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AMBASSADE DE FRANCE
EN INDONÉSIE ET AU TIMOR ORIENTAL



Development of Research Proposal to NUSANTARA PROGRAM

Conservation and health of Sumatra elephant

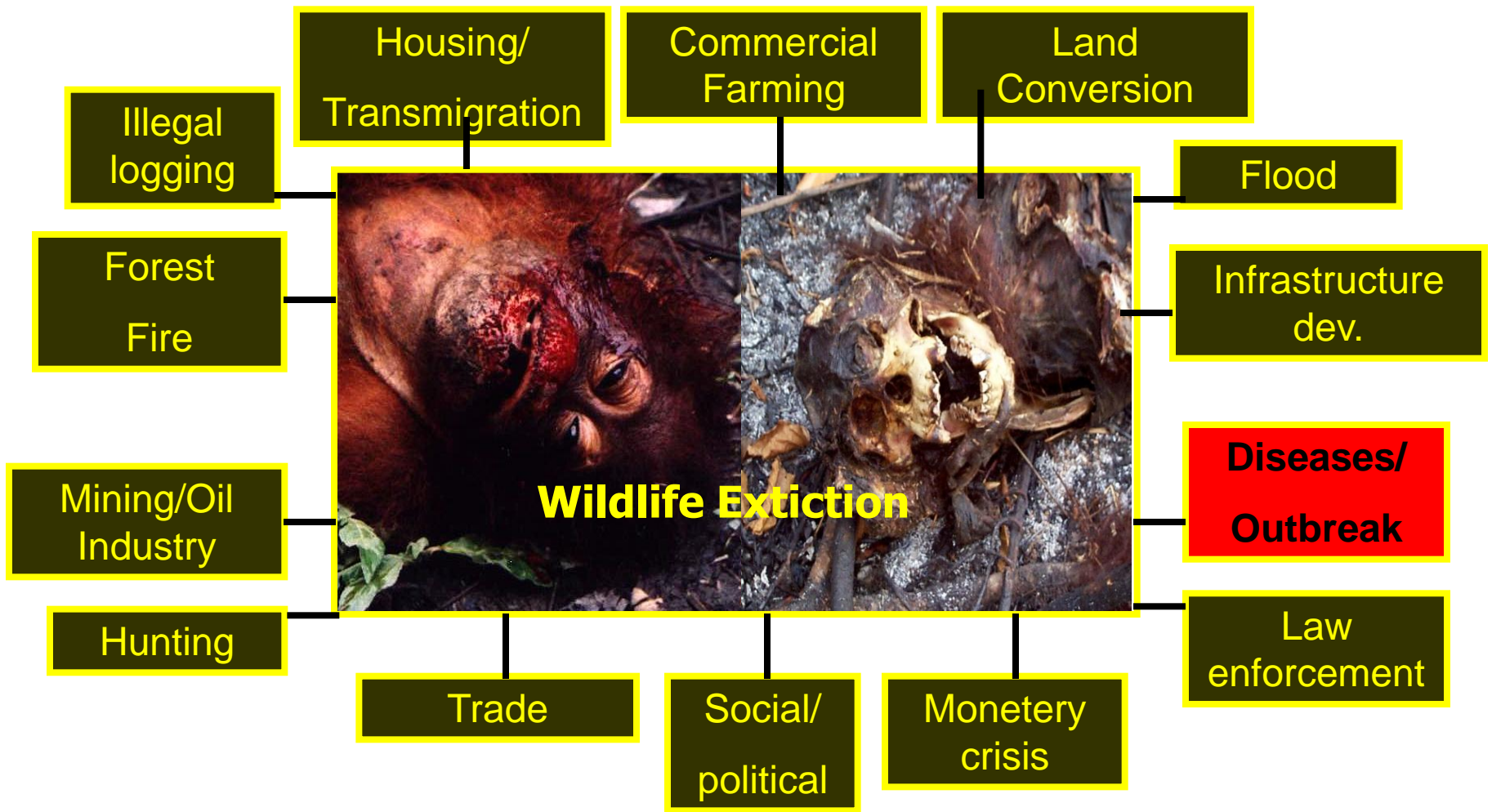


Proposed by

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National Park in Indonesia



Background

1. Sumatran elephant (*Elephas maximus sumatranus*) Critically Endangered (CR)
2. 1724 individual (FKGI, 2014), declining 28% (2400-2800 individual in 2007)
3. Appendix I CITES in 1990
4. Protected by PP. 7 tahun 1999
5. Indonesia Action Plan 2007-2017



