

## Highly Pathogenic Avian Influenza (HPAI) - Zealandia Risk Assessment

### **Background**

Avian influenza (AI) is primarily disease of poultry, waterfowl and migratory birds caused by Type "A" influenza viruses, which can infect several species of domestic poultry, including chickens, turkeys, quail, guinea fowl and ducks, as well as caged and wild birds. AI viruses have also been isolated, although less frequently, from mammalian species, including rats, mice, weasels, ferrets, pigs, cats, tigers, dogs and horses, as well as from humans. There are many AI virus strains, which are usually classified into two categories according to the severity of the disease in poultry: low pathogenic (LPAI) strains, which typically cause few or no clinical signs in poultry, and highly pathogenic (HPAI) strains, which can cause severe clinical signs and potentially high mortality rates among poultry.

Avian influenza is mainly spread by close contact between infected birds and healthy birds. In birds, avian influenza viruses are shed in the faeces and respiratory secretions. They can all be spread through direct contact with secretions from infected birds, especially through faeces or through contaminated feed and water. Because of the resistant nature of avian influenza viruses, including their ability to survive for long periods when temperatures are low, they can also be carried on farm equipment and spread easily from farm to farm.

An outbreak of avian influenza (H5N1) began in 2022 and has affected domestic poultry, waterfowl, raptors, shorebirds, other species of birds, and some mammals. Because the strain causes heavy poultry losses, it is called highly pathogenic.

The most obvious sign of HPAI is sudden death in several birds. Other signs of HPAI vary but indicators include tremors, weakness, paralysis, lack of coordination, blindness, difficulty breathing and diarrhoea.

### **HPAI in Aotearoa New Zealand**

As of August 2024, H5N1 has not yet been detected in New Zealand; however, it has been found in the sub-Antarctic's as well as part of Antarctica, so it will almost certainly spread to New Zealand at some stage. MPI has been working with DOC and other organisations to monitor and prepare a coordinated response if and when it makes its way here. If HPAI is detected in New Zealand, Biosecurity New Zealand is the lead agency and would coordinate any response with support from DOC and the Ministry of Health.

If/when HPAI is detected, it is likely that DOC will issue guidelines around permitted activities with wild birds, with a possible immediate cessation of banding for a period of time.

Use of HPAI vaccines in New Zealand is prohibited. However, the Ministry for Primary Industries has granted approval for DOC to use this vaccine in a controlled trial to test its safety and efficacy in a select number of endangered native birds, including takahē and red-crowned kākārīki (as a surrogate for kākārīki karaka).

### **HPAI risks to Zealandia**

While not nil, the risk to both wildlife and people at Zealandia is at this stage deemed relatively low. HPAI abroad primarily has affected poultry, waterfowl and seabirds, particularly those that form colonies or aggregate in large numbers. Some passerines and psittacines (parrots and parakeets) have been detected or affected elsewhere, but both are still relatively low risk species. Previous studies have found that songbirds (passerines) are much less likely than waterfowl to contract avian influenza and less likely to shed large amounts of virus, meaning they do not

transmit the disease easily. High risk species at Zealandia will include pāteke, pūtangitangi, mallards, all shag/kāruhiruhi species and gulls.

Conversations with DOC staff working in this space indicate that guidelines around specific activities (e.g. banding) will likely come out as soon as HPAI has been detected in New Zealand. These guidelines will likely vary by species group.

### **Detection and reporting**

It is vital to ensure that all Duty Operations staff are aware of signs and symptoms of HPAI, so that they can both protect themselves and report any potential cases to MPI.

Current instructions around reporting are as follows:

If you see 3 or more sick or dead birds in a group, report it immediately to Biosecurity New Zealand's Exotic Pest and Disease Hotline on 0800 80 99 66. Do not handle the birds.

Provide as much detail to Biosecurity New Zealand as you can, including:

- a GPS reading or other precise location information,
- photographs and/or videos of sick and dead birds,
- species identity and estimate of numbers affected,
- note how many are sick or freshly dead, and the total number present.

Biosecurity New Zealand will take details and an incursion investigator will be in contact with you. Follow Biosecurity New Zealand's instructions for handling of sick or dead birds.

### *Handling high-risk species*

If you need to handle high risk species at Zealandia for any reason (e.g. kāruhiruhi/mallards) eg as duty ops responding to an injured animal, please ensure you are wearing full PPE including overalls, gloves, eye protection, and wash your hands and sanitise them after handling. Overalls must be immediately washed with a disinfectant (Sterigene) after use.

The Nest Te Kōhanga at Wellington Zoo has implemented their own procedures around HPAI, which include calling ahead of time on **04 803 0764** to alert the vet team that you're bringing an injured individual to them, especially to alert the team if you are bringing in a high-risk species (pāteke, pūtangitangi, mallards, all shag/kāruhiruhi species and gulls).

