460
	2 week training program with OIC	1500	
	Interview process incl transport	250	
	Equipment for each village unit	1000	
	Hotline materials	500	
	Annual meetings with NGOs	700	
	Community engagement program	360	
	Mini data projector	150	
3.	Camera trap programme		7110
	10x Bushnell camera traps	5000	
	Monitoring staff salaries x2	2110	
4.	Human -wildlife conflict		4185
	Noise deterrents	750	
	Monitoring costs	1325	
	Conflict response salary x2	2110	
	TOTAL		\$84,838

