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WILDLIFE DISEASE SURVEILLANCE

- Wildlife health is foundational to the outcomes of the Global Biodiversity Framework.
- Surveillance of free-ranging wild animals is essential to understand the risks and impacts of diseases, pathogens and toxins, as part of a One Health approach.
- A clearly defined purpose and process is beneficial to the design, implementation and evaluation of a surveillance programme.
- Surveillance programmes should be context specific to ensure that sampling approaches are safe and appropriate to the environmental, economic and cultural context.
- It is essential to follow ethical best practices regarding local communities, rightsholders, and animal welfare.

What is the issue?

Like humans and domestic animals, wild animals can experience disease, may carry or be infected by pathogens, or suffer from toxic exposures. The effects can be detrimental to wildlife health and biodiversity; the [IUCN Red List of Threatened Species™](#) recognises **disease and toxins as threats to species survival**. For example, H5N1 high pathogenicity avian influenza (HPAI) has caused unparalleled mortality of wild birds and mammals worldwide with threats to population levels for some species.

Disease, pathogens, and toxins in wildlife may also threaten human health. Human activities are increasingly leading to habitat loss and degradation, which along with climate change and unsafe wildlife use and trade, are increasing the risks of pathogen spillover from wildlife to humans. Over 60% of emerging pathogens are zoonotic (have an animal origin), many from wildlife.

The most cost-effective way of addressing impacts from zoonotic pathogens is through prevention and preparedness measures, which includes the surveillance of wildlife diseases and their causes.

The [World Organisation for Animal Health](#) (WOAH) defines surveillance as the systematic and ongoing collection, collation and analysis of information related to animal health, with the timely dissemination of information so that action can be taken.

Information collected through surveillance can:

- Provide a baseline understanding of wildlife health and reveal changes,
- Detect immediate or potential threats and impacts, including emerging diseases,
- Support species conservation assessments and the development of action plans,

- Evaluate the effectiveness of disease management and risk reduction initiatives and guide refinements as needed,
- Demonstrate the absence of a disease or pathogen,
- Inform risk and impact assessments for human, animal and environmental health.

Why is this important?

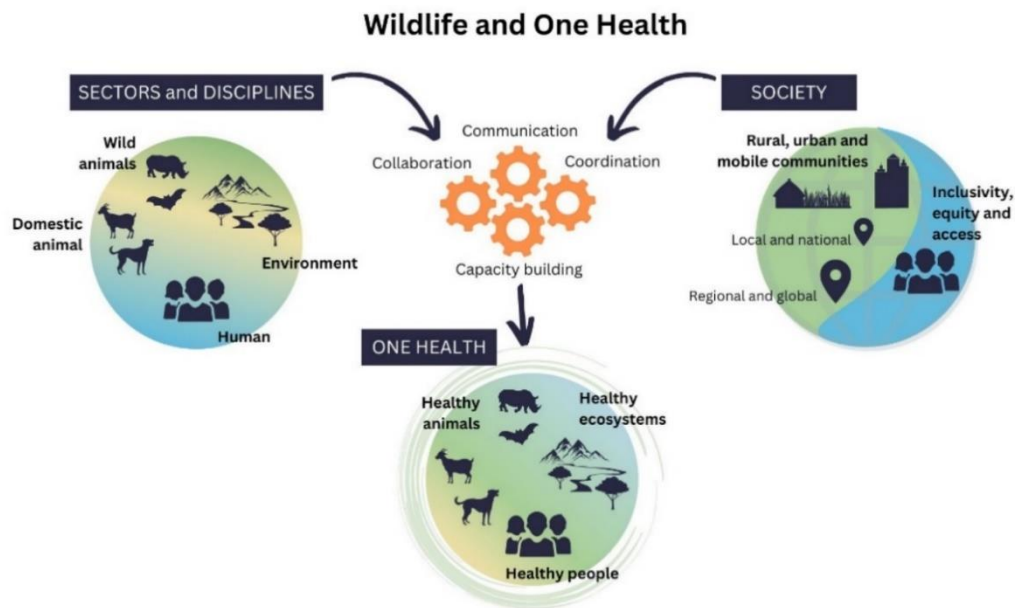
Surveillance of free-ranging wild animals can contribute to conservation, public health, and socio-economic resilience.

Wildlife health is foundational to the [Kunming-Montreal Global Biodiversity Framework](#)'s outcomes and the success of specific targets that address disease, health, species extinctions and ecosystem services. It is particularly relevant to Target [4](#), "halt species extinction"; Target [5](#), "ensure sustainable, safe and legal harvesting and trade of wild species"; and Target [11](#), "restore, maintain and enhance nature's contributions to people".

Surveillance is a key tool to contribute towards achieving these targets for wildlife health in **National Biodiversity Strategies and Action Plans**. At the same time, it generates benefits by supporting early detection, promoting healthy wildlife populations, and informing conservation assessment and planning.

One Health

Wildlife health needs to be considered across all sectors and civil society, as part of a One Health approach. Surveillance is a critical element of this, to inform action to protect wildlife, domestic animal and human health.



What can be done?

The implementation of surveillance programmes is key to ensure that each country manages its wildlife health risks. Programmes can vary significantly in their breadth and specificity, as well as in the resources required to meet their goals. For example, surveillance may focus on visual identification of disease or involve the collection of biological samples. Several aspects should be considered:

National coordination. A national surveillance system collects information from multiple programmes across the country, and should include:

- the detection and identification of diseases, pathogens and toxic agents,
- analysis and communication,
- information management.

Cross-sectoral collaboration. Surveillance requires the combined expertise of people who can respond to observations and detections, carry out investigations, and interpret and communicate findings and implement identified action.

Rangers, hunters, local communities, and Indigenous peoples play a key role in the detection of diseases in wildlife. They are often the first people at the scene, interact regularly with wildlife, and have important understanding of what may be unusual in relation to wildlife health.

Veterinarians, environmental and land use authorities, ecologists, social scientists, information managers, and public health professionals are also important to the process, as well as Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) representatives where

Adapted from the One Health Definition Visual published by the One Health High-Level Expert Panel, 2021.

applicable. WOA National Wildlife Focal Points are also an important resource to include in coordination efforts.

Defining stakeholder roles and responsibilities and establishing a process for **communication between actors on the ground and authorities** is important to create trust and encourage adoption of recommendations from the findings.

Safety. Managing biological risks, such as exposure to pathogens or toxins, is critical throughout surveillance. This can include use of personal protective equipment to protect human and animal health, disinfecting equipment, and appropriate storage of samples. Only veterinary and other qualified and trained professionals should conduct procedures involving wildlife handling and sampling.

Ethical best practices. Surveillance programmes should be **context-specific** to ensure that sampling approaches are safe and appropriate to the environmental, species conservation (including animal welfare) and cultural context and objectives.

Surveillance programmes should be co-developed and co-managed through **direct participation of Indigenous peoples** in activities that affect their lands and territories and the species they utilise and depend upon.

Where can I get more information?

[General Guidelines for Surveillance of Diseases, Pathogens and Toxic Agents in Free-ranging Wildlife \(2024\)](#)