World Organisation for Animal Health

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# WOAH Collaborative Centre Reports Activities 2025

**This report has been submitted: 13 mars 2026 17:59**

## CENTRE INFORMATION

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|---|---|
| ***Title of WOAH Collaborating Centre** | Wildlife Health Surveillance and Epidemiology |
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| ***Name Director of Institute (Responsible Official):** | Assoc. Prof. Walasinee Sakcamduang |
| ***Name (including Title and Position) of Head of the Collaborating Centre (WOAH Contact Point):** | Assoc. Prof. Witthawat Wiriyarat |
| ***Name of the writer:** | Witthawat Wiriyarat |

## TOR 1 AND 2: SERVICES PROVIDED

1. Activities as a centre of research, expertise, standardisation and dissemination of techniques within the remit of the mandate given by WOAH

| Category | Title of activity | Scope |
|---|---|---|
| Wildlife (true) | Secretariat of the Southeast Asia Wildlife Health Network (SEA-WHN) | Serving as the Secretariat of the Southeast Asia Wildlife Health Network (SEA-WHN), which facilitates regional coordination on wildlife health among ASEAN Member States. The Secretariat works closely with the Wildlife Focal Points of the World Organisation for Animal Health (WOAH) in each ASEAN Member State to strengthen collaboration and information exchange related to wildlife health. Key activities include coordinating quarterly virtual meetings among members and supporting the organisation of the annual regional meeting involving participating countries and relevant partners. The current mandate of the Secretariat covers the period 2022–2027. The network aims to: • Provide a platform for the timely sharing of information on wildlife health and emerging wildlife diseases in the region. • Facilitate capacity building in wildlife disease surveillance and provide technical assistance to member countries. • Develop and |

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| | | maintain a regional database of wildlife health experts across multiple disciplines and promote the exchange of expertise for capacity development and collaborative scientific research. • Undertake collaborative and joint activities among members to advance the regional wildlife health agenda. |
| Wildlife (true) | Training for Wildlife Health Partners in the Asia–Pacific Region | Organisation and delivery of training programmes aimed at strengthening the technical capacity of wildlife health partners across the Asia–Pacific region. These activities focus on improving skills in wildlife disease surveillance, investigation, and diagnostic techniques to support early detection and response to wildlife diseases and zoonotic threats. Training activities include both field-based and laboratory-based components. Field training covers wildlife disease investigation and safe wildlife sample collection techniques. Laboratory training focuses on diagnostic methods for priority zoonotic and wildlife diseases, including rabies diagnosis and specific bacteriological techniques such as the isolation and identification of Leptospira spp. |
| Wildlife (true) | Collaborative Research and Information Dissemination on Wildlife and Emerging Diseases | Conducting collaborative research and facilitating the dissemination of scientific information at both national and Asia–Pacific regional levels to support early detection and understanding of wildlife diseases. These activities focus on emerging and re-emerging pathogens circulating in wildlife and exotic animal populations that may pose risks to animal and human health. Research collaborations include investigations of pathogens detected in wildlife, such as Chlamydophila infections reported in wild reptiles and the occurrence of canine distemper virus in wild felid populations. In addition, ongoing surveillance and research activities address emerging diseases in wildlife and exotic pets that may have potential impacts on both animal and public health, including antimicrobial resistance (AMR), avian influenza, and SARS-CoV-2. The Centre also contributes to the dissemination of scientific knowledge through global collaboration and participation in international initiatives aimed at strengthening wildlife health networks. These activities include academic collaboration and information sharing in support of global policy development and early warning systems, including contributions to the Wildlife Health Intelligence Network (WHIN). |

# TOR 3: HARMONISATION OF STANDARDS

2. Proposal or development of any procedure that will facilitate harmonisation of international regulations applicable to the main fucus area for which you were designated

| Proposal title | Scope/Content | Applicable Area |
|---|---|---|
| | This short-term program, lasting 5–7 days, is designed for international participants, including undergraduate and postgraduate students as well as professionals in related fields. The program aims to support the internationalization of the | |

