

Association of Fish & Wildlife Agencies

Guidance for State Wildlife Agencies to Reduce the Risk of Highly Pathogenic Avian Influenza Transmission in Wildlife Rehabilitation Facilities



April 2022

GENERAL GUIDANCE FOR STATE AGENCIES

Highly Pathogenic Avian Influenza (HPAI) virus (H5N1 Eurasian strain or EA H5) was detected in multiple species of wild birds in all waterfowl flyways in North America since December 2021. No known human infections have been detected in the US, however, Type A influenza viruses, including this strain (EA H5) of HPAI has the potential to infect people, birds, and some mammals. In 2020, an H5N8 HPAI virus was transmitted to multiple wild mammalian species from birds held in isolation in a wildlife rehabilitation center in the United Kingdom was recently reported by Floyd et al. in *Emerging infectious diseases* (2021).

Some facts to keep in mind when handling avian species or answering questions to the public in your communities.

- Wildlife rehabilitation facilities may be at risk for receiving infected species and incidentally promoting transmission because of close contact among species and caregivers. This could result in spillover to species that might otherwise not be exposed in a natural setting. The wide breadth of species that can be affected and the variation in clinical signs make it difficult to triage high-risk HPAI candidates. Wildlife rehabilitators need to be aware that intake of infected animals may put other patients and educational animals at risk.
- Most EA H5 HPAI infections have been detected in waterfowl and other aquatic birds, raptors, and scavengers (gulls, ravens, crows), but all avian species should be considered susceptible.
- Avian species and individual animals may be infected with EA H5 HPAI without showing clinical signs (asymptomatic). Thus, caution should be given regarding basing a preventative program on clinical signs. When present, clinical signs are not specific to HPAI and could be due to other causes. Clinical signs of HPAI in birds are highly variable and any typical “sick bird” signs. However, more common clinical signs may include one or more of the following:
 - Respiratory (sneezing, coughing, ocular & nasal discharge, periorbital edema)
 - Dermatologic (limb edema, patchy erythema – more common in poultry)
 - Neurologic (abnormal position of head or neck, ataxia, circling)
 - Gastro-intestinal (diarrhea, green discoloration to feces).
 - Weakness, lethargy, depression.
 - Sudden death.
- Testing is required to diagnose HPAI.
 - State wildlife agencies should provide wildlife rehabilitators with contact details for notification of a suspect HPAI. Testing can only occur at an authorized diagnostic laboratory.

- Avian Influenza is a reportable disease. If a bird tests positive, State Animal Health Officials (usually associated with the State Department of Agriculture or similar agency) and the State Wildlife Health Specialist or Veterinarian should be notified.
- Guidance should be provided regarding restrictions on transfer of birds between facilities including:
 - Live testing requirements for movement of birds between facilities.
 - State bans on captive wild bird movements between facilities.
 - Agency contacts for animal transfer approval.
 - Isolation and housing of education birds and non-releasable birds separate from wildlife rehabilitation facility animal patients. This is always considered a best practice to limit disease transmission risk.
 - Facilities should have separate husbandry staff for education birds and dedicated staff caring for injured/ill animals in rehabilitation.
 - Outdoor enclosures should be designed to prevent contact between educational birds and wild birds. Avoid roosting areas (e. g. black vultures) and cover pens to avoid fecal contamination.
- The HPAI virus is highly transmissible to domestic chickens, ducks, turkeys, or other poultry. Current field data indicates high transmission rates of EA H5 HPAI in wild birds. The OIE recognizes an HPAI incubation period of 21 days.
- The virus is shed at high levels through all respiratory secretions, saliva, and feces. It can also remain infective in cold and wet environments and remain infective and stable in water and feces depending on temperature and humidity.
- Presently, humans appear to be at lower risk for infection with the current EA H5N1 HPAI strain, although individuals who have frequent close contact with wild birds, especially waterfowl, may be at higher risk for exposure.

Wildlife Rehabilitation permitting authorities should work with their State Wildlife Health staff or State Animal Health Official and their wildlife rehabilitation community to develop and implement biosecurity plans to include separation between intakes, animals in care, and birds housed on site as education animals. States can consult The National Wildlife Rehabilitators Associations and the AZA Zoo and Aquarium All Hazards Partnership (referenced below) for biosecurity plan guidelines. Having clear guidance on the requirements can help facilities determine what level of intake and rehabilitation they may proceed with as the EA H5N1 HPAI is being detected in their region of the US.

