



**Call for donations
to acquire and restore
crucial
plantation land for
habitat connectivity
in Sabah / Borneo**



October 2023

Reset for Nature



About the Rhino and Forest Fund e.V.



The Rhino and Forest Fund e.V. (RFF) was founded in Kehl, Germany, in 2009



Approach

**Combining species
conservation
with habitat protection
and ecosystem restoration
on a landscape level**



Purpose

Nature Conservation



Main activities

- Forest protection**
- Forest restoration**
- Establishment of
wildlife corridors**

About the Rhino and Forest Fund e.V.



RFF Project Areas

**Aceh, Indonesia
Sumatra**

**Sabah, Malaysia
Borneo**



About the Rhino and Forest Fund e.V.



**Collaborating partners, who are working with us
to protect the rainforest.**



About the Rhino and Forest Fund e.V.



What have we achieved so far?



2,000+

**hectares of forests
protected in Borneo**



25,000+

trees planted



1,000,000+

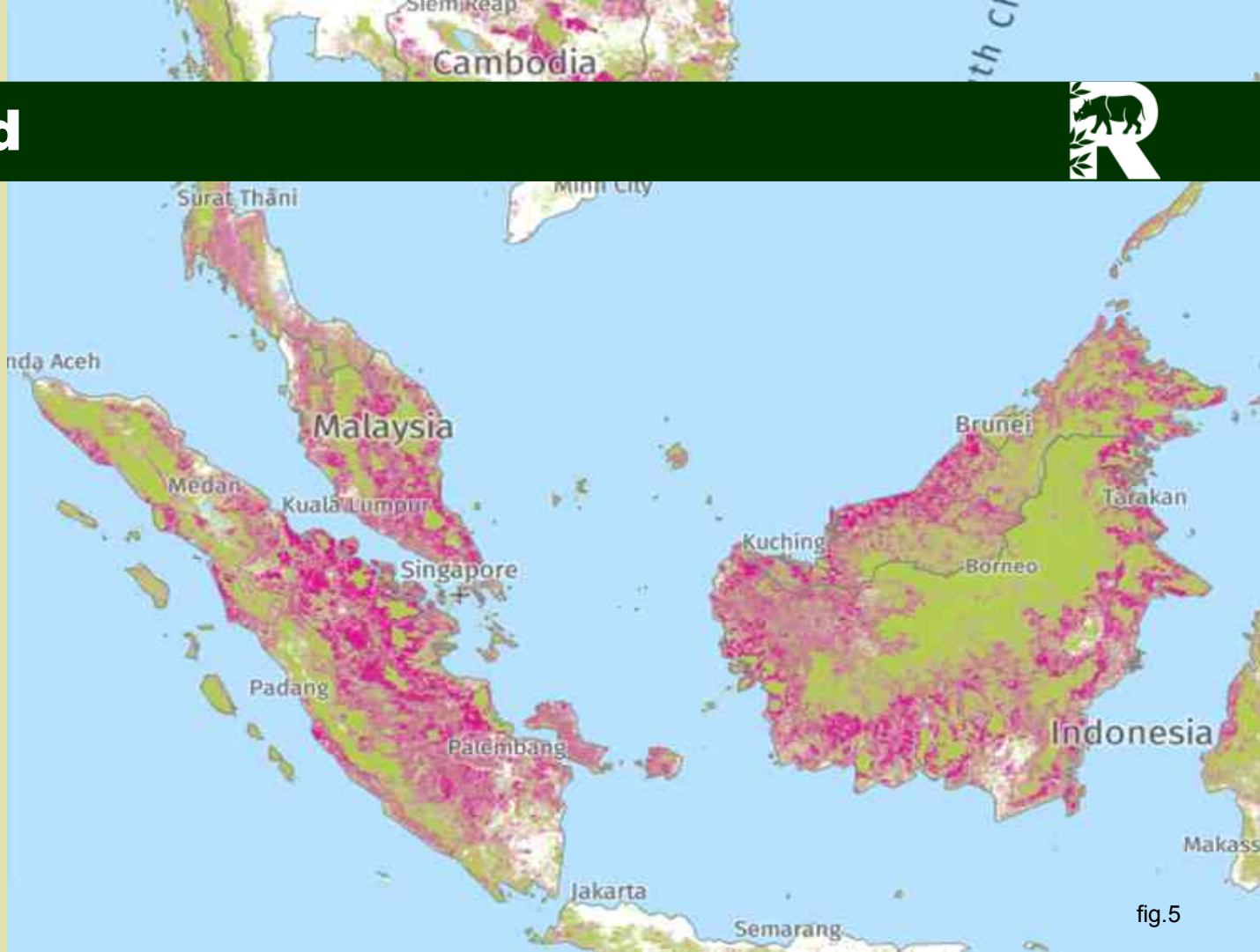
**tons of CO2 emissions
prevented**





Background

Background



● **Tree cover loss
with >75% canopy density
(2001 - 2018)**

● **Tree cover with
>75% canopy density
(2010)**

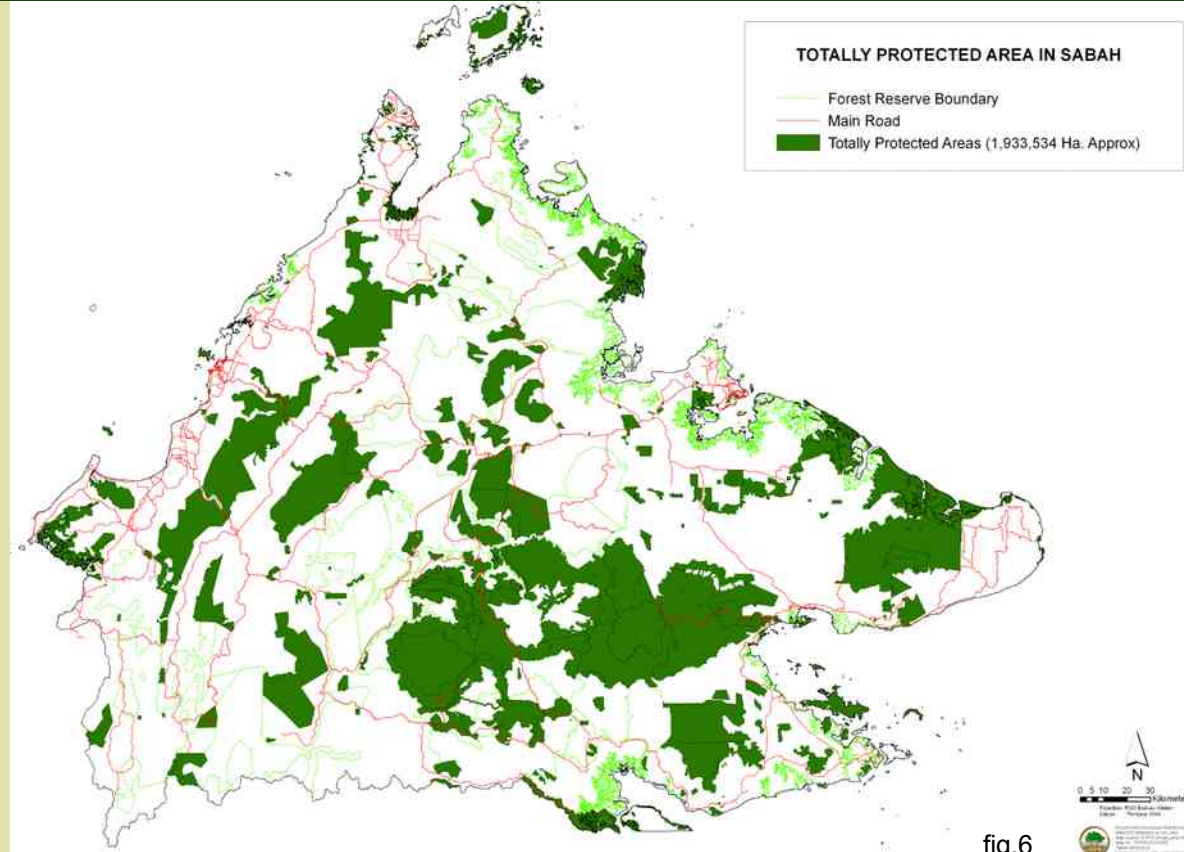
**Borneo is among the
top three biodiversity
hotspots worldwide
in terms of
conservation priority.
(Myers et al. 2000)**

Background



**Map of Sabah indicating
the *fragmented*
totally protected areas in green.**

**The predicted number of
extinct species increases by:
Habitat isolation
Habitat reduction
(MacArthur & Wilson 1967; Primack 2014)**





Why is habitat fragmentation a problem?

- ***Habitat fragmentation* leads to isolated populations of animals e.g. in islands of forest surrounded by uninhabitable monoculture.**
- **The longer an isolated area is disconnected the more species it will lose over time.**
- **The smaller it is, the less species it can support.**
- **This loss primarily occurs due to small population sizes and a poor gene pool e.g. due to inbreeding that eventually leads to extinction (*extinction vortex*).**
- **Limited habitat can only provide limited food sources, which can lead to the collapse of a growing isolated population (*exceeding carrying capacity*).**
- **Smaller areas are more vulnerable to external influences e.g. can't maintain the micro climate (*edge effects*) and are more prone to destructive human activities e.g. hunting or fire.**



How to tackle the habitat problem?

1. PROTECT

The *protection* of remaining habitats needs to be improved to control threats such as poaching, encroachment, destructive infrastructure development, and environmental pollution.