Background

- Year : 1980-1990: 2800-4800 (Santiapillai, 1984; Blouch *et al* 1985)
- 2007: 2400-2800 (Soehartono *et al.*, 2007)
- 2014: 1724 (FKGI, 2014)

All Province in Island of Sumatra, Except west Sumatra

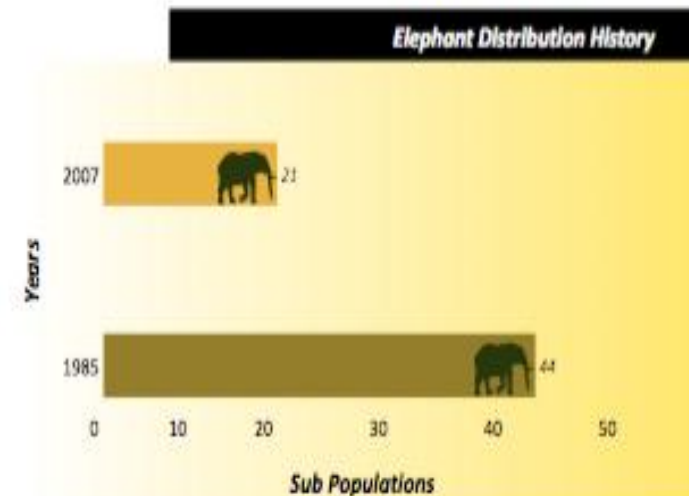
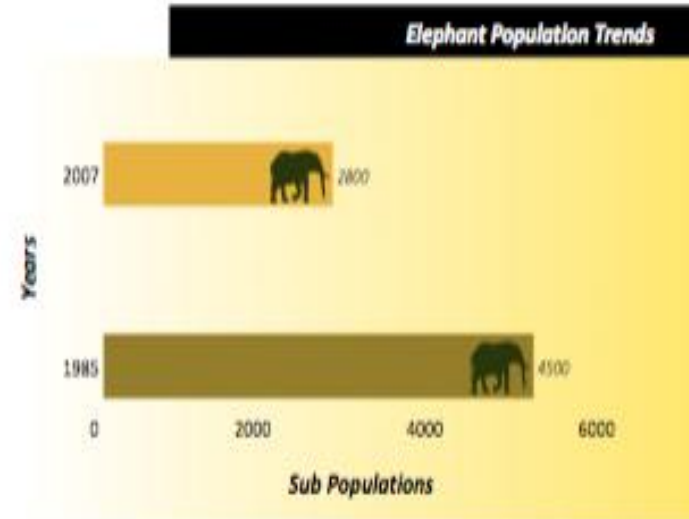
85% population outside protected area



