



# Ecological Corridor Initiative of Protected Areas in Thailand

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**Department of National parks , Wildlife and Plant Conservation**

**Ministry of Natural Resources and Environment of Thailand**



# OBJECTIVES

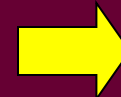
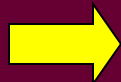
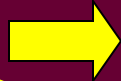
ECOSYSTEM  
CONNECTIVITY

REDUCE  
FRAGMENTATION

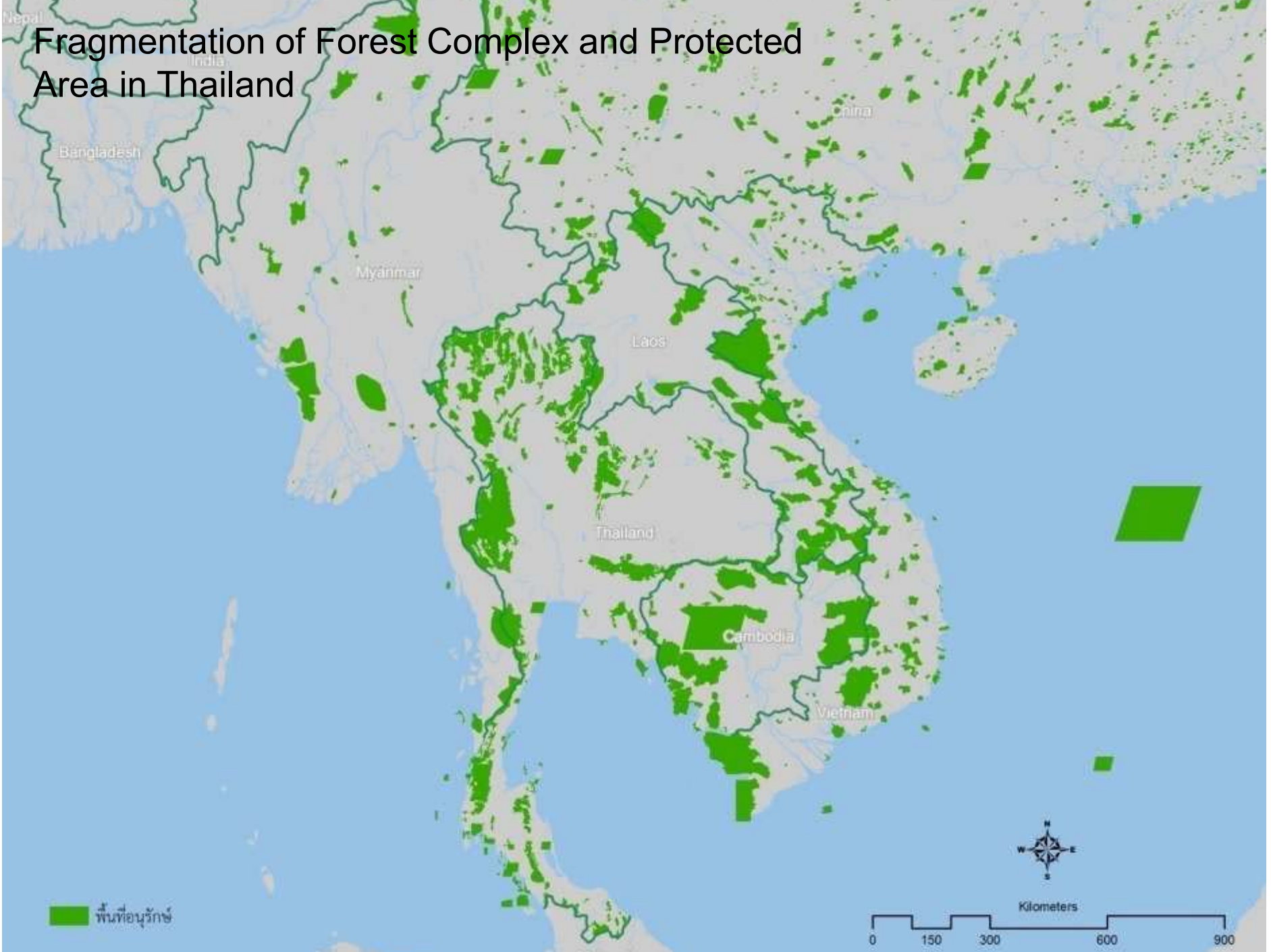
TRANSBOUNDARY  
LANDSCAPE

ECOSYSTEM  
MANAGEMENT

ECOSYSTEM  
INTEGRITY



# Fragmentation of Forest Complex and Protected Area in Thailand



พื้นที่อนุรักษ์



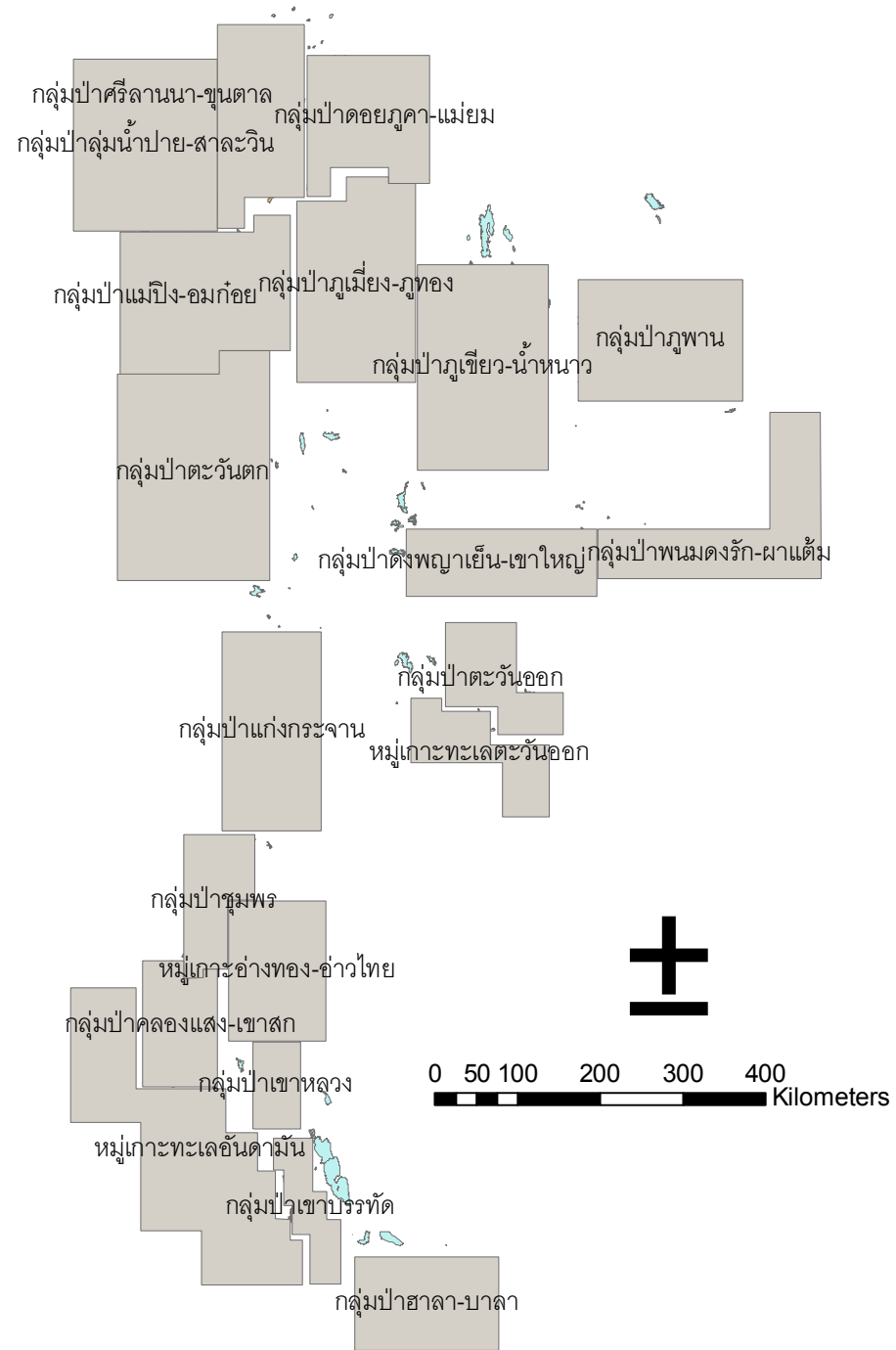
Kilometers  
0 150 300 600 900



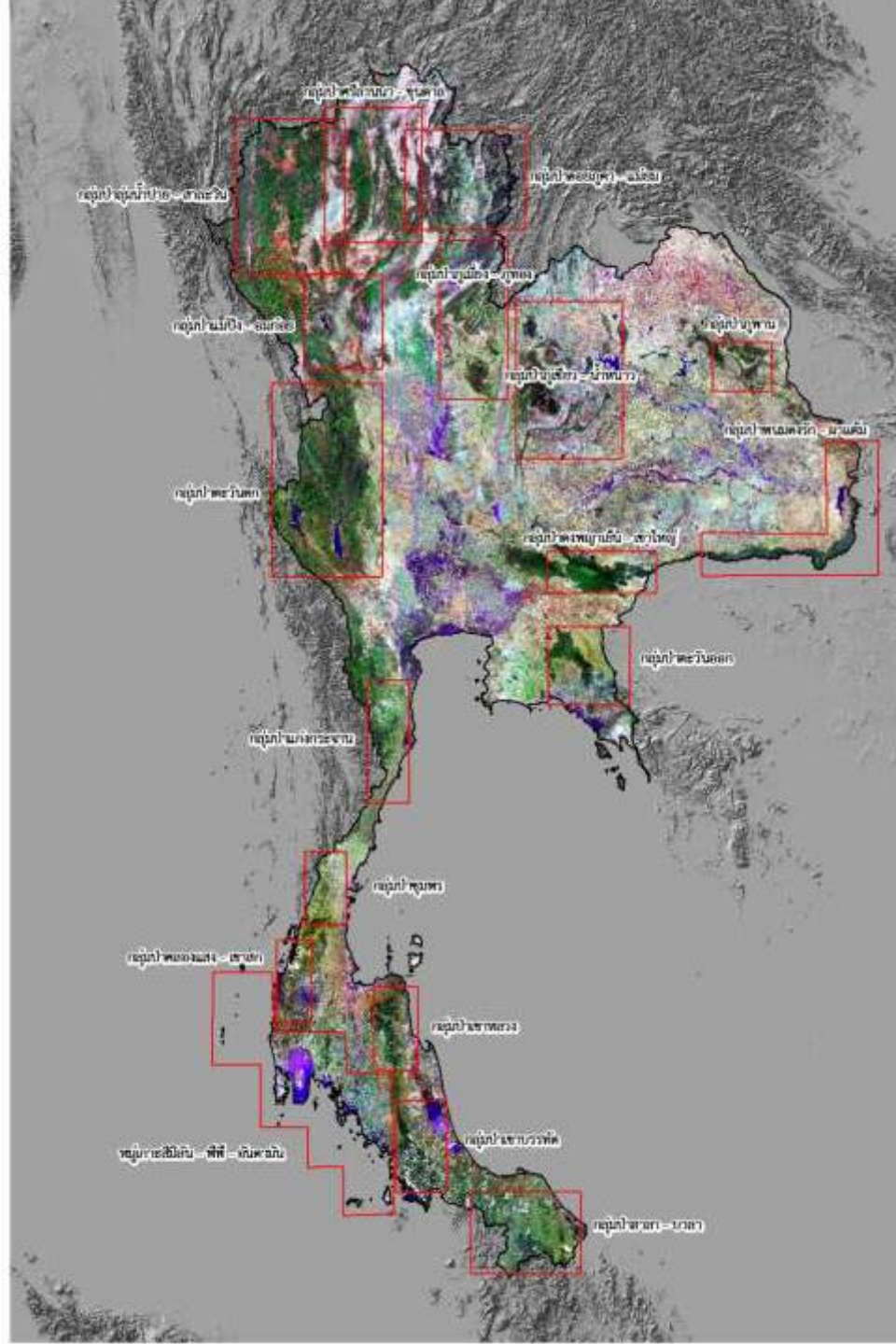
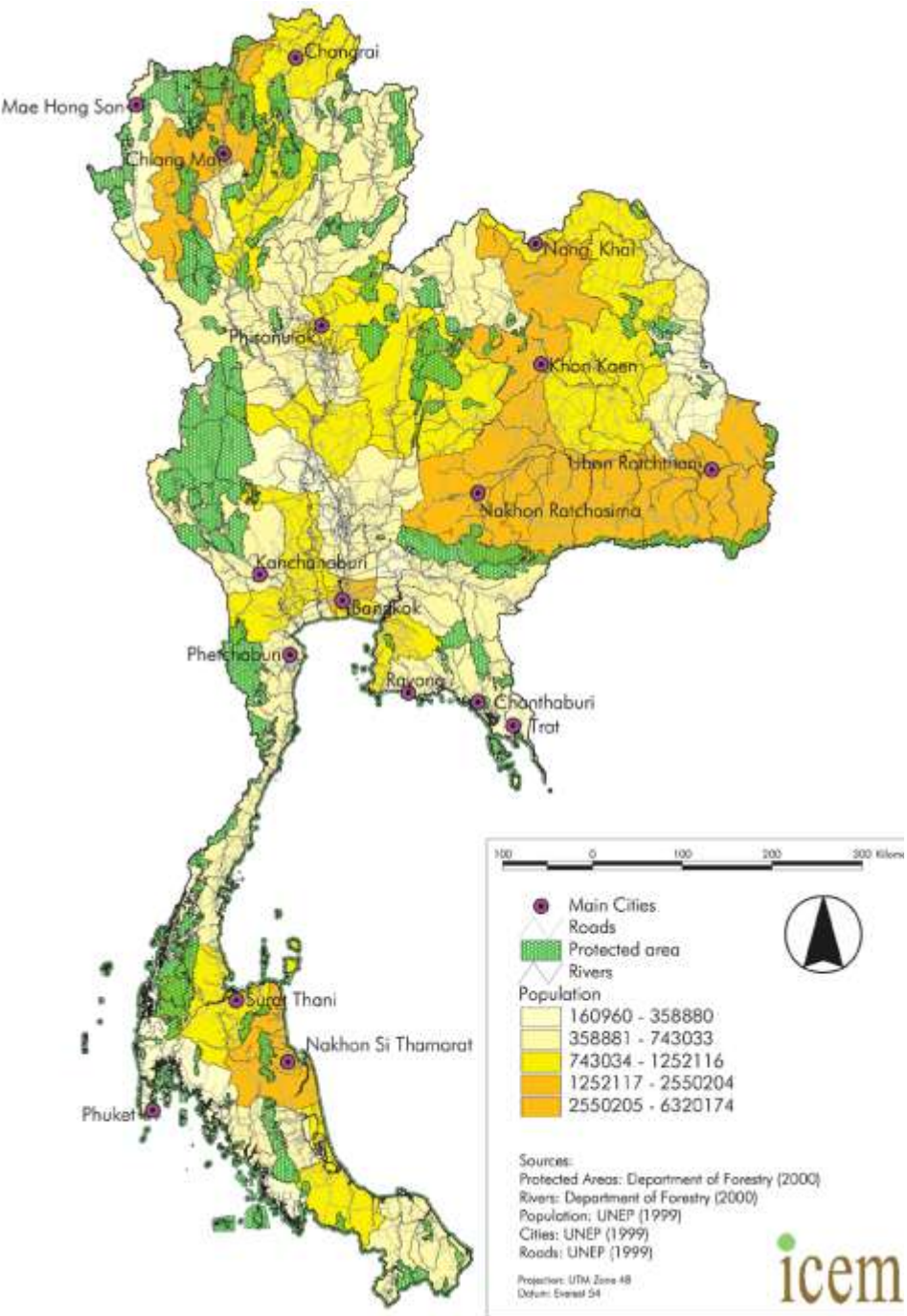
# Forest fragmentation in Protected Area



