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Organisation
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Health
Founded as OIE

Organisation
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de la santé
animale
Fondée en tant qu'OIE

Organización
Mundial
de Sanidad
Animal
Fundada como OIE



กระทรวงเกษตรและสหกรณ์
Ministry of Agriculture and Cooperative



Australian Government
Department of Agriculture,
Fisheries and Forestry

“African Horse Sickness”: Recovery of the official disease-free status

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**Sub-Regional Workshop on Emergency Management
14 - 16 August 2024 Bangkok, Thailand**

- **Basic Information**
- **National plan to Eliminate of AHS from Thailand**
- **Overall surveillance plan**
- **Measure after reinstate of AHS free country**
- **Contingency plan**



Basic Information



Basic Information : Type of Equids in Thailand

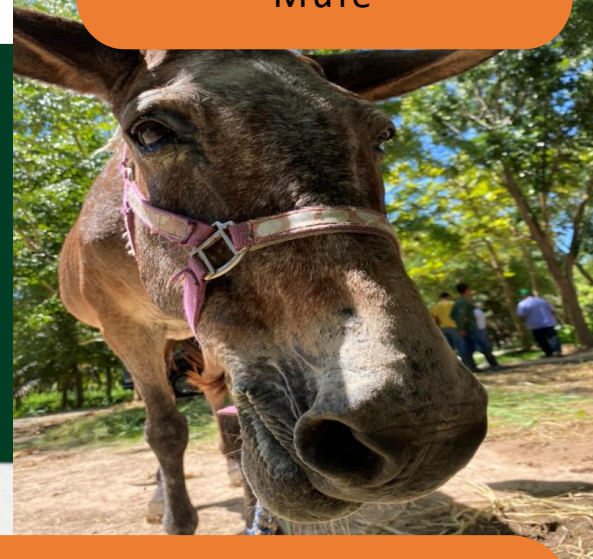
Sport Horse



Working Horse



Mule



Zebra

Donkey



Military Horse



Basic Information of AHSV

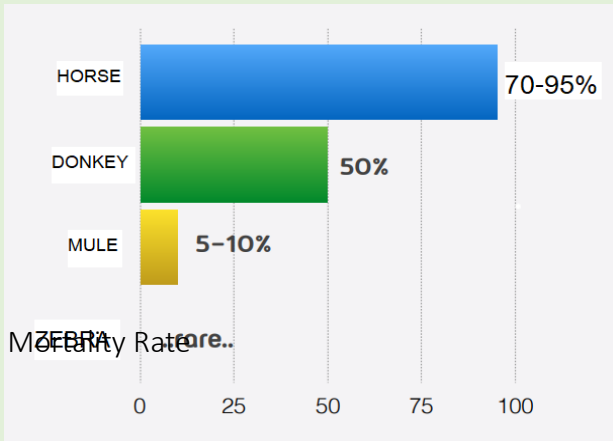
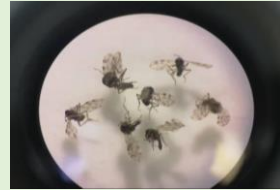
AHSV

- RNA virus
- The family Reoviridae, genus Orbivirus.
- 9 serotypes of AHS virus (AHSV)

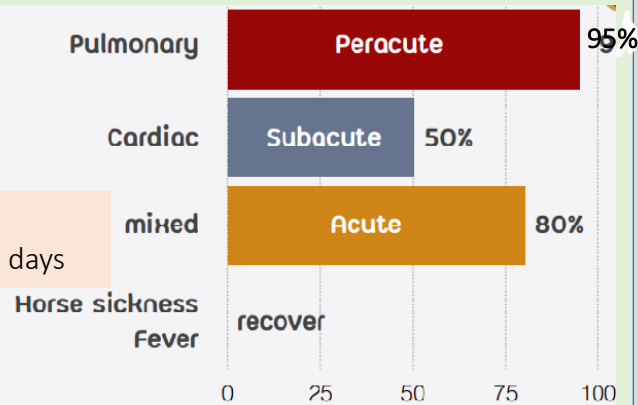
Transmission

Biological vector

- Culicoides spp.
- Biting flies
 - ❖ Stomoxys
 - ❖ Tabanus



Incubation period
Approximately : 3-14 days



Peracute , Pulmonary form

- interlobular oedema of the lungs
- Fever (40–41°C)
- Dyspnoea, spasmodic coughing
- dilated nostrils with frothy fluid
- Redness of conjunctivae
- Nearly always fatal death within 1 week



Subacute edematous , Cardiac form

- Fever (39–41°C)
- Swelling of the supraorbital fossa, eyelids, facial tissues, neck, thorax, brisket and shoulders
- Mortality usually 50% or higher; death usually within 1 week



Acute , Mixed form

- Occurs frequently
- Pulmonary signs of a mild nature
- Mortality: about 70–80% or greater

Subclinical form (Horse sickness fever)

- Fever (40–40.5°C)
- Mild form; general malaise for 1–2 days
- Very rarely results in death

