

2022

Highly Pathogenic Avian Influenza



Photo courtesy of USFWS

Cases of highly pathogenic avian influenza (HPAI) H5N1 of Eurasian-lineage have been detected in apparently healthy wild birds as well as in sick and dead wild birds in the United States since January 2022. Following its initial detection, the virus has spread to nearly every state with numerous detections in both domestic poultry and wild birds. Prior to detection in the United States, HPAI H5N1 was detected in domestic and wild birds along the Atlantic coast of Canada in December 2021 and more broadly across Europe and Asia since August 2020.

HPAI H5N1 is primarily a disease of poultry (chickens, turkeys) and may cause significant mortality in backyard and commercial flocks. In wild birds, infection may cause mild to severe disease, and depends in part on the species infected. Help protect birds by reporting sightings of sick and dead wild birds to the California Department of Fish and Wildlife, and by taking precautions to limit disease spread between domestic birds and wild birds.

WHAT IS AVIAN INFLUENZA?

Avian influenza is an infectious disease of birds caused by type A influenza viruses. These viruses naturally circulate among waterfowl and other waterbirds. Viruses are classified based on two surface proteins, Hemagglutinin (H) and Neuraminidase (N), which combine to form different subtypes (e.g., H5N1, H5N2, H7N3). Different subtypes, and strains within a subtype, vary in their ability to cause disease in birds. Avian influenza viruses are categorized as highly pathogenic (HP) or low pathogenic (LP) based on their ability to cause disease in domestic poultry. Historically, viruses of H5 and H7 subtypes have been more likely to become highly pathogenic.

ARE HUMANS AT RISK OF INFECTION WITH AVIAN INFLUENZA?

The Center for Disease Control states that the risk to the general public's health from the current H5N1 viruses is low, however, some people may have job-related or recreational exposures to birds that put them at higher risk of infection ([CDC 3/7/2022 update](#)). For protective actions for human health, see the [CDC website](#).

DOES AVIAN INFLUENZA CAUSE DISEASE IN WILD BIRDS?

Wild birds typically do not show signs of infection with viruses categorized as low pathogenic. However, HPAI viruses may cause signs in some individual birds ranging from mild to severe. Wild bird species at highest risk of infection with HPAI viruses include waterfowl (swans, geese, diving ducks), waterbirds (gulls, terns, cranes, herons, shorebirds), and birds that prey or scavenge on these species such as eagles, hawks, falcons, corvids, and vultures. Signs of infection in wild birds is variable and may include sudden death, or neurological signs such as swimming in circles, head tilt, tremors, weakness, lack of coordination, and respiratory distress. Wild game birds (turkeys, grouse, quails) also may be susceptible to infection with signs more similar to domestic poultry such as swelling of the head, diarrhea, weakness, respiratory distress, and lack of appetite. Its important to note, these signs are nonspecific and may also be caused by other illnesses or trauma.

HOW DOES AVIAN INFLUENZA SPREAD?

The virus is shed in bodily fluids such as respiratory droplets, saliva, and feces. Transmission may occur directly from bird to bird, or indirectly through people, animals, or objects contaminated with virus particles (e.g., dogs, rodents, insects, feathers, feed, water, clothing, footwear, vehicles).

WHAT IS CDFW DOING IN RESPONSE TO THE HPAI OUTBREAK?

The CDFW's [Wildlife Health Lab](#) in coordination with regional staff and other partners are monitoring wild bird populations for signs of illness. CDFW will continue to investigate mortality events, especially those involving 5 or more wild birds, and conduct surveillance testing for avian influenza. Additionally, CDFW supports the [national HPAI surveillance plan](#) for avian influenza testing in hunter-harvested waterfowl and live-birds led by the United States Department of Agriculture.

WHAT CAN YOU DO TO PREVENT DISEASE SPREAD?