2. CONNECT

Isolated habitats need to be connected with *wildlife corridors* to reach an area of a sufficient size and quality to support enough individuals to keep a species alive (*minimum viable population size*). Wildlife corridors are essential for animals to migrate and mate with different populations to increase genetic diversity. (Jamieson, Ian G., Allendorf, Fred W. 2012)

3. ENHANCE

Degraded habitats need to be enhanced to produce more food for wildlife (*enhancing the carrying capacity*).

4. RESTORE

Lost habitats need to be restored to stabilize the climate and to preserve biodiversity and ecosystem services (*ecosystem restoration*).

Background



At least in Sabah there is still hope...

**The Government pledged to extend Sabah's
totally protected areas to 30% of Sabah by
2025 (currently 26%) and collaborates with
conservation NGOs.**

(Sabah Forest Policy 2018)

Projects by RFF in Sabah



all fig.8

**RFF projects
in Sabah**

Projects by RFF in Sabah



The RFF wants to connect and more effectively protect all remaining wilderness areas in east Sabah. The goal is to secure a habitat network of a sufficient size and quality to preserve as much of Borneo's threatened flora and fauna as possible.

Focus:

the TABIN LANDSCAPE

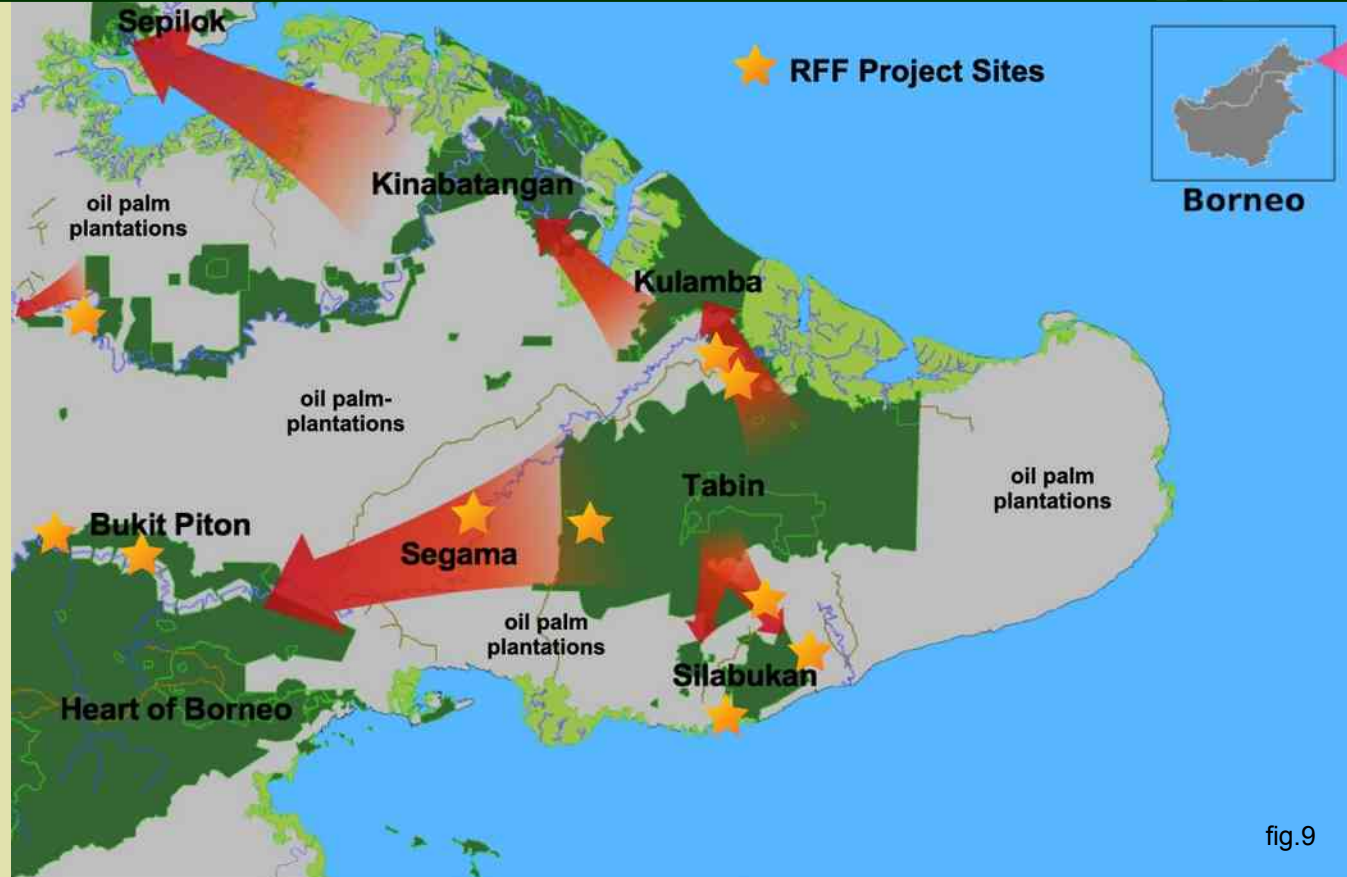


fig.9

Wildlife in the Tabin Landscape



Wildlife in the Tabin Landscape



Northeast Bornean Orangutan

(*Pongo pygmaeus morio*)

Critically endangered
(IUCN Red List)

Population:

Up to 1,200 individuals live in Tabin
and c. 480 in Kulamba.

