H5 bird flu on our doorstep

H5 Bird Flu is a global emergency

H5 bird flu (H5N1, a strain of highly pathogenic avian influenza) is an infectious disease that affects that can affect wild, farmed and pet birds. Unlike previous strains, H5 bird flu also affects mammals including marine mammals and domestic stock such as dairy cattle.

H5 bird flu has had devastating consequences on wild bird populations worldwide since 2021. The virus has moved around the world, causing populations of wild birds to crash, in some cases by over 40%).

H5 bird flu's impact on Australia's wildlife and agriculture should be expected to be equally catastrophic.

Australia currently remains free of H5 bird flu, however there is a limited and unique opportunity to ensure robust planning ahead of the possible arrival of this virus. Mitigating the impacts of H5 bird flu on agriculture, tourism, nature and our communities is possible through proactive preparedness and investment in resilience measures.

Australian Pelicans (pictured) are at high risk of contracting H5 bird flu.

What do we know?

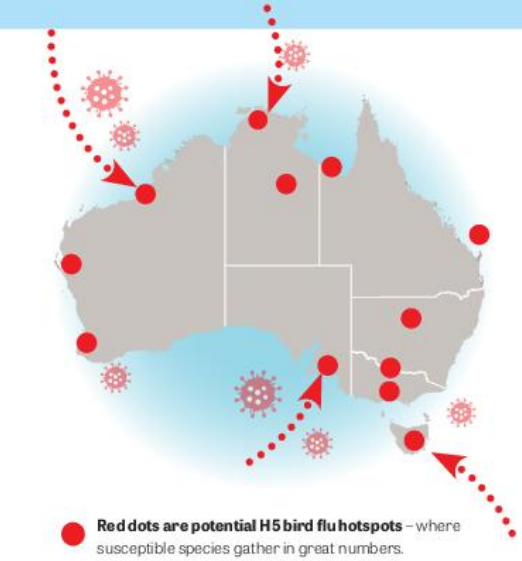
The global outbreak has revealed valuable patterns.

The Australian species of birds that will be most severely impacted is still uncertain, however it is clear that some groups of birds are more susceptible than others.

H5 bird flu is most readily contracted by birds and mammals **associated with water** – including ducks, swans, migratory seabirds and shorebirds, pelicans and penguins. The virus also impacts the species that scavenge on these birds, such as eagles.

In South America, Peruvian Pelicans have been the worst hit, in Europe it has been terns, and in South Africa, cormorants and penguins.

The transmission and spread of the virus is closely associated with birds that **congregate in large groups** as the close physical contact between birds helps the virus to spread. Australia's shorebirds, seabirds and waterbirds feed and nest (sometimes in their hundreds of thousands) in wetlands, waterways and coasts. These areas are therefore key to our preparedness efforts.



Red dots are potential H5 bird flu hotspots – where susceptible species gather in great numbers.

Arrows represent wild bird migration routes and potential pathways of virus transmission into Australia.

Many of Australia's birds are likely to be susceptible to H5 bird flu, including (left to right) Australian Pelican, Black Swan, Little Penguin, Australasian Gannet). Photos by Bernard Spragg (Australian Pelican, far left) and Andrew Silcocks

Data and expertise are critical

BirdLife Australia scientists have played a key role in H5 bird flu preparedness efforts by providing expert advice on Australia's wild birds, their ecology, movements, and where they congregate. This expertise draws from the high-quality bird data curated and managed by our scientists and collected by a nationwide army of skilled volunteers and biodiversity professionals.

***"Skilled volunteers are vital to understanding Australia's dynamic shorebird, waterbird and seabird populations, how they interact with the landscape and the threats they face"* explains Chris Purnell, Manager Wetland and Migratory Shorebirds.**

"The ongoing dedication of volunteers is critical to the conservation of our most threatened birds and provides a barometer to the wider health of ecosystems. Whether surveying their local patch or filling knowledge gaps in remote corners of the country, we can't overstate the value of their contributions."

AviFluMap is a global first

Australia has been uniquely well positioned to create a valuable decision-support tool prior to the arrival of the virus: **AviFluMap; an H5 Bird Flu Model Tool for Australia's Wild Birds**. The tool models the susceptibility of Australian birds to H5 bird flu and pinpoints hotspots where the virus may be more likely to occur based on bird migrations, movements and sites of aggregation.

AviFluMap draws upon decades of bird monitoring data to provide contemporary information on waterbird, seabird and shorebird populations. This data is a vital part of effective planning, as after an incursion of H5 bird flu, the risk of establishment and a further spread of the virus is not only determined by the species susceptible to infection but importantly also where these birds come together in large numbers.

Effective planning for future outbreaks requires a coordinated **One Health** approach, combining aspects of wild bird ecology, epidemiology, biosecurity, and animal husbandry.

BirdLife Australia's data and expertise has been critical to the creation of **AviFluMap.** The tool is the result of extensive cross-sector collaboration between Wildlife Health Australia (WHA), Deakin University and BirdLife Australia, supported by funding from the Australian Government Department of Agriculture, Fisheries and Forestry. The project also drew on international expertise, with key input from the Alfred Wegener Institute in Germany.

The tool also demonstrates how rigorous, long-term data collected by citizen scientists can be used to address not only biodiversity issues but the increasing intersection with human health and agriculture.

Link to AviFluMap hpairisk.deakin.edu.au

Scenario planning at hotspots

The mapping tool is not only useful for federal and state government, it's also important for conservation, livestock, and health practitioners, and other land managers, who are now able to use AviFluMap to inform H5 bird flu risk assessments in their region and decisions on where to direct efforts in surveillance and scenario planning.

Collaborative scenario planning in preparation for outbreaks at each identified location will involve multiple stakeholders planning for a diverse range of scenarios. AviFluMap's data-driven maps enable users to identify priority sites, begin planning and allocating resources for priority actions, such as:

- Ongoing monitoring of significant wild bird populations
- Logistical aspects of remote access, possible carcass management and biomass estimates
- Proactive communication, education and training for communities, site managers and other stakeholders
- Mitigating or managing the flow-on effects of an outbreak on local and national tourism, shipping and other industries

Gould's Petrel. Photo by Beau Meney

REPORT unusual illness or death in wild birds and other wildlife immediately via the Emergency Animal Disease Hotline on 1800 675 888.

To contact BirdLife Australia about the importance of preparing for H5 Bird Flu, speak to an expert, or to learn more about our national Birdata database, please contact our dedicated Avian Influenza Response Coordinator, BirdLife Australia at avianinfluenza@birdlife.org.au

For H5 bird flu information and resources click on the QR.