



# Global Reintroduction Perspectives: 2018

Case studies from around the globe

Edited by Pritpal S. Soorae



IUCN/SSC Reintroduction Specialist Group (RSG)



The designation of geographical entities in this book, and the presentation of the material, do not imply the expression of any opinion whatsoever on the part of IUCN or any of the funding organizations concerning the legal status of any country, territory, or area, or of its authorities, or concerning the delimitation of its frontiers or boundaries.

The views expressed in this publication do not necessarily reflect those of IUCN.

**Published by:** IUCN/SSC Reintroduction Specialist Group & Environment Agency-Abu Dhabi

**Copyright:** © 2018 IUCN, International Union for Conservation of Nature and Natural Resources

Reproduction of this publication for educational or other non-commercial purposes is authorized without prior written permission from the copyright holder provided the source is fully acknowledged.

Reproduction of this publication for resale or other commercial purposes is prohibited without prior written permission of the copyright holder.

**Citation:** Soorae, P. S. (ed.) (2018). *Global Reintroduction Perspectives: 2018. Case studies from around the globe*. IUCN/SSC Reintroduction Specialist Group, Gland, Switzerland and Environment Agency, Abu Dhabi, UAE. xiv + 286pp.

6<sup>th</sup> Edition

**ISBN:** 978-2-8317-1901-6 (PDF)  
978-2-8317-1902-3 (print edition)

DOI: <https://doi.org/10.2305/IUCN.CH.2018.08.en>

**Cover photo:** Clockwise starting from top-left:  
I. Reticulated python, Singapore © ACRES  
II. Trout cod, Australia © Gunther Schmida (Murray-Darling Basin Authority)  
III. Yellow-spotted mountain newt, Iran © M. Sharifi  
IV. Scimitar-horned oryx, Chad © Justin Chuvén  
V. Oregon silverspot butterfly, USA © U.S. Fish and Wildlife Service  
VI. Two-colored cymbidium orchid, Singapore © Tim Wing Yam  
VII. Mauritius fody, Mauritius © Jacques de Spéville

**Cover design & layout by:** Pritpal S. Soorae, IUCN/SSC Reintroduction Specialist Group

**Printed by:** Arafah Printing Press LLC, Abu Dhabi, UAE

**Download at:** [www.iucnsscrg.org](http://www.iucnsscrg.org)  
[www.iucn.org/resources/publications](http://www.iucn.org/resources/publications)

## Reintroduction of Asian elephants to restore forest ecology in Thailand

Chatchote Thitaram<sup>1,2</sup>, Taweepoke Angkawanish<sup>1,3</sup>, Chaleamchat Somgird<sup>1,2</sup>,  
Wasan Klomchinda<sup>4</sup>, Robert Mather<sup>5</sup>, Chookiat Pratiprasen<sup>1</sup>  
& Sivaporn Dardarananda<sup>1</sup>

- <sup>1</sup> - Elephant Reintroduction Foundation, Bangkok, 10100, Thailand  
[cchitaram@gmail.com](mailto:cchitaram@gmail.com)
- <sup>2</sup> - Center of Excellence in Elephant and Wildlife Research, Faculty of Veterinary Medicine, Chiang Mai University, Chiang Mai, 50200, Thailand
- <sup>3</sup> - National Elephant Institute, Forest Industry Organization, Lampang, 52190, Thailand
- <sup>4</sup> - Sublungka Wildlife Sanctuary, Wildlife Conservation Division, Department of National Park, Wildlife and Plant Conservation, Lopburi, Thailand
- <sup>5</sup> - USAID Wildlife Asia, Bangkok, Thailand

### Introduction

The number of Asian elephants (*Elephas maximus*) in the world has decreased at an alarming rate. The wild population with a currently estimated size of 30,000 - 50,000 animals in 13 countries of South and Southeast Asia has declined over recent decades, primarily due to habitat destruction. Asian elephants have been listed in the Appendix I category of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) since 1973, and in the Endangered species Red List of the International Union for Conservation of Nature (IUCN) since 1986. This species has been listed under the Wildlife Preservation and Protection Act of 1962 (BE 2505) and of 1992 (BE 2535) of Thailand. Since 1957, the total number of elephants (wild and captive) in Thailand has declined dramatically from an estimated 100,000 to around 6,000. Raised awareness of public and private organizations on the plight of elephants in Thailand has resulted in the initiation of a reintroduction program to preserve and increase elephant population numbers in the wild, and thereby to maintain and restore the important role elephants play in forest ecology.

### Goals

- Goal 1: Restoration and conservation of the natural habitat by released elephants.
- Goal 2: Creation of self-sustaining populations of elephants in suitable protected areas.
- Goal 3: Better understanding and a more caring approach to elephant conservation.

### Success Indicators

- Indicator 1: Ecological enhancement post-release.
- Indicator 2: Ability of released elephants to survive in the natural habitat, social interaction and group forming of released elephants.
- Indicator 3: Natural mating and birth of elephant calves from released elephants.
- Indicator 4: Community engagement in elephant conservation.

## Project Summary

### Feasibility:

Elephants play an important role in Thailand's history and remain as an enduring symbol today. The elephant also has special spiritual significance through association with Buddhist and Hindu beliefs. Thai society loves and respects elephants, (and particularly so with the reintroduced



Released elephants with a new born calf

elephants because they belong to the beloved Queen of Thailand). In Thai society, people make merit by releasing animals; therefore, few threats were anticipated to these elephants released by Her Majesty Queen Sirikit.

The project was officially initiated in January 1997 when H.R.H. Queen Sirikit of Thailand released three adult female elephants into the Doi Phamuang Wildlife Sanctuary. The release location was selected based on the criteria of 1) previous existence of wild elephants, 2) abundance of elephant food, 3) availability of natural fences or barrier e.g. cliffs, and 4) non-existence of human elephant conflict (Somgird, 2013).

