

Are you prepared for an Avian Influenza Outbreak?

Institutions with birds in their collections should be prepared for the possibility of a Highly Pathogenic Avian Influenza (HPAI) outbreak. It is highly recommended that managed wildlife facilities develop specific mitigation and prevention plans for their facility and review them with relevant local, state, and federal officials. Decisions about the management of HPAI are often dictated to protect the poultry industry. Depopulation of ill and potentially exposed poultry is a universal management tool. A well thought out management plan for your collection **may** put your facility in the best possible position to avoid drastic management strategies such as depopulation. It is hoped that with warmer weather, this outbreak will subside. However, the fall migration is expected to bring this back with an increase in frequency and geographic scope. The time to prepare your plan is NOW, if you have not already done so.

This outbreak has really tested the capacity of the country's Federal and state animal health responders. If you are not located in a state where an outbreak has occurred, it is likely that your State Veterinarian has been dispatched to respond to the outbreak elsewhere. What this means: if you have not already had a discussion with your State Veterinarian about your capabilities, you may have difficulty tracking them down. Most states do NOT specifically incorporate special animal collections in their State operational plans. What State Veterinarians DO have is the 2009 United States Department of Agriculture (USDA) Association of Zoo and Aquariums (AZA) and Equivalent's Outbreak Management Plan, which was designed as a guide for them in the event that avian influenza emerged in a zoological setting. That plan was developed for the emergence of a different strain of virus, but many of the elements in the plan apply to this current outbreak. There is also a Concept of Operations document currently under review that will define additional roles and responsibilities of managed wildlife facilities as they work with USDA Incident Management Teams. It is every facility's individual responsibility to the available guidance to tailor an appropriate plan for their facility. If you need a copy of this document, please contact the ZAHP Fusion Center at YNadler@aza.org, AZielinski@aza.org, or SOlson@aza.org.

What are your Plan Goals & Objectives?

All good plans should start with goals and objectives. What would your facility WANT to do to assist with managing the situation if you have a confirmed case of disease in your collection?

Managed wildlife facilities should be prepared to prove to regulatory officials that they are capable of meeting the goals and objectives of their Plan.

Samples include:

Goal: Avoid depopulation of collection specimens

Objectives:

- Must maintain a robust risk reduction plan
- Must practice good biosecurity throughout the facility
- Must properly quarantine sick birds to allow for medical management of infected individuals
- Must properly prepare and train staff to work with ill collection specimens

Goal: Avoid total quarantine of the facility; allow facility to remain open for guests to enjoy unaffected animals

Objectives:

- Must assure public health officials that the facility can remain open and protect guests from contact with ill birds
- Demonstrate to State animal health officials (SAHO) your ability to “lock down” areas within the facility from unauthorized personnel

Risk Reduction Checklist: The following checklist is not comprehensive.

However these elements are the start to creating a robust plan. We encourage you to use this list as an opportunity to sit down with your team and think through the strengths and weaknesses of your current plan, using the questions below as a launch pad for important conversations regarding outbreak management.

Does your basic plan include?

Veterinary Considerations

- Is the attending veterinarian familiar with all relevant aspects of the institution's animal handling and management practices, enabling them to make more informed decisions if HPAI is suspected?
- Is the veterinary health program designed to give a reasonable chance of detecting disease should it be present?
- Is the veterinarian knowledgeable of the signs of HPAI in collection animals and include HPAI in their differentials when appropriate?
- Does the veterinarian know that suspect HPAI cases must be reported to the state animal health official (SAHO)/state veterinarian? The attending veterinarian will follow directions from the SAHO which may include:
 - The dispatch of a Foreign Animal Disease Diagnostician
 - Specific** instructions for sample submission
- The veterinarian should report disease concerns to owner/operators immediately.
- Are there current plans to ship animals into your facility from areas experiencing an HPAI outbreak? Attending veterinarian must determine current requirements with your State veterinarian and the state animal health official from the state of origin. Determine their quarantine requirements for animals moving into your facility.
- Do the veterinarian and general curator have a current inventory available, including origination/source of all animals?

Training of Staff

- Has the zoo staff been prepared for an emergency disease, including training for specific individual roles, information about means of transmission, how to minimize disease spread and how to recognize abnormal behavior and clinical signs of HPAI? The veterinarian should be involved in this basic training.
- Emphasize the need for staff to promptly report abnormalities in animals under their care.
- Staff should know that they must notify the attending veterinarian of any animal deaths immediately.

Work Practices and Staff Hygiene

- Are work clothes, including footwear, worn only at work?
- Make sure there is no direct or indirect (via footwear, equipment and clothes) contact between animals kept at home and zoo animals. Employees must wash hands before and after work to further mitigate risk.
- Employees must closely monitor the preventative health of their personally owned animals and report and follow-up on any suspect signs of clinical illness.
- All staff who are directly involved in animal care positions are encouraged to discuss seasonal flu vaccines with their health care provider, which may provide some protection against possible zoonotic influenza strains.

