

Years 9 and 10

H5 Avian Influenza







Imagine you are part of a biosecurity response team investigating a possible H5 avian influenza outbreak.

What evidence would you need to determine whether there is a disease outbreak?

- What evidence is available?
- What further information is needed?
- Who would be involved in the investigation?



HZAA – Community Biosecurity

Keeping our
community
safe

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Community Biosecurity

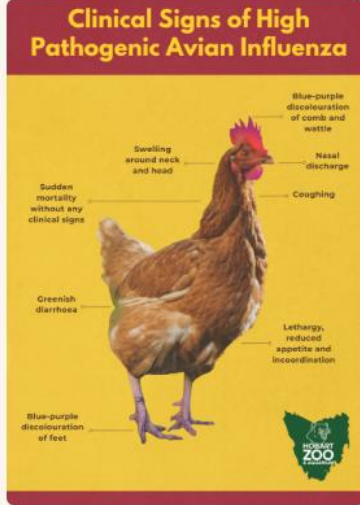
Welcome to Hobart Zoo and Aquarium's Community Biosecurity Hub.

This page is your first stop for trusted, up-to-date information on biosecurity issues that may affect wildlife, animals, and our local community. We regularly update this space with the latest advice, resources, and guidance on emerging biosecurity challenges, including Avian Influenza (bird flu).

By working together and staying informed, we can all play an important role in protecting Tasmania's unique wildlife and natural environment.

1. Understanding Avian Influenza (Bird Flu)

Clinical Signs of High Pathogenic Avian Influenza



Learn what Avian Influenza (Bird Flu) is, how it spreads, and why it is important for wildlife, poultry, farm animals, and our community.

2. What To Do If You Find a Sick or Injured Bird

We Want You to Be Safe

**AVOID**
Don't touch sick or injured birds

**RECORD**
Write down the date, time, location and species

**REPORT**
Call the Animal Disease Hotline on 1800 675 888

If you find a sick or injured bird, follow these simple steps to protect yourself, wildlife, and the wider community.



Learning Intention

We are learning to...

... investigate the ecological impacts of H5 avian influenza on wildlife populations and ecosystems.

...explain the ecological impacts of H5 avian influenza.

...examine the role of surveillance systems in detecting and responding to emerging diseases

Success Criteria

We will be successful when we can...

...explain what H5 avian influenza is and how it can spread through animal populations.

... analyse the ecological consequences of disease outbreaks.

...communicate complex scientific information using appropriate terminology.





Reading – H5 Avian Influenza



Biosecurity - Measures used to reduce the risk of diseases, pests and harmful organisms entering, spreading within or leaving an environment.

1. Strong **biosecurity** measures help prevent diseases from spreading between wildlife and livestock.
2. Australia's **biosecurity** system protects agriculture, biodiversity and public health.





Reading – H5 Avian Influenza



Pathogen -A microorganism, virus, or other biological agent that causes disease.

1. The ***pathogen*** responsible for the outbreak was identified through laboratory testing.
2. Scientists studied how the ***pathogen*** spread between bird populations.





Reading – H5 Avian Influenza



Vector - An organism that carries a pathogen from one location or host to another.

1. Migratory birds can act as **vectors** for avian influenza.
2. Researchers tracked **vectors** to understand disease spread.





Reading – H5 Avian Influenza



Epidemiology - The scientific study of how diseases spread through populations.

1. ***Epidemiology*** helps scientists investigate disease outbreaks.
2. Evidence collected through ***epidemiology*** can guide management decisions.





H5 avian influenza in Australia: Biosecurity and Ecosystem Health



H5 avian influenza is a disease caused by influenza A viruses. These viruses are pathogens, meaning they cause disease in living organisms. H5 avian influenza mainly affects birds but can also infect other animals. Infected birds may become seriously ill, and outbreaks can lead to large numbers of deaths.