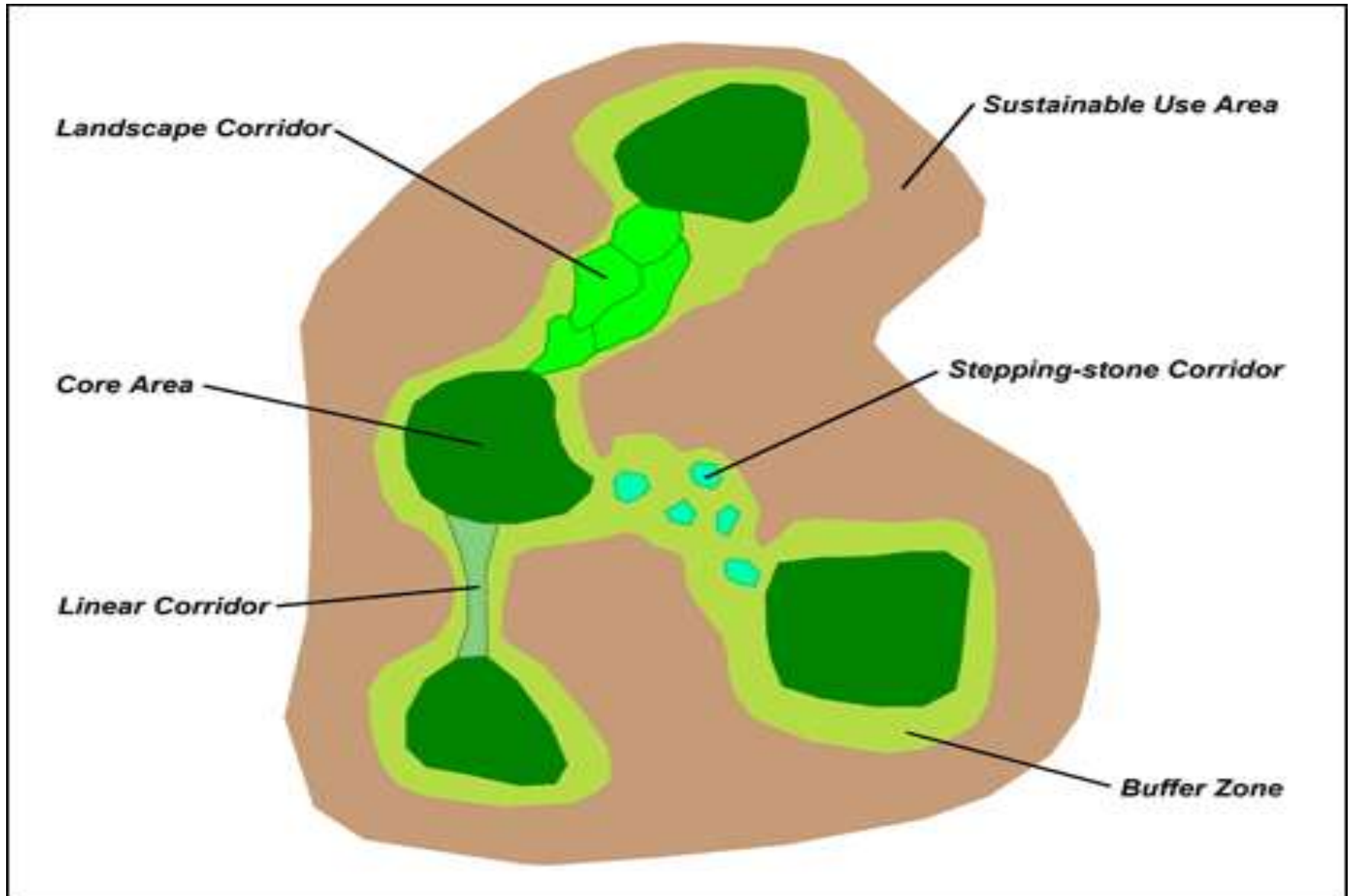
# กลุ่มป่าของประเทศไทย Thailand's Forest Complexes



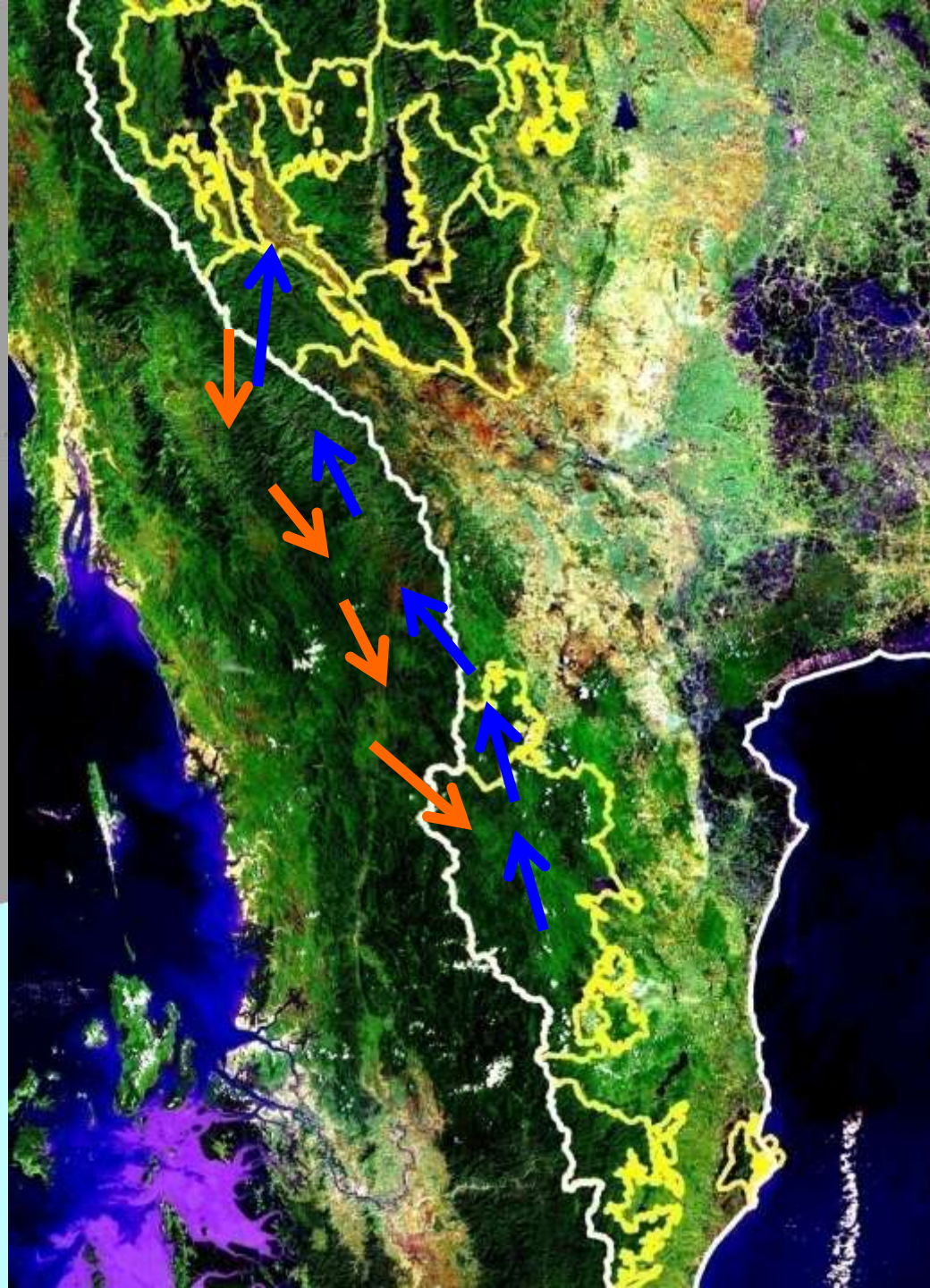
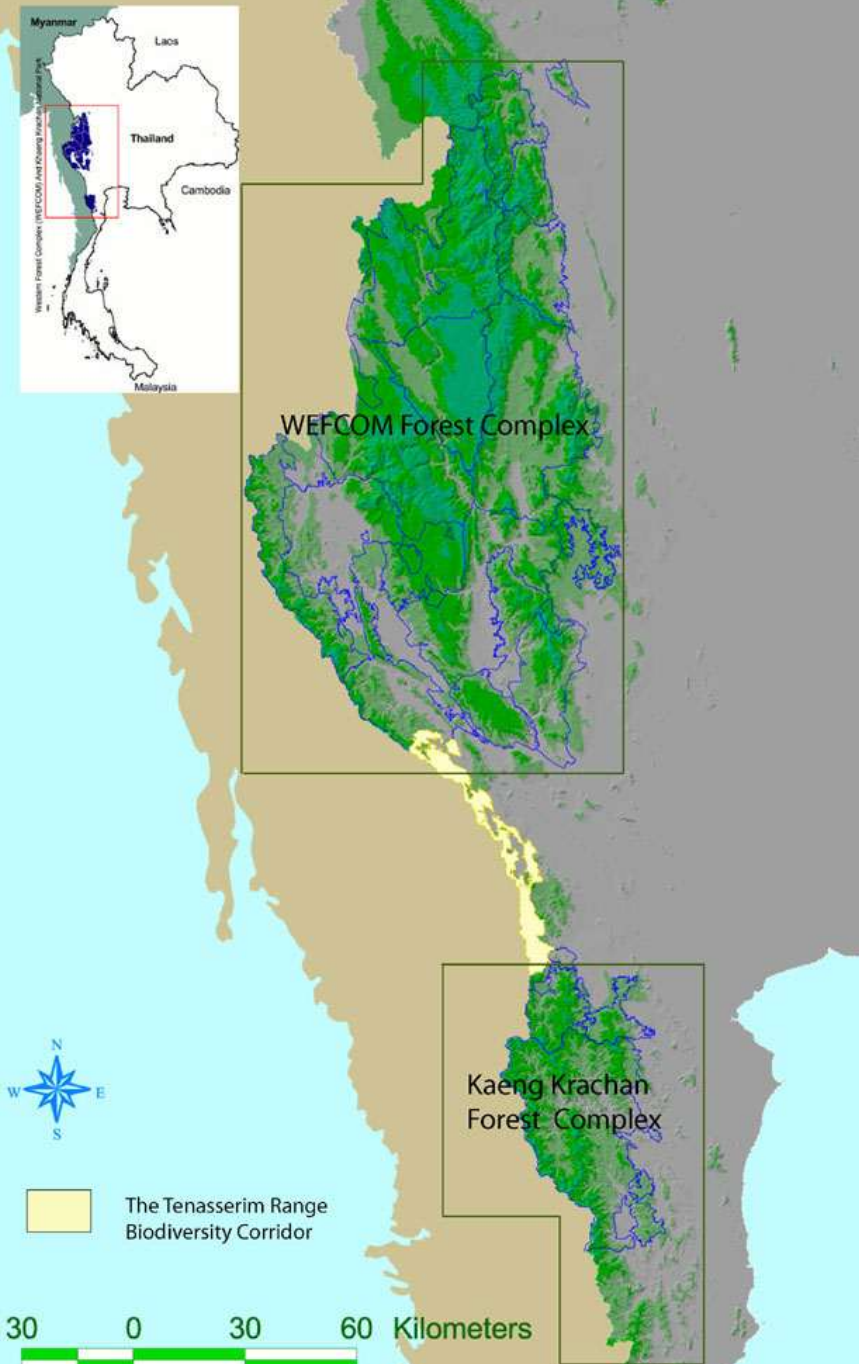




# Type of Ecological Corridor :









# Tenasserim Biodiversity Conservation Corridor

## Western Forest Complex (WEFCOM) Forest Complex

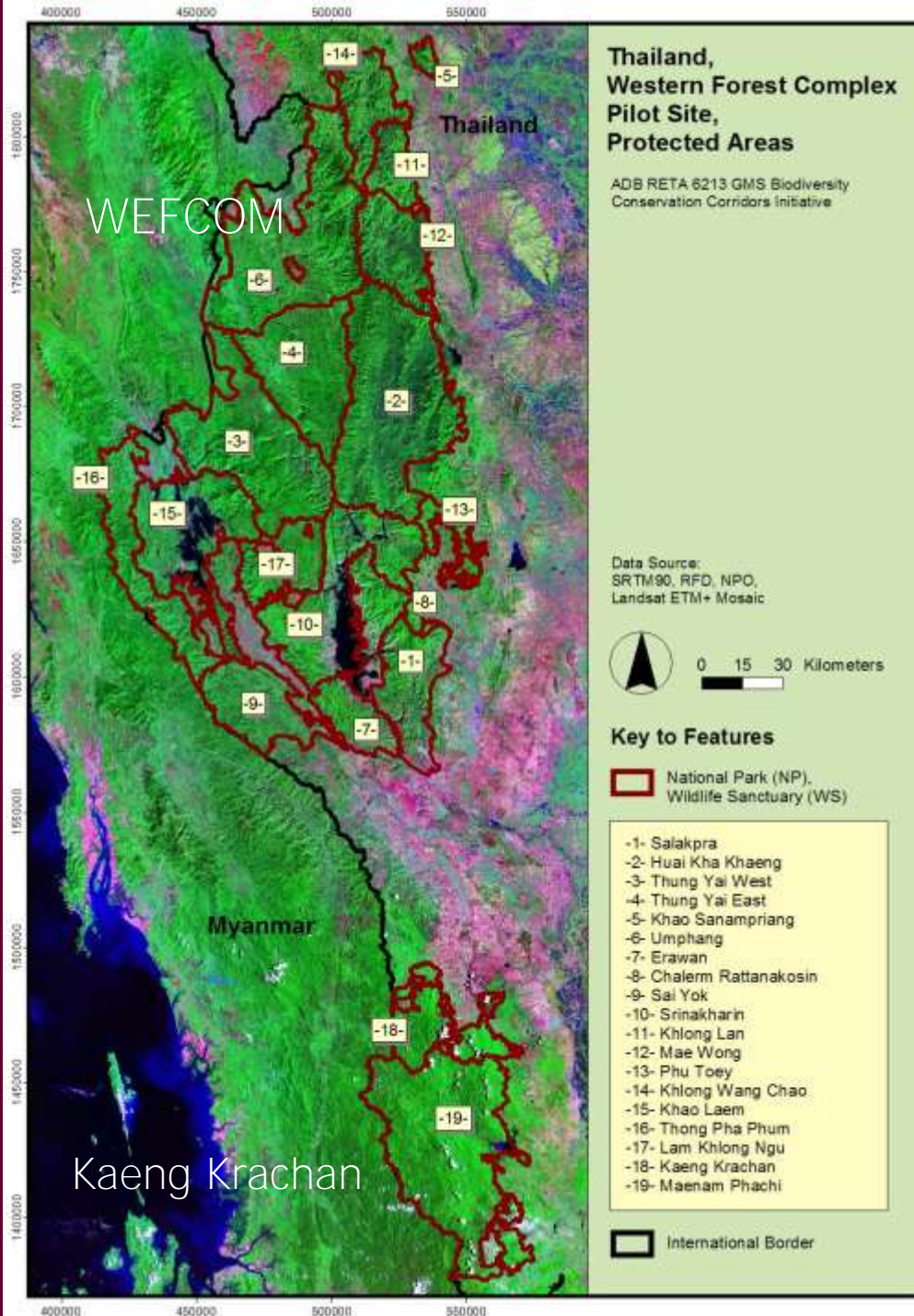
### WEFCOM

- 11 NPs & 6 WSs
- Area 19,000 km<sup>2</sup>, 6 provinces

### Kaeng Krachan

- 3 NP & 1 WS
- Area 3,404 km<sup>2</sup>, 3 provinces

High abundance forest cover (dark green)