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| Summer Horizons: Laboratory Trainings in Veterinary Science | Faculty of Veterinary Science through the active involvement of faculty members and staff. In addition, the program promotes the establishment of academic collaboration networks and enhances the international visibility of the Faculty. The Science program has been conducted since 2024 and continues to the present. In 2025, a total of six participants attended the program, representing several institutions, including National University of Singapore, Universitas Airlangga (Indonesia), and Chiang Mai University (Thailand). Under this program, MoZWE organized two training courses: 1. Molecular Biology Laboratory: This course provides participants with hands-on training in both field and laboratory techniques related to wildlife disease surveillance. Participants are trained in the placement of live traps for pest species belonging to the order Rodentia (e.g., rats and squirrels) and the order Scandentia (e.g., tree shrews). The training also includes animal handling and restraint techniques. Participants further gain practical experience in molecular diagnostic techniques, including Polymerase Chain Reaction (PCR) and Real-time Polymerase Chain Reaction (Real-time PCR), as well as next-generation sequencing (NGS) for the detection of Leptospira spp. and Yersinia pestis. In addition, the course introduces biosafety practices and procedures relevant to both fieldwork and laboratory activities. 2. Rabies: Fluorescent Antibody Virus Neutralization Test (FAVN) Laboratory This course provides practical training on the detection of rabies virus–neutralizing antibodies using the Fluorescent Antibody Virus Neutralization (FAVN) test. Participants also receive instruction on cell culture techniques used in rabies serological assays. | Laboratory Expertise<br>Training and Education |
| Preparation for Accreditation as a Proficiency Testing Provider under ISO/IEC 17043:2023 | The Centre has initiated a project to prepare for accreditation of the MoZWE laboratory as a Proficiency Testing Provider (PTP) under ISO/IEC 17043:2023. This international standard specifies the general requirements for organizations that develop and operate proficiency testing (PT) schemes used to assess laboratory performance. The project aims to establish a management and operational system aligned with ISO/IEC 17043:2023 to enable the laboratory to design and implement technically reliable, impartial, and internationally recognized PT programs. In addition, the project incorporates the application of ISO 13528:2022 to ensure robust and reliable statistical analysis of PT results. Through this initiative, the Centre seeks to strengthen quality assurance and promote harmonised laboratory practices in diagnostic testing. The project includes the development of management systems, preparation of personnel and infrastructure, and the establishment of operational procedures necessary for PT program implementation. Our laboratory expects to obtain accreditation under ISO/IEC 17043:2023 by 2028, which will enable the Centre to provide internationally recognised proficiency testing programmes to laboratories in the region and support the harmonisation and comparability of diagnostic testing capacity among countries. | Laboratory Expertise |
| International Internship Programme on Zoonotic Disease Diagnostics and Surveillance | The Centre provides an international internship programme for regional partners to strengthen capacity in wildlife and zoonotic disease surveillance and diagnostics. The programme promotes the exchange of technical knowledge and the harmonisation of surveillance and laboratory practices across participating countries. Participants receive hands-on training in wildlife field sampling, laboratory diagnostics, sample handling, and biosafety practices. Laboratory rotations include molecular biology, vector-borne disease diagnostics, virology and cell | Laboratory Expertise<br>Training and Education<br>Wildlife Health and Biodiversity |

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|---|---|---|
| | culture, bacteriology, immunology, and immunohistochemistry under the supervision of laboratory specialists. Through this programme, participants gain practical experience in wildlife disease investigation and laboratory workflows, and acquire surveillance techniques that can be adapted and implemented in their respective countries, thereby supporting regional capacity building and harmonised surveillance approaches. | |

3. In exercising your activities, have you identified any regulatory research needs* relevant for WOAH?

Yes

## Research need 1

**Please type the Research need:** Research to strengthen surveillance of wildlife diseases and emerging infectious diseases (EIDs) through the development and application of improved surveillance approaches, including standardised field sampling methods, diagnostic strategies, and data-sharing mechanisms for wildlife health intelligence.