State rehabilitation permitting authorities may choose to limit the rehabilitation of certain species of birds, particularly in states or areas with active HPAI cases. States may also choose to limit the intake of these groups of avian species until the outbreak is no longer circulating in these populations or regions. The current EA H5 outbreak appears to cause more disease and mortality in several avian groups including vultures, waterfowl, shorebirds, and raptors including bald eagles (<https://www.aphis.usda.gov/aphis/ourfocus/animalhealth/animal-disease-information/avian/avian-influenza/hpai-2022/2022-hpai-wild-birds>). A map of current cases can be found at <https://www.usgs.gov/centers/nwhc/science/distribution-highly-pathogenic-avian-influenza-north-america-20212022>.

GUIDANCE PROVIDED TO WILDLIFE REHABILITATORS

For rehabilitation facilities admitting birds:

If HPAI is detected in a bird at a rehabilitation facility the following should occur:

- Report any bird die-offs or unusual mortality events within your facility to your state wildlife agency.
- The state wildlife agency will notify the state Dept. of Ag and USDA APHIS.
- Do not take in or release any birds or mammals following notification of infection confirmation.
- HPAI positive birds could be euthanized, double-bag (disinfect the outside of the bag) and stored frozen until further guidance is provided by local authorities.
- State Dept. of Ag and/or state DNR will quarantine the facility and conduct a Foreign Animal Disease epidemiologic investigation with assistance from APHIS
- The affected wildlife rehabilitation facility must be thoroughly cleaned and disinfected.
- State permitting authorities may require testing on a recurring basis to ensure the absence of virus shedding in asymptomatic animals.
- Depending on the level of infection and other confounding factors, facilities could be depopulated of susceptible species and the facility sanitized as is conducted with poultry operations. The OIE does not require euthanasia of HPAI-exposed captive wild birds. Similarly, the USDA APHIS HPAI Response Plan allows for quarantine of HPAI infected and exposed captive wild birds.

Testing

Isolate/quarantine any birds on intake suspected to be infected with HPAI, either due to clinical signs exhibited, by 'high-risk' species, and/or the location the bird was collected from such as an area of ongoing HPAI outbreak.

- Consider immediate euthanasia of waterfowl, raptors, or scavengers with unexplained neurologic or respiratory signs.
- Carcasses from euthanized birds or natural mortalities should be double-bagged (disinfect the outside of the bag) and stored in a dedicated carcass refrigerator or freezer and not used for human or animal food.
- Eagles and/or threatened/endangered bird species admitted to rehabilitation facilities that are suspect of HPAI infection should continue to follow state and federal reporting requirements for intake or euthanasia of these species.
- Do not send eagles suspected of having HPAI to the National Eagle Repository at this time if the birds are suspected of HPAI infection based on unexplained neurologic signs or were found dead in a location where HPAI was detected in other birds. This is a temporary hold to protect public health and decrease the movement of infectious materials.
- Eagles not meeting the above criteria should be tested for HPAI prior to shipping to the National Eagle Repository. If testing is not available, eagles should be incinerated or double-bagged and frozen for testing at a later date.
- Contact details for testing/necropsy/disposal information should be provided for the appropriate agencies and individuals by the state licensing authority. If a state rehabilitation license is not required, outreach should be conducted through federal licenses to provide appropriate contact details.

- If testing by agency or rehabilitation staff is conducted, collect oropharyngeal and cloacal swabs using appropriate PPE from birds exhibiting clinical signs in separate Brain Heart Infusion (BHI) broth or Primestore Molecular Transport Media (MTM) vials and submit to an approved lab for AI testing. Virus sampling media can be acquired through several online suppliers.

Quarantine and Biosecurity

Rehabilitators holding suspect avian cases (HPAI results pending) should follow the recommendations below to lower risk of transmission and contamination. Infection control with positive HPAI cases in rehabilitation settings is extremely difficult to manage and may be beyond the facility and staff capacity. The following measures should be implemented to increase biosecurity.

