

Wild Birds & Avian Influenza

The Biology of Avian Influenza

Avian Influenza (AI) viruses are subtyped (named) using H & N designations. They are also called either “low pathogenicity” or “highly pathogenic” based entirely on their ability to cause serious disease in poultry.

- Detections of H5, H7 or any avian influenza virus determined to be highly pathogenic (HPAI) are reportable to the CFIA, and if in a domesticated species, there will be swift disease eradication to support Canada’s “freedom-from AI” status.
- Influenza viruses are continually evolving though genetic mutation and reassortment of genetic material. This can directly influence the infectivity, virulence, and species susceptibility of individual viruses.

Wild waterfowl are a stable reservoir for multiple subtypes of avian influenza viruses.

- “Reservoirs” are a persistent source of virus.
- A biologic or animal reservoir provides the opportunity for the virus to replicate and be excreted but usually does not cause disease in the infected birds.
- An environmental reservoir provides conditions that promote the survivability of the virus outside the host. Avian influenza viruses can survive for weeks to months in cold wet conditions, like those found in waterfowl habitat.
- A fall seasonal viral shedding pattern in waterfowl has been identified (Sept-Nov). Virus recovery rates are highest in pre-migratory young-of-the year birds.

The Disease Risk in Poultry

Avian influenza viruses that are circulating in wild birds can cause serious disease in poultry species.

- The impact of an avian influenza infection in poultry can vary depending on the strain of virus
 - ❖ mild infections with no obvious clinical signs
 - ❖ variable clinical signs that range from transient respiratory illness, watery green diarrhea, egg production drops, off feed, etc.
 - ❖ severe illness including facial swelling, red shanks and sudden mortality
- It is important to keep poultry separated from wild birds, a particular challenge for small flocks with outside access.

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The Current Concern

In February 2022, a highly pathogenic avian influenza (HPAI), subtype H5, was detected in a dead bald eagle in Vancouver, BC

- Genetic sequencing of the virus revealed it to be of Eurasian lineage and related to viruses that have been causing devastating mortality in wild birds and poultry throughout Asia and Europe.
- It is presumed that the virus was introduced to BC via the migratory birds of the Pacific Flyway.
- Although related, this is not the same virus that is circulating in wild birds and poultry along the eastern provinces and states.
- The Fraser Valley is home to the majority of BC's commercial poultry production. A detection in poultry would cause serious illness and bird mortality, with subsequent interruptions to poultry supply chains, serious economic losses to businesses and those employed by the poultry support industries as well as any economic sanctions imposed by our trading partners.
- Small flocks that have outside access may be at increased risk of exposure. They may also be directly impacted by the control and containment actions.
- Canadian and US wildlife and agricultural agencies have heightened AI surveillance in both domestic and wild avian species. The BC poultry industry has enhanced their biosecurity measures.

What you can do to help

Report sick or dead birds

- Avian Influenza viruses are simply unpredictable. Public Health agencies are continually monitoring the ease and ability of specific AIVs to cause human illness. To date, the Eurasian strains of HPAI do not pose a significant human health risk, but sanitary precautions should always be taken when handling sick or dead wild birds.
- In BC, the Wild Bird Mortality Investigation Program hotline, **1-866-431-2473**, enables members of the public to report sightings of dead wild birds. If the report is assessed to require further investigation a biologist may retrieve the carcass for further testing.
- The BC Ministry of Agriculture, Animal Health Centre in Abbotsford provides a diagnostic service for commercial and small flock poultry. Please call **1-800-661-9903** to report unexplained poultry illness or mortality.



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