# Biodiversity Values

## Ecoregions-WWF

- Kayah-Karen montane rain forests
- Tenasserim-South Thailand  
Semi-evergreen rain forests

## Major Habitat Type

- Tropical and subtropical moist  
broadleaf forest

## Biological Distinctiveness

- Highest diversity of birds &  
mammals in Indo-Pacific Reg.  
(Asian elephant & tiger)

## UNESCO World Heritage Site





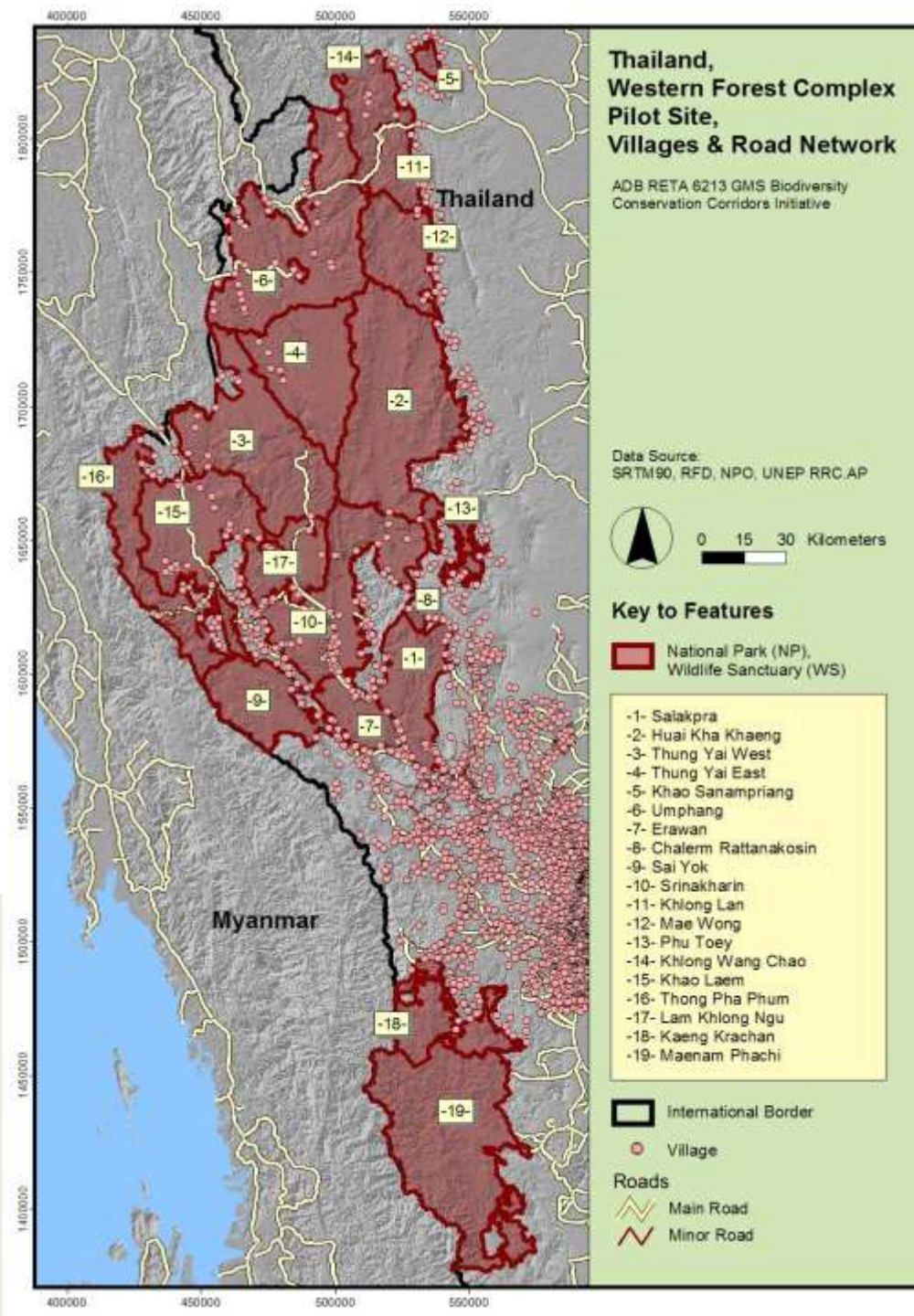
# WEFCOM Area

- No. of villages: 215  
enclaved communities: 112
- Total households: 14,512
- Total population : 69,000

## Kaeng Krachan

Inside: 18 villages

Buffer zone: 33 villages

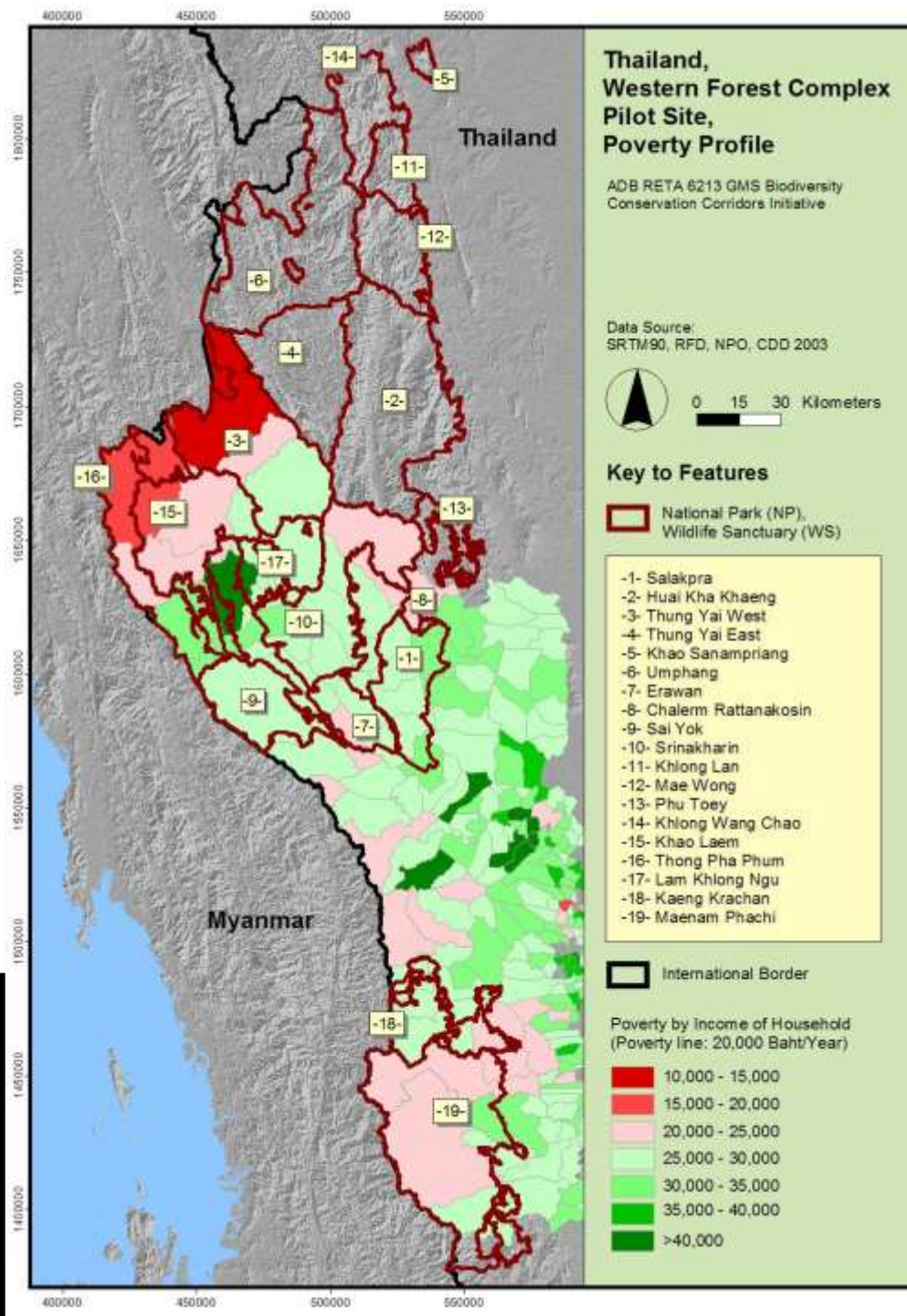




# TWFC: poverty incidence

8<sup>th</sup> NESDP (1997-2001)  
<20,000 B or US\$ 500

9<sup>th</sup> NESDP (2002-2006)  
<25,000 B or US\$ 625



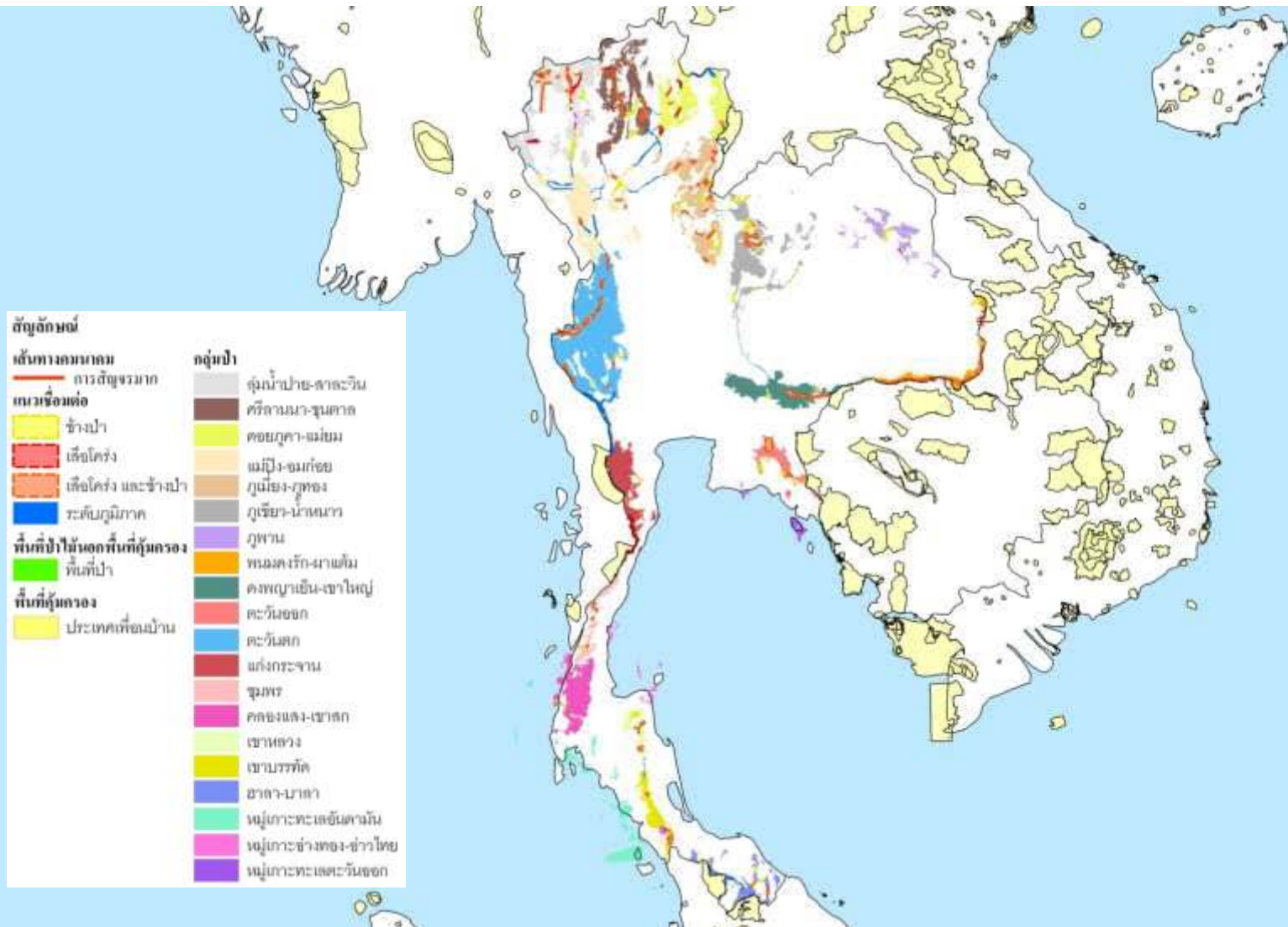


# Threats

- Forest clearing and subsequent land encroachment;
- *Small scale illegal logging;*
- Influx of refugees and in-migration;
- *Increasing settlement;*
- Further fragmentation;
- *Forest fires and repeated burning*
- Commercial level and subsistence poaching