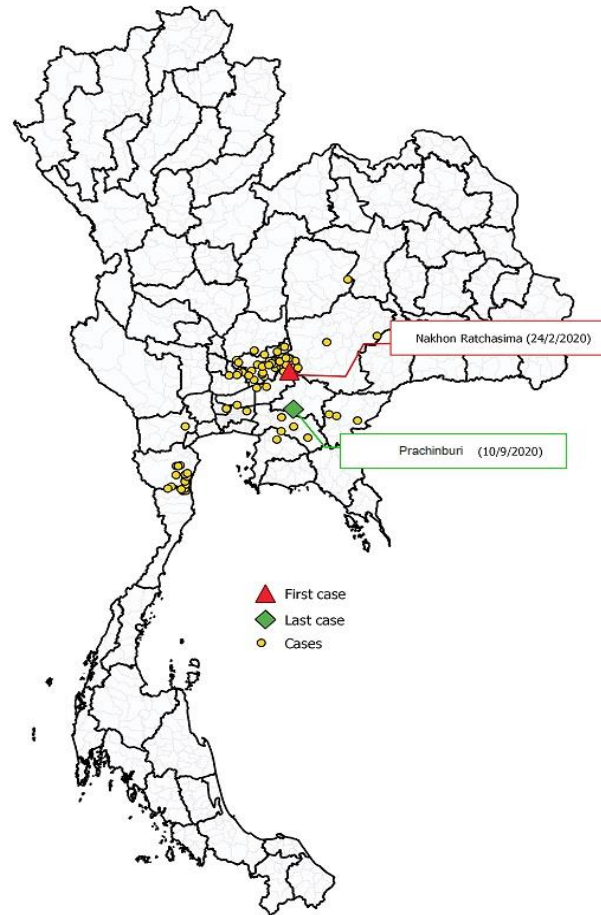
Basic Information : Country History

Histological free country of AHS from WOAH



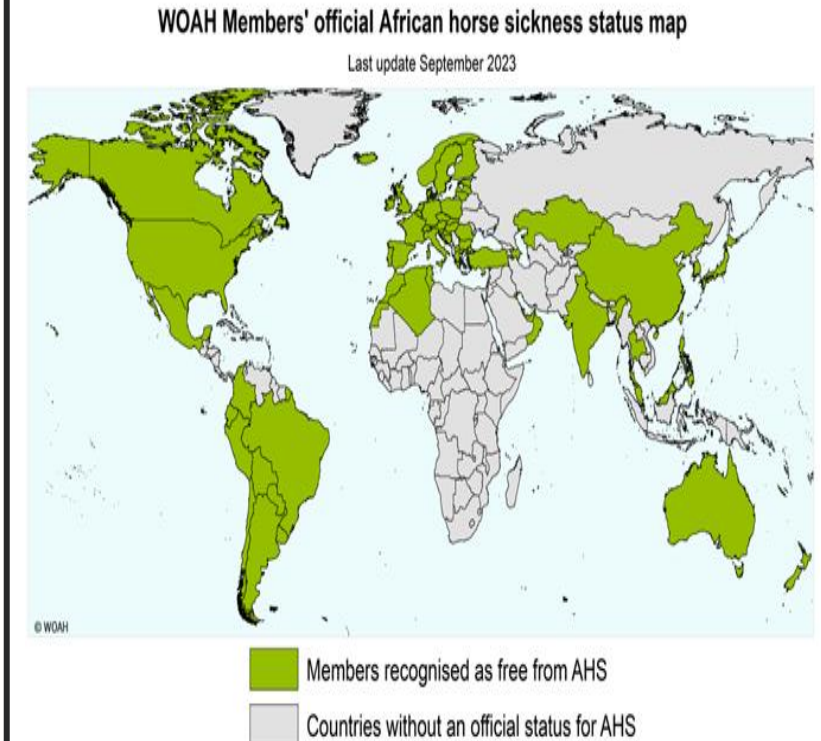
Official announcement from WOAH (2014-2020)

AHS Outbreak in Thailand



Emerging Disease in Thailand (2020-2023)

Reinstate of AHS in Thailand from WOAH



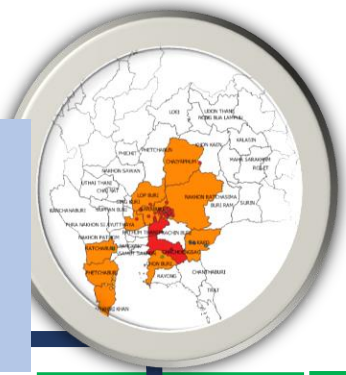
Official Free Country from WOAH (2023)



Basic Information : Timeline of AHS Outbreak in Thailand



Disease Spread
Central part
Western part
Eastern part
Lower northeastern part



Main conditions for AHS free Country
- Stop using vaccine at least 1 year
- No case outbreak/presence of AHSV at least 2 years
- Effectively surveillance plan



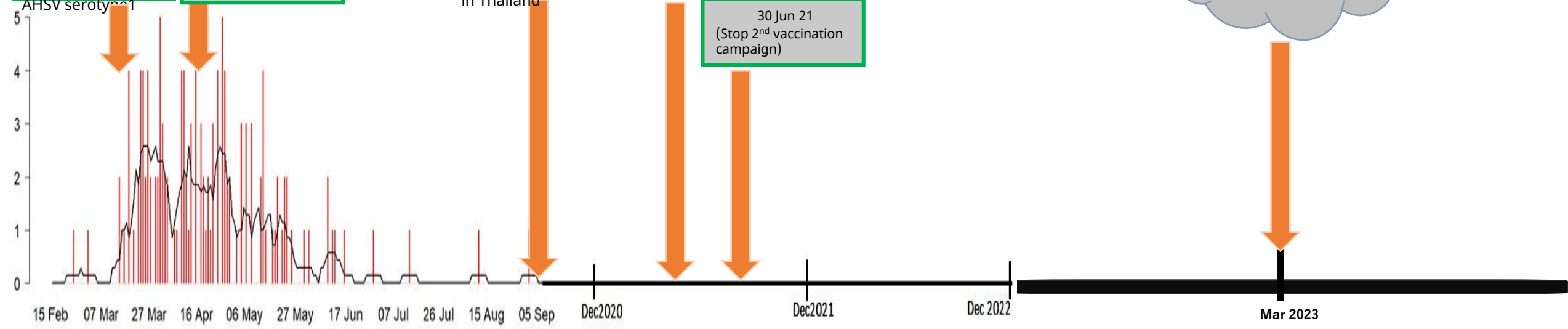
27 Mar 20
Confirmation case
of
AHSV serotype 1