The total population
of this subspecies is below
14,000 individuals.

**Orangutan Action Plan for Sabah:
Connect Tabin and Kulamba!**
(Sabah Wildlife Department 2020)



fig. 11

Wildlife in the Tabin Landscape



Proboscis Monkey

(*Nasalis larvatus*)

Endangered

(IUCN Red List)

Proboscis Monkeys can only be found in Borneo and are even more endangered than orangutans.

They are threatened by habitat fragmentation.

(Sabah Wildlife Department 2019)



fig.12



Eastern Grey Gibbon (*Hylobates funereus*)

Endangered
(IUCN Red List)

**Gibbons depend on a closed canopy
and don't cross oil palm plantations.**



Wildlife in the Tabin Landscape



Bornean Elephant

(*Elephas maximus borneensis*)

Endangered

(IUCN Red List)

These unique elephants only exist in Sabah and are threatened by habitat fragmentation, poachers and farmers.

Right: elephant born in front of RFF camera trap in Tabin.



fig.14

Wildlife in the Tabin Landscape



Bornean Elephant *(Elephas maximus borneensis)*

The project area covers traditional elephant migration routes. Tabin is a refuge for up to 500 pygmy elephants.

Global population:
c. 1,000 – 1,500.

**Bornean Elephant Action Plan
for Sabah:**

Connect Tabin and Kulamba!
(Sabah Wildlife Department 2019)



fig. 15



Flat-headed Cat

(*Prionailurus planiceps*)

Endangered

(IUCN Red List)

**One of the most endangered
cat species of the planet with
just a few records
in recent times.**



Wildlife in the Tabin Landscape



Sunda Clouded Leopard

(*Neofelis diardi borneensis*)

Vulnerable
(IUCN Red List)

Since 2006 regarded as a distinct species with only a few thousand remaining individuals in the wild, it is still present in the project area.

Sunda Clouded Leopard Action Plan for Sabah:

Connect Tabin and Kulamba!
(Sabah Wildlife Department 2019)

