WOAH Collaborative Centre Reports Activities 2023

Activities in 2023

This report has been submitted : 5 juin 2024 01:40

Centre Information

Title of WOAH Collaborating Centre	Wildlife Health Australia (WHA) WOAH Collaborating Centre in Wildlife Health Risk Management
Address of WOAH Collaborating Centre	Wildlife Health Australia, 490 Northbourne Avenue, Canberra, ACT, 2602, Australia
Tel.:	+61299606333
E-mail address:	sunwin@wildlifehealthaustralia.com.au
Website:	https://wildlifehealthaustralia.com.au/Our-Work/International-One-Health
Name Director of Institute (Responsible Official):	Rupert Woods
Name (including Title and Position) of Head of the Collaborating Centre (WOAH Contact Point):	Steve Unwin (Program Manager International One Health)
Name of the writer:	Steve Unwin

TOR1 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)	Creation of an Integrated Online Knowledge Hub in Wildlife Health Risk Management	Phase 1 of this project (2023-2024) is seeing content collation and creation based on collaborating centre activities with partners to build capacity in wildlife health skillsets and practitioner mental resilience. Platform: Canvas (in partnership with the University of Minnesota), which provides a 'links hub' for online training opportunities and wildlife health resources. Modules in development (2023-24) Section 1. Community resilience - Components include: The importance of mental resilience for wildlife health community sustainability, Mental health and wellbeing, A Mental Health Case Study: An Indonesian Perspective, Self-care and wildlife health community resilience, and Scientific writing and study design. Section 2. Systems thinking and a One Health toolkit for managing wildlife health risk at the human-wildlife interface - Components include: Systems thinking, An introduction to an all-hazards approach to disaster management, An introduction to wildlife health risk analysis, An introduction to wildlife health surveillance in South East Asia, Wildlife Forensics, An introduction to biosecurity and biosafety for those working at the

		human-wildlife interface, Infectious disease biosafety at the human-wildlife interface, The importance of wildlife welfare and integration of health into conservation outcomes, The role of economics in wildlife health, Communications strategies in conservation, and The problem-orientated approach and ethical decision-making. Section 3. Wildlife Health Case Studies - Components include: The Microbiome in One Health Systems, Spillover and spillback - Infectious disease in a One Health system: SARS CoV-2. Mycobacterium tuberculosis complex, Nipah, Wildlife translocations.
Wildlife (true)	Wildlife Health Australia (WHA) Australian Operations	WHA administers Australia's general wildlife health surveillance system, in partnership and coordination with 45 government and non-government surveillance partner organisations from the environment, health and agricultural sectors. This includes environment, health and biosecurity government agencies, veterinarians at sentinel zoo-based wildlife hospitals, veterinary clinics and universities, as well as wildlife rehabilitators, researchers, other wildlife health professionals and members of the public. Information on 800-1000 wildlife disease events, covering over 300 species (native and feral free-ranging wildlife, captive wildlife) from across Australia is collected, analysed and reported into a national database, the electronic Wildlife Health Information System (eWHIS). The system prioritises and delivers vital wildlife health information and advice to decision-makers to support effective strategies for prevention, preparedness and response to wildlife disease and health threats. This information is provided in line with the agreed policy for data security. This aligns with our WOAH remit of managing emerging risk, by providing accurate intelligence for risk management decision-making. Selected publically available (on the WHA website) outputs of relevance to WOAH's remit for the collaborating centre (2022-2023): 1. Surveillance reports. 2. Wildlife health factsheets (N=150). 3. Wildlife health incident reports. 4. Disease risk assessments and wildlife health guidelines.
Wildlife (true)	Wildlife Disease Risk Analysis course	This online Wildlife Disease Risk Analysis course (WDRA) is jointly delivered by the IUCN Species Survival Commission Conservation Planning Specialist Group (IUCN CPSG) and WHA since 2022. The course has relevance to all 6 WOAH wildlife health framework outputs. It is run twice yearly and by the end of 2023, had reached 149 participants from 53 countries, including participants from governments (n=45), non-government organisations (n=50) and academic institutions (n=21). The ongoing course aims to increase regional preparedness capacity and capability via upskilling key government and non-government actors in wildlife disease risk analysis.
		The WHA Collaborating Centre partners with a number of NGOs to improve collaboration between wildlife health policy and practice. In July 2023 the Orangutan Veterinary Advisory Group (OVAG) annual wildlife health workshop was co-convened and facilitated in partnership with Orangutan Veterinary Advisory Group. This hybrid workshop