19 Apr 20
(Stop 2nd vaccination
campaign)

10 Sep 20
Last case of
AHSV
in Thailand

18 May 21
2nd vaccination
campaign

30 Jun 21
(Stop 2nd vaccination
campaign)



Outbreak area in 17 provinces
Mortality case 568
Morbidity case 610
Mortality rate 93.11%

Mar 2023



National plan to Eliminate of AHS from Thailand

National plan to Eliminate of AHS from Thailand



Outbreak Response Phase



Vector Control
-netting
-insecticide

MOU / PPP/ Committee / Subcommittee

- Disease investigation
- vaccination campaign (multivalent vaccine)

**Public awareness
Risk assessment**

Movement control

Identification and Registration

Surveillance Phase



**Revaccination campaign
monovalent vaccine Serotype 1**

Sentinel surveillance

Vector surveillance

**Serological surveillance :
Zebra, Horse**

Identification systems for equines

idEquine

Monitoring and Reinstatement Phase



Emergency response action

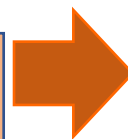
Integrated collaboration



- Multisectoral collaboration :
 - University
 - Private sector :
 - Thailand Equestrian Federation
 - Thai Horse Racing Association
 - Thailand Polo Association
 - Official sector:
 - Zoological park organization
 - Royal stable Unit
 - Department of National park, wildlife and plant Conservation

National Committee for AHS management

Approved by Ministry of Agriculture and Cooperatives



Technical Subcommittee



Vector control and research Subcommittee



AHS control in Zebra Subcommittee



AHS vaccination management subcommittee





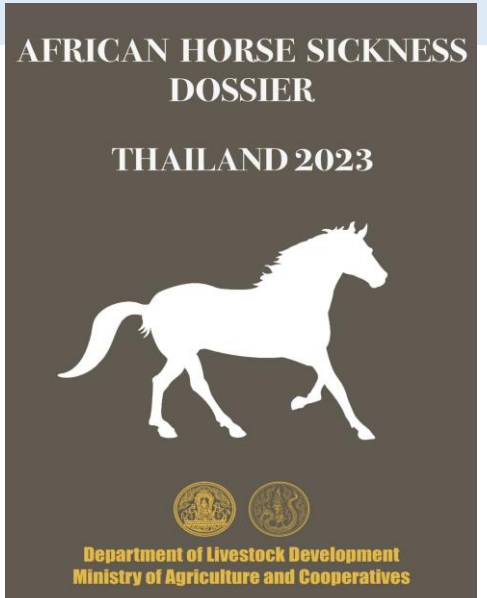
African Horse Sickness Dossier

Topic in AHS Dossier (7 Chapter)

- ❖ Chapter 1 Introduction
- ❖ Chapter 2 Veterinary System
- ❖ Chapter 3 AHS Eradication
- ❖ Chapter 4 AHS diagnosis
- ❖ Chapter 5 AHS surveillance
- ❖ Chapter 6 AHS prevention
- ❖ Chapter 7 Control measures and contingency plan

