



FACTORS TO CONSIDER DURING A DISEASE OUTBREAK

This document describes the situation where a zoological park lies within a declared infected zone (as determined by the Incident Command Post or Incident Commander). It has animals known to have been in direct contact with infected animals, or has infected animals on the premises. Declared premises are defined below. Prior to an incident, zoo and aquarium management should work closely with local, regional and federal agencies representing human, livestock and wildlife health to gain pre-approval for all response plans.

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DECLARED PREMISES

Infected premises (IP): an area (which may be all or part of a property) in which an emergency disease exists, or in which the infective agent of that emergency disease exists or is believed to exist. There may be cases where no diagnostic tests have yet been completed and the state veterinarian may decide to quarantine a zoo premises.

Suspect premises (SP): an area containing animals that might have been exposed to a reportable disease through possible contact with infected animals or facilities, people, equipment, semen or embryos, and currently show no clinical signs; OR where clinical signs of the disease are evident, but the diagnosis is yet to be confirmed.

CAN MY FACILITY CONTINUE TO OPERATE IF INFECTED OR SUSPECTED WITH LPAI?

Before the operational status of a facility may be ascertained, certain factors must be taken into account. In the event an LPAI H5, H7, or H9 (although H9 is not considered as an HPAI, it does have significant zoonotic potential and therefore should be carefully managed) is detected, the following response plan should be implemented:

- The positive bird would be held under quarantine for a minimum of 21 days (AI incubation period defined by OIE) in their enclosure unless movement is necessary for medical management or welfare issues.
- If the positive bird or any of its enclosure-mates are to be moved, they must test negative for AI by rRT-PCR prior to 7 days of removal from the enclosure. The birds in the affected exhibit will remain under quarantine in the enclosure until routine surveillance produces a negative test result by rRT-PCR, or after 8 weeks since the last positive result. This is twice the typical viral shedding time for ducks infected with AI and should, therefore, ensure no viral particles are being shed.



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- Any bird testing positive for LPAI H5, H7, or H9 will not be allowed to leave the zoological institution until virus is no longer detectable by rRT-PCR. Any free-ranging fowl with access to the exhibit would be removed and restricted from re-entry.

The facility should be allowed to operate normally during an LPAI outbreak, except the enclosure(s) where virus has been detected by rRT-PCR must have no public access to the exhibit (meaning there is a reasonable barrier or distance) and birds in such an enclosure must not be allowed egress from the exhibit. Staff will use appropriate standard veterinary precautions when handling birds in an enclosure under quarantine.

CAN MY FACILITY CONTINUE TO OPERATE IF INFECTED OR SUSPECTED WITH HPAI?

In general, Association of Zoos and Aquariums (AZA) accredited institutions have high levels of biosecurity, including perimeter fences, exclusion or control of feral animals and wildlife, limited access to animal areas, quarantine of all incoming animals, high quality on-site health care, individual identification of animals, and records of all animal movements. In addition, many AZA institutions occur in urban areas remote from agricultural activities. It is therefore more likely that a zoo declared an infected or suspect premises will be able to successfully contain the spread of infection within the institution.

It is also important to recognize that the ability of a zoo to feed and maintain its animal collection often depends heavily on cash flow generated by daily visitation. It is therefore essential that, whenever possible, control measures allow operations to continue. The ability of a zoo to continue operations when there is an infection on the premises depends on

- The physical features of the zoo.
- The unique biosecurity conditions of that institution.
- The ability to completely isolate affected animals from zoo visitors.
- The location of public access routes in relation to movement control zones.

It is possible the institution may have to close for one or two days while implementing its outbreak response plan. The feasibility of public access must be determined in consultation with the ICP and the USDA-APHIS Emergency response team. The following general conditions may apply.

Because AZA accredited institutions have high levels of biosecurity and often have endangered or otherwise irreplaceable animals in their collections, every effort should be made to contain and eradicate infection without unnecessary euthanasia of valuable animals. Prior to the arrival of HPAI, each zoological institution should determine which species at their facilities should be preserved through isolation and/or vaccination. Successful isolation of non-domestic birds with clinical avian influenza has been described. This decision should be made based on the bird's endangered status, conservation value, genetic significance, or other mission-driven considerations.

Birds that are infected with HPAI and are deemed not to have a high collection or conservation value should be euthanized and disposed of properly under the direction of ICP, and the FADD/Animal Health care Regulatory officials.

QUARANTINE

All susceptible birds should be isolated to reduce the risk of exposure. Appropriate isolation facilities include indoor enclosures or outdoor enclosures with solid tops and sides consisting of a solid barrier or a double-layer of netting. There should be no public access to these enclosures. Staff or other people handling or feeding animals, cleaning enclosures or otherwise coming into contact with susceptible species will not be permitted to have contact with any other groups of susceptible species until they have



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showered, changed clothes and disinfected any other material or equipment required. As far as possible, different people will be used in the handling of each separate group of susceptible species. The definition of what constitutes a separate group of susceptible species would have to be determined for each institution in consultation with the ICP commander.

There is a potential zoonotic risk with H5N1 HPAI originally identified in Asia. Therefore certain populations of unvaccinated affected domestic animals might need to be depopulated. It is important to discuss these options in advance with the appropriate agency representatives in your area.

The State Veterinarian will decide when to release quarantine in consultation with USDA APHIS.

Currently, quarantines imposed during HPAI outbreak may be released 42 days following cleaning and disinfection of the last positive premises or until environmental sampling demonstrates HPAI virus negative test results after completion of cleaning and disinfection.

Release from quarantine will be dictated by applicable standards in the current USDA APHIS HPAI Response Plan.

WHEN IS A FACILITY FREE OF DISEASE?

Additional surveillance prior to release from quarantine may be required if all susceptible individuals cannot be sampled within that time frame. It is possible to be declared free of disease and be released from quarantine by your state and federal regulatory agencies but still be unable to transport these animals as other states may not accept the shipment.

The 2008 OIE Terrestrial Animal Health Code for Avian Influenza (Chapter 10.4.1) sets international guidelines for documentation of NAI or HPAI 'free status'. Ultimately the decision to declare freedom from a particular reportable disease and cessation of disease control activities in the U.S. will be made by the USDA based on information assessed at the time.