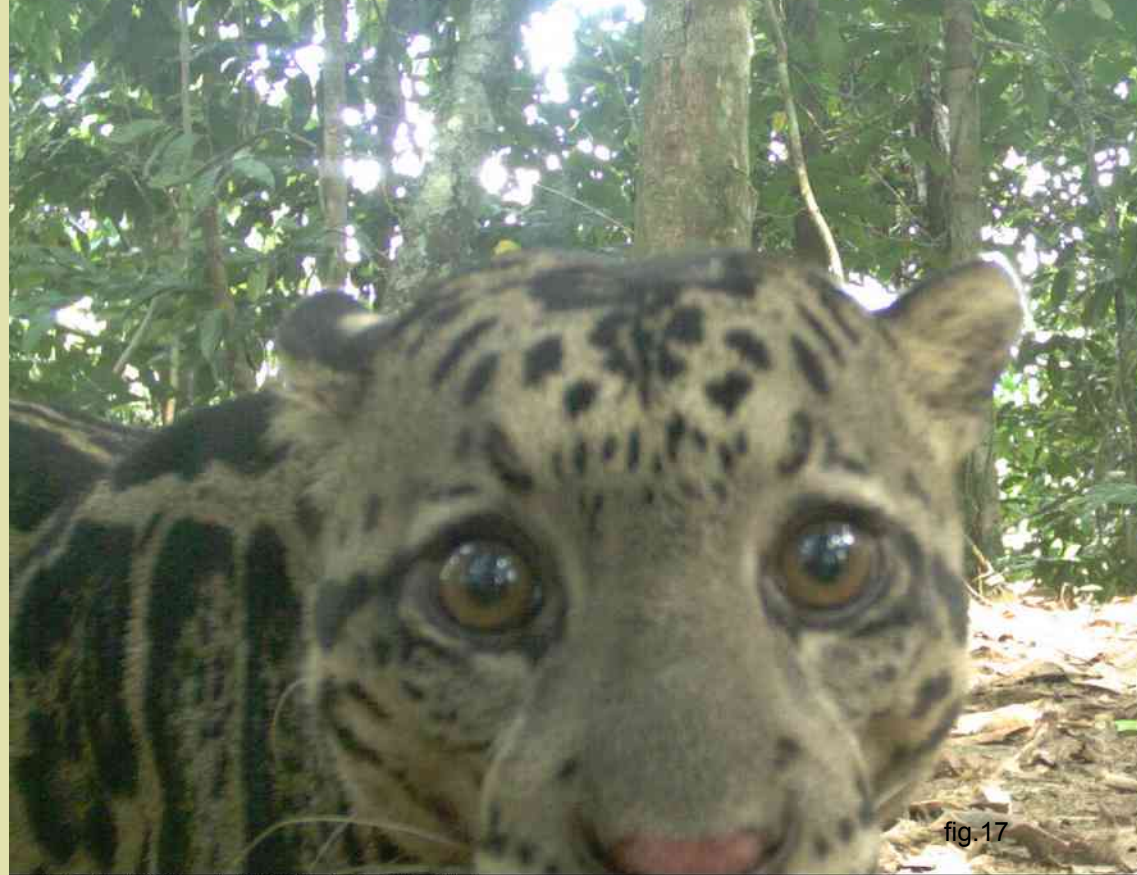


fig.17

Wildlife in the Tabin Landscape



Borneo Sun Bear (*Helarctos malayanus eurysilus*)

Vulnerable
(IUCN red list)

**The project area is a refuge for a
higher number of sun bears.**



fig.18



Hairy-Nosed Otter

(*Lutra sumatrana*)

Endangered

(IUCN Red List)

The extremely rare hairy-nosed otter was discovered in the project area in April 2016. It might be the last viable population of the planet.



Wildlife in the Tabin Landscape



Otter Civet (*Cynogale bennettii*)

Endangered
(IUCN Red List)

The rarely recorded and elusive otter civet has been confirmed in the project area in July 2017 by RFF.



Wildlife in the Tabin Landscape



Bornean Banteng

(*Bos javanicus lowi*)

Endangered
(IUCN Red List)

Only a few hundred individuals are left with the most important sub-populations in Kulamba and Tabin.



fig.21

Wildlife in the Tabin Landscape



The Tabin-Kulamba Wildlife Corridor is crucial to prevent the extinction of the Bornean banteng:

- **Around 100 individuals are estimated for Kulamba.**
- **Tabin has at least 50 individuals.**
- **Once united both sub-populations could form a viable population.**

**Bornean Banteng Action Plan for Sabah:
Connect Tabin and Kulamba!**

(Sabah Wildlife Department 2019)



The Tabin Landscape is a global hotspot of bird diversity



fig. 24



fig. 25



fig. 26



fig. 27



fig. 23



fig. 28



fig. 29



fig. 30



fig. 31



fig. 32



fig. 33



fig. 34

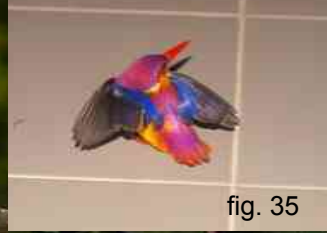


fig. 35



fig. 36



fig. 37



fig. 38



fig. 39



fig. 40



fig. 41



fig. 42



Storm's Stork

(*Ciconia stormi*)

Endangered

(IUCN Red List)

The project area might be the most important refuge of the endangered Storm's stork with less than 500 individuals worldwide.



fig.43

Wildlife in the Tabin Landscape



Lesser Adjutant *(Leptoptilos javanicus)*

Vulnerable
(IUCN Red List)

The project area might be a refuge of the most important sub-population in Malaysia (c. 300 individuals estimated for the whole country and less than 15,000 individuals worldwide).



fig 44

Wildlife in the Tabin Landscape



Helmeted Hornbill

(Rhinoplax vigil)

Critically endangered

(IUCN Red List)

**Disappeared from most
landscapes in recent years,
it is still present in
the project area.**



fig.45



The Tabin-Kulamba Wildlife Corridor

The Tabin-Kulamba Wildlife Corridor



OBJECTIVE

**Connecting Malaysia's largest
Ramsar site**

**(Lower Kinabatangan and Segama Wetlands)
with Malaysia's largest wildlife reserve
(Tabin Wildlife Reserve) to preserve
Borneo's threatened flora and fauna.**



