



U.S. National Science Foundation
Office of the Director

USAP Highly Pathogenic Avian Influenza Guidance – September 2026

Environmental Update for U.S. Antarctic Program Personnel

Summary:

Highly Pathogenic Avian Influenza (HPAI H5N1) outbreaks were first detected in the Antarctic Peninsula region in December 2023, with subsequent outbreaks confirmed through the 2025/2026 summer season. Outbreaks were also confirmed in the 2025/2026 summer season in East Antarctica. There is an **ongoing high risk** that HPAI will continue to spread in Antarctica during the 2026/2027 austral summer. Current outbreaks of this disease have resulted in the deaths of hundreds of thousands of seabirds and marine mammals around the world. **In Antarctica, multiple species of seabirds and marine mammals have been affected. Further spread of this virus in the Southern Ocean may result in continued high mortality among affected seabird and marine mammal populations in Antarctica.** There is a heightened risk of HPAI introduction or spread by infected migrating seabirds, as well as by contaminated boots, clothing, and equipment from humans. In response, USAP is requiring enhanced biosecurity protocols in the Antarctic this season, including pre-landing surveillance, decontamination of boots and gear between wildlife colony visits, use of appropriate Personal Protective Equipment (PPE) when in contact with potentially infected animals, reporting of suspected HPAI outbreaks to NSF OPP Environmental (OPP-ENV@nsf.gov), and enhanced management of areas impacted by HPAI.

Background on HPAI:

HPAI (commonly called “avian flu”) is a highly contagious, viral disease that can cause high rates of mortality in poultry, wild birds, and marine mammals. New strains of HPAI are generally spread rapidly along wild bird migratory pathways. An outbreak of Eurasian H5 HPAI was detected in the northern hemisphere in 2022 which subsequently spread across the globe in a wide variety of species resulting in high levels of mortality. In August 2023, HPAI outbreaks in seabirds and marine mammals were detected in Chile, including in the area surrounding Punta Arenas and outbreaks were first detected in the Antarctic Peninsula in December 2023. Seabird mortality has been detected in the vicinity of Palmer Station during the 2024/2025 and 2025/2026 seasons. In 2026, HPAI has been detected in Australia and New Zealand, raising the possibility of transmission into the Ross Sea region.

The transmissibility of avian flu varies. In wild birds, it is transmitted via the fecal-oral route and through environmental contamination (mostly water). Direct contact as well as respiratory droplets are both likely additional routes of transmission. The close proximity of colonial nesting seabirds leads to a greater risk of disease spread. The virus can viably persist for a year or more in a frozen state within guano or other organic matter.

This virus affects mammals as well as birds. The current global outbreak of HPAI has caused high levels of mortality in marine mammals, particularly in sub-Antarctic islands. Southern elephant seal populations have declined by 47% at South Georgia between 2022 and 2024, and more than 75% of

southern elephant seal pups at Heard Island between 2025 and 2026. Based on the available data of HPAI outbreaks in Antarctica, skuas, gulls, and fur seals are most susceptible to infection. Further HPAI outbreaks, and spread in Antarctica through natural migration of seabirds is expected throughout the austral summer.

This USAP guidance has been developed using input and advice from seabird and wildlife disease experts through the Council of Managers of National Antarctic Programs (COMNAP) and the Scientific Committee for Antarctic Research (SCAR). Information from the SCAR Antarctic Wildlife Health Network can be found at: <https://scar.org/library-data/avian-flu>

Risks to Public Health:

Globally, as of September 2026, there have been 1006 human cases of HPAI H5N1 with approximately a 48% death since 2003. 142 HPAI H5N1 human cases have been reported since the current outbreak began in 2021 as reported by the Centers for Disease Control and Prevention (CDC). This translates to a low risk of infection in humans.

No examples of human to human transmission have been detected in the current circulating clade of this virus (2.3.4.4b). To date, most human infections have been reported in people closely interacting directly with infected animals and recent deaths in Bangladesh, Cambodia, and India have been a result of a different clade (genetic grouping) of H5N1 viruses. The CDC has determined that the risk to human health remains low, but is greater for individuals who are exposed to infected birds.

Clinical Signs of Disease in Wildlife:

HPAI results in rapid and high mortality (as much as 100%) in infected wildlife groups. Common behavioral signs of HPAI in birds include:

- Unusual mortality
- Neurological issues (loss of coordination and balance)
- Trembling head and body
- Lethargy and depression (lying down, unresponsiveness, drooping wings)
- Swollen head
- Twisting of the head and neck
- Hemorrhages on legs and under the skin of the neck
- Respiratory distress (open mouth/gaping, coughing, sneezing, gurgling)
- Closed and excessively watery eyes
- In marine mammals, respiratory issues, neurological issues, tremors, and paralysis

It is important to note however that wildlife may be asymptomatic carriers of the virus without showing any signs of illness. If unusual mortality is detected, personnel should assume that other associated wildlife in the area may also be infected.