**Relevance for WOAH** Disease Control, Capacity Building, Standard Setting, Facilitation of international collaboration,

**Relevance for the Code or Manual** Manual,

**Field** Epidemiology and Surveillance, Diagnostics,

**Animal Category** Terrestrial,

**Disease:**

Anthrax
Avian influenza
Japanese encephalitis
Leptospirosis
Lumpy skin disease
Q fever
Rabies

**Kind of disease (Zoonosis, Transboundary diseases)** Zoonosis, Transboundary diseases,

**If any, please specify relevance for Codes or Manual, chapter and title**

(e.g. Terrestrial Manual Chapter 2.3.5 - Minimum requirements for aseptic production in vaccine manufacture)

*Answer:* • Chapter 1.1 – Notification of Diseases and Epidemiological Information • Chapter 1.4 – Animal Health Surveillance • Manual of Diagnostic Tests and Vaccines for Terrestrial Animals

**Notes:**

*Answer:*

## Research need 2

**Please type the Research need:** Community-based surveillance approaches to improve detection and reporting of zoonotic diseases at the human–wildlife interface.

**Relevance for WOAH** Disease Control, Capacity Building,

**Relevance for the Code or Manual** Manual,

**Field** Epidemiology and Surveillance,

**Animal Category** Terrestrial,

**Disease:**

**Kind of disease (Zoonosis, Transboundary diseases)** Zoonosis,

**If any, please specify relevance for Codes or Manual, chapter and title**

(e.g. Terrestrial Manual Chapter 2.3.5 - Minimum requirements for aseptic production in vaccine manufacture)

*Answer:* Relevant to the WOAH Terrestrial Animal Health Code, particularly Chapter 1.4 (Animal Health Surveillance)

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**Notes:**

*Answer:*

4. Did your Collaborating Centre maintain a network with other WOAH Collaborating Centres (CC), Reference Laboratories (RL), or organisations designated for the same specialty, to coordinate scientific and technical studies?

Yes

| Name of WOAH CC/RL/other organisation(s) | Location | Region of networking Centre | Purpose |
|---|---|---|---|
| WOAH Collaborating Centre for Wildlife Health Risk Management, Australia, the WOAH Collaborating Centre for Wildlife Trade and Wildlife Health, Singapore, as well as Thai and international partners. | Thailand | Asia y el Pacífico | To provide training for World Organisation for Animal Health (WOAH) Members and partners in the Asia–Pacific region on sample collection for avian influenza and environmental surveillance. |
| International Union Conservation Nature (IUCN) | Vietnam | Asia y el Pacífico | To train One Health practitioners in Viet Nam on the practical application of the WOAH Guidelines for Addressing Disease Risks in Wildlife Trade, using scenario-based exercises that reflect real-world situations related to wildlife trade and associated disease risks. |

# TOR 4 AND 5: NETWORKING AND COLLABORATION

5. Did your Collaborating Centre maintain a network with other WOAH Collaborating Centres, Reference laboratories, or organisations in other disciplines, to coordinate scientific and technical studies?