TILL TODAY

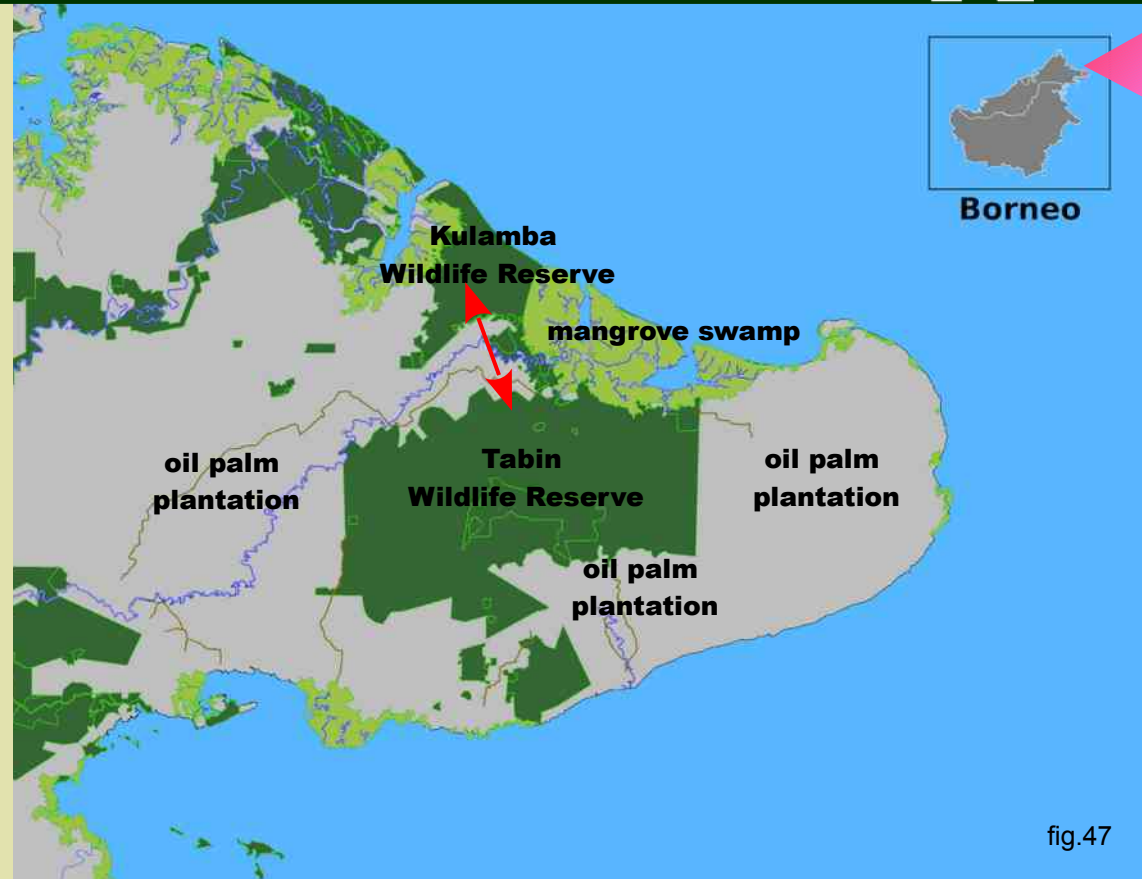
- 2,300 ha of endangered forest have been saved.**
- 65 ha of private land have been acquired.**
- 65 ha are under restoration.**

The Tabin-Kulamba Wildlife Corridor



**The *isolated* Tabin - and
Kulamba Wildlife
Reserves are under the highest
internationally accepted IUCN
protected area category 1a
comprising various
rare ecosystems and many
endangered species.**

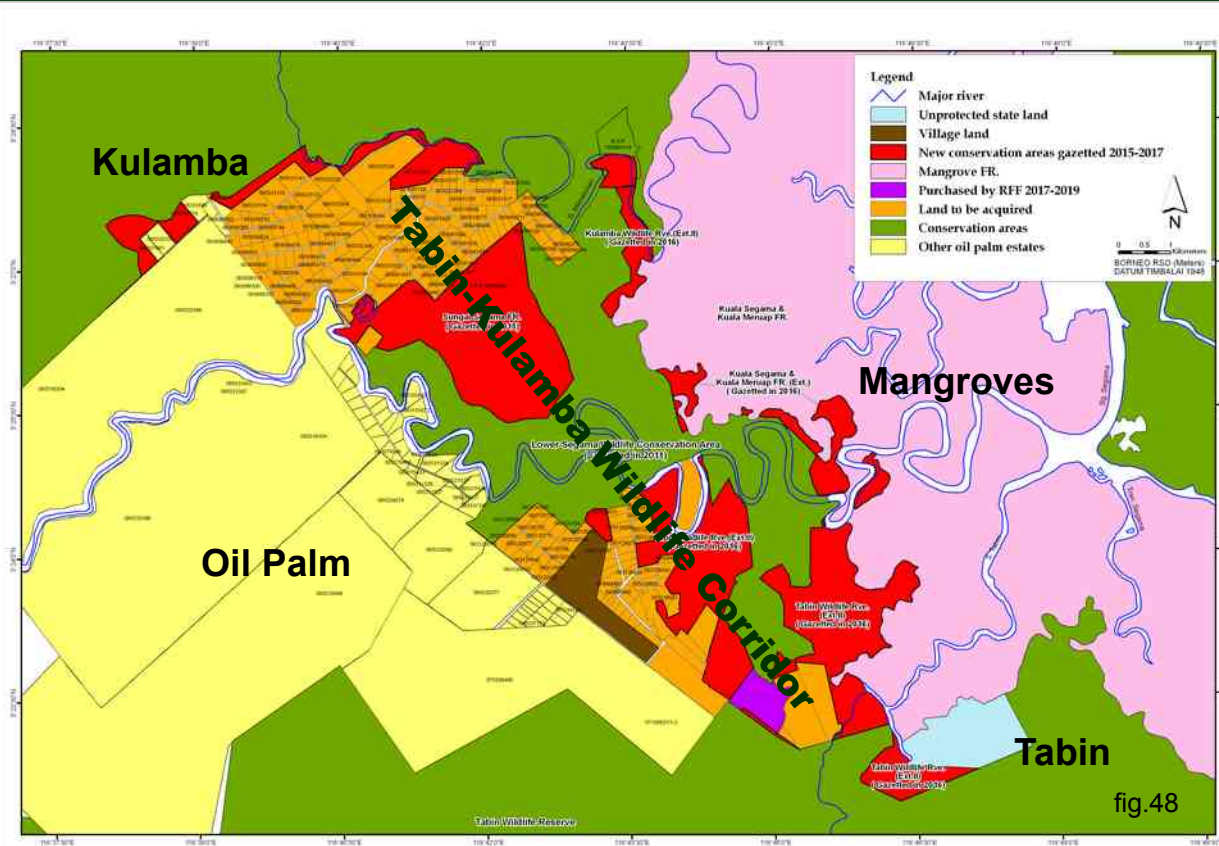
(<https://www.protectedplanet.net>)