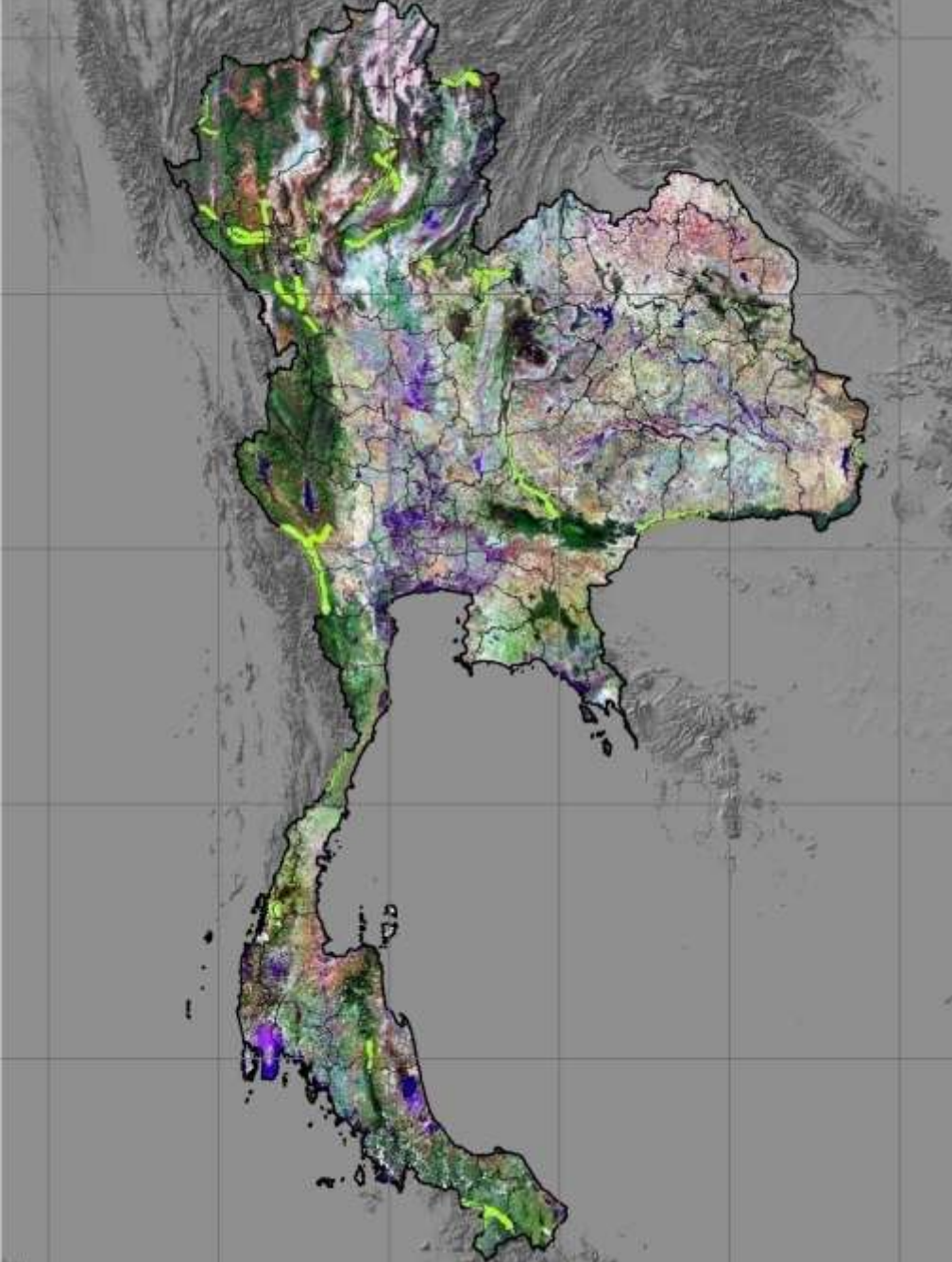


# Thailand Inner Biodiversity Corridor





# Corridor between forest complex

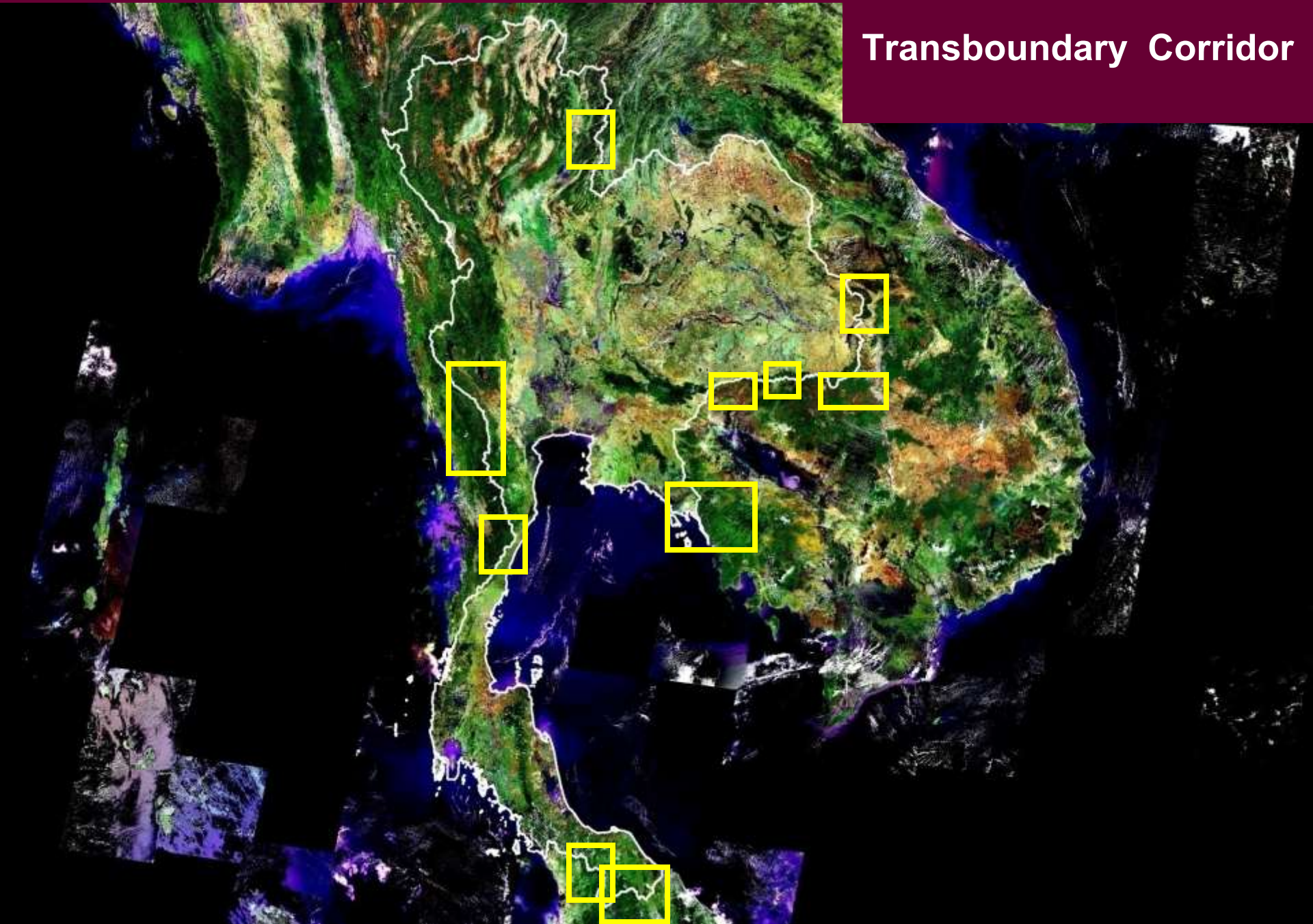


# Tiger corridors



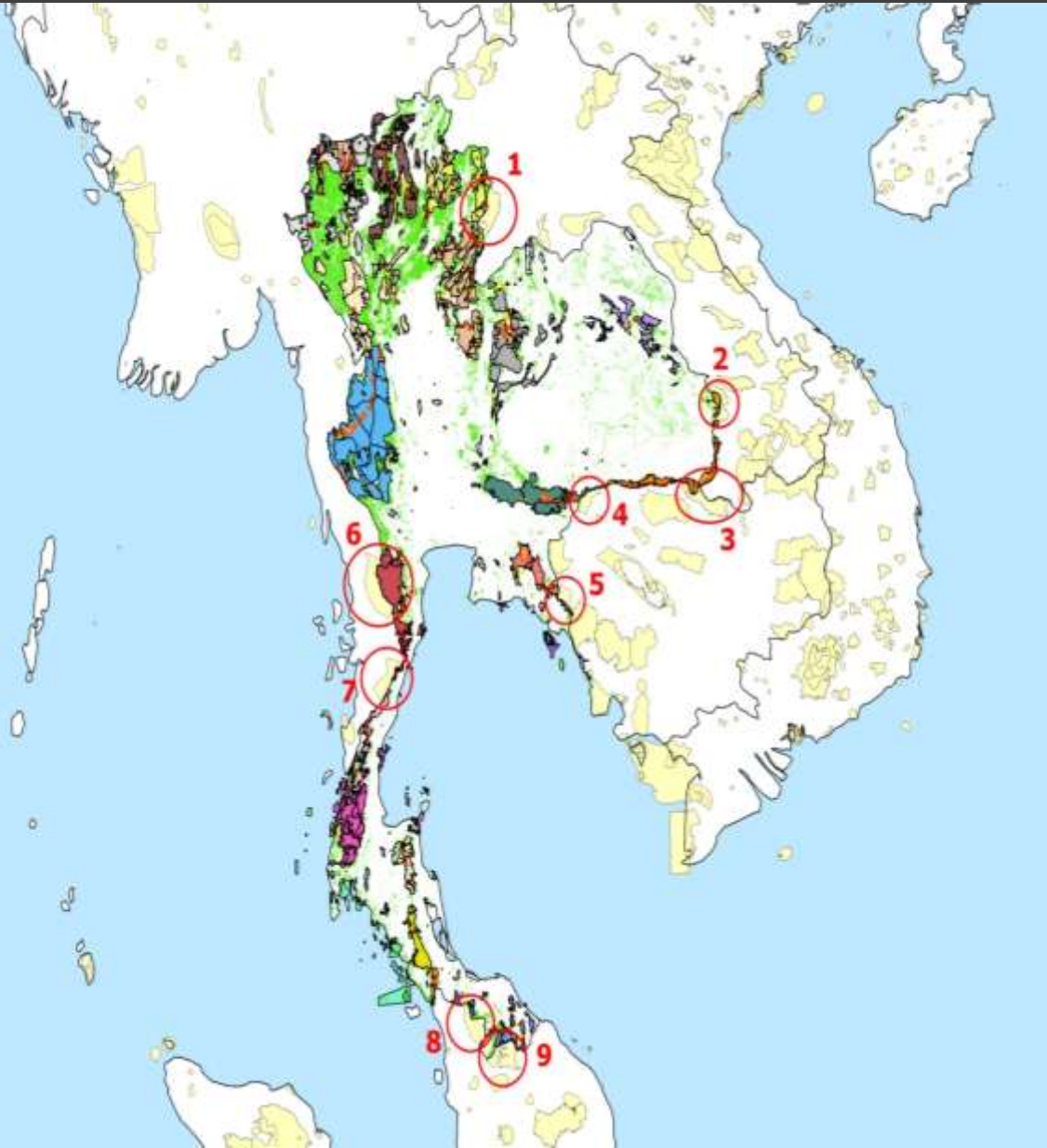


# Transboundary Corridor



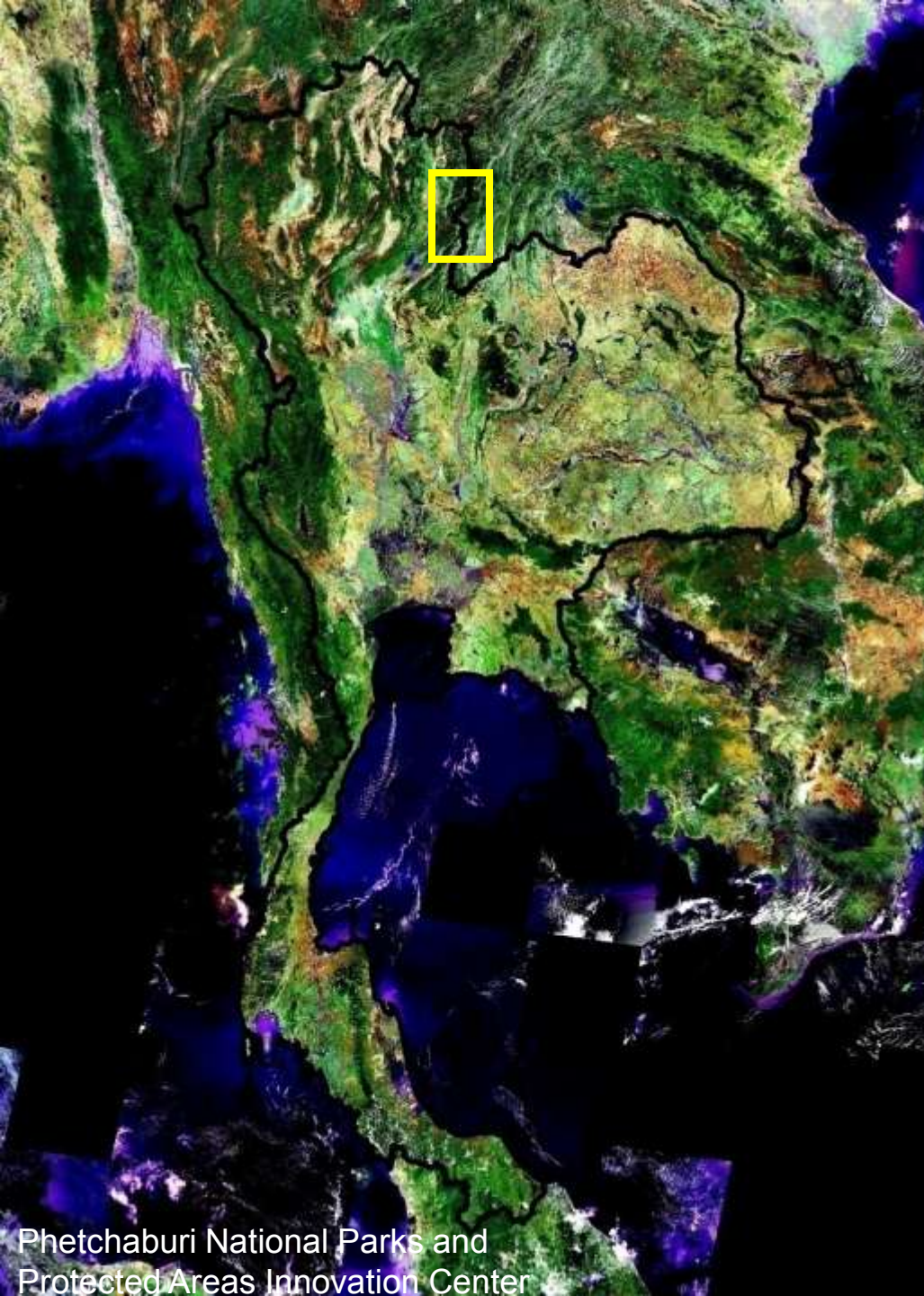


# Transboundary PA of THAILAND and ASEAN



1. Nam Phoui National Biodiversity Conservation Area, Lao
2. Phou Xieng Thong National Biodiversity Conservation Area, Lao
3. Preah Vihear Protected Forest, Cambodia
4. Banteay Chhmar Protected Landscape, Cambodia
5. Samlaut Multiple Use Management Area, Cambodia
6. Tanintharyi National Park, Myanmar
7. Lenya National Park, Myanmar
8. Ulu Muda Wildlife Reserve, Malaysia
9. Belum Wildlife Reserve, Malaysia





