A looming wildlife catastrophe: Australia is poorly prepared for possible arrival of deadly H5N1 bird flu this spring

Briefing note, 27 August 2024

SUMMARY

- Large-scale outbreaks of the H5N1 strain of bird flu in the past two years around the world have killed millions of wild birds and tens of thousands of mammals.
- H5N1 bird flu has spread to all continents apart from Australia and experts predict it could arrive with the spring migration of shorebirds and seabirds from the northern hemisphere.
- A June 2023, government-commissioned risk assessment predicted 'catastrophic' impacts for native birds, including possible localised extinctions. Large-scale deaths of sea lions and seals in South America show the virus is also adapting to mammals and can cause catastrophic losses.
- A failure to prepare for an outbreak could undo years of investment in threatened species recovery and set Australia back in its trajectory towards biodiversity targets.
- **We cannot prevent the arrival of H5N1, but we can reduce the impacts – if we prepare.** Australia's poultry industry is well prepared, but we are poorly prepared for wildlife impacts.
- Urgently needed are (1) identification and prioritisation of at-risk species and high-value sites and (2) development of detailed response plans for these and 3) effective coordination and dissemination of critical information for both preparedness and response activities.
- Options to reduce wildlife deaths and prevent extinctions include (1) preventing disturbance of affected wildlife colonies, (2) swiftly removing carcasses and (3) vaccination.
- So far, only $580,000 has been allocated by the federal government 'to support early detection and response capability for H5 HPAI in wildlife' (in addition to funding for surveillance work). This is nowhere near enough to support essential preparedness work in wildlife.

CURRENT GLOBAL SITUATION – MASS DEATHS OF BIRDS AND MAMMALS

Global spread: H5N1 clade 2.3.4.4b has spread to all continents apart from Australia – most recently to North America (2021), South America (2022) and Antarctica (2024).

Impacts on wild birds: Globally, millions of wild birds have died and ~500 bird species have been affected. Losses include ~40% of Peru's pelicans, >240,000 Peruvian boobies, >260,000 guanay cormorants, 76% of Scotland's breeding great skuas. But most wildlife deaths are not recorded.

Impacts on wild mammals: H5N1 is increasingly adapting to mammals, with transmission between marine mammals documented in South America. Losses in South America included >30,000 sea lions and 97% (17,000) of elephant seal pups born in southern Argentina in 2023.

POTENTIAL CATASTROPHIC CONSEQUENCES FOR AUSTRALIA

Pathways to Australia: The likelihood of spread to Australia has been assessed as moderate. H5N1 is most likely to arrive with the spring migration of shorebirds and seabirds from the northern hemisphere, and potentially also from the Antarctic or Australo-Papuan regions.

Risks to native birds: The risk to Australian birds has been rated as high, with consequences predicted to be 'catastrophic'. All bird species are regarded as potentially susceptible to H5N1 and severe declines and local extinctions are likely.

Risks to native mammals: The risk to Australian mammals was assessed as low in mid-2023 but would be higher now given the impacts on marine mammals in South America. Australia's endemic endangered sea lions are likely to be at particular risk with only 6,500 breeding adults remaining.

Potential for worse impacts in Australia: In captivity overseas, infected black swans typically die within 3 days. Genomic research found they lack the immune capacity to defend themselves against this type of virus and face 'significant peril'. Other Australian species are likely to also be highly susceptible given Australia's isolation and their lack of evolutionary exposure to the H5 virus.

WHAT CAN AND SHOULD BE DONE TO PROTECT WILDLIFE

The urgent priority is to prepare plans for priority sites and wildlife, which identify actions to:

a. **Prevent disturbance** of affected wildlife colonies
b. **Remove carcasses** - these can remain sources of infection for weeks to months; timely removal can reduce mortality in some wildlife colonies (e.g. 15-80% in sandwich terns)
c. **Monitor** to ensure early detection of infected wildlife and document impacts.

Vaccination of highly susceptible native species is also a possible option: Overseas, 36,000 birds have been vaccinated in 250 zoos with very few adverse reactions. Although vaccination in the wild is more difficult, it has been done in the US and is being trialled in New Zealand, France, South Africa and elsewhere for threatened species. The Australian Government is investigating the potential for the vaccination of wildlife, but no funding has been allocated for this.

PRIORITIES FOR STRENGTHENING AUSTRALIA'S PREPAREDNESS

1. **Allocate increased wildlife specific national funding** to drive coordination, local and regional preparations, and undertake priority research.
2. **Identify and prioritise at-risk species and high-value sites**, based on clear conservation criteria.
3. **Urgently develop detailed response plans** for national priority sites and wildlife populations.
4. **Develop and disseminate a range of template local response plans** (e.g. urban, remote and island sites, wetland/seabird colonies, marine mammal colonies) and fund local implementation.
5. **Develop protocols for carcass removal** and measures to protect critically threatened and highly susceptible species (including vaccination).
6. **Develop measures to prevent disturbance and virus transmission**, including consideration of appropriate restrictions on recreational hunting of waterbirds or tourism.
7. **Convene a special meeting of Environment ministers** to ensure H5N1 preparedness and response is prioritised ahead of the spring migration and set national preparation milestones.
8. **Establish a broader national wildlife taskforce**, co-led by the agriculture and environmental departments, with nongovernmental participants.
9. **Ensure each state/territory government appoints a dedicated bird flu coordinator for wildlife responses** and allocates a preparedness and response budget.
10. **Scale up public communication**, including through working with non-government partners.
11. **Undertake vaccination trials** for highly susceptible native species.
12. **Identify and fund high priority research projects** (e.g. susceptibility testing).

CONTACTS FOR FURTHER INFORMATION:

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