The Tabin-Kulamba Wildlife Corridor



Since 2011 RFF in collaboration with local authorities has already saved more than 2,300 ha of crucial forest land that have been gazetted as totally protected areas (red areas). The acquisition and restoration of the orange areas are essential to complete an effective connectivity between Tabin and Kulamba.

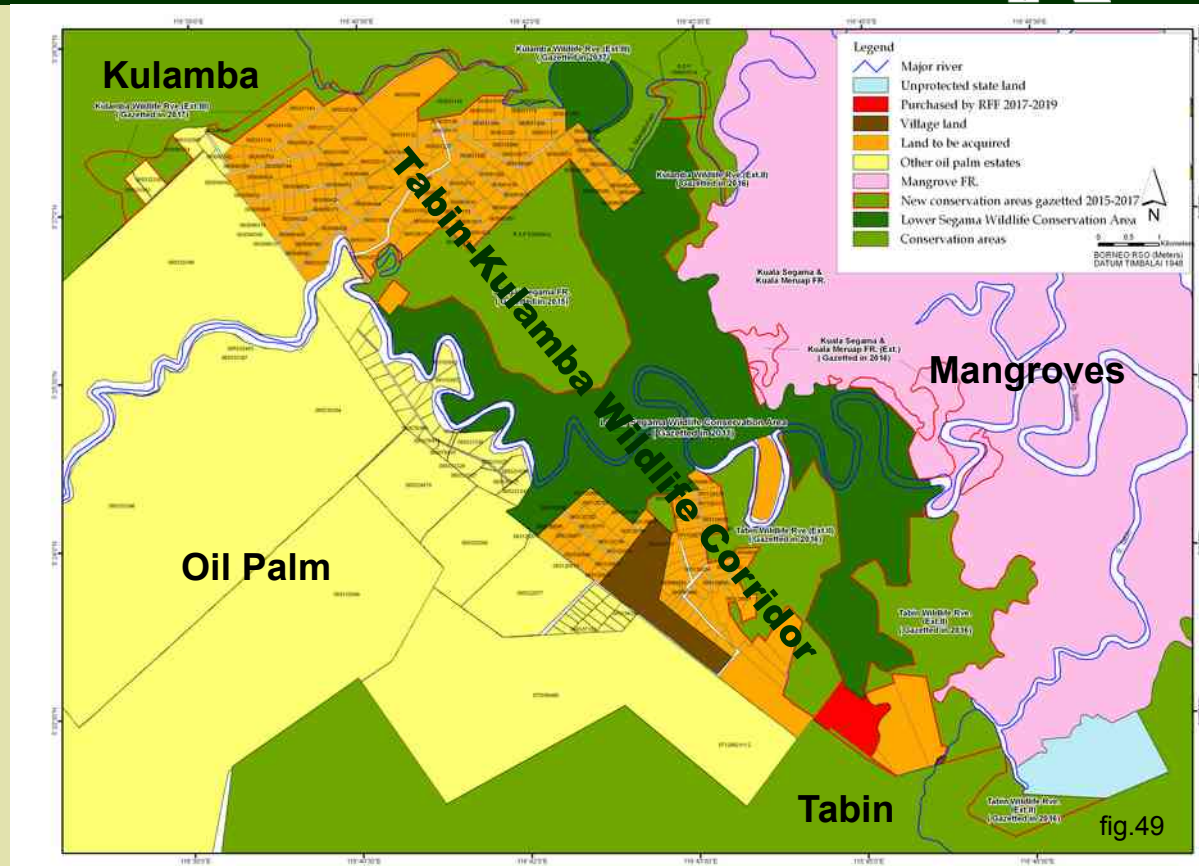


The Tabin-Kulamba Wildlife Corridor



The RFF has already acquired
65 ha (red area)
linking c. 200,000 ha
of key biodiversity areas.