Yes

| Name of WOAH CC/RL/other organisation(s) | Location | Region of networking Centre | Purpose |
|---|---|---|---|
| Country members of the Southeast Asia Wildlife Health Network (SEA-WHN) | Virtual meetings | Asia and Pacific | To coordination on wildlife health among ASEAN Member States and works closely with the Wildlife Focal Points of the World Organisation for Animal Health in each country. Key activities include coordinating quarterly virtual meetings and supporting the organisation of annual regional meetings with participating countries and partners. Through this role (mandate 2022–2027), the network provides a platform for timely information sharing on wildlife health and |

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| | | | emerging diseases, promotes capacity building in wildlife disease surveillance, facilitates technical exchange and collaboration among experts, and supports joint regional activities to advance the wildlife health agenda. |
| Wildlife Health Intelligence Network | Virtual meetings | Africa<br>Americas<br>Asia and Pacific<br>Europe<br>Middle East | To bridge disciplines and scales to identify collaborative, evidence-based solutions for wildlife health surveillance. The network will establish a consortium to develop a coherent framework for the regulation and implementation of wildlife health surveillance systems globally, supported by the synthesis of available data to strengthen the evidence base for scaling these systems efficiently. |
| WOAH Collaborating Centre for Wildlife Health Risk Management, Australia, the WOAH Collaborating Centre for Wildlife Trade and Wildlife Health, Singapore, as well as Thai and international partners. | Thailand | Asia and Pacific | To develop curriculum training for WOAH Members and partners in the Asia–Pacific region on sample collection for avian influenza and environmental surveillance. |

# TOR 6: EXPERT CONSULTANTS

6. Did your Collaborating Centre place expert consultants at the disposal of WOAH?

Yes

| Name of expert | Kind of consultancy | Subject |
|---|---|---|
| Parntep Ratanakorn | Technical | WOAH Ad Hoc Group on Emerging Diseases and Drivers of Disease Emergence in Animals |
| Sarin Suwanpakdee | Technical | WOAH ad hoc group on risk management practices at the domestic-wild animal interface |
| Anuwat Wiratsudakul | Regional Coordination of Wildlife Health | Secretariat of the Southeast Asia Wildlife Health Network (SEA-WHN) |

# TOR 7: SCIENTIFIC AND TECHNICAL TRAINING

7. Did your Collaborating Centre provide advice/services to requests from Members in your main focus area?

Yes

*The Centre provided technical advice and expert support in response to requests from Members and partners in its focus area. This included:*
*1. Providing expert advice and planning support for laboratory training and biosafety capacity building for One Health partners from Thai government agencies involved in laboratory diagnosis; and*
*2. Providing expert input to support the design and delivery of the training "Applying Risk Analysis Process – the Importance of Context to Reducing Disease Risks in Wildlife Trade Systems," held on 27–28 May 2025 in Ha Noi, Viet Nam. The Centre contributed to the development of training content and methodology based on the WOAH Guidelines for Addressing Disease Risks in Wildlife Trade, in collaboration with IUCN, TRAFFIC, and other international partners.*

8. Did your Collaborating Centre provide scientific and technical training, within the remit of the mandate given by WOAH, to personnel from WOAH Members?

Yes

a) Technical visit : 1

b) Seminars : 0

c) Hands-on training courses: 5

d) Internships (>1 month) : 0

| Type of technical training provided (a, b, c or d) | Content | Country of origin of the expert(s) provided with training | No. participants from the corresponding country |
|---|---|---|---|
| A | Supporting for the preparation of laboratory training and biosafety capacity building | Thailand | 3 |
| C | Training was provided to World Organisation for Animal Health (WOAH) Members and partners in the Asia–Pacific region on sample collection for avian influenza and environmental surveillance. | Global | 30 |
| C | Providing expert input to support the design and delivery of the training on WOAH Guidelines for Addressing Disease Risks in Wildlife Trade in Viet Nam | Southeast Asia | 40 |
| C | 18th Asian Society for Conservation Medicine (ASCM) Conference: https://rr-asia.woah.org/en/events/woah-at-the-18th-ascm-conference-2025/ | Asia–Pacific | 25 |
| C | Summer Horizons: Laboratory Trainings in Veterinary Science program | Southeast Asia | 4 |
| C | Student Internship Program | Asia-Pacific | 3 |

# TOR 8: SCIENTIFIC MEETINGS

9. Did your Collaborating Centre organise or participate in the organisation of scientific meetings related to your main focus area on behalf of WOAH?

