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H5N1 Avian Influenza — Alaska, 2022–2023

Background

Avian influenza viruses are found among bird populations worldwide and spread via inhalation, ingestion of infected secretions, and through contact with contaminated material from infected birds. Avian influenza virus strains are classified according to the severity of illness they cause in domestic poultry. Low pathogenic avian influenza (LPAI) typically causes few or no symptoms in poultry. Highly pathogenic avian influenza (HPAI) can cause severe morbidity and mortality in domestic poultry resulting in substantial economic losses for the poultry industry. Avian influenza viruses rarely infect humans.

The H5N1 strain is currently the most prevalent HPAI virus in North America. H5N1 was first identified in South Africa in 1961 and emerged again as a highly virulent strain in China in 1996. Since then, various strains of H5N1 have circulated worldwide, leading to frequent outbreaks that have raised substantial global concerns. Initially, the impact of H5N1 on the United States was relatively limited. However, in 2021, a new strain of H5N1 (clade 2.3.4.4b) emerged causing outbreaks in Asia, Africa, and Europe. By 2022, this strain affected commercial and backyard poultry in the US, including Alaska. HPAI H5N1 currently poses a very low risk of infection in humans.¹

H5N1 in Wildlife

Since April 2022, the Alaska Departments of Fish and Game (ADF&G) and Environmental Conservation (ADEC) and the US Fish and Wildlife Service (USFWS) have detected HPAI H5N1 virus in 123 wild animals submitted for testing following morbidity or mortality events in Alaska (Table). Among these animals, 118 (96%) belonged to 28 different species of wild birds. Bald eagles are the most affected species, accounting for 32% (n=39) of cases. H5N1-infected wild birds have been detected in all public health regions of Alaska.

H5N1 primarily affects birds; however, mammals can become infected and show clinical signs. In Alaska, H5N1 was detected in a brown bear in Kodiak (marking the first reported instance of H5N1 infection in this species); a black bear in Glacier Bay National Park; and three red foxes (one each in Nome, Mat-Su and Aleutians West) (Table). These animals were exhibiting illness in areas where H5N1 had already been detected in birds.

Table. Wildlife with detected HPAI (H5N1) in Alaska, April 2022 to present* (N=123)

Species	N=123	
	Count	Percent
Bald Eagles	39	32%
Waterfowl (Ducks, Geese and Swans)	31	25%
Gulls and Terns	21	17%
Common Ravens	15	12%
Other types of birds	12	10%
Red Fox	3	2%
Black Bear	1	1%
Brown Bear	1	1%

*Species tested by ADF&G, ADEC, and USFWS following morbidity/mortality events in animals through June 10, 2023.

H5N1 in Domestic Birds

In April 2022, the first case of H5N1 HPAI in Alaska's domestic birds was confirmed in a non-commercial backyard poultry flock in the Mat-Su Borough. As of June 2023, an additional four domestic flocks in the Mat-Su Borough and one in the Bethel Census area have also had confirmed cases of

H5N1 in domestic poultry. To effectively manage and control the spread of H5N1 among Alaska's domestic bird populations, the Alaska Office of the State Veterinarian (OSV) is collaborating with the USDA's Animal and Plant Health Inspection Service (APHIS). Joint response efforts include implementing quarantine and biosecurity measures for infected flocks, conducting surveillance testing of birds, depopulating affected birds, cleaning and disinfecting affected premises, and raising public awareness about H5N1 in poultry.

H5N1 in Humans

Only one human case of H5N1 has been documented in the US – a Colorado resident who had direct contact with H5N1-infected poultry in April 2022, experienced a few days of fatigue and has since recovered.² Overall risk of H5N1 transmission to the public is considered to be very low; however, people with job-related or recreational bird exposures are at higher exposure risk due to outbreaks in domestic poultry and infections in wildlife. It is important for people with such exposures to take appropriate precautions to protect against HPAI H5N1 infection.³ The [Alaska Section of Epidemiology](#) provides guidance to anyone exposed to HPAI in Alaska.

Recommendations

General Public

- Avoid direct contact with wildlife. Call the Alaska Sick or Dead Bird Hotline at (866) 527-3358 for concerns about sick or dead wild birds. Do not attempt to care for these animals alone. If you need to handle dead birds, use disposable gloves or an inside-out plastic bag. Double bag the carcass and dispose of it in regular trash.
- If you do have contact with wildlife, thoroughly wash your hands with soap and water, taking care to avoid rubbing your eyes, eating, drinking, or smoking before washing.
- Contact a healthcare provider if you have flu-like symptoms after bird contact and tell them about your bird exposure.

Healthcare Providers

- Clinicians should consider HPAI H5N1 virus infection in persons with flu-like illness and a [relevant exposure history](#).
- Contact the Section of Epidemiology (SOE) immediately at (907) 269-8000 (business hours) or (800) 478-0084 (after hours) for suspected human avian influenza cases. SOE can assist with specimen routing and antiviral chemoprophylaxis assessment for clinicians.

Hunters

- If handling and cleaning game, hunters should wear rubber or disposable gloves, wash hands, and disinfect knives and equipment used for cleaning. Use caution if you own domestic birds by following [biosecurity precautions](#).
- Do not handle or eat game that is found dead. Game meat should be cooked to $\geq 155^{\circ}\text{F}$ and poultry to $\geq 165^{\circ}\text{F}$.

Bird Owners

- Wash hands thoroughly after handling or working with birds.
- Separate your flock from wildlife and wild birds; use an enclosed shelter and fence in outdoor areas.
- Report illness/death in backyard flocks to your veterinarian or the [Office of the State Veterinarian](#) at (907) 375-8215.

References

1. Centers for Disease Control and Prevention (CDC). [Reported human infections with avian influenza A viruses](#). (Last reviewed April 17, 2023).
2. CDC. [U.S. case of human avian influenza A\(H5\) virus reported](#). (Last reviewed April 28, 2023).
3. CDC. [Prevention and antiviral treatment of bird flu viruses in people](#). (Last reviewed October 31, 2022).