But the connectivity
is still TOO NARROW.



The Tabin-Kulamba Wildlife Corridor



The RFF started working in the corridor area in 2011.

In 2012 RFF started to restore 2 km of the degraded river bank along the Tabin river. The river bank was for many years the last dry land connectivity to Tabin with a conservation status.



fig. 50

The Tabin-Kulamba Wildlife Corridor



**River bank restoration site
at Tabin River (2019) adjacent
to the 65 ha purchased
by RFF.**



The Tabin-Kulamba Wildlife Corridor



**Trees planted at Tabin river
after 7 years.**

**The RFF started restoring
2km of the river bank in 2012
and has planted
c. 4,000 trees on 14 ha.**



The Tabin-Kulamba Wildlife Corridor



**Purchase of the last
land parcels to extend
The Wildlife Corridor in
December 2019.**

**For the first time
oil palm plantation land
has been purchased for
conservation by an NGO.**



The Tabin-Kulamba Wildlife Corridor



Since 2020 50 ha of purchased oil palm plantation are under restoration by RFF combining enrichment planting and assisted natural regeneration methods under oil palm canopy.



fig.54

The Tabin-Kulamba Wildlife Corridor



Together with villagers from the adjacent community seeds and wildlings have been collected in the surrounding forest, raised in a nursery and planted under the oil palm canopy.



The Tabin-Kulamba Wildlife Corridor



To enhance the carrying capacity for Wildlife, RFF created a first lake (1ha) on the purchased land near Tabin river in 2022.



The Tabin-Kulamba Wildlife Corridor



**Area prior to the
lake creation
in June 2022:
3.5 ha of *Mukuna bracteata***



The Tabin-Kulamba Wildlife Corridor



Mukuna bracteata
is a very fast growing
invasive species
from North India
used as a cover crop
in oil palm estates
preventing any trees to
establish.



The Tabin-Kulamba Wildlife Corridor



**During the lake
creation
we scratched
and buried the
mukuna carpet.**



The Tabin-Kulamba Wildlife Corridor



Only weeks later the whole open area turned into grass land providing pastures for herbivores.



fig.60

The Tabin-Kulamba Wildlife Corridor



**Finished lake
in October 2022**



fig.61

The new lake was quickly discovered by wildlife



**Spawn
at the lake bank**



Eel



**Amboina box turtle
(*Cuora amboinensis*)**

***Endangered*
(IUCN Red List)**

The Tabin-Kulamba Wildlife Corridor



**Ficus fruits are a main food source for wildlife.
To enhance the carrying capacity for various species, ficus trees have been planted at the new lake.
(March 2023)**





Urgent Appeal for Donations

Urgent appeal for donations



Most of the orange area (map right) is an oil palm estate (approximately 540 ha). This crucial area is essential to complete the Tabin-Kulamba Wildlife Corridor, which would significantly decrease the extinction risk of several highly endangered species e.g. Bornean banteng and Bornean elephant.

The landowner wants to sell his estate as soon as possible. Should we not succeed to raise enough funds to start buying his estate very soon, he informed us that he will sell the land to an other oil palm company.

We need at least 1 m Euros as soon as possible to prove that we are serious, to prevent a disaster and at the same time to write conservation history.

Total costs for the 540 ha: 5 m Euros

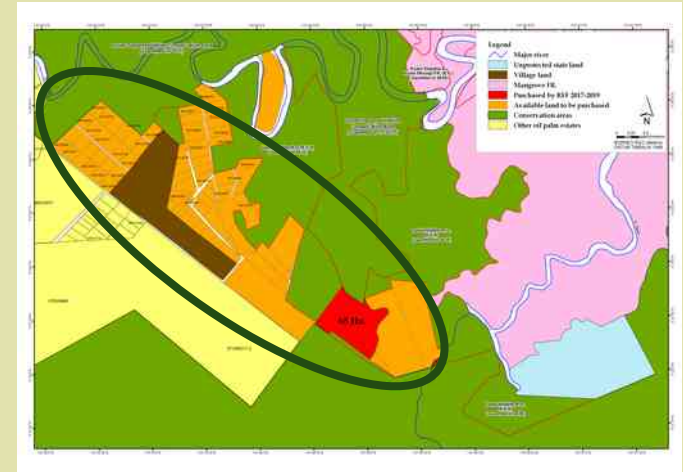


fig. 65

Oil palm estate to acquire (540 ha)

Help us to preserve this gift, before it's too late!



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