Highly Pathogenic Avian Influenza Recommended Procedures

The Highly Pathogenic Avian Influenza (HPAI) virus, also known as H5 Avian Influenza or “bird flu” is a disease of great concern to wildlife rehabilitators worldwide due to its quick spread, high mortality, and zoonotic potential. As of June 2026, H5N1 Avian Influenza strains have been detected on every continent, and have had significant impacts on wild bird populations and the poultry industry. The virus has been persistent in wild populations since 2020; while the frequency with which the virus is detected varies regionally over time, the threat it poses to wildlife rehabilitation efforts appears to be ongoing for the foreseeable future.

Most detections of HPAI in wild animals occur in waterfowl, which are considered the "reservoir species” for the virus. Some birds can be infected with HPAI without showing clinical signs (asymptomatic). Mass mortality events and symptomatic illness in wild species most often occurs in seabirds, shorebirds, raptors, and scavenging species like gulls, ravens, and crows, but all avian species are considered susceptible.

Spillover into mammals has occurred as well, resulting in mortality of marine mammals and scavenging species such as foxes, with sporadic detections in many other mammalian species including dairy cattle. Felids are highly susceptible, and mortalities have been reported in both captive and free-ranging wild cats, as well as domestic house cats. Floyd *et al* documents a case where the virus was transmitted from infected birds to mammals in a rehabilitation setting, resulting in the death of the infected patients. Secondary transmission (ie. mammal to mammal) has been recorded as well, and a strain of the virus may be establishing itself in marine mammal populations in South America (Uhart *et al*). The situation, and the virus, changes frequently.

This document is intended to provide basic guidance for wildlife rehabilitators to protect themselves, their patients, and wild bird populations from this now-ubiquitous disease. **However, it is critical that wildlife rehabilitators refer to their local wildlife and public health authorities first to understand any legal requirements or restrictions for their rehabilitation activities. Some local governments may implement additional restrictions to the movement of animals to protect wild populations.**

Basic facts

- The virus is shed in feces, saliva, respiratory secretions, and nasal discharge, and can be transmitted via inhalation, direct contact, or ingestion. More about transmission.
- The virus can remain infectious outside the body for days to months, including in water
- The incubation period can last as long as 21 days, but the illness can progress more quickly in some cases.
- Symptoms in wild birds are highly variable and non-specific, but can include:
  - Respiratory (sneezing, coughing, ocular & nasal discharge, conjunctivitis)
  - Neurologic (ataxia, circling, abnormal position of head/neck, tremors, repeated vocalizations)
  - Gastrointestinal (diarrhea, green discoloration of feces)
  - Weakness, lethargy, depression
  - Sudden death
  - *Note: the illness can also be carried asymptomatically*
- There is no treatment for HPAI in affected birds aside from supportive care. Antibiotics are not effective against viruses. There is no current vaccine proven effective for wild species. The vast majority of symptomatic cases in non-waterfowl are fatal.
- HPAI can be transmitted to people (i.e. is zoonotic); most cases occur in individuals who have frequent close contact with infected animals, and recent cases have often been mild, although some are severe and the virus has the potential to be fatal.
- Effective disinfectants include 5% sodium hypochlorite (bleach); quaternary ammonium compounds; aldehydes; and accelerated hydrogen peroxides. Follow label instructions, as certain contact times, temperatures, and pre-cleaning of a surface can all be necessary for effective disinfection.

Human Health & Safety

- “High risk” animals include birds exhibiting clinical signs, and birds from areas where there is a known HPAI outbreak, and bird or mammal species where high numbers of casualties are being reported (refer to regional resources documenting confirmed cases, such as USDA APHIS or EURL).
- Minimal personnel should be involved handling high risk animals
- Wear appropriate personal protective gear while handling high risk wild birds or mammals, including protective latex/nitrile/vinyl gloves, safety goggles, and an N95 equivalent (or greater) respirator/mask.

- Fluid-resistant coveralls, aprons, and boot covers (or dedicated footwear/clothing) should be worn to prevent tracking the virus to uncontaminated spaces (remove when exiting a contaminated space)
- Thoroughly wash hands for at least 20 seconds after contact with wild animals, or surfaces/materials that have been in contact with wild animals
- Do not eat, drink, or smoke while handling wild animals or surfaces/equipment that have been in contact with wild animals.
- Seek instruction from local public health authorities if exposure is suspected. If you develop flu-like symptoms, seek prompt medical care and let your provider know that you work with wild birds and Avian Influenza is a possible risk.
- Ensure your facility has adequate air exchange and air filtration. Use footbaths with disinfectants known to be effective against influenza viruses at the entrances/exits of rooms housing wild animals and refresh frequently as indicated.
- Ideally infected or high risk animals should be contained in a separate airspace during transportation (for example a van with a separate cab and cargo area). If this is not possible, consider covering seats/carriers to reduce contamination and aerosol exposure
- Double-bag contaminated waste for disposal

Public Messaging

HPAI is a zoonotic illness, and most members of the public do not have the knowledge or equipment to protect themselves. Therefore, rehabilitators should not recommend that the public capture and transport high-risk birds themselves. This includes waterfowl, birds that are described as showing symptoms consistent with HPAI, and ill animals in an area where an active outbreak or mortality event is occurring. Capture and transport of these animals should only be attempted by trained individuals with sufficient personal protective equipment or else should not be attempted. Members of the public should be advised not to capture, house, or handle high-risk birds. Rehabilitators should follow the direction of local public health agencies regarding instructions for potential exposure of a member of the public, and direct individuals toward medical professionals for advice.