Wildlife (true)	Linking Policy to Practice in the Asia Pacific. The Orangutan Veterinary Advisory Group workshop and webinar series: A focus on Asian Ape health.	was attended by 144 people from 16 countries including: WOAH focal points for wildlife representation from Singapore, Malaysia, Timor Leste, Indonesia and Papua New Guinea (PNG), as well as a representative from the WOAH Regional Representation for the Asia-Pacific, International Union for Conservation of Nature (IUCN) Species Survival Commission (SSC) Conservation Planning Specialist Group (CPSG), One Health High-Level Panel (OHHLEP), CSIRO Australian Centre for Disease Preparedness, Wildlife Conservation Society, and a number of wildlife veterinarians, public health practitioners, academics and wildlife managers from across southeast Asia and beyond. This workshop built on and expanded a trust-based community of practice for the region with which the Collaborating Centre can rapidly and effectively progress and deliver its objectives both within the region and internationally. 2. Workshop outputs are being integrated into the online knowledge hub under development.
Wildlife (true)	WOAH wildlife health network development and support.	WHA is involved in the WOAH Working Group on Wildlife (WOAH WGW), the WOAH Pacific Wildlife Health Network (WOAH PWHN), the WOAH Regional Wildlife Health Network for Asia and the Pacific (WOAH RWHN AP), and the WOAH Collaborating Centre Wildlife Health Network. In 2023 the WHA Collaborating Centre: 1. Provided secretariat and chairing duties to the WOAH PWHN and held two virtual network meetings, the first on bat disease at the human-animal interface in May and the second on High Pathogenicity Avian Influenza and conservation implications in December. 4th network meeting in May 2023. Meetings were attended by representatives from Australia, New Caledonia, New Zealand, Papua New Guinea, Vanuatu, Kiribati, Fiji, Cook Islands, United States of America. 2. Provided secretariat duties to the WOAH RWHN AP. Two meetings were held to refine proposed terms of reference, and a webinar on wildlife trade was produced in collaboration with Regional Representation for South-East Asia (WOAH SRR-SEA) and presented to WOAH Focal Points for Wildlife in the Asia-Pacific region. 3. Provided co-chair duties for the WOAH Collaborating Centre Network on Wildlife Health established in November 2023. The network will provide ongoing opportunities for WHA to meet it's objectives as as collaborating center by supporting WOAH's Wildlife Health Framework globally and in the region. Through coordination and collaboration with other collaborating centres intelligence can be gathered to link policy and practice and in turn highlight the importance of wildlife health to biosecurity and biodiversity resilience. 4. Provided representation on the WOAH Wildlife Health Working Group. 5. Provided representation during discussions on the developing partnership between WOAH and the Wildlife Disease Association.
Wildlife (true)	Supporting development of future WOAH	Support for the expansion of the WOAH Collaborating Centre Network on Wildlife Health in the Asia Pacific will promote compatible wildlife surveillance and intelligence systems, strengthening networks and enhancing knowledge to provide network sustainability. In 2023 the WHA Collaborating Centre has partnered with the

	Collaborating Centres in wildlife	Monitoring and Surveillance Centre for Zoonotic Diseases in Wildlife and Exotic Animals (MoZWe), Mahidol University, to assist submission of a WOAH Collaborating Centre application and to collaborate on regional wildlife health initiatives.
Wildlife (true)	Contributing to WOAH wildlife health capacity building	In 2023, the WHA Collaborating Centre: 1. Developed of a problem-based learning simulation exercise using Nipah virus as part of a WOAH Wildlife Disease Spillover Workshop held in India in September 2023. 2. Reviewed the 8-unit WOAH eModule: Wildlife Surveillance (Day 2 Competency), inmputting content regarding risk analysis, Governance and systems thinking processes. 3. Contributed to 6th cycle training and networking workshops for WOAH focal points for wildlife in the following regions: Asia and the Pacific, Africa and the Americas. 4. Contributed information to WOAH in support of a meeting on Zoonotic Disease Emergence and Spillover Hotspots Mapping Tool.
Collaborating with the wider quadripartite (true)	Collaborating with the wider quadripartite to improve wildlife health outputs	in 2023 the WHA Collaborating Centre: 1. Evaluated the Food and Agriculture Organisation (FAO) Field Training Program – Wildlife, Ecosystems, Biodiversity, and the Environment (FTP-WEBE). 2. Contributed to WOAH and the United Nations Environment Programme (UNEP) joint webinar, "Nature and wildlife health: making the case for investment in Asia and the Pacific."