All activities for reinstate of AHS from WOAH

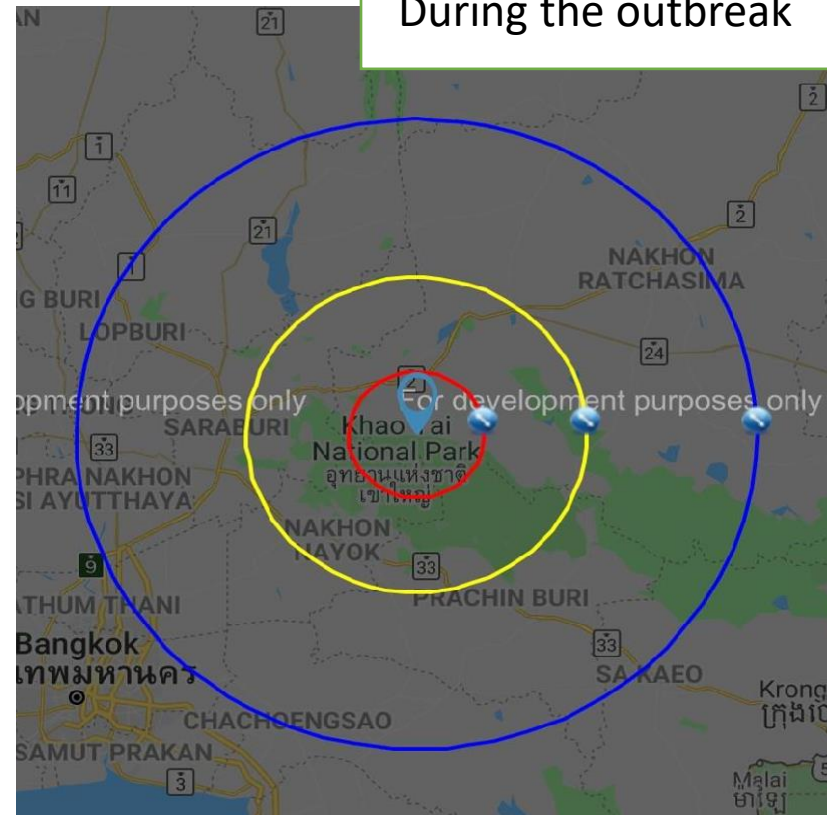
Timeline for reinstate of AHS from WOAH





Outbreak response area for control measure purposes

During the outbreak

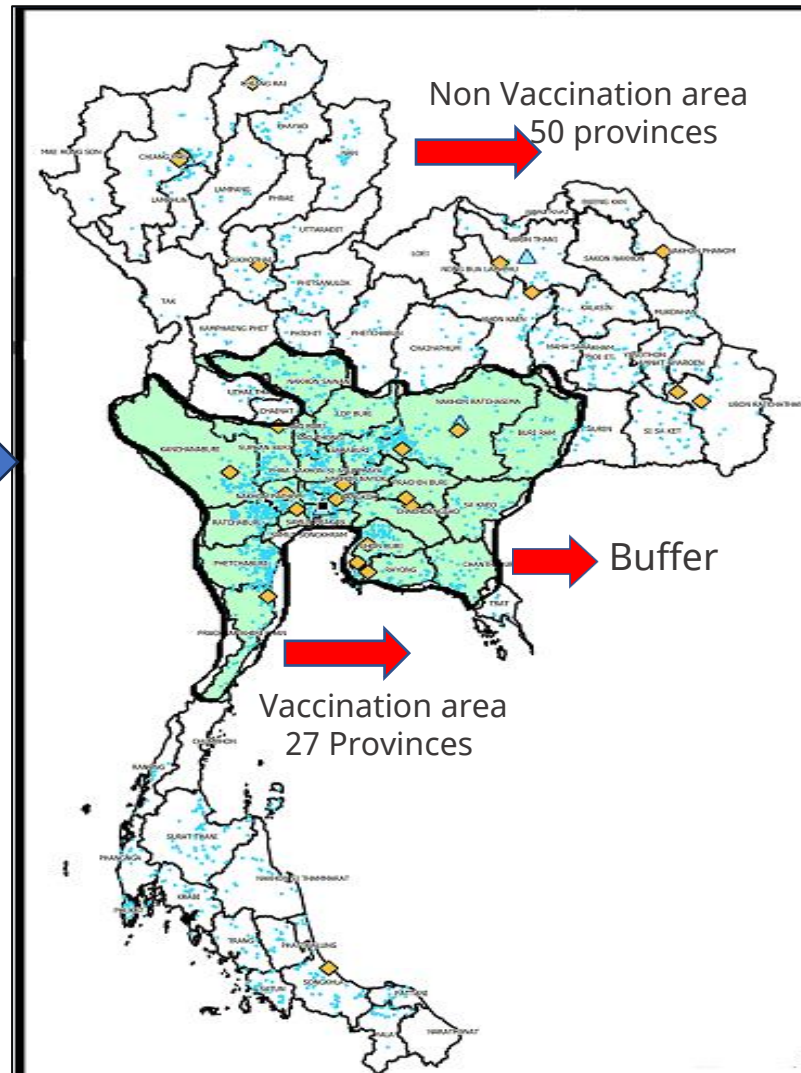


1. Infected Zone : 20 Km. radius from index point

2. Protection Zone : 50 Km. radius from index point

3. Surveillance Zone : 100 Km. radius from index point

After the outbreak stop
(Surveillance phase)