Intake & Herd Health

- Intake procedures should ensure incoming animals are not exposed to one another prior to evaluation. Consider a separate designated intake space (tent, outdoor enclosure, different building, etc) to protect animals already in care.

- Strict biosecurity protocols must be observed for all equipment, enclosures, clothing, etc that comes into contact with ***any*** wild animal, including the use of PPE & handwashing, only reusing equipment/carriers that can be thoroughly and immediately disinfected between patients, etc. Refer to Standards for Wildlife Rehabilitation for more detail.
- Consider immediate euthanasia of waterfowl, raptors, or scavengers with unexplained neurologic or respiratory symptoms.
- Note that even if there are signs of trauma along with neurologic symptoms, this does not exclude the possibility of HPAI infection; ill birds are more susceptible to trauma and injury than healthy birds.
- Quarantine admitted high risk birds for at least 21 days, or until they have tested negative. Ideally, quarantine should be observed for all new animals, but this is often unrealistic for wildlife rehabilitation facilities, and good (but not risk-free) results have been achieved for many programs by focusing on high risk animals.
    - Isolation areas should not share airspace with each other or the rest of the facility.
    - If grouping animals, combined animals should be from the same population/region
    - The 21 day period must start over if a bird in quarantine is exposed to a newly accepted bird; so, if birds are grouped, they must remain in quarantine until 21 days after the most recent addition to the group was introduced.
- Isolate groups of birds from one another after the quarantine period as well (separate personnel, dedicated enclosures, equipment, PPE, coveralls, & footwear) to prevent spread throughout the entire facility should a case slip through despite precautions.
    - If it is not possible to care for animals with entirely separate personnel, then personnel should care for lower-risk animals first.

Testing

Off-site laboratory tests for HPAI are available and reliable, generally requiring oropharyngeal and cloacal swabs stored in viral sampling media. Currently, point-of-care tests (such as rapid antigen tests) are not reliable enough to screen incoming patients for HPAI considering the breadth of species admitted to wildlife rehabilitation centers. Point-of-care tests may be useful tools but cannot replace appropriate quarantine and biosecurity due to the high risk of false negative or false positive results at this stage of their development.

Protecting other captive animals

- Domestic and permanently captive animals should be kept entirely separate from wildlife rehabilitation patients. This is always best practice, but is of particular concern due to the risk of HPAI.
- Wildlife rehabilitation patients should be cared for with entirely separate housing, equipment, and personnel.
- Outdoor enclosures should be designed to prevent contact between captive birds and wild birds.
- Do not feed raw or inadequately treated poultry, wild bird carcasses, eggs, etc.
- Personnel treating or caring for infected or suspected birds should not have contact of any kind with domestic poultry, at the facility or off-site/at home.

Disposal

- The carcasses of HPAI positive or suspected cases should not be buried, as this poses a transmission risk to scavengers that may come across or dig up the carcass. Acceptable methods of disposal may vary regionally, but generally incineration is the safest method.
- If carcasses are needed for testing or further epidemiologic investigation, they can be double-bagged (disinfect the outside of the bag) and stored in a dedicated carcass refrigerator or freezer.

References & Resources

Floyd *et al*. Systemic infection with highly pathogenic H5N8 of avian origin produces encephalitis and mortality in wild mammals at a UK rehabilitation centre. BioRxiv. 2021 May 26:2021-05.

Uhart *et al*. Epidemiological data of an influenza A/H5N1 outbreak in elephant seals in Argentina indicates mammal-to-mammal transmission. Nat Commun 15, 9516 (2024).

Miller, E. A., and J. Schlieps, editors. 2021. Standards for Wildlife Rehabilitation. National Wildlife Rehabilitators Association: Bloomington, MN. 419 pages.

NWRA Position Statement on the Use of Point-of-Care Rapid Antigen Tests for Highly Pathogenic Avian Influenza

World Organization for Animal Health OIE Terrestrial Animal Health Code – Chapter 10.4: Infection with High Pathogenicity Avian Influenza Viruses.

USDA APHIS Highly Pathogenic Avian Influenza Response Plan (2017) – Red Book; FAD Preparedness and Response Plan (PReP):

Zoo and Aquarium All Hazards Partnership (ZAHP) AI Outbreak Management Plan

Rolfes *et al.* Human infections with highly pathogenic avian influenza A(H5N1) viruses in the United States from March 2024 to May 2025. Nat Med. 2025 Nov;31(11):3889-3898. doi: 10.1038/s41591-025-03905-2

Peacock *et al.* The global H5N1 influenza panzootic in mammals. Nature 637, 304–313 (2025). https://doi.org/10.1038/s41586-024-08054-z

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CDC National Institute for Occupational Safety and Health: Hierarchy of Controls

Wildlife Health Australia H5 Bird Flu Resource Center.

Cornell Wildlife Health Lab HPAI Update for Wildlife Rehabilitators (includes specifics for effective bleach disinfection)

European Centre for Disease Prevention & Control Protective measures & options for public health response for avian influenza