TOR3: 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
Wildlife Health Risk Analysis partnership	Partnership with IUCN CPSG to deliver online training, content, championing and mentoring in Wildlife Health Risk Analysis processes to WOAH representatives, focal points, veterinary and other staff working with wildlife in the Asia Pacific region. Provides a systems-focused, all-hazards One Health approach to analysis of wildlife health risk.	Wildlife health and biodiversity
Online Knowledge Hub in Wildlife Health Risk Management	A curated online repository of information relating to wildlife health, hybrid WHA Collaborating Centre partner activities health systems capability building betwen disciplines, parctitioner communities and wider society and a forum for practitioner and policy participants to share ideas and to support each other. A partnership between Wildlife Health Australia, University of Minnesota, the WOAH Collaborating Centre Network in Wildlife Health, the IUCN SSC Conservation Planning Specialist Group and others to disseminate training materials and systems ideas related to wildlife health risk management in the Asia Pacific region- a free platform to key participants, to aid integration of wildlife health in One Health processes more effectively.	Wildlife health and biodiversity
Guidelines on improving wildlife health practice sustainability	Investment in the mental health of wildlife health practioners is necessary for successful, sustainable outcomes for capacity and capability building of wildlife health policy and practice. Development of guidelines, coupled with support documentation, on wildlife health practitioner mental resilience will improve effectiveness of capacity building efforts and staff retention in the sector. The WHA Collaborating Centre is	Wildlife health and biodiversity

	developing this content currently, with partners, to be shared via the knowledge hub. This will form part of a multicultural toolkit, to be presented in 2024, to manage the risk of expertise loss to the wildlife health sector due to preventable hazards including poor resourcing or lack of wildlife health practice support.	

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

Yes

Research need : 1

Please type the Research need: Regulatory alignment on wildlife health outcomes across the quadripartite is required. (Inter-quadripartite analysis research)

Relevance for WOAH Disease Control, Capacity Building, Other, Standard Setting, Animal Welfare, Facilitation of international collaboration,

Relevance for the Codes or Manual Code, Manual,

Field Epidemiology and Surveillance, Diagnostics, Vaccines, Therapeutics,

Animal Category Terrestrial, Aquatic,

Disease:

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: Terrestrial and Aquatic Codes in general. Wildlife health outcomes require integration of health outputs across the quadripartite to improve health management and impact in all animals and people.

Notes:

Answer: Research into understanding WOAH member values is needed to better reconcile trade and health requirements to embed wildlife health within One Health, potentially via OHHLEP, to improve global convention outcome success (e.g world trade, pandemic prevention, Sustainable Development goals, planetary boundaries etc). For example, regulatory frameworks developed to protect animal health need to also consider conservation, sustainable use and management of biodiversity to ensure alignment with other relevant international agreements

Research need : 2

Please type the Research need: Improved resourcing of wildlife-implicated transboundary diseases of concern for public health, food security, biosecurity and biodiversity resilience, to inform and provide a more accurate picture for decision makers when standard setting and capacity building.

Relevance for WOAH Disease Control, Capacity Building, Other, Standard Setting, Animal Welfare, Facilitation of international collaboration, Biodiversity restoration,

Relevance for the Codes or Manual Code, Manual,

Field Epidemiology and Surveillance, Diagnostics, Vaccines, Therapeutics,

Animal Category Terrestrial, Aquatic,

Disease:

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: Terrestrial code: Section 2 'Risk Analysis' and Volume 2 to include wildlife health components; Chapter 1.4 Animal health surveillance; Chapter 1.5 Surveillance for arthropod vectors of animal diseases; Chapter 4.1 Introduction to recommendations for the prevention and control of transmissible animal diseases; Chapter 4.2 General principles on identification and traceability of live animals; Chapter 6.1 Introduction to recommendations for veterinary public health. Aquatic Code Section 2 'Risk analysis'; Sections 8-11.

Notes:

Answer: In order to fully embrace and fulfil the objectives and outcomes of the WOAH Wildlife Health Framework, standard setting and capacity building need to more consistently incorporate consideration of wildlife, wildlife health and the environment. The Wildlife Disease Risk Analysis process (see IUCN-WOAH 2014 guidelines) presents an approach to risk analysis that utilises a systems-based all-hazard approach, that can be used to identify drivers of emerging risk to wildlife health, which will assist wildlife health risk management long term. To increase the likelihood of successful implementation of WOAH's wildlife health framework, improved resourcing of wildlife-implicated transboundary diseases of concern for public health, food security, biosecurity and biodiversity resilience, to inform and provide a more accurate picture for decision makers when standard setting and capacity building. We can do this via an agreed risk-based approach to filling data gaps in knowledge of multi-species transboundary diseases of concern. Facilitation of international collaboration: Improved co-ordination of wildlife health data gathering is required – to aid this reconciliation between WOAH trade and health remits is urgently needed. As the majority of wildlife health data generation globally is not via Government sources, WOAH should be acting as the source of truth between surveillance data generated by wildlife-focused NGO's, and what is

reported via government representatives. A systematic review is needed to compare and contrast these two outputs. The planetary boundaries model indicates that reduced genetic diversity in the planet's biome is of greater threat to our survival than climate change. The quadripartite system can be utilised to coordinate efforts between global bodies and their member to highlight the research already being collated, and commission research based on risk analysis evidence of data gaps.