Habitat lost



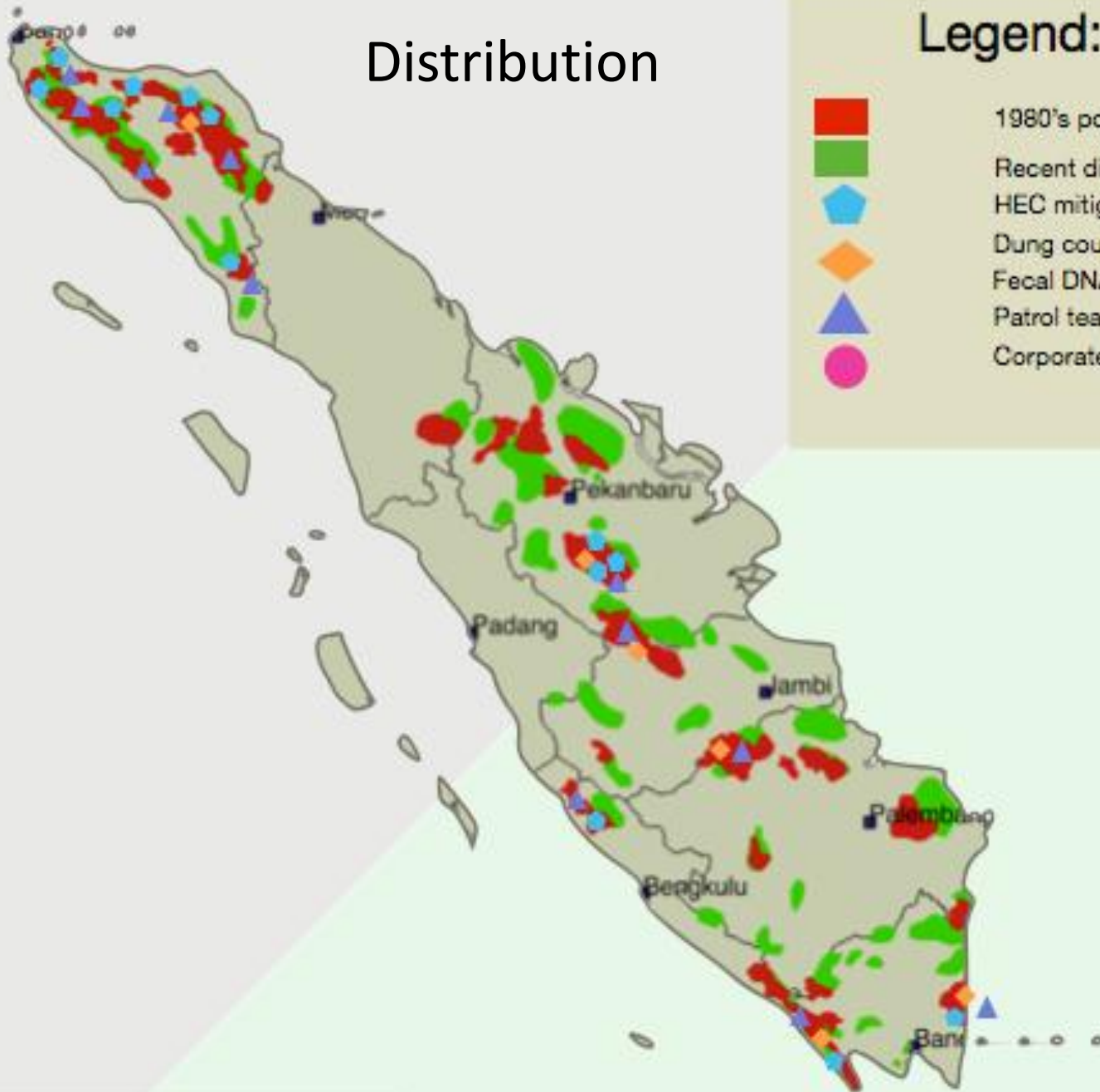
Figure 1. Loss of Natural Forest Cover from 1985-2000 (WWF, 2010)



Distribution

Legend:

- 1980's population
- Recent distribution
- HEC mitigation team
- Dung count & Fecal DNA survey
- Patrol team
- Corporate support