- Do not transport birds across state lines. Clinically affected birds should not be transported between facilities or to release sites unless they've tested HPAI negative.
- The rehabilitation of orphaned passerines should be in a separate facility and performed by dedicated staff separate from hospitalized sick/injured adult patients.
- Quarantine suspect cases in a room or building away from other birds and mammals. A separate building or location with a separate entrance and separate HVAC system or ventilation is best. Duration of quarantine and frequency of testing should be discussed and determined by agency health officials. For example, agencies may require:
 - HPAI testing upon admission. Any individual HPAI positive birds should be euthanized, and the facility quarantined for 21 days. All 'HPAI high risk' birds in the facility would be tested weekly during the quarantine period, or
 - Testing on admission and, if HPAI negative, then can be subsequently released, or
 - Admissions for a given period are housed together, tested, (if any test positive they all are quarantined for 21-days and individually tested, and if all test negative they are released, or
 - Only birds that are euthanized for unexplained neurologic or respiratory signs, or that die unexpectedly in the facility will be submitted for HPAI testing and/or complete necropsy to an authorized laboratory.
- Having a bird that tested HPAI positive in a rehabilitation facility presents a biosecurity risk to all avian and some mammalian patients in the facility. Individual birds that have tested HPAI positive should be euthanized, and the facility quarantined pending an investigation by the state authority responsible for reportable disease response.
- Provide adequate air exchange and air filtration. Influenza viruses can be transmitted via aerosols and airborne particles. Use a portable air filtration system, if available, in animal rooms to reduce airborne contamination particularly between rooms or spaces holding susceptible species.
- Use of footbaths with EPA-registered disinfectant effective against influenza viruses at the room entrance/exit should be mandatory. Check the EPA website for list of appropriate disinfectants.
- Rehabilitation staff should have dedicated clothing and PPE for working with quarantined birds.
- Wash cages thoroughly (removing organic debris) before disinfecting.
- Disinfect cages after use with a 10% bleach solution or hospital grade virucide for disinfection. Allow adequate contact time.
- Contaminated cage liners/supplies/materials should be double bagged for disposal.
- See USDA poultry biosecurity recommendations for more details
https://www.aphis.usda.gov/publications/animal_health/fsc-all-npip-collateral-english.pdf.

- Designated personnel should treat and care for quarantined birds. If staffing limitations preclude this measure, then treatment and care for quarantined birds should occur last.
- When caring for quarantined birds and cleaning cages, wear appropriate PPE (personal protective equipment such as gloves, Tyvek suits if available or coveralls, disposable N95 respirator, eye protection, and boots <https://www.cdc.gov/flu/avianflu/h5/worker-protection-ppe.htm>). N-95 masks should be universal and fit tested. Change all PPE between patients to limit virus transmission.
- Rehabilitation staff treating or caring for affected or suspect birds should not handle or have contact with domestic poultry in any setting (e. g. facility, home, neighbor farm).

Human Health

- Wash hands appropriately (> 20 seconds) after handling affected birds, or contaminated surfaces or materials.
- Do not eat, drink, or smoke while handling HPAI-suspect birds or when cleaning and disinfecting cages and other animal equipment.
- Staff should consider vaccination for seasonal influenza to reduce the risk for seasonal flu. Currently there are no H5 vaccines approved in the United States for humans or animals. Individuals working with wild or domestic birds should receive their annual influenza vaccine to lower risk of reassortment EA H5 HPAI with human seasonal flu.
- This HPAI virus has not been associated with human infections or disease in the US and is considered low risk.
- If rehabilitation staff develop flu-like symptoms, they should seek prompt medical care and let the provider know that there has been regular contact with wildlife including wild birds.
 - The typical human influenza test will not identify infection with the EA H5N1 HPAI. The state department of health should be notified if a bird is identified as a suspect case to ensure the correct test is used for diagnosis if a close human contact develops symptoms.

REFERENCES

CDC National Institute for Occupational Safety and Health: Hierarchy of Controls
<https://www.cdc.gov/niosh/topics/hierarchy/default.html>

National Wildlife Rehabilitators Association: Standards for Wildlife Rehabilitation (2021)
<https://www.nwrawildlife.org/>

OIE Terrestrial Animal Health Code – Chapter 10.4: Infection with Highly Pathogenic Influenza Viruses.
https://www.oie.int/en/what-we-do/standards/codes-and-manuals/terrestrial-code-online-access/?id=169&L=1&htmfile=chapitre_avian_influenza_viruses.htm

USDA APHIS Highly Pathogenic Avian Influenza Response Plan (2017) – Red Book; FAD Preparedness and Response Plan (PReP):
https://www.aphis.usda.gov/animal_health/emergency_management/downloads/hpai_response_plan.pdf

Zoo and Aquarium All Hazards Partnership (ZAHP)
https://zahp.org/wp-content/uploads/2020/11/AI_Outbreak_Management_Plan.pdf