Research need : 3

Please type the Research need: Practitioner mental resilience research. This is an activity within the WHA's Collaborating Centre work plan for the Asia-Pacific.

Relevance for WOAH Capacity Building, Facilitation of international collaboration,

Relevance for the Codes or Manual Manual,

Field System sustainability,

Animal Category Terrestrial, Aquatic,

Disease:

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:

Notes:

Answer: Due to globally poor resourcing, lack of effective networking between wildlife health and other One Health sectors, and overstretched expertise, we are highlighting a risk to sustainability for wildlife health capacity building without improved mental resilience training for those in the sector. Highlighting this challenge within wildlife health aligns with the systems approach extending to community resilience for pandemic prevention, preparedness, response and recovery of all health systems. Global reduction in mental health resilience following pandemics should also be acknowledged and assessed, with prioritisation of solutions, for resilient communities and health care professionals across all sectors. For example, human-wildlife conflict can impact the mental health of frontline wildlife health professionals which in turn can lead reduced workforce sustainability.

Research need : 4

Please type the Research need: Wildlife laboratory capacity building: both bespoke and inclusive lab systems are required.

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

Relevance for the Codes or Manual Manual,

Field Epidemiology and Surveillance, Diagnostics,

Animal Category Terrestrial, Aquatic,

Disease:

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: Terrestrial Code Chapter 4.13 Disposal of Dead Animals and Chapter 4.19 Official control programmes for listed and emerging diseases. Manual of Diagnostic Tests and Vaccines for Terrestrial Animals Chapter 1.1.6 - Principles and Methods of Validation Diagnostic Assays for infectious Diseases and Chapter 2.1.3. Managing Bio risk: Examples of aligning risk management strategies with assessed bio risks.

Notes:

Answer: Relevant code and manual sections to update to include wildlife health components, (E.G see the review of methodologies from the WOAH manual: Jia B, Colling A, Stallknecht DE, Blehert D, Bingham J, Crossley B, Eagles D, Gardner IA. 2020. Validation of laboratory tests for infectious diseases in wild mammals: review and recommendations. J Vet Diagn Invest: 32(6):776-792, to align with the WOAH Wildlife Health Framework. Practitioner evidence reports a lack of access to or capacity in laboratory diagnostics that integrate wildlife species. In particular, test validation for key wildlife species, and storage facilities for collected samples are urgently needed, to improve epidemiological assessments. A solution here could be to increase connectivity between WOAH Collaborating Centres in Wildlife Health and Collaborating Centres specialising in Laboratory Expertise.

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 Regional Wildlife Health Network (RWHN) for the Asia Pacific	Asia and Pacific	Asia and Pasific	This network aims to provide a platform to facilitate the effective sharing of information, expertise and advocacy to promote the wildlife health agenda in the Region. WHA provides the secretariat for the network.
WOAH Pacific Wildlife Health Network (PWHN)	Pacific	Asia and Pasific	This network aims to support improvements to the management of wildlife health in the Pacific through information sharing, knowledge exchange, advocacy and collaborative activities. WHA provides the chair and secretariat for the network.
Wildlife Health Australia (WHA)	Australia	Asia and Pasific	WHA manages the national surveillance program for diseases in wildlife and facilitates investigations into emerging wildlife health issues. It prioritises and delivers vital surveillance information and research to decision-makers in key state, territory and federal agencies to support effective wildlife strategies and preparedness for emergency disease events. This includes technical and scientific coordination for information dissemination to WOAH partners in the Asia Pacific, such as our public facing wildlife health fact sheets.
Orangutan Veterinary Advisory Group (OVAG)	Indonesia and Malaysia	Asia and Pasific	Providing coordination, collaboration and technical/scientific support and training for members of the OVAG and Asia Pacific wildlife practitioners and policy developers. Outputs include an annual hybrid workshop, hosted with regional collaborators, regular web-based capacity-building opportunities, and a web-based discussion forum. In 2023 a wildlife health needs assessment survey was initiated, investigating both capacity and capability resourcing, including progressing a pilot investigation into wildlife health practitioner mental health resilience.
WOAH Collaborating Centre Network for Wildlife Health	Global	Africa Americas Asia and Pasific Europe MiddleEast	This new network was developed in 2023 via the WOAH Wildlife team. Comprised of WOAH Collaborating Centres for wildlife health and interested specialised centres, this Network aims to support WOAH in enhancing global wildlife health by leveraging the network's skills and expertise to address Members' needs. It is designed to be flexible and responsive. WHA's Program Manager for the International One Health Program and Head of the WOAH Collaborating Centre on Wildlife Disease Risk Management was confirmed as co-chair in November 2023.
			Joint delivery of online Wildlife Disease Risk Analysis (WDRA)- aiming to increase regional preparedness capacity and capability via upskilling jurisdictional

