

Sino-French Conference One Health and conservation: meeting the challenges

12-15 October 2025

Leshan Normal University, Sichuan

Summary of conferences of French/UK participants

Wildlife tourism and the illusion of wilderness: pathogen transmission and One Health challenges

Eve AFONSO, *Chrono-environnement, Université Marie et Louis Pasteur/CNRS, Besançon, France ; WiMEH, Leshan Normal University, Leshan, China*

Wildlife tourism seeks to reconnect people with nature, but practices like feeding animals to ensure sightings can disrupt their behavior and ecology. Supplemental feeding alters population density, activity, foraging, home range, and fitness-related behaviors. In tourism-targeted species like primates, direct provisioning or scavenging increases reliance on humans and leads to frequent contact with people and domestic animals. Feeding sites encourage repeated interspecies interactions, raising direct and indirect pathogen transmission risks. This creates epidemiological interfaces and increases spillover potential. Tourism may drive bidirectional disease spread, as shown in habituated primate outbreaks and zoonotic parasite cases. These interactions threaten biodiversity and public health, underscoring the need for evidence-based regulation to reduce transmission risks while preserving tourism's educational and conservation value under a One Health framework.

Living with wildlife: learning from conflicts to address health and conservation issues

Simon CALLA, *Lecturer in Sociology, Marie and Louis Pasteur University, Laboratory of Sociology and Anthropology, Besançon, France*

Humans have developed ambivalent relationships with wildlife. Differing according to the territory and the era, they are made up of admiration and fear, characterized by the search for proximity or distance. The question of the "right place" of each is thus constantly raised. This is especially true when the presence or behavior of wildlife poses a threat to the security, livelihoods and well-being of human populations. Reprisals against the incriminated species and conflicts between different groups of actors can not only emerge from these situations but also compromise the construction of appropriate and shared responses to the challenges of biodiversity conservation, health and food security. Based on work carried out in the Jura Mountains (France), we will show that situations of conflict between humans and wildlife allow us to better understand the intertwining of environmental and social issues, and then we will propose a reflection on the methods to be implemented to try to overcome them.

The Veterinarian as a Mediator in Wildlife Conservation: A One Health Perspective

Norin CHAI, *Freelance Wildlife, zoo and exotic veterinarian, France*

The veterinarian plays a key role in wildlife conservation through a One Health approach, linking animal health, ecosystem balance, and human well-being. Beyond clinical care, they act as mediators between scientific knowledge and local communities, translating wildlife needs into accessible messages. Their involvement in rehabilitation, disease monitoring, and anti-poaching efforts fosters dialogue between stakeholders. This role is essential in managing human-wildlife conflicts, especially

in Africa and Asia, where resource competition is high. As socio-ecological mediators, veterinarians contribute to sustainable coexistence and biodiversity protection.

A One Health approach to the impacts of microplastics

Frédéric GIMBERT, *Chrono-environnement, Université Marie et Louis Pasteur/CNRS, Besançon, France*

Microplastics are emerging contaminants with significant implications for human, animal, and ecosystem health. They call for a transdisciplinary approach to assess and mitigate the risks associated with this persistent pollution. Microplastics infiltrate aquatic, terrestrial and atmospheric environments, disrupting ecosystem services, entering food webs and accumulating biota. Apart from causing physical injuries (e.g., gastrointestinal lesions), microplastics act as vectors of chemical exposure to humans and wildlife since they contain thousands of xenobiotics (e.g., additives) and may adsorb other environmental pollutants (e.g., metals or organic pollutants). Additionally, microplastics may also promote disease transmission by supporting microbial colonization and the spread of pathogens. This conference aims to explore the impacts of microplastics from a One Health perspective which can foster the development of sustainable, science-based strategies to address microplastic pollution.