They ask for all wildlife via the Newtown Play Park Entrance at the North-West of Wellington Zoo instead of the Main Entrance. Call the clinic phone again upon arrival, and a member of the team will come to the gate and receive the carry box at the boundary of the Zoo. TNTK will triage any "high risk" species in a separate, dedicated Admissions Ward with PPE. They will not reuse cardboard carry boxes but will thoroughly disinfect plastic crates and Corflute boxes and arrange to send them back at a later date.

Once HPAI is in the country, detection and reporting will still be important, however more measures will need to be put in place for the safety of wildlife and people. Risks and potential mitigation measures are summarised below.

HPAI risks to wildlife at Zealandia

Activity	Risk(s)	Species affected	Likelihood of risk	Potential mitigation	Likelihood of risk after mitigation
Handling – as part of monitoring/banding	Spread through human contact, banding or handling materials (e.g. pliers, bird bags or towels)	Kākā Hihi Titipounamu? Kiwi Takahē	Low	Extra disinfection of banding gear in between birds  Extra disinfection of hands in between handling birds (that are not from same nest) thorough hand washing with 'abundant soap and water.' Hand sanitiser can be applied to reinforce but should not replace proper handwashing.  *Potential cessation of banding as per DOC guidelines	Low
Handling – assessing injured animal or taking it to TNTK	Spread through human contact, or handling materials	- Passerines (multiple species) Psittacines (kākā and kākāriki) Takahē Kiwi Kererū Waterfowl (pāteke, mallards, pūtangitangi) Seabirds (kāruhiruhi, gulls)	Low	Thorough hand washing prior to and after handling. Discard travel boxes or sterigene after use. Sterigene towels and other capture gear.  *Will likely get advice for specific species from DOC, e.g. takahē, kiwi	Low
Feeders - kākā	Spread through congregation of multiple bird species, some of which are high risk (kākā, sparrows, blackbirds, mallards, pāteke)	Kākā Sparrows Blackbirds Mallards Pāteke	Medium	Extra disinfection of feeders (e.g. weekly deep clean)  Close down feeders	Low depending on mitigation
Feeders - hihi	Spread through congregation of multiple bird species	Hihi Korimako	Low	Extra disinfection of feeders  Consider smaller feeding stations and	Low

				having more of them with increased cleaning.  *Gain advice from HRG re continuation of feeding	
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**HPAI risks to people at Zealandia**

Activity	Risk(s)	Species affected	Likelihood of risk	Potential mitigation	Likelihood of risk after mitigation
Handling – as part of monitoring/banding	Spread through handling	Kākā Hihi Titipounamu? Kiwi Takahē	Low	Increased PPE (eye protection, masks, increased disinfection of hands and clothing)  Cessation of monitoring/banding activities  *Will likely get advice from DOC/MPI	Low
Handling – assessing injured animal or taking it to TNTK	Spread through handling	- Passerines (multiple species) Psittacines (kākā and kākāriki) Takahē Kiwi Kererū Waterfowl (pāteke, mallards, pūtangitangi) Seabirds (kāruhiruhi, gulls)	Low-Moderate depending on species	Increased PPE (eye protection, masks, increased disinfection of hands and clothing)  Cessation of handling non terminal injured animals  *Will likely get advice from DOC/MPI	Low
Handling – dead animal	Spread through handling	- Passerines (multiple species) Psittacines (kākā and kākāriki) Takahē Kiwi Kererū Waterfowl (pāteke, mallards, pūtangitangi)	Low-Moderate depending on species	Increased PPE (eye protection, masks, increased disinfection of hands and clothing)  Cessation of handling dead animals  *Will likely get advice from DOC/MPI	Low

		Seabirds (kāruhiruhi, gulls)			
Feeders - kākā	Spread through improper hand disinfection after feeding/cleaning		Low	Ensure all staff and volunteers engaging in these activities maintain high levels of personal hygiene and disinfection  Close down feeders	Low
Feeders - hihi	Spread through improper hand disinfection after feeding/cleaning		Low	Ensure all staff and volunteers engaging in these activities maintain high levels of personal hygiene and disinfection  Close down feeders on HRG advice	Low
Nest box provision – monitoring	Spread through improper hand disinfection during/after monitoring	Kākā Kākāriki Titipounamu Hihi	Low	Ensure all staff and volunteers maintain high levels of personal hygiene and disinfection both DURING and AFTER monitoring activities.  Only essential monitoring to occur – most to cease.	Low
Nest box provision - cleaning	Spread during or after the cleaning process	Kākā Kākāriki Titipounamu Hihi	Likely low	Ensure all staff and volunteers maintain high levels of personal hygiene and disinfection both DURING and AFTER monitoring activities  Provide PPE (eye protection, masks) to staff and volunteers cleaning more messy nest boxes (kākā, kākāriki). Leave to end of season.	Low

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