International Union Conservation Nature (IUCN) Species Survival Commission (SSC) Conservation Planning Specialist Group (IUCN CPSG)	Global	Africa Americas Asia and Pasific Europe MiddleEast	WOAH wildlife focal points and key non-government actors in WDRA. The 5th course was conducted in the second semester of 2023 with 22 participants from Indonesia, Malaysia, Timor Leste, Australia, Fiji, PNG, Brazil, Portugal, Ireland, DR Congo, Caiman Islands. First semester 2023 WDRA course graduates included 11 southeast Asian WOAH focal points for wildlife. Initial feedback on IUCN/WOAH Manual of Procedures for Wildlife Disease Risk Analysis has been collated through the course to inform review and revision of the manual in 2024/25. Stakeholder engagement for the Manual updates was initiated in 2023.
International Union Conservation Nature (IUCN) Species Survival Commission (SSC) Wildlife Health Specialist Group (IUCN WHSG)	Global	Africa Americas Asia and Pasific Europe MiddleEast	The focus of this group is on health impacts that relate to the conservation of species, some of which are negative to wildlife population persistence and a threat to endangered species. Co-chair is via WHA's chief operating officer, Australia's WOAH wildlife focal point. In 2023, a small group of representatives from the IUCN WHSG and WOAH wildlife team started work on WOAH General Guidelines for Surveillance of Diseases, Pathogens, and Toxic Agents in Free-Ranging Wildlife
Developing partnerships with organisations becoming WOAH collaborating centres: Singapore National Parks.	Australia, Singapore	Asia and Pasific	Partnering with wildlife health-focused organisations within the Asia Pacific on the road to becoming WOAH Collaborating Centres.
WOAH Working Group on Wildlife (WGW)	Global	Asia and Pasific	The WOAH WGW informs and advises the WOAH on all health problems relating to wild animals, whether in the wild or in captivity. It has prepared recommendations and oversees numerous scientific publications on the surveillance and control of the most important specific wildlife diseases. Collaborating Centre representation on the WOAH WGW is via WHA's CEO.
Developing partnerships with organisations becoming WOAH collaborating centres: Mahidol University in Thailand.	Australia, Thailand		Partnering with wildlife health-focused organisations within the Asia Pacific on the road to becoming WOAH Collaborating Centres.
WildHealthNet Consortium SNAPP (Science for Nature and People Partnership) Working Group	Global	Africa Americas Asia and Pasific Europe MiddleEast	A diverse group of experts aiming to address the gaps needed to develop sustainable wildlife health surveillance systems at a global scale. WHA is a working group member. For more information see: https://snappartnership.net/teams/whin/

TOR4 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
Commonwealth Scientific and Industrial Research Organisation (CSIRO): Australia's National Science Agency	Australia	Asia and Pasific	To provide input on Scenario creation for future environmental planning via the Ag2050 report to map Australia's global and domestic planning for sustainable agriculture and food security. Work conducted in 2023, report in 2024. https://www.csiro.au/en/work-with-us/services/consultancy-strategic-advice-services/csiro-futures/agriculture-and-food/ag2050-scenarios-reimagining-australian-farming-systems
Pacific Heads of Veterinary and Animal Production Services (PHOVAPS)	Fiji	Asia and Pasific	Expand participation in the WOAH PWHN by Pacific Countries Islands and Territories. Meeting - Enhancing Partnerships on Animal Health and Production in the Pacific
Australian Centre for Disease Preparedness (ACDP).	Australia	Asia and Pasific	Partnership to promote integration of wildlife health into One Health activities. In 2023, ACDP: 1. Participated in and provided content for the OVAG technical workshop in Indonesia (see above) 2. Provided technical training to a WHA collaborating centre research affiliate in Indonesia
University of Minnesota	USA	Africa Americas Asia and Pasific Europe MiddleEast	Collaboration to produce Knowledge Hub- online repository of information- Facilitate and improve access to international scientific output channels to improve Science communication in one health and wildlife health promotion.