Movement control

Surveillance plan

Horse Cross sectional survey

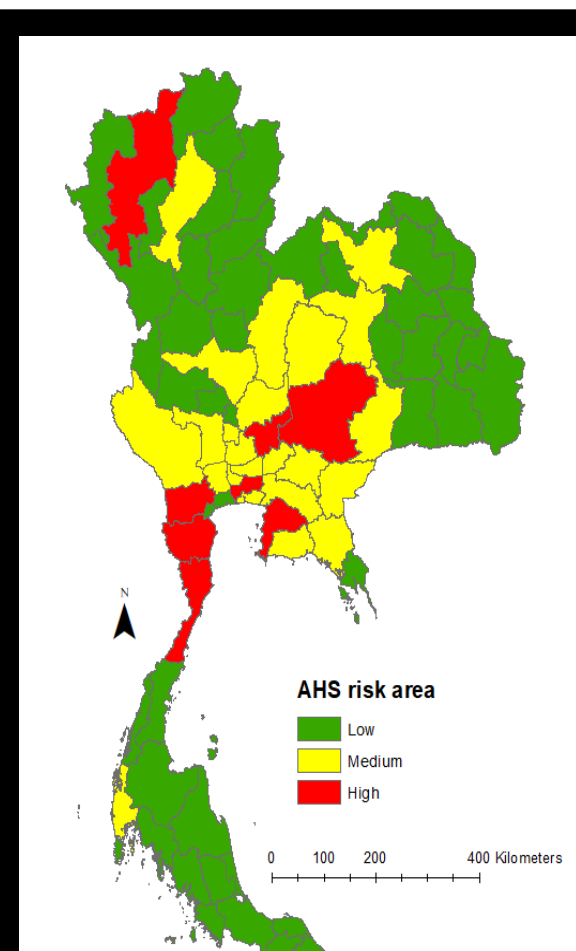
Zebra Cross sectional survey

Placing of Sentinel animal



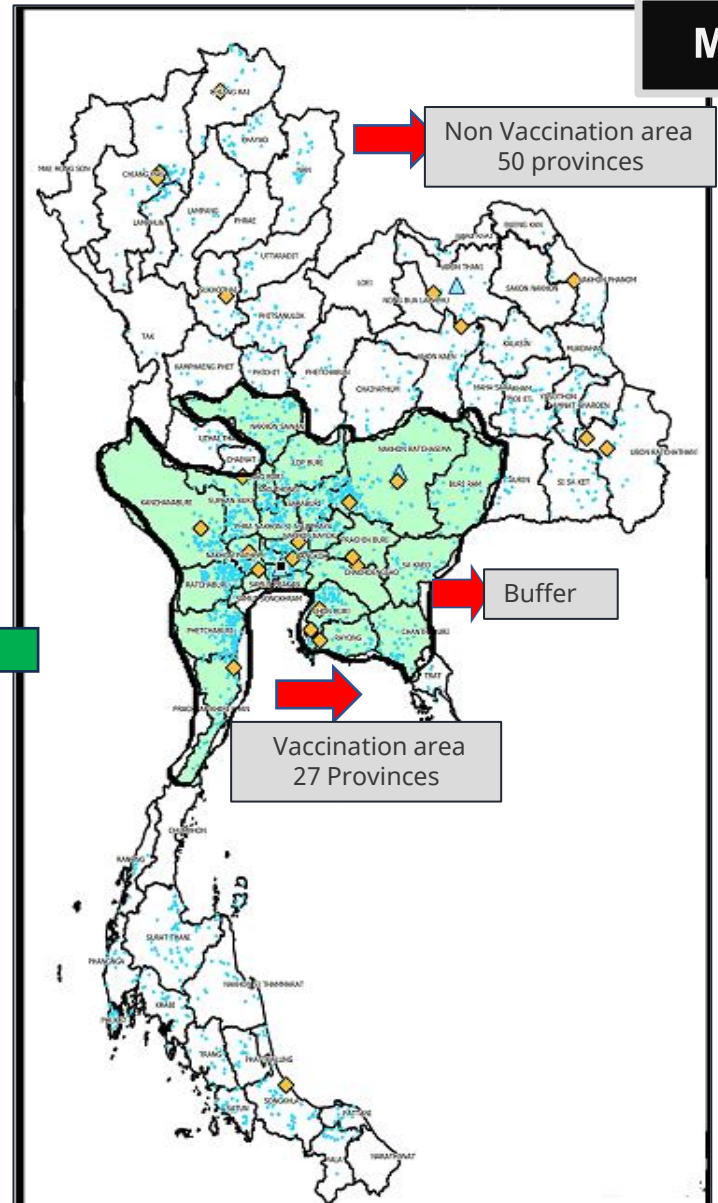
Overall Surveillance plan

Risk assessment of AHS to support regulatory measures



Risk Map of AHS in Thailand

Low Risk	Medium Risk	High Risk
Amnat Charoen	Ang Thong	Bangkok
Bueng Kan	Buri Ram	Chachoengsao
Chai Nat	Chaiyaphum	Chiang Mai
Chiang Rai	Chanthaburi	Chon Buri
Chumphon	Kanchanaburi	Nakhon Ratchasima
Kalasin	Khon Kaen	Phetchaburi
Kamphaeng Phet	Lampang	Prachuap Khiri Khan
Krabi	Lop Buri	Ratchaburi
Lamphun	Maha Sarakham	Saraburi
Loei	Nakhon Nayok	
Mae Hong Son	Nakhon Phanom	
Mukdahan	Nakhon Sawan	
Nakhon Phanom	Nonthaburi	
Nakhon Si Thammarat	Pathum Thani	
Nan	Phetchabun	
Narathiwat	Phra Nakhon Si Ayutthaya	
Nong Bua Lamphu	Phra Nakhon Buri	
Nong Khai	Rayong	
Pattani	Roi Et	
Phatthalung	Sa Kaeo	
Phayao	Samut Prakan	
Phichit	Samut Sakhon	
Phitsanulok	Samut Songkhram	
Phrae	Sing Buri	
Phuket	Suphan Buri	
Ranong	Udon Thani	
Sakon Nakhon		
Satun		
Si Sa Ket		
Songkhla		
Sukhothai		
Surat Thani		
Surin		
Tak		
Trang		
Trat		
Ubon Ratchathani		
Uthai Thani		
Uttaradit		
Yala		



Main regulatory measures

- ↓
- Movement control
- Surveillance plan
- Zebra Cross sectional survey
- Horse cross sectional survey
- Placing of sentinel animal

Factors for risk analysis

1. Equids movement estimate
2. Equids population and distribution
3. Outbreak area
4. Distance from index case

Surveillance plan

The principles for *surveillance* for disease or *infection* are technically well defined. *Surveillance* programmes to prove the absence of AHSV *infection* or transmission

