

High Pathogenicity Avian Influenza and Wild Birds

Advice for veterinarians and animal health professionals

Version 3.1, December 2023

Summary

This advice has been prepared for veterinarians and other animal health professionals who may be required to investigate suspect high pathogenicity avian influenza (HPAI) in sick or dead wild birds. Avian influenza is a [notifiable disease](#).

Since 2021, a new strain of HPAI, H5N1 clade 2.3.4.4b, has caused ongoing outbreaks of disease in poultry and wild birds on all continents apart from Oceania (Australia and New Zealand) and mainland Antarctica. Mortalities have been observed in a wide range of species, seen as individual bird deaths and mass mortalities. Recent research has determined that the likelihood of this new strain entering Australia via migratory birds has increased compared to previous years¹, with August to November being the period of particular concern as this is when migratory birds return to Australia from the northern hemisphere.

Any unusual disease or mass mortality events in wild birds should be reported via the [Emergency Animal Disease Hotline on 1800 675 888](#).²

For further details about avian influenza in wild birds see the [WHA fact sheet](#).

Species affected

- **Birds:**
 - It should be assumed that all bird species may be infected by HPAI virus.
 - **Wild birds (native and feral species):** a wide range of species can be infected with HPAI. It should be assumed that all bird species may be infected by HPAI virus.
 - **Domestic poultry and captive birds:** poultry (e.g. chickens, turkeys) are particularly susceptible to infection with HPAI virus.
- **Mammals:**
 - Sporadic infections identified as HPAI in poultry have been reported in nonhuman mammals.
 - **Wild mammals (native and feral species):** mammals, especially carnivores and marine mammals, are known to be susceptible to HPAI. Infection of terrestrial carnivores is presumed to occur via consuming infected birds. Infection of marine mammals is thought to have occurred via close contact with, or ingestion of infected birds, or contact with marine environments contaminated with virus from infected birds.
 - **Domestic mammals:** a range of mammalian production, pet and zoo species are known to be susceptible to HPAI.

¹ M.Wille and M.Klaassen, unpublished data

² The **Emergency Animal Disease (EAD) Hotline** is a toll-free number that connects callers to the relevant state or territory officer. Anyone suspecting an EAD outbreak should use this number to get immediate advice and assistance.

Clinical signs

HPAI should be considered as a differential diagnosis in the following scenarios for wild birds:

- Small groups or clusters (5 or more) of sick or dead wild birds of any species.
- Individual or <5 sick or dead wild birds:
 - seabirds, waterbirds, shorebirds or birds of prey
 - any other bird species with signs of avian influenza infection as outlined below.

Infected live birds may show a wide range of clinical signs, including:

- Neurological signs (ataxia, paralysis, seizures, tremors, abnormal posture)
- Respiratory signs (conjunctivitis, increased nasal secretions, oedema of the head, dyspnoea)
- Gastrointestinal signs (diarrhoea)
- Sudden death

Some species may be asymptomatic or show only very mild clinical signs. In some cases, birds may die suddenly without displaying any clinical signs.

While there are other diseases of wild birds that can cause these clinical signs, HPAI should be excluded to ensure that HPAI can be detected as soon as possible, and any associated risks to animal and human health can be managed. With the new strain of HPAI presenting a greater risk to Australia than previous strains, early detection of HPAI is particularly important.

Wild Mammals:

HPAI should be considered as a differential diagnosis in any event of sick or dead wild marine mammal, predator or scavenger species with signs of avian influenza infection as outlined below.

Infected wild mammals may show a wide range of clinical signs, including:

- Neurological signs (ataxia, paralysis, seizures and tremors)
- Respiratory signs (increased nasal and oral secretions, dyspnoea, tachypnoea)
- Sudden death, including the potential for mass mortality events

Human infections

Avian influenza is potentially zoonotic and contact with sick or dead birds should be avoided where possible.

Precautions should be taken when handling or sampling potentially infected birds (see [Biosecurity and PPE](#) below). Human infections with the currently circulating HPAI H5N1 2.3.4.4b clade are uncommon and have typically only occurred in people who have had close contact with infected birds. Human infection may be asymptomatic or result in severe illness (see [Australian Department of Health and Aged Care](#)). If you develop flu-like symptoms after handling wild birds, contact your health care provider.

How to report suspect cases

Avian influenza is a notifiable disease. Report suspected or confirmed cases of avian influenza to:

- Your local [State/Territory WHA Coordinator](#)
- The 24-hour [Emergency Animal Disease Hotline](#) on free call 1800 675 888
- The Department of Primary Industries or Agriculture in the State/Territory in which the event has occurred.