General Field Guidance for all USAP Participants Interacting with Wildlife:

Pre-visit

- Do not visit seabird colonies or come into contact with concentrations of birds in the Gateway City prior to departing for Antarctica.
- Only approved personnel may access wildlife colonies, any wildlife encountered in the vicinity of McMurdo or Palmer stations should be assessed for signs of HPAI.
- Before entering a wildlife colony, conduct a pre-landing/pre-entry surveillance with binoculars from a distance of at least 150m to identify unusual behavior such as the clinical signs listed above.
- If signs of HPAI are detected, **do not enter the colony**. Note information such as the date/time/location, HPAI signs detected, approximate number and species of birds affected, and photographs and videos as possible. Report this information as soon as possible to the Station Manager or the research vessel's MPC, and to NSF OPP Environmental (OPP-ENV@nsf.gov).
- If HPAI is suspected, the wildlife colony should not be accessed for at least 48 hours and only with the permission of NSF OPP Environmental.

During a Visit

- Maintain at least 5 m distance from wildlife unless you hold an Antarctic Conservation Act (ACA) permit which allows for closer approach.
- **Do not handle dead or sick birds** unless your ACA permit allows it, and you have received separate authorization from NSF OPP Environmental including guidance on specific Personal Protective Equipment (PPE) needs and biosecurity protocols.
- **Visually sick or dead wildlife in the vicinity of stations should be avoided and not touched.**
- Refrain from sitting or lying on the ground around wildlife to prevent contamination to clothing.
- USAP personnel permitted to handle visually healthy birds and marine mammals should wear appropriate PPE during handling as described below based on location.
- If wildlife is contained in an interior location such as a tent or transported in an aircraft, all exposed personnel should wear a properly fit tested N95 respirator.
- USAP personnel permitted and authorized to handle sick or dead birds and marine mammals should assume that HPAI is present and wear appropriate PPE during handling including gloves, properly fit tested N95 respirator, eye protection, waterproof boots, and disposable overalls or reusable waterproof overalls.

Post-visit

- **Boots, clothing, and equipment should be decontaminated before and after any wildlife colony visit. This includes decontamination between visits if visiting multiple colonies in the same day.**
- All boots, exterior clothing, and equipment should be brushed to remove soil and biological material, and decontaminated with a broad spectrum disinfectant such as 70% ethanol, Virkon S, soap + 10% bleach solution, or 0.1% iodine solution.
- Decontamination of boots, clothing, and equipment must occur before transportation back to McMurdo or Palmer stations. Potentially contaminated ECW should not be worn inside station buildings. Dedicated ECW should be washed separately before redeployment from Antarctica.
- N95 respirators should be discarded after each post-visit, see below for proper disposal methods.

Sample Handling and PPE Disposal

- Potentially HPAI positive sample (including cloacal and pharyngeal swabs) tubes should be individually labeled. The outside of the sample container should be disinfected, clearly marked as samples for HPAI analysis, and stored separately from other samples. Samples should never be stored in areas containing food.
- Ensure proper labeling in adherence to the testing laboratory requirements and/or federal regulation if shipping. Labeling should identify sample contents, date collected, and responsible contact person.
- PPE and other disposable material used in the collection of samples should be combined in a sealable bag and disposed of in Sanitary Waste. Any PPE used in the collection of presumed HPAI positive samples should be combined in a sealable bag, 20mL of broad spectrum disinfectant should be added before disposal in hazardous waste. Hands should be washed with soap or sanitized with alcohol based hand sanitizer after any wildlife handling.

Infected Wildlife within Station Facilities

- Dead or infected wildlife within Station operational areas should not be moved unless authorized by NSF OPP Environmental. If possible, wildlife should be avoided by at least 5 m. Incidents should be reported to Central Communications or ASC Environmental at McMurdo Station, or the Station Manager at Palmer Station.
- Dead or infected wildlife that cannot be avoided should be moved with authorization by NSF OPP Environmental to designated spots and flagged as biohazards if possible. Flagging may include crossed black hazard flags on sea ice and traffic cones or similar hazard markers on land.
- Personnel moving sick or dead wildlife should wear appropriate PPE during handling including gloves, properly fit tested N95 respirator, eye protection, waterproof boots, and disposable overalls or reusable waterproof overalls. Disposable PPE should be disposed of as Sanitary Waste after use.
- Any boots, exterior clothing, and equipment used to move sick or dead wildlife should be decontaminated with a broad spectrum disinfectant such as 70% ethanol, Virkon S, soap + 10% bleach solution, or 0.1% iodine solution.

Regional Risk and Field Guidance

Antarctic Peninsula, Palmer Station

Current HPAI outbreak risk: HIGH	Unusual wildlife mortality has been observed directly surrounding Palmer Station and at Biscoe Point in the last two seasons. Additional outbreaks have been reported at sites throughout the Antarctic Peninsula and it is highly likely that the virus will continue to circulate in the area.
PPE Requirements <i>For normal wildlife handling</i>	Properly fit tested N95 respirator, eye protection, disposable gloves or dedicated wildlife handling gloves, waterproof boots, dedicated waterproof overalls or bibs and jacket or disposable coveralls.

Ross Sea, McMurdo Station

Current HPAI outbreak risk: MODERATE	No unusual wildlife mortality has been detected on Ross Island, or in the Ross Sea region. However, HPAI has recently been detected in Australia and New Zealand raising the risk of transmission to the Ross Sea region.
PPE Requirements <i>For normal wildlife handling</i>	Eye protection, dedicated ECW wildlife handling gloves, waterproof boots, dedicated ECW bibs and parka or disposable coveralls.

Questions? Write to NSF OPP Environmental at OPP-ENV@nsf.gov