TOR6: EXPERT CONSULTANTS

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

Yes

NAME OF EXPERT	KIND OF CONSULTANCY	SUBJECT
		1. Nipah Virus (India context) 2. Wildlife Trade (Prioritization and stakeholder analysis) 3. Wildlife Disease Risk Analysis 4.

Steve Unwin	Development of learning materials (1) Development/presentation/ facilitation of learning materials in webinars or courses (2,3,4) Review of WOAH e-modules (5) and assisted WOAH with Wildlife Disease Association (WDA) communications and coordination (6).	Contributed to WOAH and the United Nations Environment Programme (UNEP) hosted a joint webinar, "Nature and wildlife health: making the case for investment in Asia and the Pacific." 5. Review of the 8-unit WOAH eModules : Wildlife Surveillance (Day 2 Competency and Advanced). Influenced content regarding risk analysis, Governance and systems thinking processes. 6. Invited to engage in negotiations on a partnership between WOAH and the WDA, under the guidance of the WOAH Working Group for Wildlife.
Arlene Rutherford	Development of learning materials	Nipah Virus (India Context)
Andrea Britton	Development and delivery of learning materials	Rabies (Borneo context)
Tiggy Grillo	Development of WOAH guidelines (1,2), review of WOAH e-modules (3), Technical expert (4)	1. Addressing Disease Risks in Wildlife Trade 2. WOAH-IUCN working group developing guidelines for Surveillance of Diseases, Pathogens, and Toxic Agents in Free-Ranging Wildlife 3. Review of the WOAH eModules on WIldlife Trade (Day 2 Competency and Advanced). 4. Resource Expert for Animal Health Forum Session 1 - Avian influenza intelligence: Surveillance and monitoring for early detection and prevention at the 2023 WOAH General Session.
Simone Vitali and Claire Harrison	Development of WOAH guidance.	Considerations for emergency vaccination of wild birds against high pathogenicity avian influenza in specific situations.
Rupert Woods	Technical and strategic expertise as a member of the WOAH Working Group on Wildlife (WGW).	For activities of the WGW for the designated time period, please refer to this report: https://www.woah.org/app/uploads/2024/02/a-wgw-report-122023-vf.pdf
Keren Cox-Witton and Clare Death	Technical and strategic expertise with the Science for Nature and People Partnership (SNAPP).	Ongoing participation in the SNAPP Wildlife Health Intelligence Network which aims to address the gaps needed to develop sustainable wildlife health surveillance systems at the global scale.

TOR7: SCIENTIFIC AND TECHNICAL TRAINING

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

Yes

1. September 2023: Development of a problem-based learning (PBL) simulation exercise using Nipah virus as part of a Wildlife Disease Spillover Workshop held in India.
2. November 2023: Administrative and expert support provided to set up a meeting on Rabies in Sumatra. Local government officials, general practice and wildlife veterinarians in the region, public health professionals and members of the wider community attended.
3. December 2023. Focus on Wildlife Trade.
a. Planned, facilitated and assisted delivery of a Webinar for WOAH Wildlife Focal Points in the Asia and Pacific on 'Wildlife trade: Assessing Disease Risks", in the Collaborating Centre role as RWHN secretariat. Attended by WOAH Wildlife Focal Points from Asia and the Pacific.
b. Co-facilitated a Workshop on Prioritisation and Stakeholder Analysis Pilot: WOAH Guidelines for Addressing Disease Risks in Wildlife Trade. Organised by the WOAH South East Asian subregion representation, the Collaborating Centre prepared and presented content and provided facilitation via remote attendance at the workshop, which was hosted in Thailand between WOAH, the Thai Government and Mahidol University. Facilitation was also provided by TRAFFIC and OHHLEP.
4. March to May and September to November 2023. Wildlife Disease Risk Analysis training. Support for enrolment and completion of the Wildlife Disease Risk Analysis course in partnership with IUCN was provided for 12 WOAH Focal Points for Wildlife or their representatives in the Asia Pacific region.
5. Networking- Networking via OVAG, with Asia Pacific regional Focal Points and networks, and regional wildlife health network for training- WOAH focal points and regional wildlife representatives benefitted.
6. Wildlife Health tool development: The Wildlife Health Incident Decision Support Tool (WILDDeST) was designed for use by Australian government agencies to facilitate structured, standardised, and transparent decision-making for investigation and management of wildlife health incidents. WHA has also introduced the tool to a number of international wildlife health groups where it has been well received with members keen to learn from Australia's approach. WHA is working with consultants on a publication regarding the development and use of the tool. Public information is available here: https://wildlifehealthaustralia.com.au/Portals/0/NewsRoom/MediaReleases/WHA_WILDDeST_decision_making_tool_June_2023.pdf