**Critically
Endangered
Appendix I CITES**
Indonesia Action
Plan 2007-2011



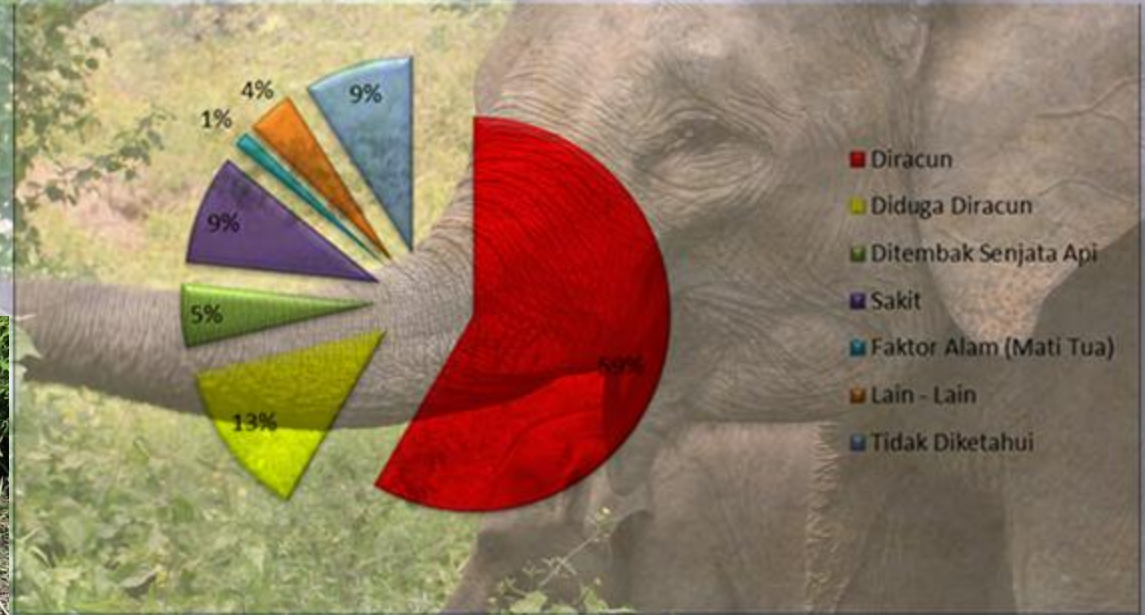
Captive Population

500 individuals (Soehartono *et al.*, 2007)
distributed in Elephant Training Centers, zoos,
in Sumatra, Java, Bali, Borneo, several provinces

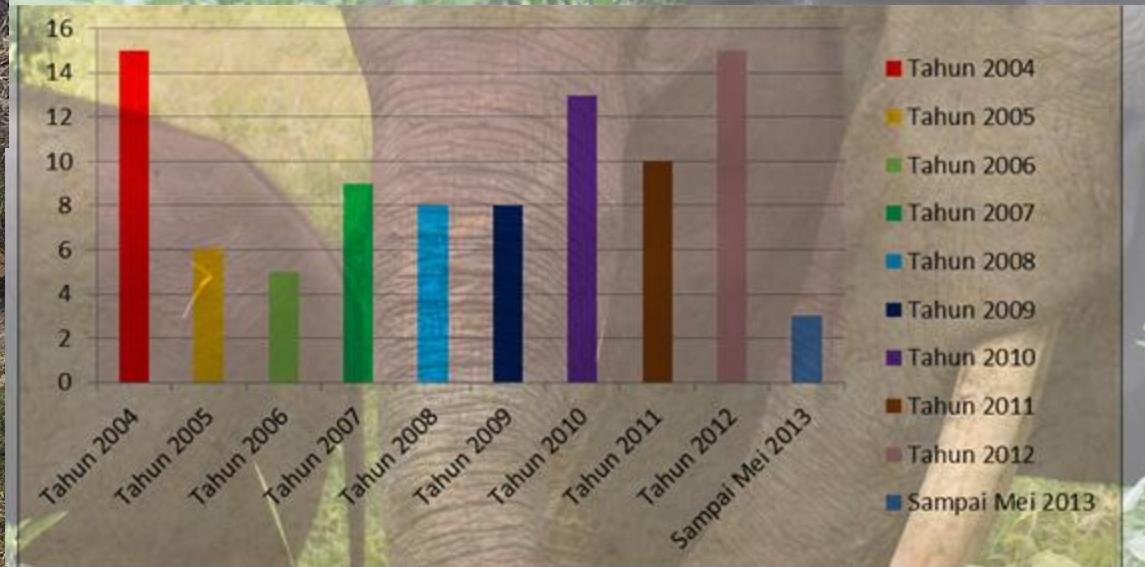
Threats :