No

# TOR 9: DATA AND INFORMATION DISSEMINATION

10. Publication and dissemination of any information within the remit of the mandate given by WOAH that may be useful to Members of WOAH
a) Articles published in peer-reviewed journals:

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*1. Changbunjong T, Chamsai T, Tangsudjai S, Sangkachai N, Mongkolphan C, Prasittichai L, Chaiphongpachara T. Molecular detection and characterization of haemoparasites in captive tigers (Panthera tigris) from Thailand. Current Research in Parasitology & Vector-borne Diseases. 2025 Jan 1;7:100249.*
*2. Changbunjong T, Weluwanarak T, Laojun S, Chaiphongpachara T. Species classification of Tabanus (Diptera: Tabanidae) in Western Thailand: Integrating DNA barcoding and modern morphometrics. Current Research in Parasitology & Vector-Borne Diseases. 2025 Jan 1;7:100243.*
*3. Junsiri W, Thanasak J, Ayudhaya TI, Chaiwattanarungruengpaisan S, Taweethavonsawat P. Unveiling hidden threats: Molecular surveillance of bacterial and protozoan infections in Asian water monitors (Varanus salvator) at Thailand's Khao-zon Wildlife Breeding Station. Current Research in Parasitology & Vector-borne Diseases. 2025 Jan 1;7:100250*
*4. Suwanpakdee S, Wiratsudakul A, Chaisilp N, Prasittichai L, Skulpong A, Maneeorn P, Bhusri B, Mongkolpan C, Buddhirongawatr R, Taowan J, Wongluechai P. Canine distemper outbreak and laryngeal paralysis in captive tigers (Panthera tigris). BMC Veterinary Research. 2025 Jan 24;21(1):33.*
*5. Thongdee M, Chaiwattanarungruengpaisan S, Ketchim N, Sangkachai N, Arya N, Sirimanapong W, Wiriyarat W, Puthavathana P, Paungpin W. Evidence of avian and human influenza A virus infection in farmed Siamese crocodiles (Crocodylus siamensis) in Thailand. Plos one. 2025 Jan 7;20(1):e0317035.*
*6. Laojun S, Changbunjong T, Chaiphongpachara T. Intraspecific genetic variation in the lymphatic filariasis vector Mansonia dives (Diptera: Culicidae) in Thailand: Hidden species or genetically divergent populations?. Acta Tropica. 2025 Feb 1;262:107526.*
*7. Thanapongtharm W, Wiratsudakul A, Gilbert M, Chamsai T, Pabutta C, Wiriyarat W, Oh Y, Jayme S, Songsaeng N, Maneekan K, Yano T. Spatial prediction of wild boar distribution in Thailand applications for African swine fever prevention and control. Scientific reports. 2025 Mar 22;15(1):9987.*
*8. Tonchiangsai K, Wiratsudakul A, Kasemsuwan S, Buddhirongawatr R, Thanapongtharm W, Kledmanee K, Chamsai T, Sangkachai N, Sangkharak B, Aramsirirujiwet P, Suwanpakdee S. Quantitative risk assessment and interventional recommendations for preventing canine distemper virus infection in captive tigers at selected wildlife stations in Thailand. PloS One. 2025 Apr 17;20(4):e0320657.*
*9. Inthawong P, Huaijantug S, Plangsangmas T, Piyarungsri K, Angkawanish T, Langkaphin W, Kosaruk W, Pabutta C, Kijpraiboon S, Mitchell MA, Wattananit P. Transcutaneous ultrasonography for visualization of the kidneys in captive Asian elephants (Elephas maximus): a quantitative assessment of echogenicity and echotexture in comparison with the liver and spleen. BMC Veterinary Research. 2025 May 26;21(1):376.*
*10. Chaiphongpachara T, Changbunjong T, Laojun S. Taxonomic signal in the wing cells of Lutzia mosquitoes (Diptera: Culicidae) in Thailand: An outline-based geometric morphometric approach. Journal of Advanced Veterinary and Animal Research. 2025 Jun 2;12(2):516.*