Vector Surveillance

- Risk vector species were detected
- Distribution of vector

Serological surveillance Sentinel Surveillance

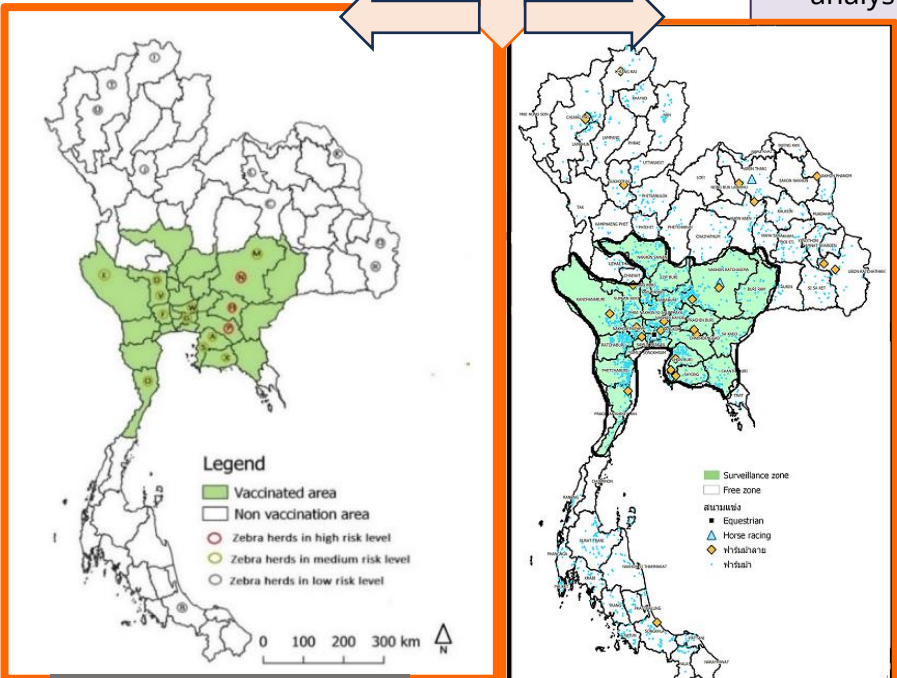
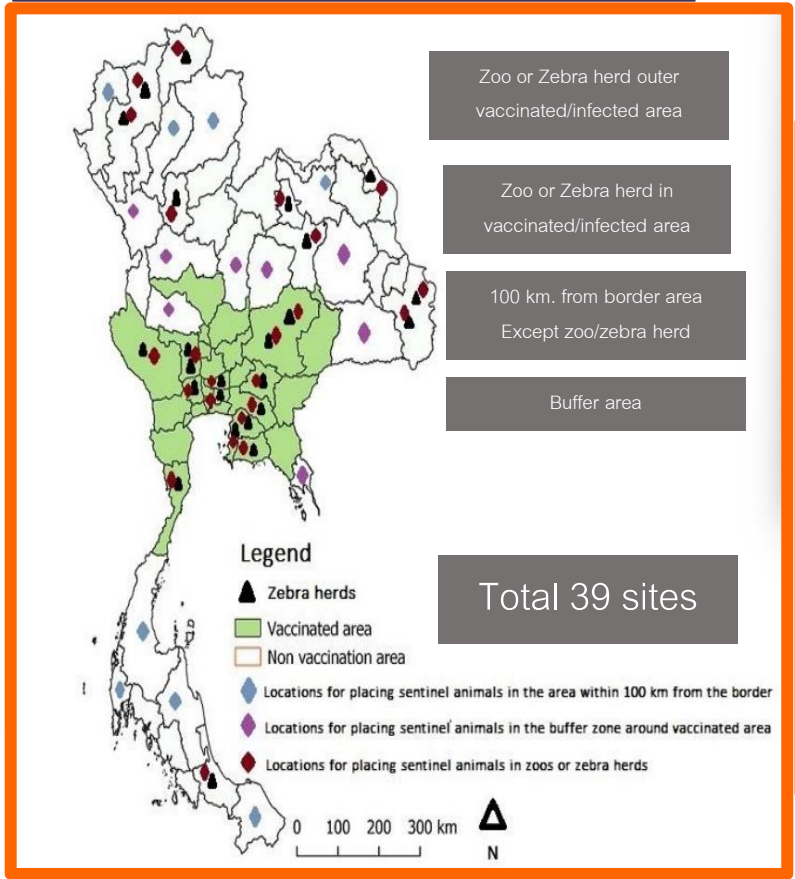
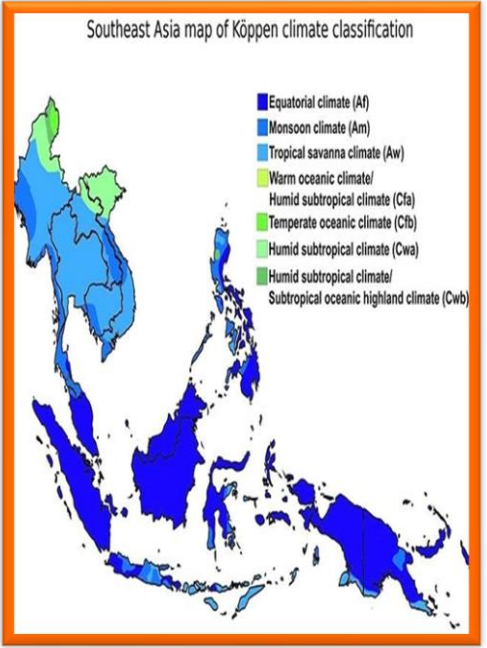
- Set up in risk areas
- Data collection of sentinel (Identified , same age, Naïve animal; dedicated stable area)
- Sample collection monthly