Patrick GIRAUDOUX, *Chrono-environnement, Université Marie et Louis Pasteur/CNRS, Besançon, France ; WiMEH, Leshan Normal University, Leshan, China ; Académie vétérinaire de France.*

Breaking the Silos: the IPBES Nexus Assessment and One Health as a Case for Integrated Action

On 16 December 2024, the 147 member states of the IPBES (also known as the 'IPCC of biodiversity') approved the 'Nexus' assessment. Over a period of 3 years, 165 scientists from 57 countries representing all regions of the world were involved. They drew on 6,500 research publications to assess the state of knowledge on the interlinkages between biodiversity, water, food and health in the context of climate change. The aim was to inform the decisions of stakeholders and institutions (governments, civil society, private sector, etc.). The conclusion was that treating problems separately, in silos, worsens situations up a cost of 10-25% of the global GDP, hence the need for joint, decompartmentalised approaches. One Health is a concept that was pointed out as one of the starting points of a Nexus approach. This talk will present the issues at stake, the assessment itinerary and the results of the work.

Harnessing Satellite Earth Observation for Advancing One Health Surveillance and Decision-Making

Christopher MARSTON, Ecological Remote Sensing Specialist, UK Centre for Ecology & Hydrology, Lancaster Environment Centre, Library Avenue, Bailrigg, Lancaster, LA1 4AP, UK.

Satellite Earth Observation (EO) provides critical tools for advancing One Health by enabling spatiotemporal monitoring of environmental variables linked to disease dynamics. Technological advances—such as higher spatial and temporal resolution, improved spectral capabilities, and cloud-based platforms like Google Earth Engine—are expanding the scope and precision of EO applications in One Health. These innovations facilitate near real-time tracking of ecological and climatic drivers of disease, detection of landscape changes influencing vector habitats, and integration of multisource data for predictive modelling. For example, EO has been used to monitor landscape composition influencing rodent-borne disease risk in Asia, and model mosquito-borne disease dynamics in urban settings in Africa, demonstrating its broad utility across One Health domains. Satellite EO now offers unprecedented opportunities to monitor and anticipate health threats at the human-animal-environment interface, supporting proactive, evidence-based responses.

Community forests: commons for biodiversity and health

Serge MORAND, *Health ecologist, Director of HealthDEEP (CNRS – Kasetsart University – Mahidol University), Bangkok, Thailand*

Mainland Southeast Asia is a hotspot for zoonotic diseases, whether emerging, re-emerging, or neglected. The region is at high risk of health threats from biodiversity loss due to expanding urbanization, mining, commercial plantations, agriculture, and farming activities. Consequently, increasing human-animal (wildlife and livestock) interaction could inevitably accelerate the spread of pathogens, amplification, and disease propagation within communities.

However, the structure and diversity of wildlife communities can be restored through reforestation and rewilding following ecological restoration, which could reduce the zoonotic risk to humans. Two ongoing projects are investigating how community forestry and reforestation can provide solutions to prevent emerging diseases while contributing to biodiversity conservation, ecosystem health, climate change mitigation, and well-being.

Wildlife Health at the crossroads of Conservation and One Health: Insights from real-world case studies

Hugo SENTENAC, *Chrono-environnement, Université Marie et Louis Pasteur/CNRS, Besançon, France*

Wildlife health events can dramatically impact animal welfare, human health, agriculture, and the structure and functions of ecosystems. Wildlife vet sciences can therefore serve the One Health approach and biodiversity conservation, as I will demonstrate with two case studies from my research. The first one is chytridiomycosis, the worst disease ever known, with >500 declines and >92 extinctions of amphibians. Impacts even affect humans, and studying this disease in the French Pyrenees made me discover other environmental problems affecting health. The second case is the mouse invasion in Senegal, driven by parasitism. I study the roles of essential and non-essential (pollution) elements in this system, with implications for biodiversity (biological invasions), economy (agricultural losses), and public health (zoonotic diseases). These examples highlight how wildlife health research can help address complex, interconnected challenges across systems.