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 : 30

b) Seminars : 467

c) Hands-on training courses: 219

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
B	Role of Rabies in Wildlife	Indonesia	400
A	Sumatran Orangutan Conservation Programme Technical One Health Knowledge Exchange	Indonesia	30
C	IUCN Conservation Translocation Specialist Group Wildlife Disease Risk Analysis seminar and workshop	Global	30
B	Wildlife Disease Risk Analysis course	Global	40
C	Workshop 1 Guidelines on addressing disease risks in wildlife trade. Stakeholder analysis and problem description	Thailand	45
C	Orangutan Veterinary Advisory Group annual workshop	Indonesia, Malaysia, Thailand, PNG, Timor Leste, Singapore	144
B	Bat disease at the human-animal interface	Pacific	12
B	High Pathogenicity Avian Influenza: conservation implications and disease mitigation	Pacific	15

TOR8: 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?

Yes

NATIONAL/INTERNATIONAL	TITLE OF EVENT	CO-ORGANISER	DATE (MM/YY)	LOCATION	NO. PARTICIPANTS
International	WOAH 6th cycle Focal point for Wildlife training	WOAH Asia Pacific representation	2023-02-13	Thailand	60
International	Nature and wildlife health: making the case for investment in Asia and the Pacific	WOAH, UNEP	2023-06-20	Online	93
	OVAG Annual Workshop	Orangutan Veterinary			

International	(participation from 16 countries)	Advisory Group	2023-07-23	Indonesia	144
International	Risk based management for spillover in wildlife workshop	USGS, NIWDC	2023-10-11	South Korea	50
International	The Pacific Heads of Veterinary and Animal Production Services (PHOVAPS) Meeting	The Pacific Community (SPC)	2023-10-30	Fiji	50
International	WOAH Activities for a safe Wildlife Trade and Supporting Conservation Purposes	WOAH, CITES	2023-11-06	Online	558
International	Role of Wildlife in Rabies	Sumatran Orangutan Conservation Programme	2023-11-11	Online	450
International	WOAH Collaborating Centre Network for Wildlife Health Inagural Meeting	WOAH	2023-11-20	France	18
International	WOAH Regional Wildlife Health Network for Asia and the pacific webinar on wildlife trade	WOAH	2023-12-20	Online	60

TOR9: 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:
4
Setchell, J.M., Unwin, S. and Cheyne, S.M., 2023. Mental health and well-being in primatology: Breaking the taboos. Evolutionary Anthropology V32(3):144.

Bridgewater, P., Woods, R. and Kolek, S., 2023. Wildlife Health Australia; One Health in action. Research Directions: One Health. V1:e15.

Ghafar, A., Davies, N., Tadepalli, M., Breidahl, A., Death, C., Haros, P., Li, Y., Dann, P., Cabezas-Cruz, A., Moutailler, S., et al. 2023. Unravelling the Diversity of Microorganisms in Ticks from Australian Wildlife. Pathogens. V12(2):153.

Sherwen, S., et al., (2023). Chapter 26: Wildlife welfare and the 2019–20 wildfires. Australia's Megafires: Biodiversity Impacts and Lessons from 2019-2020. In: van Leeuwen S et al (Eds.).

b) International conferences:
8
1. International Indigenous Health and Wellbeing Conference, Australia, June 14-16, 2023.
2. Wildlife Disease Association Annual Conference, USA, Jul 29 - Aug 4, 2023.
3. Environmental Insecurity Risks in the Indo-Pacific Conference, Australia, Aug 30-31, 2023.
4.USGS, NIWDC Workshop on Transboundary Wildlife Disease, South Korea Oct 12-13 2023.
5. USGS, NIWDC Roundtable on wildlife disease policy in the Asia Pacific, South Korea Oct 10-11, 2023
6. 16th Annual Asian Society for Conservation Medicine conference, South Korea Oct 9-13, 2023
7. Pacific Heads of Veterinary and Animal Production Services (PHOVAPS) Conference, Fiji, Oct 31 - Nov 2, 2023.
8. IUCN International Conservation Translocation Conference, Australia, Nov 13-15, 2023.

c) National conferences:
12
1. National Koala Conference, May 26-28, 2023.
2. Public Health Association Australia - Communicable Diseases & Immunisation Conference, June 19-21, 2023.
3. National Feral Pig Conference, June 20-21, 2023.
4. Australian Wildlife Rehabilitation Council Conference, August 11-13, 2023.
5. Zoo and Aquarium Association Vet Specialist Advisory Group (ZAA VetSAG) annual meeting, August 24-25, 2023.
6. National Flying-fox Forum, September 13, 2023.
7. New South Wales One Health Regional Partnership meeting, October 19-20, 2023.