Feeding and providing water to wild birds is discouraged especially if backyard poultry or other captive birds are present on the premises (e.g., chickens, turkeys, peafowl, ducks, geese, pigeons, doves). Providing food and water to wild birds encourages birds of different species to come into closer and more prolonged contact with one another than is typical when they feed on natural food items. Increased concentration of wild birds at feeders and bird baths may lead to local contamination of the environment with fecal material, which may aid in disease transmission. Wild birds should be excluded from entering enclosures for domestic and pet birds, and food and water should not be shared between wild birds and domestic or pet birds.

If recreating outdoors in areas with large concentrations of waterfowl and other waterbirds, please take care to wash clothing and disinfect footwear and equipment before traveling to other areas or interacting with domestic or pet birds. Footwear and equipment may be washed with soap and water, then disinfected in household bleach diluted 1:10 with water for at least 10 minutes.

WHERE CAN YOU REPORT SICK AND DEAD BIRDS?

Sightings of sick and dead wild birds may be reported to CDFW through our [online form](#) or by contacting your [regional CDFW office](#). Do not handle sick or dead wildlife. If it is necessary to do so, it is recommended to wear impermeable gloves, use an inverted plastic bag, or a shovel or other implement. Afterwards wash hands thoroughly with soap and water and change clothes before having contact with domestic or pet birds.

For orphaned or injured live wild birds, please contact your local [wildlife rehabilitation center](#) for advice.

For stray or feral domestic or semi-domestic birds (e.g., peafowl, chickens, racing pigeons), please contact your local animal control or animal services for assistance.

Sick and dead poultry, domestic ducks, and pet birds may be reported to the California Department of Food and Agriculture's hotline at 1-866-922-2473. Visit [CDFA's website](#) for more information for keeping poultry healthy.

RECOMMENDATIONS FOR INDIVIDUALS THAT MAY HANDLE WILD BIRDS

HUNTERS: Do not handle or consume sick game. Field dress and prepare game outdoors or in a well-ventilated area. Wear rubber or disposable gloves while handling and cleaning game. After handling game, wash hands with soap and water, and clean knives, equipment, and surfaces that came into contact with game. Do not eat, drink, or smoke while handling game. All game should be cooked to an internal temperature of 165°F before consuming. See [USDA's guidance for hunters](#) for more information.

FALCONERS: Raptors can become infected with avian influenza viruses from feeding on an infected bird. As a precaution, falconers should avoid hunting wild waterfowl and other waterbirds during the HPAI outbreak. To protect the health of your bird, avoid contact with other captive or pet birds, poultry, free-ranging wild birds, and practice good biosecurity. Consult with a veterinarian if your bird shows signs of illness.

GAME BIRDS FACILITIES: Game birds such as turkeys, pheasants, chukar, and quails, may be susceptible to infection with HPAI. To protect the health of captive birds, practicing good biosecurity is essential. Game birds should not be allowed to mix with domestic poultry or waterfowl. Wild birds should be excluded from enclosures and should not be allowed to share food or water with captive game birds.

ADDITIONAL RESOURCES:

Center for Disease Control: <https://www.cdc.gov/flu/avianflu/index.htm>

National Wildlife Health Center HPAI case maps: <https://www.usgs.gov/centers/nwhc/science/distribution-highly-pathogenic-avian-influenza-north-america-20212022>

USDA official HPAI case updates: <https://www.aphis.usda.gov/aphis/ourfocus/animalhealth/animal-disease-information/avian/avian-influenza/2022-hpai>

USDA defend the flock: <https://www.aphis.usda.gov/aphis/ourfocus/animalhealth/animal-disease-information/avian/defend-the-flock-program/defend-the-flock-program>

USDA protecting captive wild birds: https://www.aphis.usda.gov/publications/animal_welfare/ac-tech-note-captive-wild-bird-biosecurity-508.pdf

USDA guidance for zoos & captive birds: https://www.aphis.usda.gov/publications/animal_welfare/fs-ac-hpai-captive-wild-birds.508.pdf

USDA avian influenza FAQs:
https://www.aphis.usda.gov/animal_health/downloads/animal_diseases/ai/faqs.pdf

Utah State University Extension disinfection guidelines:
https://extension.usu.edu/poultry/files/036_AG_Poultry_2015-01pr.pdf