

National Wildlife Biosecurity Guidelines for Australia

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Abstract

Biosecurity is the set of precautions taken to minimise the risk of introducing a pest or infectious disease into an animal (or human) population. Good biosecurity focuses on risk assessment and management, appropriate work practices, hygiene, isolation and housing, and support from veterinarians and other professionals. Everyone who works with wildlife has a responsibility to maintain good biosecurity. The National Wildlife Biosecurity Guidelines project will develop nationally agreed protocols for good biosecurity practices for the handling of wildlife, to reduce the risk of disease transmission between wildlife populations, as well as reducing disease risk for people and domestic animals.

Keywords: Wildlife, biosecurity, hygiene, isolation, infectious disease, pathogen, disease risk assessment and management.

Introduction

Biosecurity, in the national context, is defined as “the management of risks to the economy, the environment, and the community, of pests and diseases entering, emerging, establishing or spreading”. Biosecurity can also be explained as the set of precautions taken to minimise the risk of introducing a pest or infectious disease into an animal or human population. Biosecurity focuses on managing the risk of infectious disease spreading from one individual or population to another.

Biosecurity is important for everyone who works with wildlife and everyone who works with, or interacts with wildlife, has a role to play in wildlife biosecurity.

For the purpose of the guidelines being developed, “wildlife biosecurity” means managing risks, primarily associated with infectious diseases, transmitted from wildlife to humans (and vice versa), from wildlife to domestic animals (and vice versa) and between groups of wildlife; it refers to both individuals and populations. Biosecurity looks at practices such as good hygiene, appropriate handling and housing, reduction of stress, and appropriate diagnosis and treatment of sick or infected animals and people.

Why does Australia need National Wildlife Biosecurity Guidelines?

Infectious diseases can have serious impacts on wildlife, humans and domestic animals. They can affect the individual, the population or, in some cases, the broader ecosystem itself. The direct impacts of pests and infectious disease on individuals (animal or human) can include ill health, increased mortality, reduced fertility or congenital disease. There may be more subtle effects which predispose individuals to death e.g. the individual is compromised by disease to such an extent that death occurs by other means (such as starvation, trauma or predation). Some diseases with wildlife as part of their ecology can negatively affect Australia’s animal and human health, trade and market access, biodiversity and tourism.

Many people, including wildlife researchers, managers, wildlife carers and veterinarians work with wildlife in Australia. Diseases emerging from wildlife are well recognised as a significant threat to human and domestic animal health. Wildlife are vulnerable to diseases originating in human and domestic animal populations and disease can be spread between

wildlife populations by human activities. Some examples of important biosecurity concerns in the wildlife sphere (in Australia or globally) include:

- Hendra virus (a fatal zoonotic disease), transmitted from flying-foxes to horses, and then to humans; an example of a disease that does not affect the wildlife host but can be transmitted to a domestic animal and then to humans
- Sarcoptic mange in wombats (and other native mammals); the protozoal disease toxoplasmosis and koala chlamydia disease; these infectious diseases have spread from domestic livestock to wildlife
- Australian bat lyssavirus and Salmonella infection in reptiles; these infectious diseases may pass directly from wildlife to humans
- The protozoa Cryptosporidia; a human pathogen that can be transmitted from humans to wildlife, resulting in wildlife disease
- White-nose syndrome (a fungal disease of microbats in North America); it has been inadvertently spread by humans visiting caves; and chytrid fungus, a disease of frogs; its global spread has been linked to the trade of amphibians for pet, medical and food purposes.

The best way to manage these risks is to understand both the hazard (in this case, the disease) and the options available for minimising risks. Wildlife workers need to be informed about the possible diseases that are associated with the animal species with which they work. They need to be able to identify the hazards, assess the risk associated with each hazard, and implement appropriate control measures to ensure both animal and human health risks are properly managed.

About the project

There is a recognised need for improved information on managing the risk of disease transmission when handling wildlife, however there are currently no nationally agreed, consistent biosecurity guidelines for those regularly handling these animals. The aim of this project is to provide Australia with simple, applicable and consistent nationally agreed protocols for good biosecurity practices for the handling of wildlife that can be used by all who work with wildlife, to reduce the risk of disease transmission.

Who are the guidelines intended for?

The National Wildlife Biosecurity Guidelines are intended to be used by all people who work with, or interact with wildlife, including wildlife managers, researchers, veterinarians, carers, and others who handle or interact with wildlife. They are designed as a tool to help organisations and individuals working with wildlife to gauge their own biosecurity requirements and to assist them to develop a biosecurity plan suitable for their particular circumstances.

How will the guidelines be developed?

Wildlife Health Australia (WHA; wildlifehealthaustralia.com.au) has been tasked with the development of National Wildlife Biosecurity Guidelines for Australia. The project will utilise expertise from a wide range of experts and groups and will consult with appropriate stakeholders and agencies. Once finalised and agreed, the guidelines will be made publicly available and disseminated widely through WHA's networks (during the 2018-19 financial year).

What will be covered by the guidelines?

The guidelines will provide over-arching information on infection and disease control, how to assess and manage biosecurity risks and how to implement appropriate hygiene and work practices, as well as:

- Assessment and management of biosecurity risks to wildlife populations and individuals
- Ensuring that work practices do not introduce or spread disease
- Appropriate hygiene, including hand hygiene and use of personal protective equipment
- Appropriate isolation of wildlife, including from domestic animals (pets and livestock) and feral animals
- Veterinary diagnosis and treatment of diseased animals
- Appropriate housing and care of wildlife while in temporary care for treatment and rehabilitation
- A zoonotic risk management program for those working with wildlife.

The guidelines will also provide specific advice on many situations commonly encountered when working with wildlife, such as:

- Managing injured wildlife brought to a veterinary clinic
- Managing wildlife in rehabilitation
- Managing risk of working with wildlife in the field
- Releasing rehabilitated wildlife
- Managing risks associated with confiscated wildlife
- Captive breeding and translocation programs
- Dealing with sick and dead animals and suspected disease outbreaks.

In addition, the guidelines will provide operational advice and checklists to help with training and work protocols. Links and references to more detailed and specific information will be included.

How will the guidelines be useful?

Following the information provided in the guidelines will improve biosecurity practices and help to:

- Keep wildlife safe and healthy
- Keep workers, members of the public and their families safe and healthy
- Keep domestic animals, including pets and livestock safe and healthy
- Minimise impacts of disease on individual animals and wildlife populations.

Conclusions

Infectious diseases can have serious impacts on wildlife, humans and domestic animals. They can affect the individual, the population or, in some cases, the broader ecosystem itself. People working with wildlife should be aware of the disease risks to themselves, other humans, domestic animals and wildlife itself. They should undertake suitable precautions and work practices to minimise infectious disease risks. The project to develop nationally consistent wildlife biosecurity guidelines for Australia will make it easier for everyone to understand the disease risks, and to take the necessary and practical measures to manage risk.

Acknowledgements

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How can you get involved?

WHA would love to hear from anyone with an interest in wildlife biosecurity. If you are interested to learn more about the National Wildlife Biosecurity Guidelines, if you would like to contribute to the project, or if you can help us spread the word about the guidelines and the importance of biosecurity for all who work with Australian wildlife, please contact us at admin@wildlifehealthaustralia.com.au.

About Wildlife Health Australia

Wildlife Health Australia is the peak body for wildlife health in Australia. WHA's vision is "**Healthy wildlife, healthy Australia**". Our mission is to develop strong partnerships in order to better manage the adverse effects of wildlife diseases.