8. Exercise Thalassarche - AMSA oil spill response national exercise, November 13-17, 2023.
9. Territory Natural Resource Management meeting, November 21-23, 2023.
10. Australian Ornithological Conference, November 28-30, 2023.
11. Unusual and Exotic Veterinarians Conference, November 20-22, 2023.
12. Australian Wildlife Management Society (AWMS) Conference, December 5-7, 2023.

d) Other (Provide website address or link to appropriate information):
3
1. Wildlife Health Australia Fact Sheets (https://wildlifehealthaustralia.com.au/Resource-Centre/Fact-Sheets) revised or new in 2023: Revised: Chlamydia in koalas; Mycobacteriosis in Australian birds; Buruli ulcer and Australian wildlife; Bartonella in Australian wildlife; Murray Valley encephalitis; Besnoitia in Australian wildlife; Trypanosomes in Australian wildlife; Australian bat lyssavirus
Avian bornavirus; Wobbly possum disease; Q Fever in Australian wildlife; EXOTIC - Lumpy skin disease; Morbilliviruses in Australian marine mammals; Chytrid fungus in Australian frogs; Avian influenza in wild birds in Australia; Herpesviruses in Australian marsupials; Cryptococcosis in Koalas; Mass mortalities in wild birds; Koala Retrovirus (KoRV); Shearwater mass mortalities; Avian influenza in wild birds in Australia; EXOTIC - Foot-and-Mouth Disease (General Information); EXOTIC - Foot-and-Mouth Disease in Native Wildlife; Orbiviruses in macropods; EXOTIC - Flaviviruses (Usutu and Bagaza) in wild birds
New: Impacts of climate change on Australian wildlife; Batrachochytrium salamandrivorans in amphibians; Rickettsiae in Australian wildlife; Neospora caninum in Australian wildlife; Lorikeet paralysis syndrome; Devil facial tumour disease
2. Wildlife Health Australia- Incident Information and updates on HPAI, including 1 x fact sheet update, links to biosecurity guidelines (including input into WOAH considerations for emergency vaccination of wild birds against HPAI in specific situations). See https://wildlifehealthaustralia.com.au/Incidents/Incident-Information/high-pathogenicity-avian-influenza-information for a complete list of updates in this developing situation through to June 2024, but for the reporting period:
World Organisation for Animal Health - Considerations for emergency vaccination of wild birds against high pathogenicity avian influenza in specific situations (2023)
Technical Issue Update – Global High Pathogenicity Avian Influenza Events (Sept 2023)
WHA HPAI Communications Guide for Managers of Wild Animal Populations (Dec 2023)
3. Online knowledge Hub currently in Beta testing stage: https://umnadvet.instructure.com/courses/548 In co-operation with the University of Minnesota (platform provision), IUCN CPSG and other partners.

11. What have you done in the past year to advance your area of focus, e.g. updated technology?
1. We Investigating One Health systems with the Network for the Evaluation of One Health, including an ecological approach to One Health through content creation for a new tertiary text book in One Health,
2. We engaged with University of Newcastle (UK) to investigate Machine Learning possibilities in scientific systematic reviews (SysRev)
3. WHA Staff were involved in online educational platform development via Canvas.

12. Additional comments regarding your report:
WHA received official designation as a World Animal Health Organisation (WOAH) Collaborating Centre on Wildlife Disease Risk Management for the Indo-Pacific region (May 2023).
Therefore activities reported here largely cover May-Dec 2023. However, we were engaged with WOAH as a developing collaborating centre through the first half of 2023, and so we have included key outputs from January - May 2023.
As a new centre we have concentrated on proposed approaches and network development involvement, in consultation with WOAH. We are in the process of forging trusting relationships and networking, both within WOAH, and the wider wildlife health community.
We have developed a Theory of Change (ToC), aligned with the WOAH wildlife health framework for finalisation and publication in the following reporting period.
Our draft ToC Phase outcome:
By 2028 the Collaborating Centre and our partners will have established a sustainable cadre of professionals in the Asia-Pacific able to manage drivers of emerging health risk.