*11. Sangkachai N, Wiratsudakul A, Randolph DG, Whittaker M, George A, Nielsen MR, Hogarth N, Pfeiffer DU, Smith-Hall C, Nameer PO, Hassan L. Advancing green recovery: Integrating one health in sustainable wildlife management in the Asia-Pacific Indigenous People and Local Communities. One Health. 2025 Jun 1;20:100969.*
*12. Suwanpakdee S, Bhusri B, Saechin A, Mongkolphan C, Tangsudjai S, Suksai P, Kaewchot S, Sariwongchan R, Sereerak P, Sariya L. Potential Zoonotic Infections Transmitted by Free-Ranging Macaques in Human–Monkey Conflict Areas in Thailand. Zoonoses and Public Health. 2025 Jun;72(4):349-58.*
*13. Chapoopuang W, Jai-Oun S, Gulmala K, Panpongsith P, Suankaew P, Ratanapisutpun P, Weluwanarak T, Chaiphongpachara T, Changbunjong T. Seasonal variation in wing morphometry of the stable fly Stomoxys calcitrans (Diptera: Muscidae) in Thailand: Climatic effects on phenotypic traits. Acta Tropica. 2025 Aug 30:107813.*
*14. Ghafoor D, Kinobe R, Chen CC, Prasetsincharoen N, Chomchat P, Sangkachai N, Hayakijkosol O. Characterisation of the antimicrobial resistance profile of culturable Gram-negative bacterial isolates from green sea turtles (Chelonia mydas) in the Gulf of Thailand. Marine environmental research. 2025 Aug 19:107466.*
*15. Mongkolphan C, Saechin A, Chamsai T, Sedwisai P, Boonyarittichaikij R, Tangsudjai S. Ehrlichia canis and Hepatozoon spp. in captive tigers in Thailand. International Journal for Parasitology: Parasites and Wildlife. 2025 Aug 1;27:101105.*
*16. Changbunjong T, Duvallet G, Laojun S, Chaiphongpachara T. Is Stomoxys calcitrans a single species? Morphometric and genetic perspectives from populations in Thailand and Spain. Current Research in Parasitology & Vector-borne Diseases. 2025 Sep 3:100315.*
*17. Laojun S, Changbunjong T, Kamoltham T, Chaiphongpachara T. An integrative approach to DNA barcoding, geometric morphometrics, and machine learning for field identification of Culex mosquitoes (Diptera: Culicidae), with implications for vector-borne disease surveillance. Acta Tropica. 2025 Oct 26:107885.*
*18. Laojun S, Changbunjong T, Kaewthamasorn M, Charnwichai P, Kaewmee S, Wichit S, Hamel R, Chaiphongpachara T. Accurate identification of medically important Aedes mosquitoes (Diptera: Culicidae) in Thailand through DNA barcoding, wing geometric morphometrics, and machine learning. Current Research in Parasitology & Vector-Borne Diseases. 2025 Oct 31:100334.*
*19. Sleeman JM, Barton Behravesh C, Wiratsudakul A, Suwanpakdee S. Enhancing Multi-Sector Collaboration and Integrating Nature-Based Solutions for Better One Health Policy Outcomes. Current Clinical Microbiology Reports. 2025 Oct 31;12(1):22.*

b) International conferences:

c) National conferences:

d) Other (Provide website address or link to appropriate information):

1

*1. Draft of Training Cirriculum on Sample Collection for Avian Influenza and Environmental Surveillance.*
*https://rr-asia.woah.org/en/events/wildlife-sample-collection-for-avian-influenza-and-environmental-surveillance/*

11. What have you done in the past year to advance your area of focus, e.g. updated technology?

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12. Additional comments regarding your report:
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