



Bird flu vaccination trial in Aotearoa New Zealand

What is bird flu?

Avian influenza (bird flu) is a viral disease which can cause mass mortality events in wild and domestic birds (manu). A new strain of bird flu, highly pathogenic avian influenza (HPAI), emerged overseas in 2021 and is causing mass mortalities in many populations of wild manu and marine mammals. Particularly those gathering in large numbers around waterbodies including seabirds, waders, ducks and marine mammals.

Where is bird flu now?

HPAI has spread globally, except to Oceania (Aotearoa-New Zealand, Australia and the Pacific Islands). It reached the south Atlantic subantarctic in early October 2023 (South Georgia Island) and the Antarctic peninsula in late February 2024. HPAI may spread east or west along the coast to the Ross Sea region which would likely change the risk level for New Zealand. The current risk to New Zealand is deemed low, but we are closely monitoring the global situation, and this may increase as the disease spreads to regions where it has never previously been identified.

How can we protect our manu?

Management options are limited, bird flu in wild birds is not an eradicable disease. Protection of manu means ensuring there are strong healthy populations at multiple locations and having strong biosecurity and quarantine practices. Continuing, and where possible increasing, the great work breeding and protecting vulnerable manu from predators is the highest priority

What about vaccination?

For a few species, using vaccination might be an effective tool during outbreaks to protect a core

breeding population to prevent species extinction. It is not possible to vaccinate all our endangered birds, but we can focus on those species in captivity where the full two doses of vaccine can be given.

Vaccination requires two injections under the skin, one month apart. The Poulvac Flufend RG vaccine was developed overseas by Zoetis. Use of vaccination in zoos in Europe has shown the vaccination can be safe and effective across a range of manu.

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.

The trial is limited to a small number of threatened native species in specified captive facilities (ten individuals from five species) and is being carried out under strictly controlled conditions by DOC.

What is a vaccine trial?

The aim of the trial is to assess the safety and efficacy of the vaccine in the five species. Once the trial is completed, we will have good evidence about how well the vaccine works and how much protection it might provide to these manu. Vaccination would be used when bird flu has arrived to ensure the protection is recent and strong. There are no plans for large scale vaccinations of wild manu as it requires two injections to provide protection. The first vaccine dose will be given under the skin, one month later the manu will receive a second health check, blood test and the second vaccination dose. Further health and blood checks will be collected at 2-3, 6 and 12 months post vaccination to measure success of the trial.

The vaccine being trialled in Aotearoa contains inactivated (dead) virus, meaning it cannot cause a bird



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flu infection. Vaccination reduces risk of illness or death and reduces virus shedding, protecting both the individual and flock.

Five species in the vaccination trial:

- Takahē
- Tūturuatu (shore plover)
- Red-crowned kākārīki (as a surrogate for kākārīki karaka)
- Kakī (black stilt)
- Kākāpō



South Island Takahē; a sub-adult named 'McKellar'. At Goulard Downs, Heaphy Track, Kahurangi National Park. © Jake Osborne

Takahē

The vaccine will be trialled in a small group of takahē held at the Burwood Takahē Centre, Fiordland. Takahē are considered a high-risk species with respect to bird flu due to their nationally vulnerable status, the reliance on captive breeding for species management and the presence of sea birds and ducks in their habitat which can carry the virus.

The first health check and vaccination for six takahē were completed on Monday 29 January, 2024. The takahē were health screened and vaccinated as part of the planned management catchup work for chick banding and health sampling. They were observed after vaccination to ensure no adverse reactions occurred. All behaved normally and no issues in the process or the results were noted.



Adult male tūturuatu on Rangatira, Chatham Islands. © DOC

Tūturuatu (NZ shore plover)

Tūturuatu are considered high risk species with respect to bird flu due to their Nationally critical status, reliance on captive breeding for species survival and overlapping habitat with seabirds and ducks which can carry the virus.

The vaccine trial for tūturuatu will be trialled in a small group of manu (up to 10), living in captivity at Christchurch tūturuatu breeding centre (Isaac Conservation & Wildlife Trust). Mana whenua from Chatham Islands iwi and imi – kaitiaki of tūturuatu – are supportive of this trial.

The first health check and vaccination took place on Friday 2nd February 2024. The tūturuatu received a health check by a veterinarian and a blood test for health and antibody testing. The vaccine dose was given under the skin. The manu will receive a second health check, blood test and the second vaccination dose a month after the first dose. Further blood will be collected at 2-3, 6 and 12-months post vaccination to check for antibodies.



Kākāriki karaka (orange fronted kākāriki). Credit DOC.

Kākāriki karaka (orange fronted kākāriki)

Kākāriki karaka are considered vulnerable to bird flu because they have small population numbers, poor survival in the wild and are reliant on captive breeding for species survival.

The vaccine will be trialled in a small group of red-crowned kākāriki as a surrogate for the kākāriki karaka. The manu are a captive population at Natureland Wildlife Trust, Nelson. Using red-crowned kākāriki means we have a larger manu to work with and reduces the risk of handling injury or mortality in the critically endangered kākāriki karaka.

Four red-crowned kākāriki manu received a health check by a veterinarian and a blood test for health and antibody testing on Wednesday 7th February 2024.



Close up of Stella the kākāpō on Codfish Island. © Sabine Bernert

Kākāpō

Kākāpō have been identified as a high-risk species with respect to bird flu due to their nationally critical status, reliance on intensive population management practices for species survival, geographical isolation (two main breeding populations on offshore islands) and potential contact with seabirds (previously associated with disease).

The vaccine will be trialled in up to 10 kākāpō living on Whenua Hou island. This has been identified as the easiest location to access the kākāpō required for this trial. They will receive a health check by a veterinarian and a blood test for health and antibody testing. The first health check and vaccination will take place between Monday 11th and Friday 15th March 2024.



An adult kakī incubating eggs at the DOC captive breeding centre in Twizel. © DOC

Kakī (black stilt)

Kakī are a critically threatened species which is reliant on a captive breeding programme. The vaccine will be trialled in up to 10 kakī living the DOC captive breeding centre in Twizel. The kakī will receive a health check by a veterinarian and a blood test for health and antibody testing. Discussions on the vaccination trail are underway with kakī kaitiaki. The first health check and vaccination for the first group of 3 kakī are proposed for 1st March 2024.

For more information about bird flu in Aotearoa visit

- <https://www.doc.govt.nz/our-work/wildlife-health/avian-influenza/>
- <https://www.mpi.govt.nz/biosecurity/pests-and-diseases-not-in-new-zealand/animal-diseases-not-in-nz/high-pathogenicity-avian-influenza-and-the-risk-to-nz/>

For more information about bird flu overseas visit

- <https://www.woah.org/en/disease/avian-influenza/>

Please send any questions to the DOC HPAI (bird flu) Readiness Team: HPAI@doc.govt.nz

Where can I find out more?