Serological surveillance Cross Sectional Survey

- Zebra herd
- Horse herd
- Sample size depends on risk map
- Collect sample during 2 years at regular intervals

Clinical surveillance

- Network communication >> Farmers , TEF, Horse Racing, Polo club, Zoo and wildlife, DNP, animal husbandry, Volunteer , Veterinary council
- Farm visits
- Zero-reporting
- Outpatient department record analysis



Total 246 samples were taken from zebra

Total 1436 samples were taken from horses

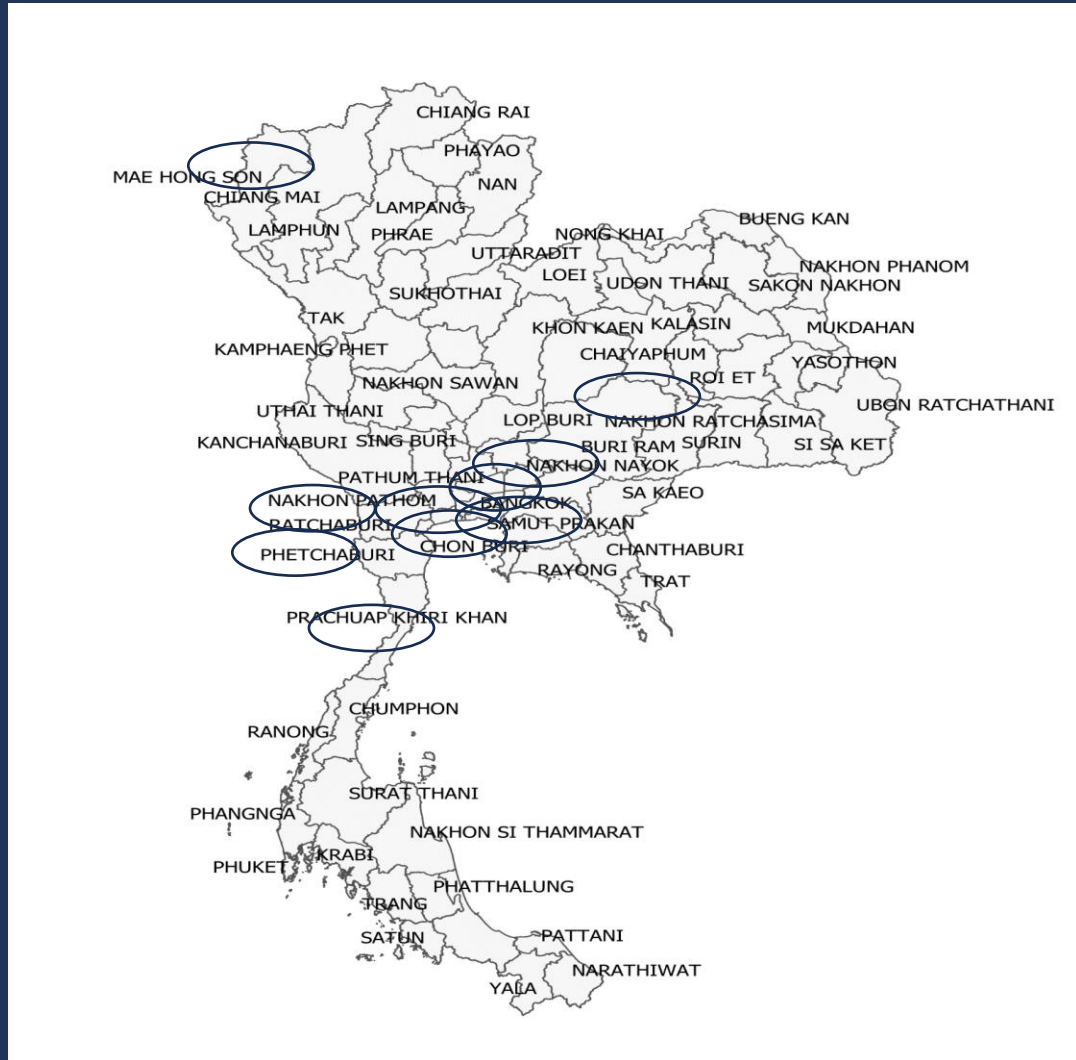




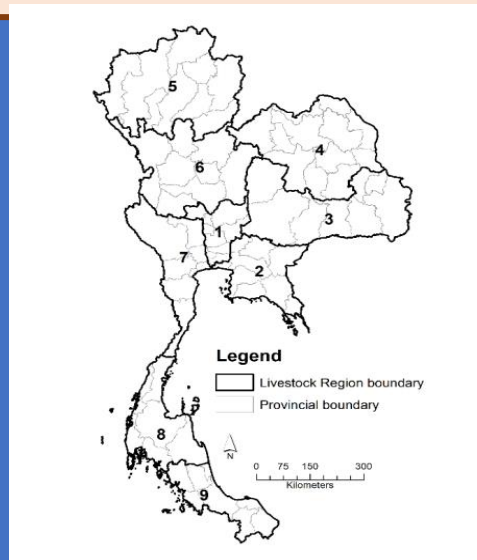
Measures after reinstate of AHS free country from WOH

Measures after reinstate of AHS free country from WOH

Sentinel area for sentinel surveillance



Movement control Measures



Veterinarian Officer

- Documentation Check
- Approved via E Movement

Official laboratory report of AHS (RT-PCR method) from

- DLD's Laboratory or
- Interlaboratory
- Result can use for approved a movement certification between 40 days after official paper was reported