The disease spreads when a pathogen moves from one host to another. H5 avian influenza can spread through direct contact between infected and healthy birds, as well as through contaminated water, droppings, feathers, and respiratory secretions. Migratory birds travel long distances between habitats and countries. As they move, they can act as vectors, carrying pathogens into new regions and ecosystems.





H5 avian influenza in Australia: Biosecurity and Ecosystem Health



Scientists use epidemiology to investigate how diseases spread through populations. During outbreaks, they collect evidence from field observations, laboratory testing, wildlife monitoring programs, and satellite tracking data. Comparing evidence from multiple sources helps scientists identify patterns of disease transmission and assess risk.



H5 avian influenza can have significant ecological impacts. Birds play vital roles in ecosystems by pollinating plants, dispersing seeds, and acting as predators or scavengers. When disease causes major population declines, these ecological functions may be disrupted. This can affect food webs and the relationships between species.





H5 avian influenza in Australia: Biosecurity and Ecosystem Health



Outbreaks may also reduce biodiversity, the variety of living things in an ecosystem. Biodiversity helps ecosystems remain resilient and recover from disturbances such as disease, climate events, and habitat loss. When biodiversity decreases, ecosystems may become less stable.





H5 avian influenza in Australia: Biosecurity and Ecosystem Health

To reduce disease spread, scientists and governments use biosecurity measures. These include monitoring wildlife, cleaning equipment, restricting access to affected areas, and separating domestic poultry from wild birds. Community reports of sick or dead birds can also support investigations. Following the **Avoid, Record, Report (Animal Disease Hotline 1800 675 888)** process helps protect people, wildlife, and ecosystems.

We Want You to Be Safe



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Why are scientists interested in tracking migratory birds during H5 avian influenza outbreaks?



A) Migratory birds are the only species that can become infected with avian influenza.

B) Migratory birds may carry pathogens to new locations, increasing the risk of disease spread.

C) Migratory birds always cause disease outbreaks wherever they travel.

D) Migratory birds prevent avian influenza from affecting ecosystems.





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Which conclusion can be made about ecosystems with lower biodiversity?



A) They contain fewer pathogens.

B) They recover more quickly from disturbances.

C) They may be less able to cope with future environmental challenges.

D) They are unaffected by disease outbreaks.





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Why might scientists use evidence from several sources before making decisions about an outbreak?



A) Different sources of evidence can help confirm whether the same conclusion is accurate.

B) Governments require scientists to collect as much information as possible.

C) Satellite tracking is not a reliable source of information.

D) Laboratory testing cannot identify diseases on its own.





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Which statement best explains why community reports of sick or dead birds are valuable?



A) They replace the need for scientific investigations.

B) They can provide early evidence that helps scientists detect outbreaks.

C) They prove that avian influenza is always present.

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Create a campaign – H5 Avian Influenza



Create an engaging and evidence-based awareness **campaign** that informs your school community about **H5 avian influenza** and biosecurity.

Your campaign should:

- **Explain** what Avian Influenza is and how it spreads.
- **Define** biosecurity using scientific language.
- **Describe** why surveillance and reporting are important.
- **Explain** the "Avoid, Record, Report" process.
- **Include** at least **four evidence-based actions** people can take to reduce disease spread and the Animal Disease Hotline number: 1800 675 888.



EXAMPLES

We Want You to Be Safe



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What is Bird Flu?



Bird flu is caused by some strains of influenza A



Migratory wild birds transmit bird flu



Any bird can be affected



Some strains spread easily from wild birds to poultry. The poultry can get very sick or die.



Australian farms have had bird flu outbreaks



Bird flu has spread to other animals overseas, including cattle, goats, cats and foxes

Bird flu **rarely infects people**, but it can happen, especially during animals outbreaks



Plenary



Share your campaign with a partner and explain:

- Why biosecurity is important for wildlife, agriculture and ecosystems.
- How evidence informs decisions made by scientists and governments.
- Why surveillance and reporting are critical during disease outbreaks.



We are prepared for H5 avian influenza in
Tasmania.

All you need to do to stay safe is...

**Avoid
Record
Report** – 1800 675 888