## Transboundary Thailand- LaoPDR





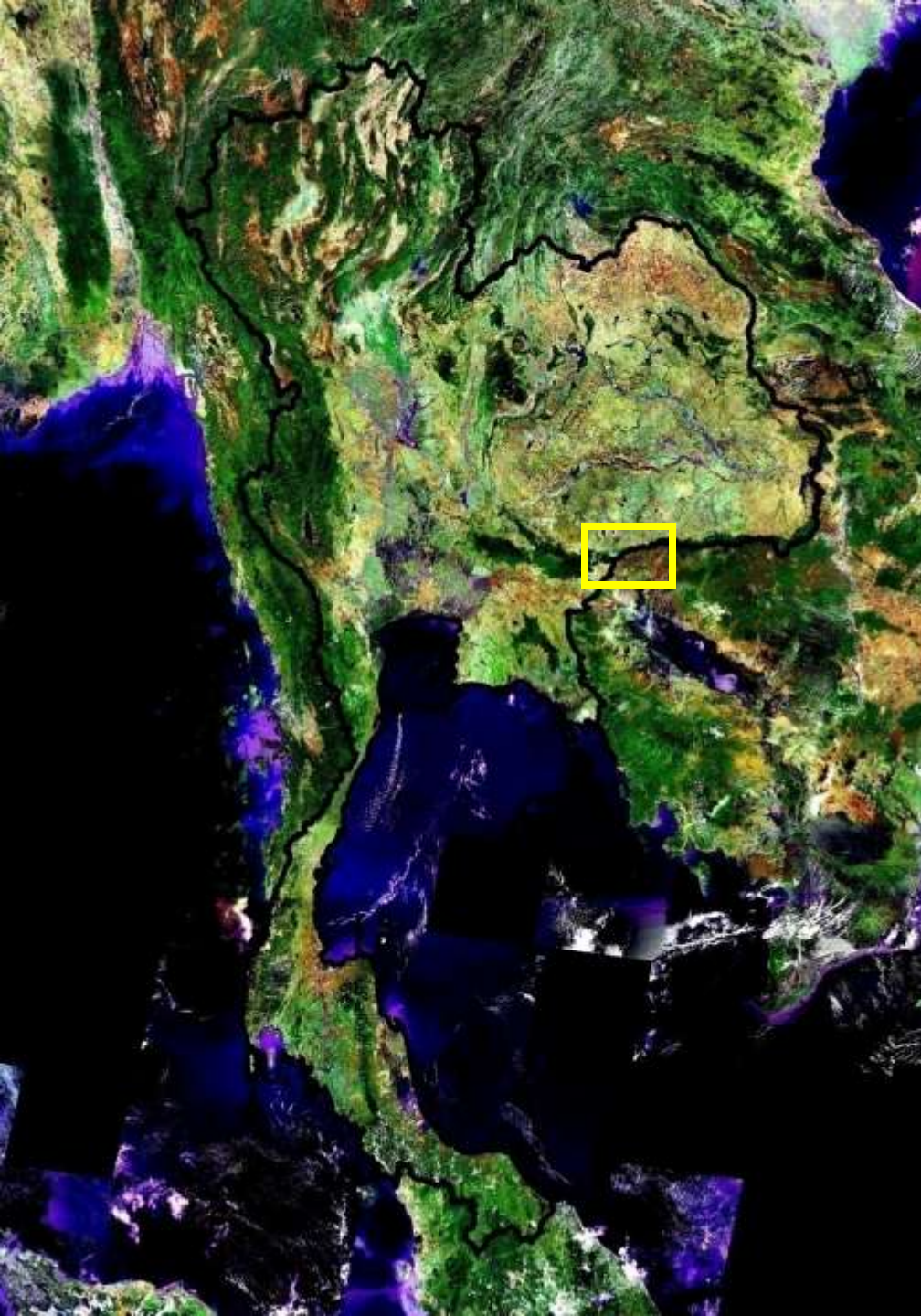
**Transboundary Thailand-Cambodia-LaoPDR: Emerald Triangle**



# Transboundary Thailand - Cambodia







**Transboundary Thailand-Cambodia**





**Transboundary Thailand- Cambodia**





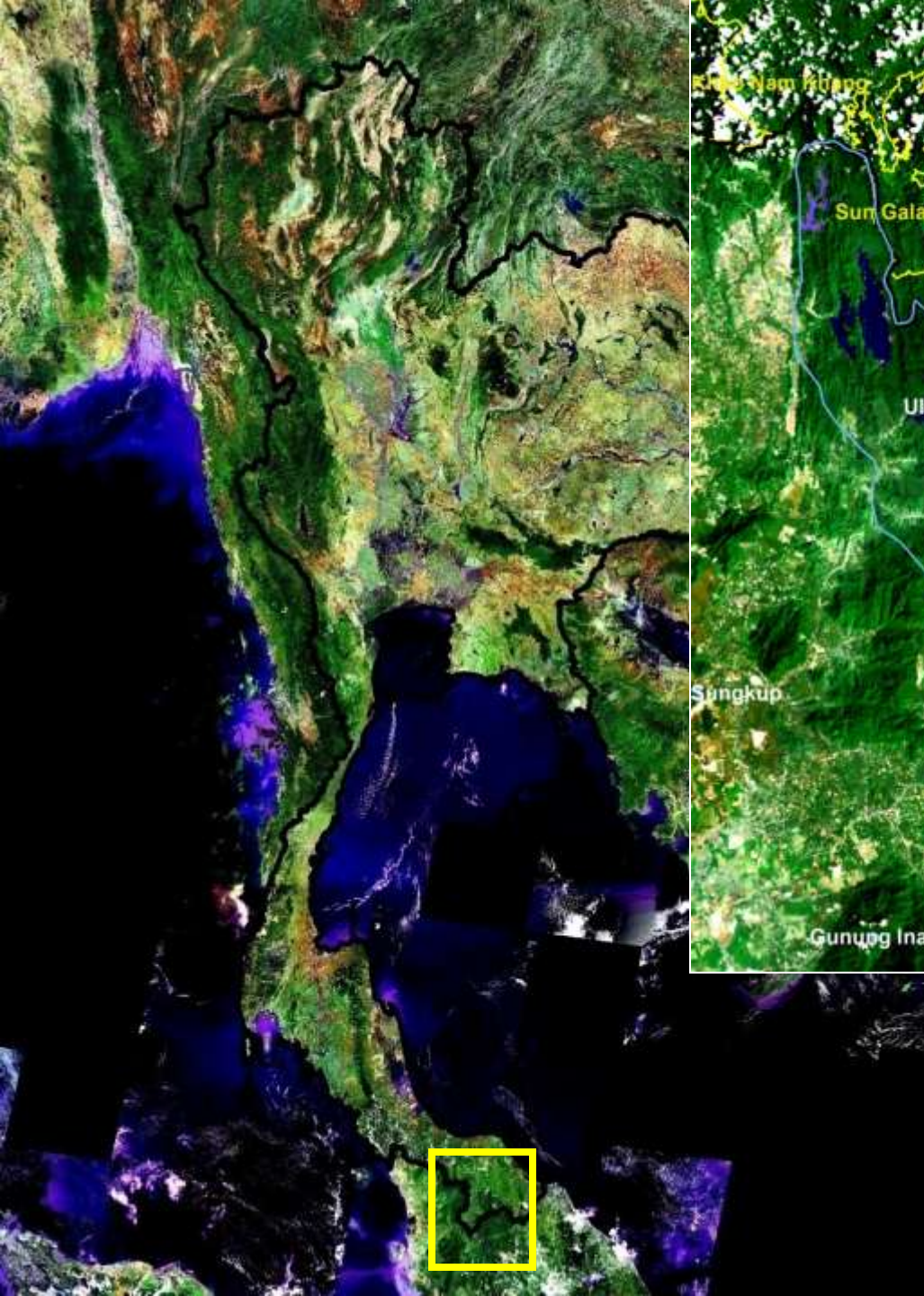
## Transboundary Thailand-Myanmar





## Transboundary Thailand- Myanmar





Transboundary Thailand-Malaysia

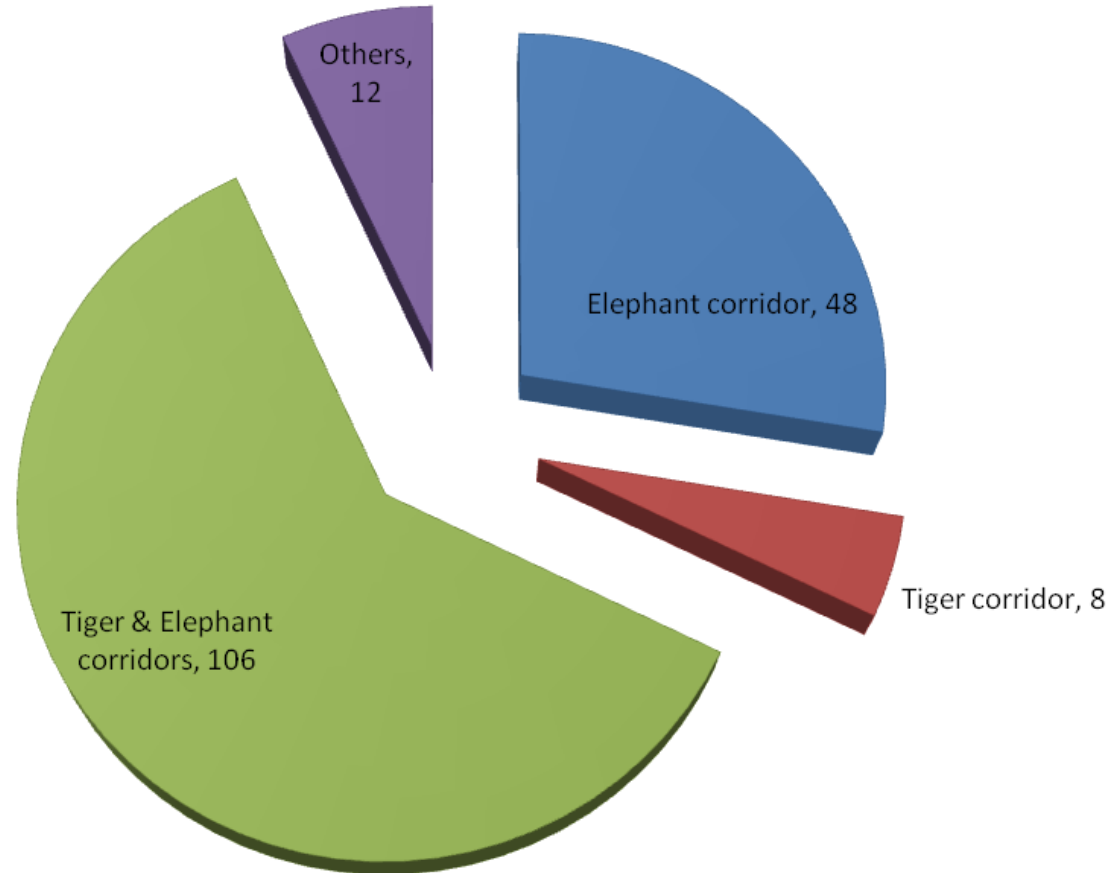


# Ecological Corridor in Thailand

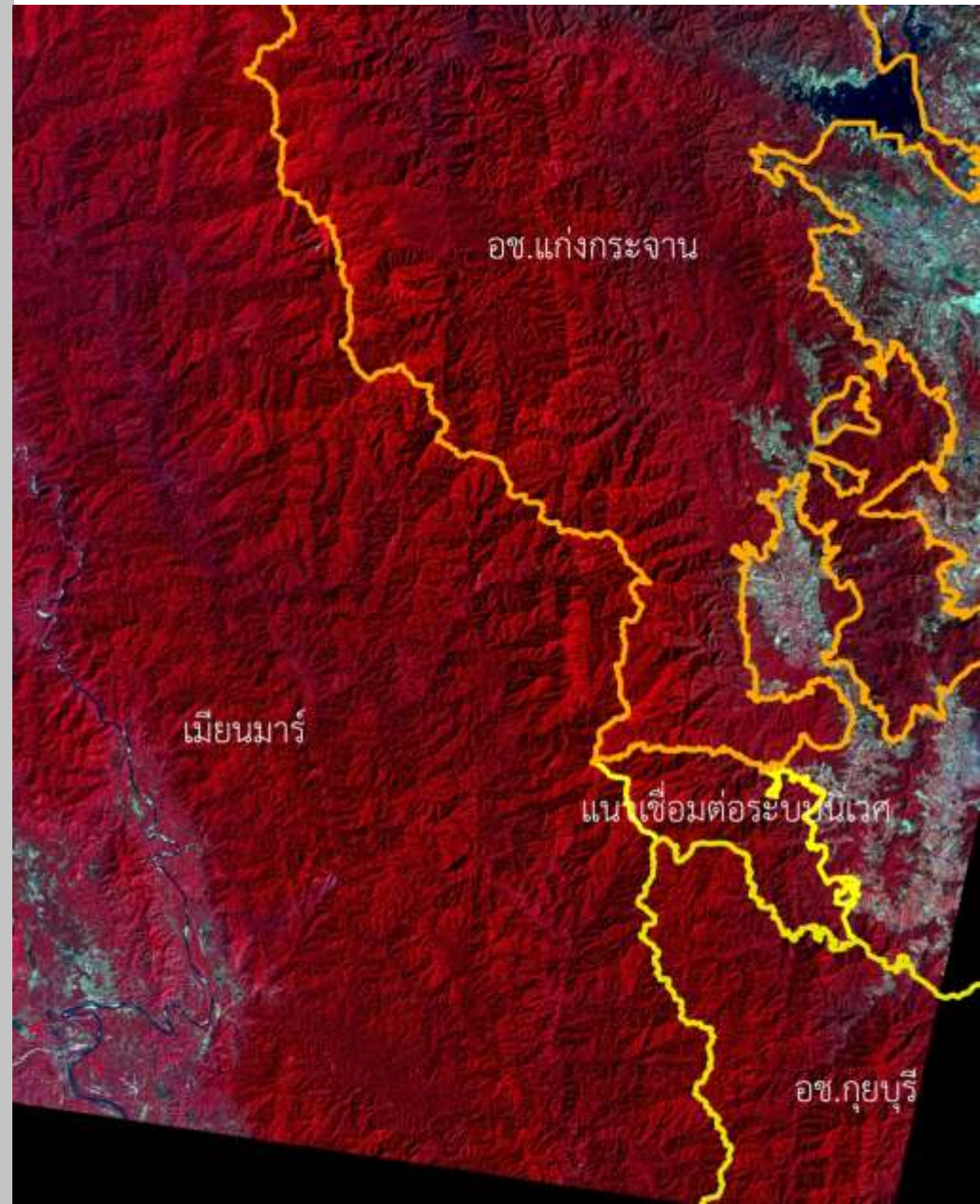
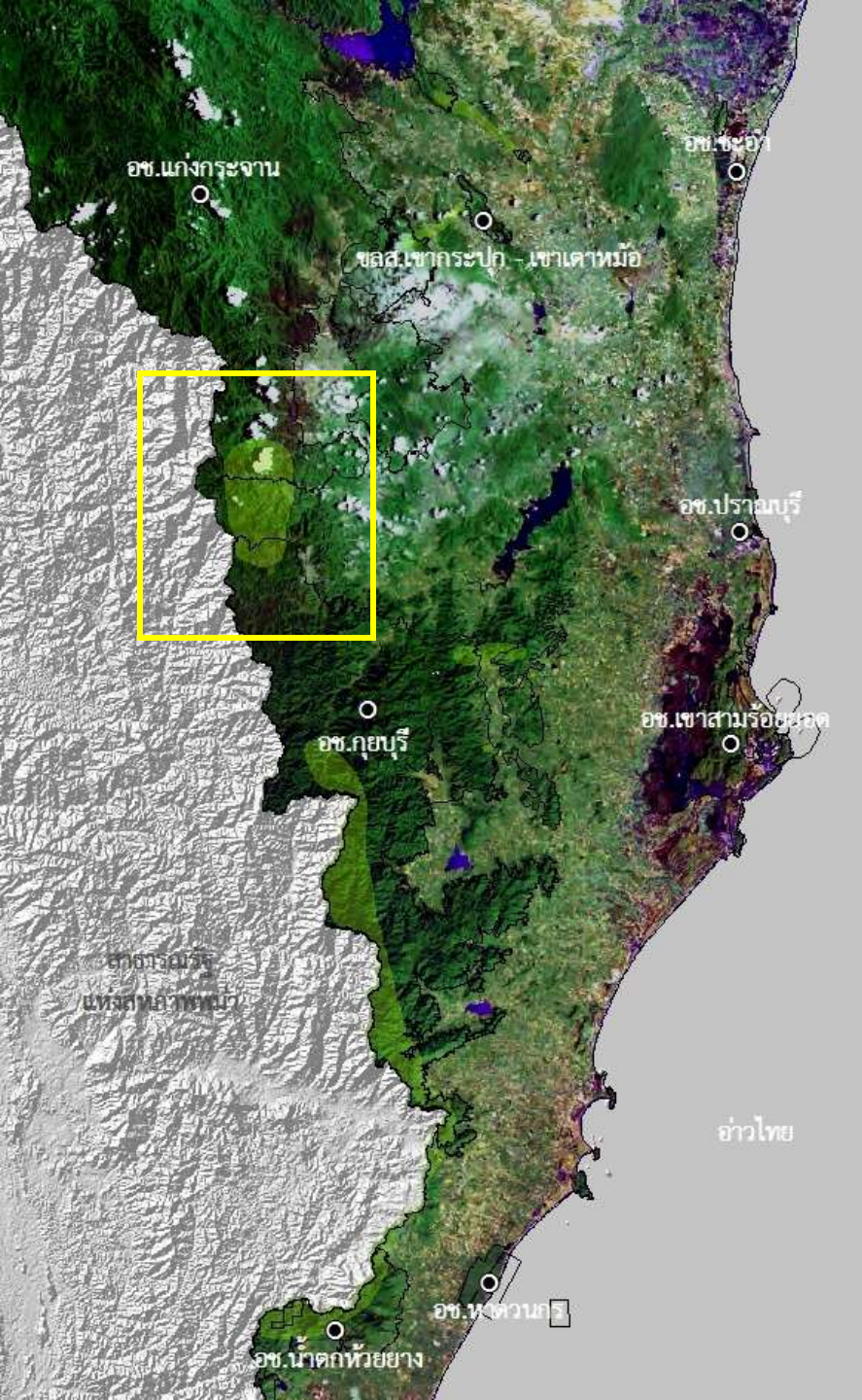
1. Internal Corridor of 17 forest complexes = 174
2. Forest Complex Corridor = 33
3. Transboundary Corridor = 13