Animal Management

- Are all collection animals individually identified?
- Animal care staff should observe each animal daily for clinical signs of disease and reports abnormalities to facilitate early veterinary investigation.
- Does record keeping method include current enclosure and location of each individual?
- Are historical movements of individual animals between locations within the institution readily available in a manner that allows identification of potential contacts in an epidemiological investigation?

- To the extent that the literature is available, does the facility have an understanding of the species that are at most risk of disease? What management strategies can be implemented to minimize risk?
- When possible, can high-risk birds housed in outdoor enclosures be brought indoors, or into temporary quarters, until the wave of infection has passed the facility?
- When possible, can all free-ranging exhibition fowl be captured and placed into enclosures or removed from the grounds because of the security risk they pose to the facility?
- What steps have been taken to restrict wild birds, vermin and other animals from getting access to enclosures and water features housing collection specimens?

If HPAI is detected in your facility: Does your plan include....

- That every effort will be made to contain and eradicate infection without unnecessary euthanasia of valuable animals?
- General plan considerations are listed below. SAHO, USDA and other regulatory partners will have the final decision-making for the implementation of specific plan details. Be prepared to demonstrate your ability to manage your collections, and execute your plan!

Secure facilities for treating and housing infected animals

- Does your facility have lockable access to prevent unauthorized entrance? Are service entrances secure?
- Does your plan include **specific** locations /buildings where ill animals can be quarantined and treated? Do the buildings meet the following criteria:
 - Are these buildings bird, vermin and insect proof? Devoid of wind currents? Do the buildings have change room facilities, washrooms, showers, footbath areas?
 - Are buildings secure and lockable?
- Does your plan include the notification and discussion with local public health to protect the workers?
 - Which employees would be allowed to work with these animals?

- What additional PPE would be required?
 - Are these employees fit tested for N-95 masks, and capable of working in other required PPE which may include hooded Tyvek suits, safety glasses or goggles and latex gloves - double layer and duct-taped in place?
 - Does your plan describe the decontamination/disinfection procedures that would be necessary if allowed to work with ill birds?
 - Does your plan address the need to shower-in shower-out?
 - Will uniforms need to be laundered on grounds, etc.?
 - What disinfection procedures must be taken?
 - What are the additional steps that must be taken to keep this quarantine area biosecure?
 - Building disinfection
 - Animal housing/caging disinfection
 - Does the facility have equipment and supplies that will be only for use in designated quarantine/treatment area?
 - How will waste material from ill animals be managed? Disposal plans of waste material and animal carcasses will likely change from standard procedures.
- Food preparation requirements and sourcing will likely change. The Incident Management team overseeing the outbreak will provide specific directions.

Strategies that may avoid depopulation

- Have you previously discussed your plan with your SAHO?
- Can you demonstrate to your SAHO your ability to execute your plan?
- Has the facility and veterinary staff researched susceptible species (where the literature exists) and determined the species at greatest risk?
 - Is the facility willing to accept that infected birds deemed not to have a high collection or conservation value should be euthanized and disposed of properly?
 - Those susceptible, uninfected birds should be isolated to reduce the risk of exposure?

Strategies that may avoid complete facility closure

- What additional biosecurity is required for other animals or areas within the facility where the virus has not been detected?
- Can your facility be ‘compartmentalized’? Can access routes be closed to areas that would be quarantined; allowing only approved staff to enter the area?
- Has your plan addressed the use and disinfection of vehicles on grounds?
 - Who would be responsible for this?
 - Can vehicle use be zoned: allowed in only ‘clean’ or quarantine areas?
- Will HPAI detection in your facility change deliveries in and out of the facility?
 - How will you prevent the vehicles from acting as a fomite to spread the virus elsewhere?
 - Can a ‘drop-zone’ for materials be established off grounds that should help prevent contamination of vendor vehicles?

Public Health Considerations

- Does your plan include sending notification to local public health department if HPAI has been detected in your facility?
 - Does Public Health approve your plans for PPE and protection of staff working with ill animals?
 - Does Public Health need to approve any additional management strategies for unaffected areas of the zoo to protect the public?
 - Exhibits that allow animal contacts may be suspended out of an abundance of caution.

Messaging

- Is someone at the facility currently following the USDA sites for latest information for messaging?
- Is the facility monitoring information being provided by SAHO, public health?
- Is the facility in contact with neighboring institutions? It can be valuable to understand strategies being implemented in the region.

- Is the facility preparing messages that they will share with the public in the event of detection?