Reporting will alert authorities to the event so they can evaluate the need for diagnostic testing or other investigation. Even if testing is not undertaken, all reports help inform our understanding of the disease and how to manage it.

Sample collection & diagnosis

- **If sample collection is required, you will be advised on appropriate collection and laboratory submission protocols.**
- A primary diagnosis of avian influenza is usually via qPCR testing of oropharyngeal and cloacal swabs.
 - Use plain sterile swabs, collect samples individually from the cloaca and oropharynx and place in tubes containing viral transport media.
- You may also be advised to collect a range of post mortem tissues, or to submit the whole carcass to the laboratory.
- All samples and carcasses must be stored at 4°C prior to submission.

Biosecurity & personal protective equipment (PPE)

- **Review and implementation of appropriate biosecurity measures are recommended in veterinary hospitals, rehabilitation settings and in the field**, following the [National Wildlife Biosecurity Guidelines](#) and AVA Guidelines for [Veterinary Biosecurity](#).
- Avian influenza viruses can be transmitted between birds and to other animals via direct contact with respiratory secretions and faecal material, as well as indirect exposure to contaminated environments or objects (e.g. clothing, boots, equipment, etc.).
- Handling of birds or mammals suspected of being infected with HPAI should be conducted with appropriate PPE, including gloves, a facemask and eye protection.
- PPE should be removed properly to avoid self-contamination.
- PPE and other potentially contaminated equipment should be thoroughly cleaned after use, followed by disinfection, or disposed of appropriately.
- Particular attention should be given to hand washing after handling animals, after contact with potentially contaminated materials and after removal of gloves. Hands and arms should be washed with abundant soap and warm water. Hand sanitizer (gel with 60 to 90% ethanol concentration) can be applied to reinforce disinfection but should not replace proper handwashing.
- Further advice on PPE and disinfection, directed to people currently working in locations impacted by HPAI, can be found in the [WOAH recommendations](#).

Resources

Wildlife Health Australia

- Fact sheet: [Avian influenza in wild birds in Australia](#)
- [High Pathogenicity Avian Influenza Information](#)
- Avian Influenza [Technical Issue Update – Global High Pathogenicity Avian Influenza Events](#) (Sept 2023)
- [National Avian Influenza Wild Bird Surveillance](#).

Australian Department of Agriculture, Fisheries and Forestry

- [Information on Avian Influenza or Bird Flu](#) and [Information for bird owners](#)
- [Outbreak.gov.au](#) provides details on how to prepare for and respond to animal pests and diseases.

Australian Biosecurity Manuals

- [National Wildlife Biosecurity Manual](#)
- [National Farm Biosecurity Manuals – Poultry](#)
- [National Zoo Biosecurity Manual](#)
- Australian Veterinary Association (2017) [Guidelines for Veterinary Personal Biosecurity](#)

Human Health

- Australian Department of Health and Aged Care information on [Avian influenza in humans](#)

Sample Collection

- The Australian Registry of Wildlife Health: [Sick and Dead Bird Health Surveillance Sample Collection Protocol](#) Guidelines for the collection of samples for sick and dead wild birds. Appropriate sampling will allow testing to rule out the presence of animal diseases of concern to Australia (such as avian influenza, West Nile Virus and Newcastle Disease).

Australian Veterinary Emergency Plan (AUSVETPLAN)

- The Avian Influenza AUSVETPLAN sets out the nationally agreed response approach to Avian Influenza outbreaks in Australia. This includes agreed policy in Australia with respect to LPAI or HPAI detection in wild birds.
- The AUSVETPLAN Disease Strategy for Avian Influenza can be downloaded from [Animal Health Australia website](#) under “Disease-specific documents”.

World Organisation for Animal Health & IUCN Wildlife Health Specialist Group

- [Avian Influenza and Wildlife: Risk management for people working with wild birds](#)

Global announcements

Communications regarding the high number of global HPAI outbreaks in wild birds since 2021.

- World Organisation for Animal Health & IUCN Wildlife Health Specialist Group - [Avian Influenza and Wildlife: Risk management for people working with wild birds](#)
- Food and Agriculture Organisation of the United Nations (FAO):
 - o [Global AIV with Zoonotic Potential](#) situation update (includes full list of wild bird species)
 - o Managing large-scale high pathogenicity avian influenza (HPAI) outbreaks in wild birds - Videos on FAO’s YouTube channel: [Part 1](#), [Part 2](#)
- Convention on the Conservation of Migratory Species of Wild Animals
 - o [Scientific Task Force on Avian Influenza and Wild Birds](#)
- [WHO Global Influenza Programme Monthly Risk assessment summaries](#) of influenza at the human-animal interface