# Wildlife Corridor 17 Forest Complexes : 174



# Kangkrachan Forest Complex







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**All of mammal tracks in Kangkrachan and  
Kuiburi National Park**



**Khaoyai  
National Park**

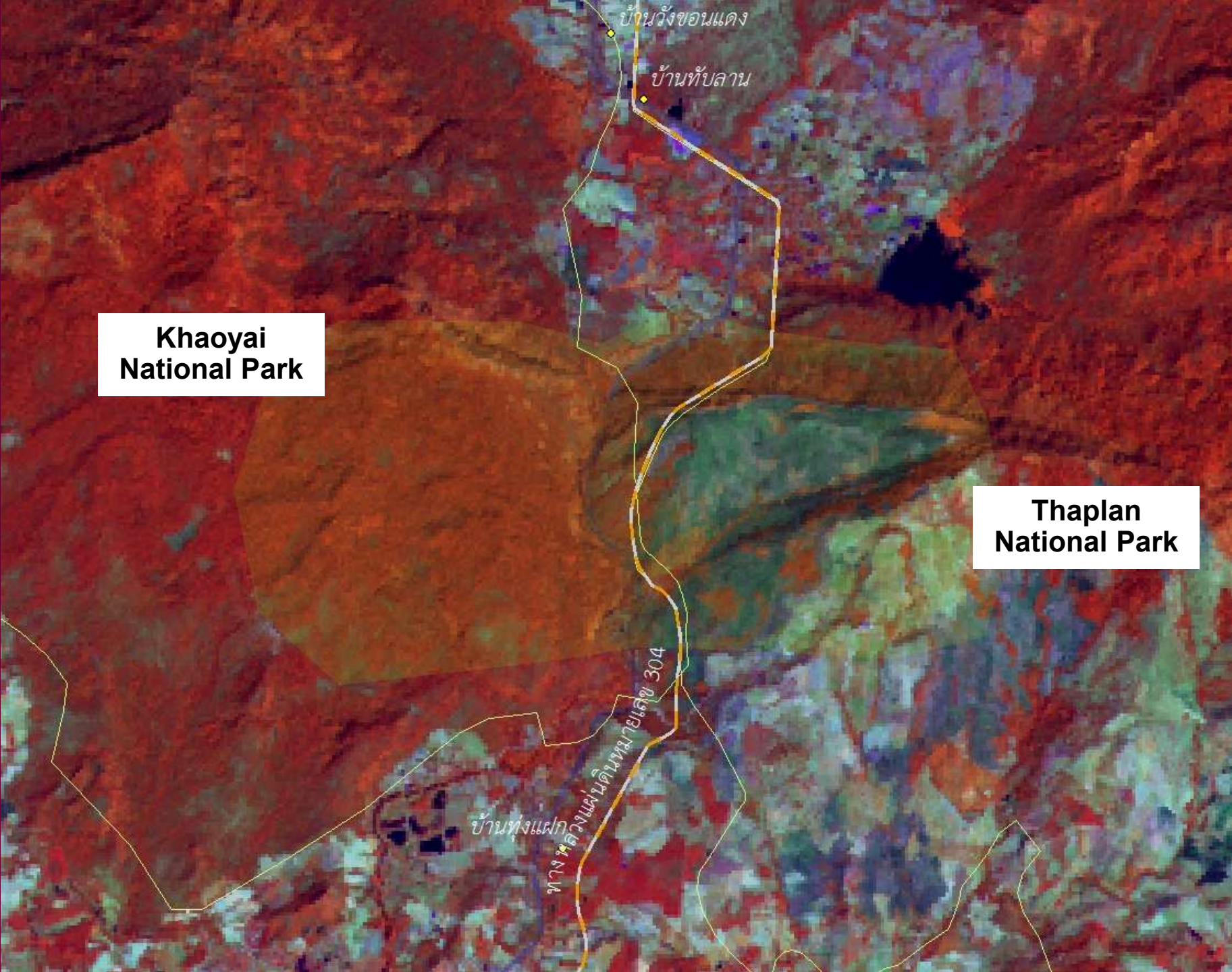
**Thaplan  
National Park**

บ้านวังขอนแดง

บ้านทับลาน

บ้านทุ่งแฝก

ทางหลวงแผ่นดินหมายเลข 304





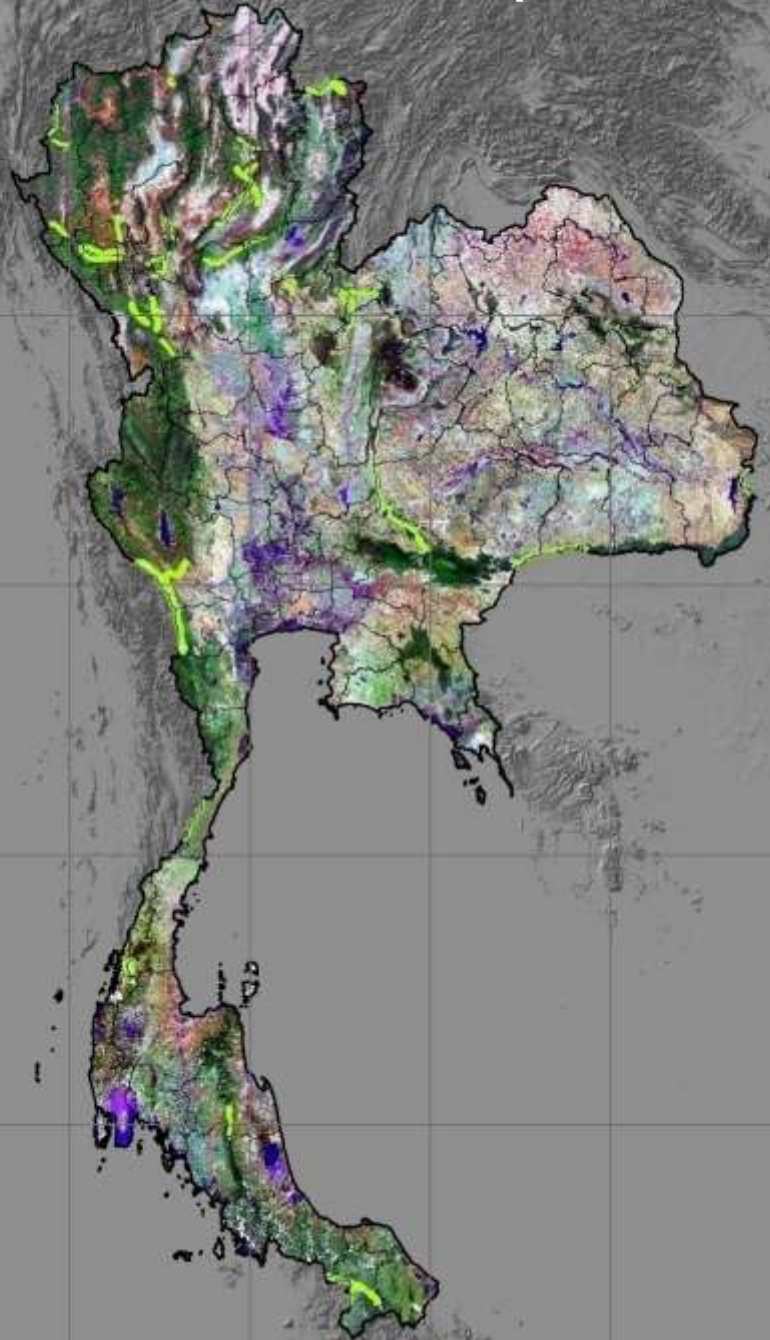








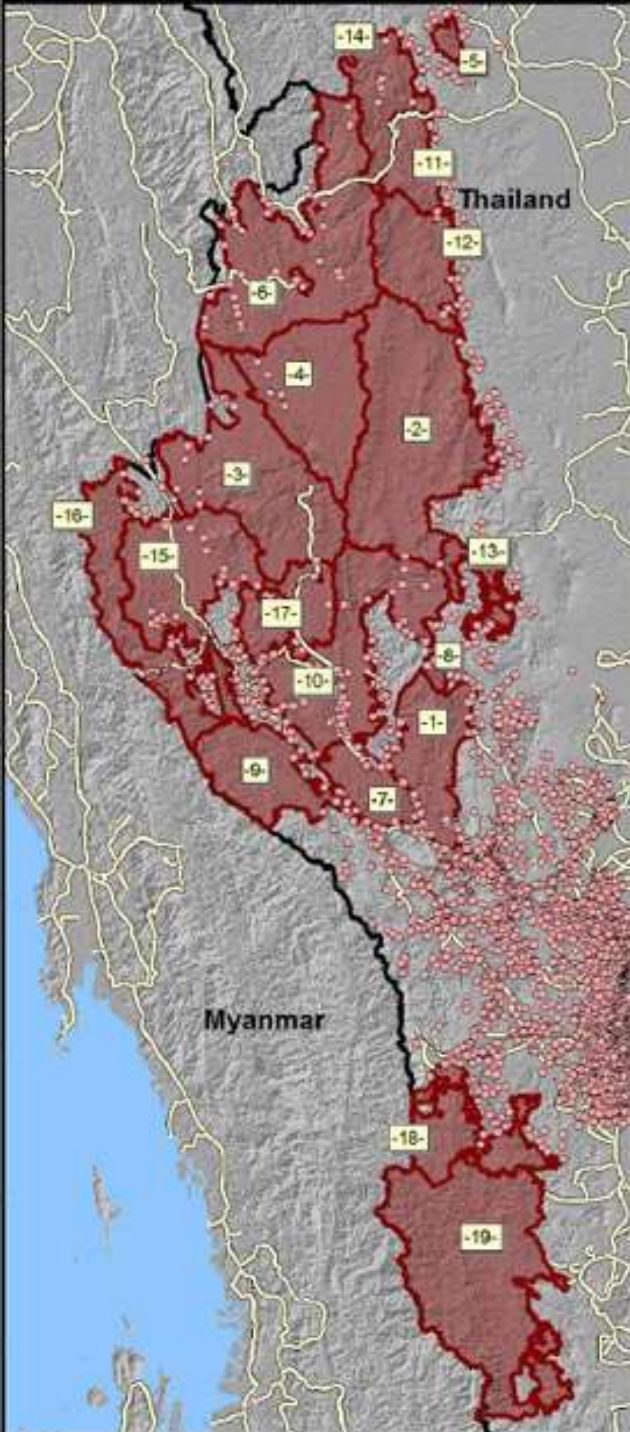
Corridor between forest complex



Tiger corridors







### Thailand, Western Forest Complex Pilot Site, Villages & Road Network

ADB RETA 8213 GMS Biodiversity  
Conservation Corridors Initiative

Data Source:  
SRTM90, RFD, NPO, UNEP RRC.AP



#### Key to Features

National Park (NP),  
Wildlife Sanctuary (WS)