- **Diseases : EEHV- Elephant Endotheliotropic Herpes Virus, TB, parasites**
- **Low Breeding**
- **Poaching**
- **Human Elephant Conflict**

Penyebab Kematian Gajah Tahun 2004 Hingga Mei 2013 di Riau



Sumber data: WWF-Indonesia; Design by: MONGABAY-INDONESIA



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General objective

- to contribute to the conservation of the critically endangered endemic Sumatran Elephant (*Elephas maximus sumatranus*)
- to study the levels of genetic diversity existing within the last wild but also captive populations of Sumatran elephants in order to evaluate a putative impact of genetic decrease on the long term survival of this species





- to evaluate a putative impact of genetic decrease on the long term survival of this species.
- to evaluate the risk of inbreeding depression and the degree of genetic isolation
- It will also help understanding the interest to develop captive breeding programs for future reinforcements of wild populations
- to evaluate if the present captive populations are characterised by a sufficient level of genetic diversity.

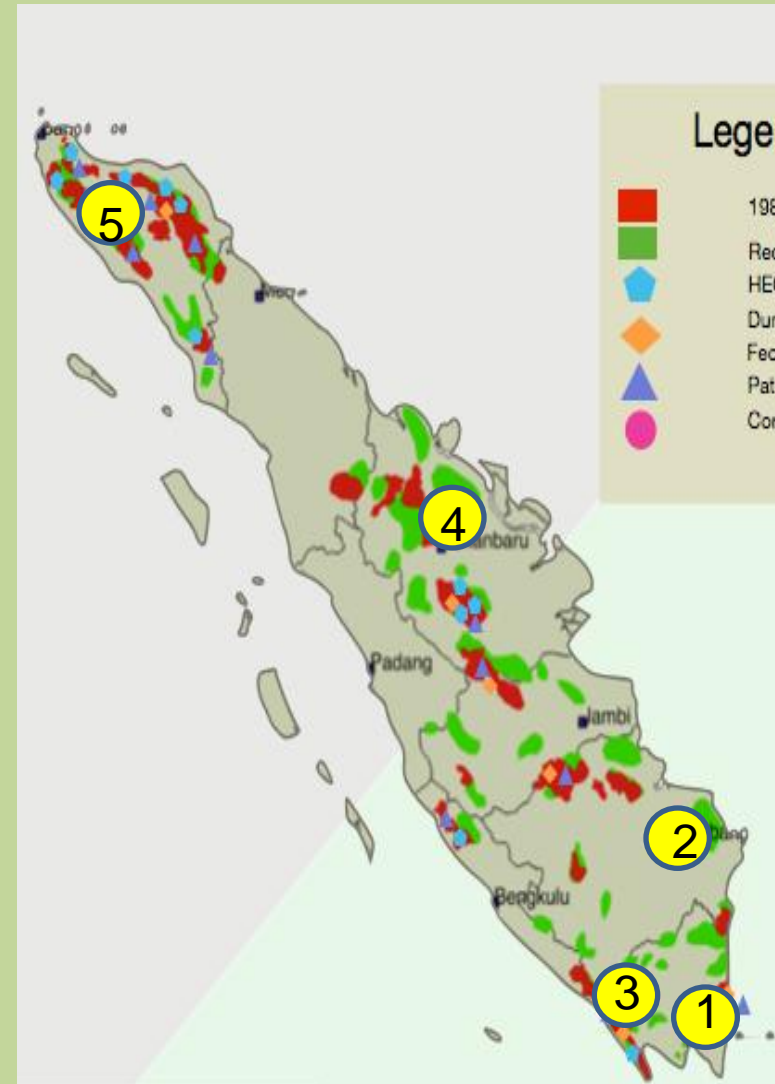
Sumatra Elephant Training Centers



Captive elephant population areas:

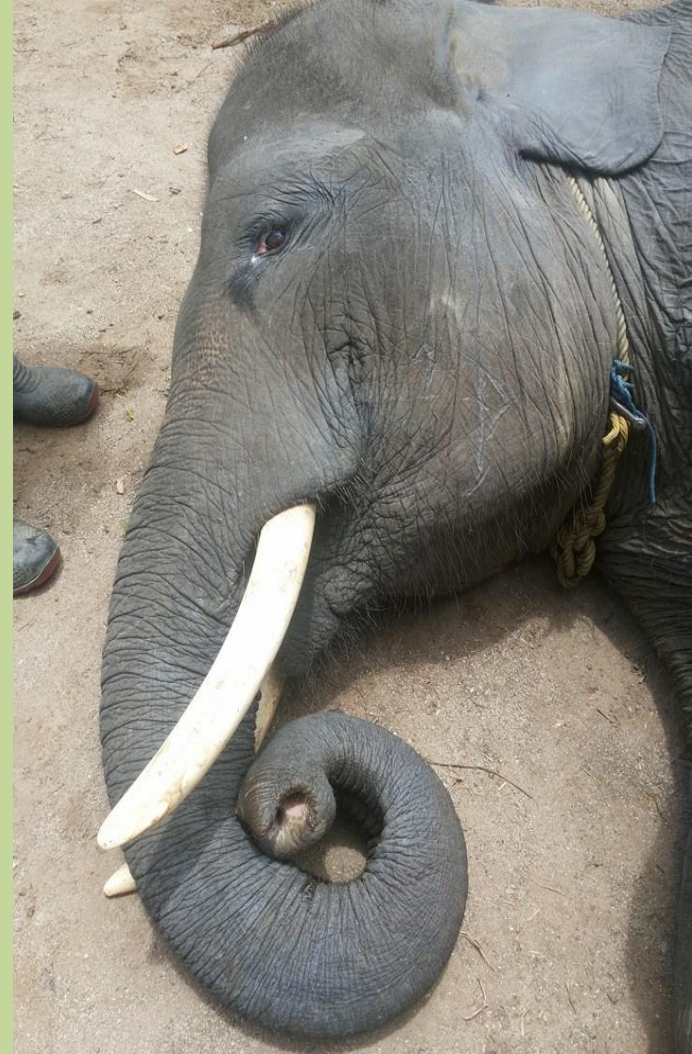
1. Way Kambas National Park and Bukit Barisan Selatan National Park in Lampung Province
2. Padang Sugihan Wildlife Sanctuary in Southern Sumatra,
3. Seblat Wildlife Sanctuary in Bengkulu Province,
4. Teso Nilo National Park in Riau Province,
5. Gunung Leuser National Park in Northern Sumatra and Aceh Province)

Location



Methods

- Molecular methods by using hyper variable markers (SNP's).
- Analysed from hairs or blood samples collected on captive animals, and from faeces, collected in the fields, for wild populations.
- The use of non invasive approaches for the analyses of wild populations
- Estimate their sizes (using Capture Marking Recapture approaches from faeces collected in the fields) and some other demographic patterns like the sex ratios.



Integrate to existing Project

- Identify potential pathogen in the elephant training centers
- Increase knowledge and capacity building of mahout and veterinarians
- Rescque victym of the elephant conflicts
- Reintroduce potential elephant into the wild population

Activities in the field



Re-planning of the centers

Health monitoring

Database updating

Genetic studies

❖ Penelitian Kesehatan dan Surveilans Penyakit Infeksius dan non infeksius di 6 PKG di Sumatera, antara lain :



Diseases surveilans: parasit, virus, bacteria



Mitigation and forensic

Surveilans Penyakit Parasit dan Entomologi sebagai vektor penyakit pada gajah di Sumatera sebagai upaya medik konservasi



Elephant Hospital



Protocols prepare



Capacity building



❖ Pertolongan korban kolera di Medan, Sumatera Utara



GPS tracking



- More include students mobility program
- Strengthening private sectors engagement and contribution to conservation
- Combating wildlife crime
- Building synergy with wider conservation efforts

Thank you very much for your attention