To date, 108 elephants have been released into three protected areas: a) the Sublungka Wildlife Sanctuary (latitude 15° 44' – 15° 20' north and longitude 101° 16' – 101° 22' east, 155 km<sup>2</sup>) in Lopburi province (central Thailand); Doi Phamuang Wildlife Sanctuary (latitude 18° 7' – 18° 27' north and longitude 98° 58' – 99° 15' east, 580 km<sup>2</sup>) in Lampang-Lamphun province (Northern Thailand), and Phu Phan National Park (16° 49' – 17° 15' north and longitude 103° 15' – 103° 56' east, 664.7 km<sup>2</sup>) in Sakon Nakorn province (Northeastern Thailand).

**Implementation:** Elephants in the reintroduction project were recruited by donation or were purchased for release by the Elephant Reintroduction Foundation. All elephants obligatorily had an official identification card, and a microchip number with background information to ensure their legal status as captive-elephants, such as tourist elephants, logging elephants, etc. Before entering the project, elephants were examined for health, transmissible diseases and parasites, as recommended by IUCN/SSC Reintroduction Specialist Group, and were quarantined for 30 - 60 days before commencing the rehabilitation and release process.

The “soft-release” process was started by recruiting these elephants into a rehabilitation program for adaptation to the forest environment, and group formation. Initially elephants were released while dragging free-ended chains (the idea being that they could more easily be tracked and brought under control again if it was required to do so in this period). Elephants destined for rehabilitation



Community outreach in schools

were assessed in terms of health monitoring, individual and group interaction behavioral observations, and emerging social structure, as well as human-elephant interactions. Intensive observation for health and behavioral adaptation in the rehabilitation area was conducted for six months for each elephant. Genetic data (DNA fingerprint and mitochondrial DNA) were collected from every elephant before release for parentage analysis,

individual identification, and future research work. (Thitaram *et al.*, 2015).

**Post-release monitoring:** During the first three years of the reintroduction project, GPS Radio collars and satellite collars were placed on the matriarch of each group, and their movements were accurately tracked. (Angkawanish & Thitaram, 2012). The “hard-release” process was completed in time frames of between 3 months - 2 years depending on the individual elephants. Behavioral observations and social interactions were conducted by mahout-rangers at least once a week to track them in the deep forest. Health status was checked from the behavior, body condition score, and dung quality. Roaming area was recorded from the GPS data. Most of the released elephants developed a wariness of humans, and will hide, run away or keep a distance when people are approaching, while very few of them still appeared tame to human presence. However, all the calves born from released elephants behave like wild elephants, not allowing people to touch or even get close to them.

Presently the legal status of release elephants and elephants born in the wild from released parents is unclear. The Elephant Reintroduction Foundation is pushing for clarification - either through the Wildlife Preservation and Protection Act law (which is presently being updated), and/or through the brand new Elephant Act which is presently being developed.

## Major difficulties faced

- Human-elephant-livestock interface in the forest.
- Elephant-elephant interface, when the elephants from different places came to stay together in the forest of limited size, particular with the mature bulls.
- Human-elephant conflict post-release when the elephants raided the crops of farmers.
- Crop raiding by reintroduced elephants occurred quite often during cultivation time and compensation has to be paid to the farmers.

- Limitation of the available natural habitats and food and water resources when the number of the elephants continues to increase in the future.

## Major lessons learned.

- Public relations and community engagement around the forest are important.
- Strong regulations and laws such as for protected area management and zoning the forest for human and livestock use are equally important.
- Elephant-elephant conflict (male-male, female-female, male-female) can occur, and result in deaths of elephants.
- Releasing of female elephants with calves can stimulate group formation from other previously released cows (Angkawanish & Thitaram, 2012).
- Numbers of released elephants should be restricted according to the size of the area, otherwise, the conflict between elephants could occur.

## Success of project

Highly Successful	Successful	Partially Successful	Failure
	√		

## Reason(s) for success/failure:

- The restoration of forest ecology has been ongoing since the beginning of the project because of the ecological role played by elephants, and because human threats to the forest have reduced due to the presence of elephants.
- Most released elephants have survived in the natural habitat.
- As of May 2017, 19 calves have been born from natural mating of released elephants.
- Aggressive bulls were placed in a restricted area, and could not be freely released.
- The project was initiated by the Queen of Thailand, and supported by Thai society.

## References

Angkawanish, T. & Thitaram, C. (2012) Behavioral study and monitoring of Asian elephant (*Elephas maximus*) reintroduction under the Queen's initiative. *In*: Elephants: Ecology, Behavior and Conservation (Maya Aranovich and Olivier Dufresne, editors). Nova Science Publishers. 133-144.

Somgird, S. (2013) (Ed.). Elephant Reintroduction. The Elephant Reintroduction Foundation, Phayanchana Publishing Co. Ltd., Bangkok. 304 p.

Thitaram, C., Dejchaisri, S., Somgird, C., Angkawanish, T., Brown, J.L., Phumphuay, R., Chomdech, S. & Kangwanpong, D. (2015) Social group formation and genetic relatedness in reintroduced Asian elephants (*Elephas maximus*) in Thailand. *Applied Animal Behaviour Science* 172: 52-57. <https://doi.org/10.1016/j.applanim.2015.09.002>



INTERNATIONAL UNION  
FOR CONSERVATION OF NATURE

WORLD HEADQUARTERS  
Rue Mauverney 28  
1196 Gland, Switzerland  
Tel +41 22 999 0000  
Fax +41 22 999 0002  
[www.iucn.org](http://www.iucn.org)