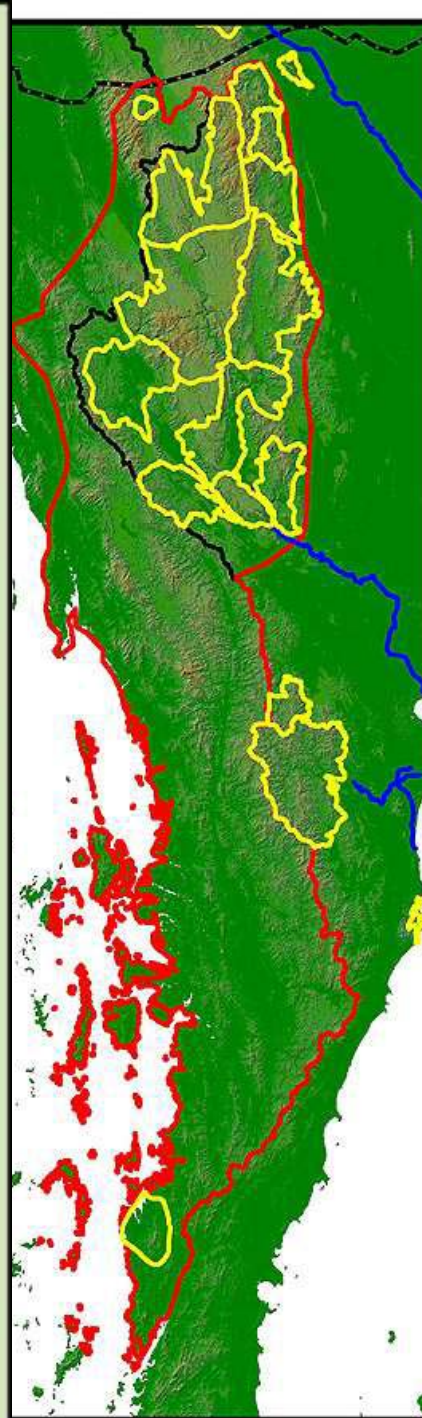
- 1- Salakpra
- 2- Huai Kha Khaeng
- 3- Thung Yai West
- 4- Thung Yai East
- 5- Khao Sanampriang
- 6- Umphang
- 7- Erawan
- 8- Chalem Rattanakosin
- 9- Sai Yok
- 10- Srinakharin
- 11- Khlong Lan
- 12- Mae Wong
- 13- Phu Toey
- 14- Khlong Wang Chao
- 15- Khao Laem
- 16- Thong Pha Phum
- 17- Lam Khlong Ngu
- 18- Kaeng Krachan
- 19- Maenam Phachi