Province



Province



Contingency plan



Contingency Plan

Zoning response

1. Infected Zone : 20 Km. radius from index point

Sample collection
Quarantine animals
Ring Vaccination

2. Protection Zone : 50 Km. radius from index point

Surveillance plan

- Clinical Surveillance
- Passive
- Active
- Raising awareness

- Disinfection of risk area
- Vector control
- Improvement of farm biosecurity
- Warning and promote collaboration between network , stakeholders , university , government
- Vaccination campaign

3. Surveillance Zone : 100 Km. radius from index point

Law enforcement : Animal Epidemics Act, B.E. 2558 (2015)

- ❖ Temporary epidemic zone (Only the designated zone within a province announced by local veterinary authority)
- ❖ Epidemic surveillance zone (Whole province announced by governor)

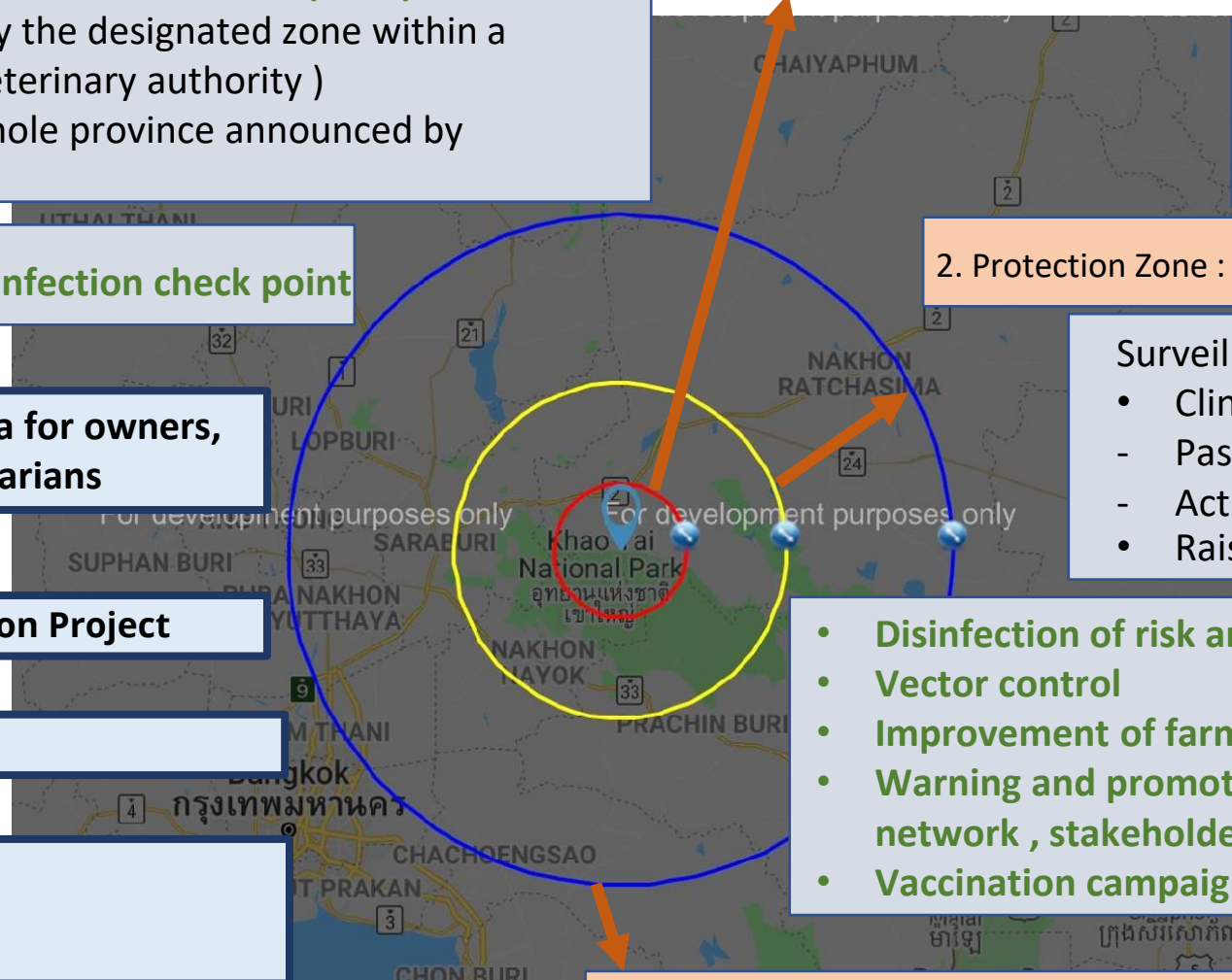
Animal movement control and disinfection check point

Control measures of AHS in zebra for owners, stakeholders, and veterinarians

Horse identification and Registration Project

Public Private partnerships

Raising stakeholder awareness
Case definition
Risk communication





Summary

- **African horse sickness (AHS) is a life-threatening hemorrhagic disease of equid and No efficient treatment available**
- **Endemic to sub-Saharan Africa**
- **AHS is a reportable, noncontagious, nonzoonotic, arthropod-borne viral disease of equid**
- **Notifiable disease listed by WOAHP due to the high mortality rate and potential for rapid spread**
- **Notifiable disease to DLD (Epidemics Act B.E 2015)**
- **PPP, collaboration, public awareness is key of success**
- **Effectively surveillance plan**
- **Regulatory measures for the early detection, prevention and control of infection with AHSV have been implemented.**



Thank you

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