International Border

Village

#### Roads

- Main Road
- Minor Road



### Western Forest Complex Priority Corridor



0 40 80 Kilometers

Map Source and Design:  
UNEP RRC.AP &  
ADB Consultants

#### Key to Features

Priority Corridor

Protected Areas

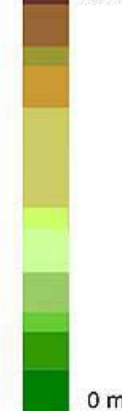
International  
Boundary

Transboundary  
Roads

Major Rivers

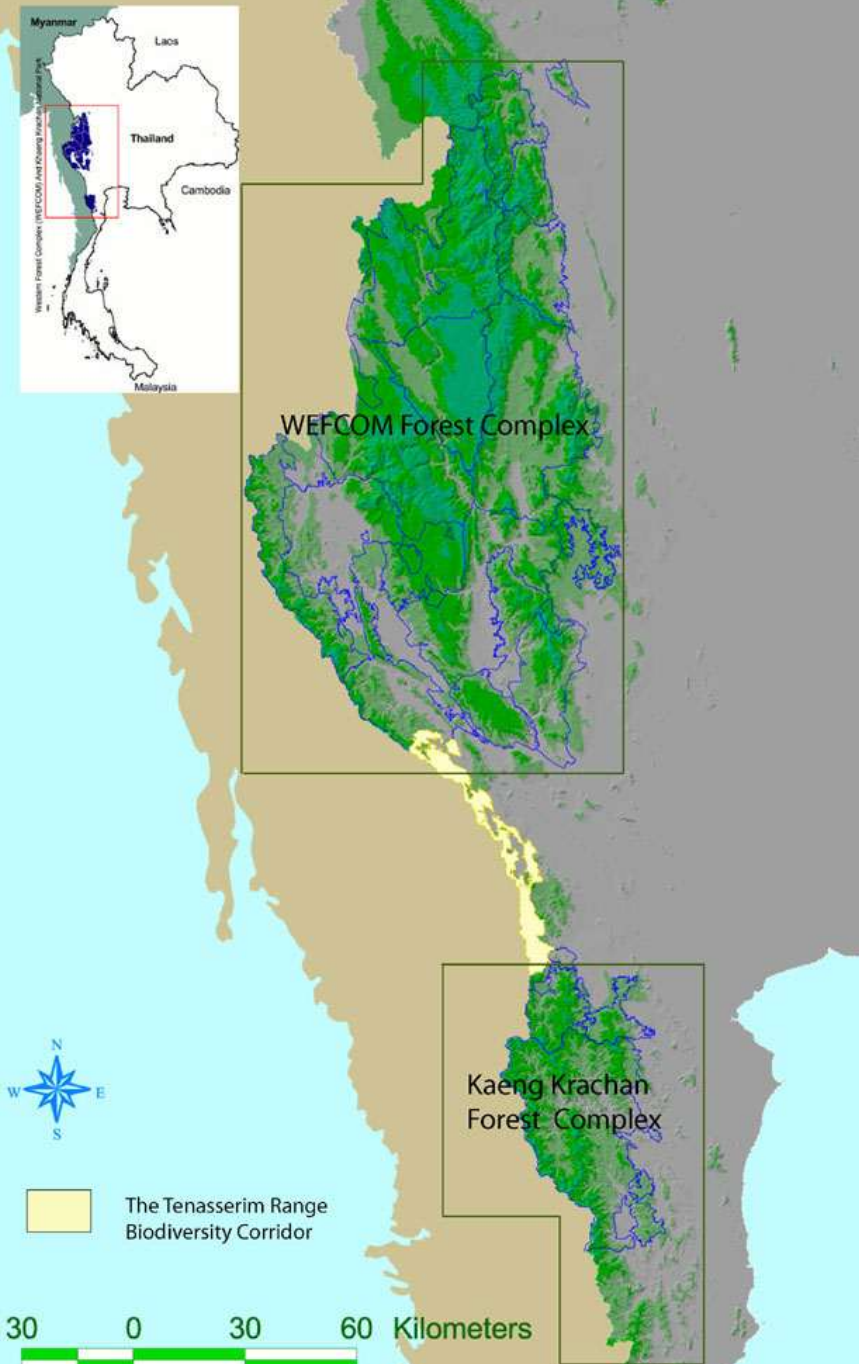
#### Elevation / Terrain

2000+ m



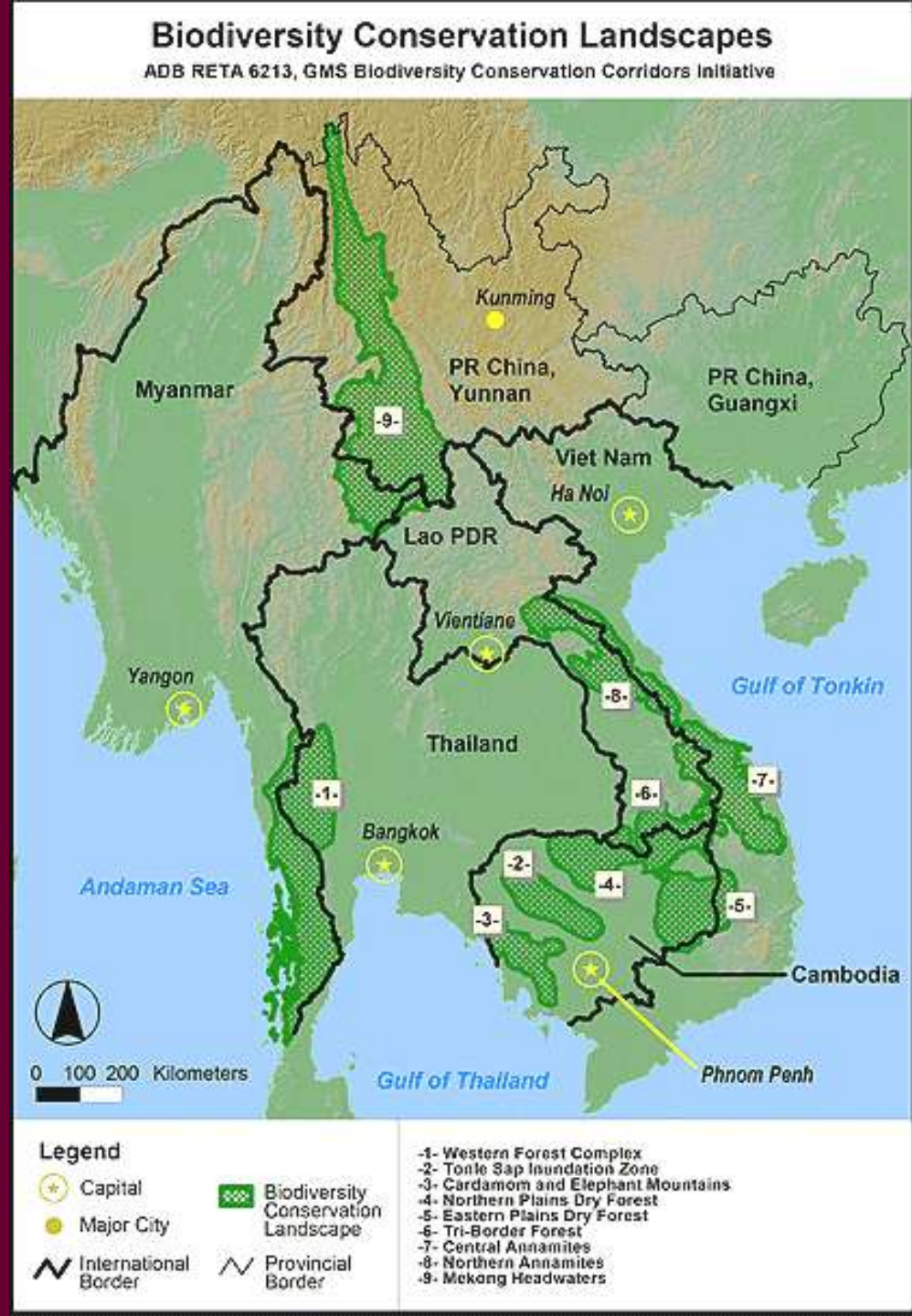
0 m





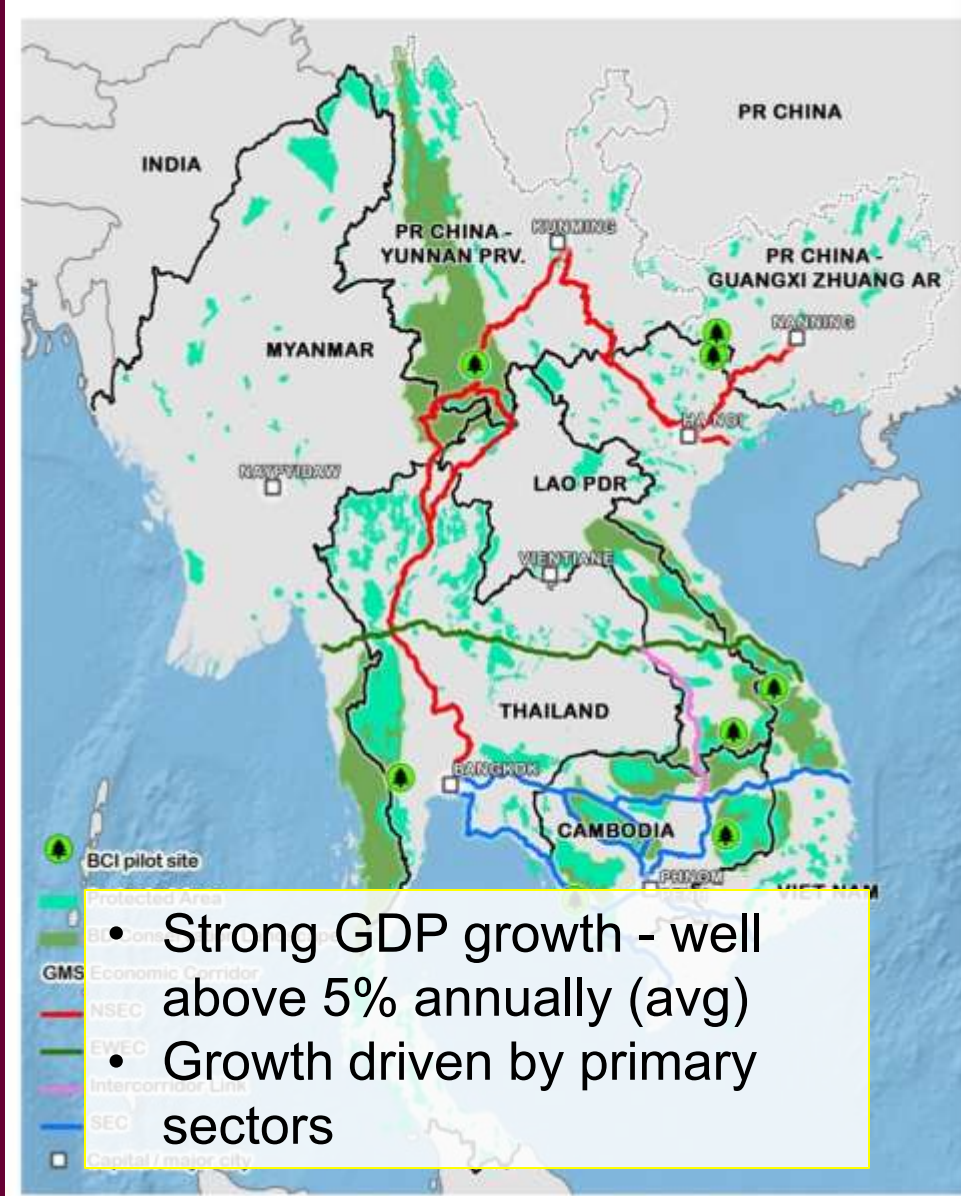


# Transboundary Corridor in GMS

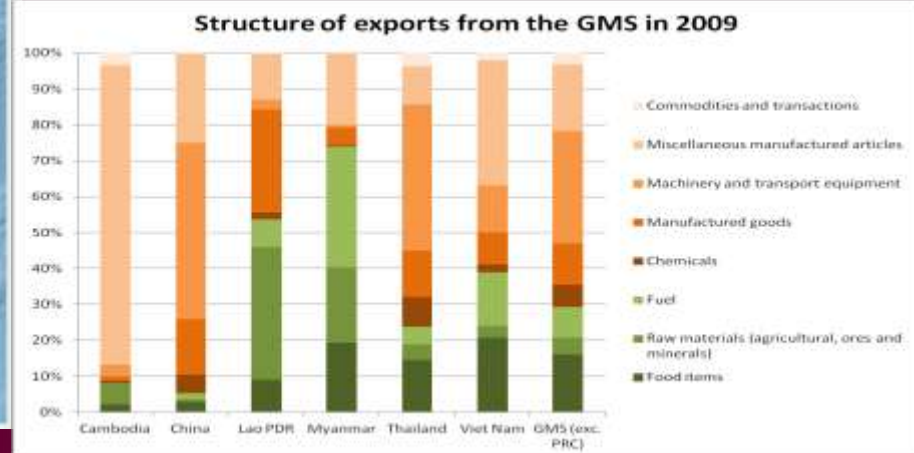
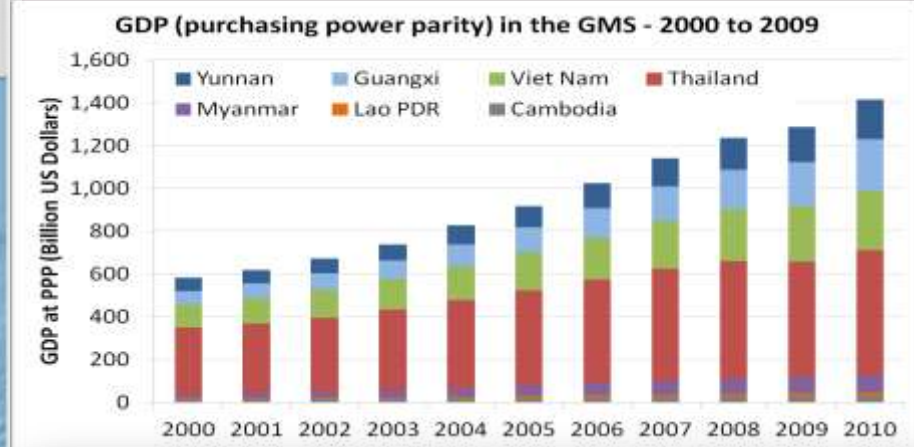
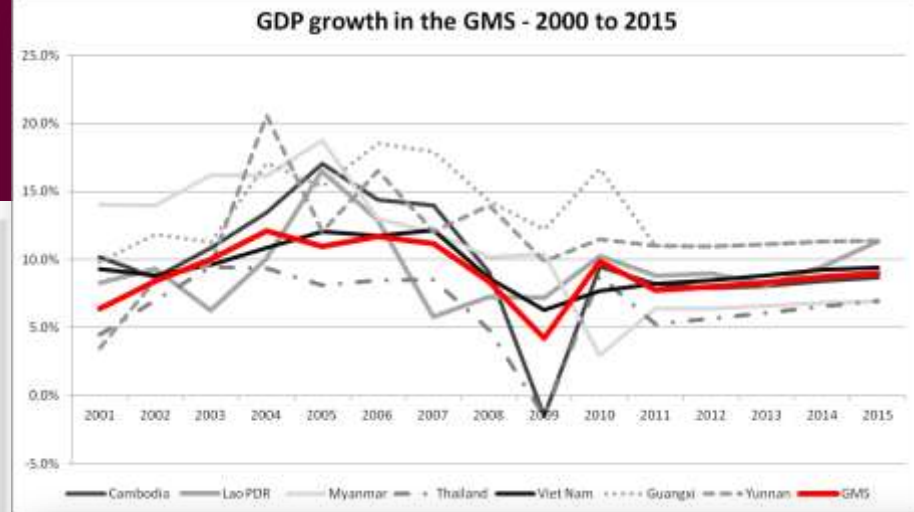




# GMS since the 90's – A period of prosperity



- Strong GDP growth - well above 5% annually (avg)
- Growth driven by primary sectors



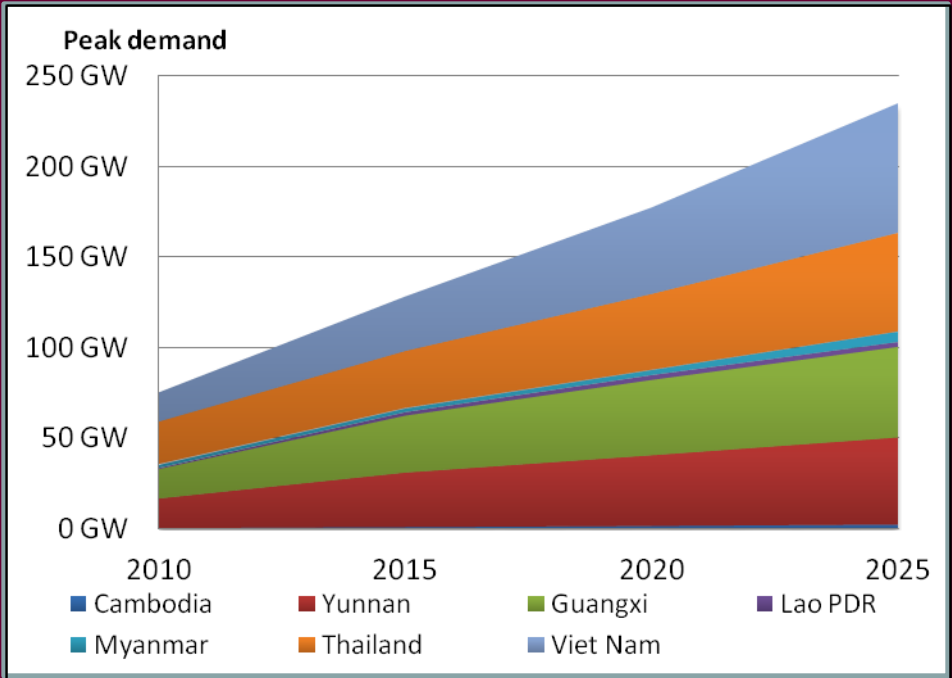


# GMS in the coming decade –prosperity likely to continue

2015

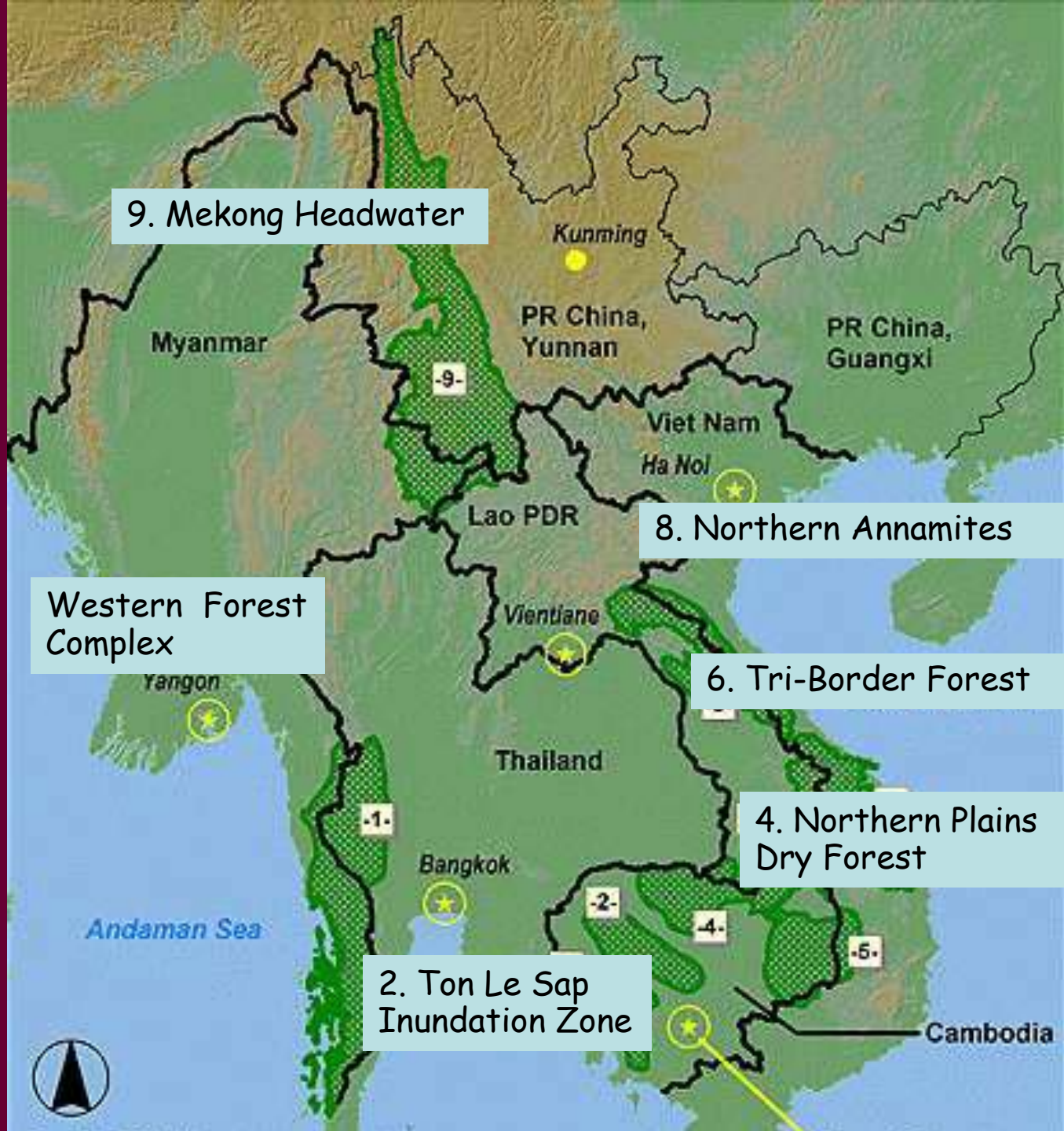


——— Roads  
- - - - Telecommunications  
——— Power Transmission Line



- Growth expected to continue underpinned by increased investment in infrastructure, industrial and urban development
- Pressure on natural resources will continue to increase





9. Mekong Headwater

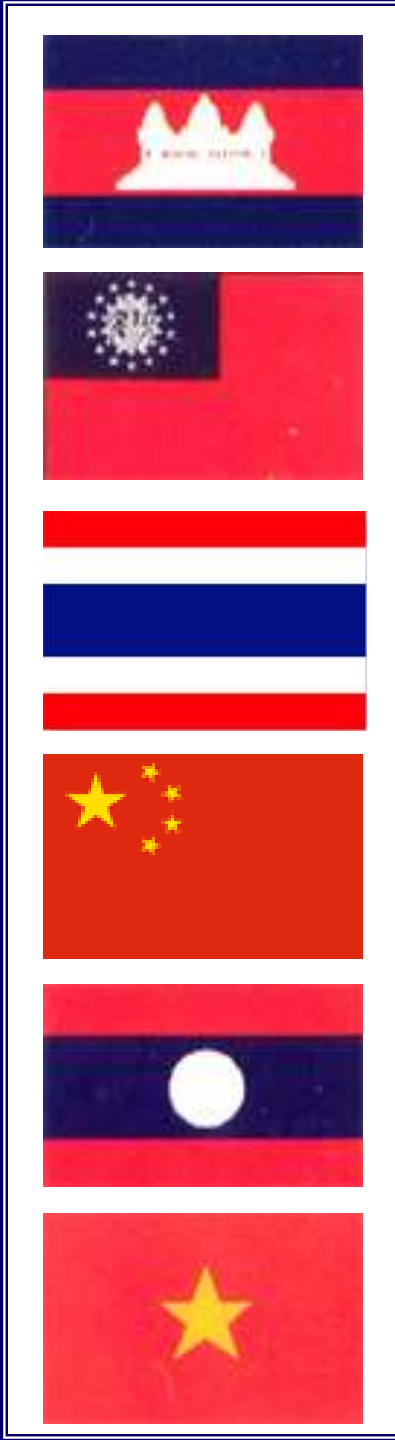
8. Northern Annamites

Western Forest Complex

6. Tri-Border Forest

4. Northern Plains Dry Forest

2. Ton Le Sap Inundation Zone





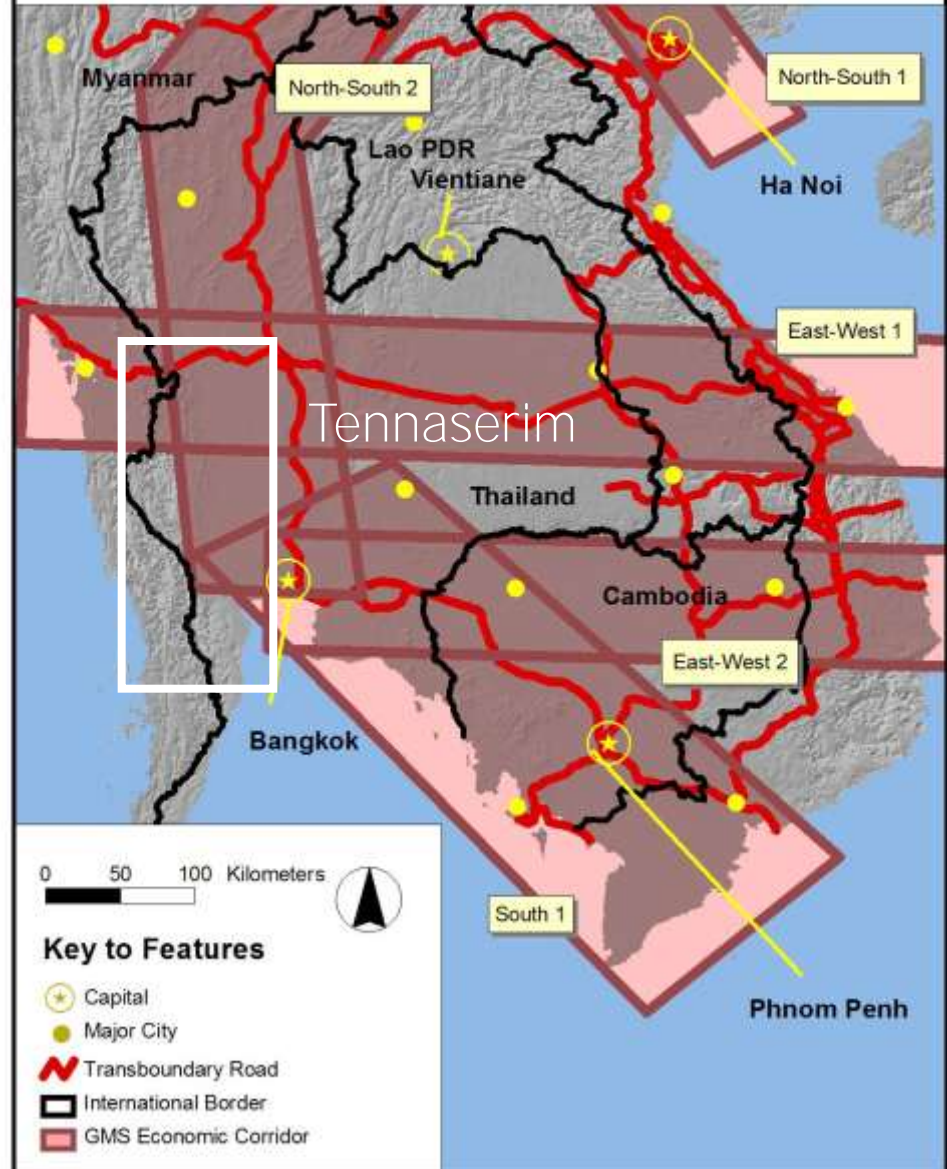
# Criteria for Selection

- *GMS economic corridors*
- Reducing ecosystem fragmentation
- International BD importance
- High poverty incidence
- Having potential for transboundary PAs
- Institutional (state and non-state)

## Thailand: GMS EC & Transboundary Roads

ADB RETA 6213 GMS Biodiversity Conservation Corridors Initiative

Data Source:  
GTOPO30 & ADB





# SUCCESSIONAL FACTOR

CDM (**C**leaning **D**evelopment **M**echanism)

- TREE BANK

- REDD++

- Carbon Offset

- ABS - **A**ccess to **B**io-diversity Resources  
and **B**enefit **S**haring

- CSR



# TAKE HOME MESSAGE

- Ecosystems and Connectivity and Biodiversity
- Local Livelihoods and Poverty Reduction  
in Biodiversity Corridors
- Climate change and Biodiversity Corridors
- Sustainable Financing and Biodiversity Corridors