

# How Ready Are You? Responding to the Avian Influenza.

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## Background of Avian Influenza

Highly Pathogenic Avian Influenza (HPAI) A(H5N1) virus occurs mainly in birds, is highly contagious among birds, and can be deadly, especially in domestic poultry.<sup>1</sup> Signs of HPAI in poultry include high death loss among flocks, nasal discharge, decreased appetite or water consumption, and lack of coordination.

According to the U.S. Centers for Disease Control and Prevention, though historical strains have been shown to be able to transmit to humans and cause severe illness, the recent HPAI detections do not present an immediate public health concern.

In the Spring of 2022, Utah reported cases of HPAI. As of November 2022 there were approximately 2 domestic million birds that were lost to HPAI. HPAI is not unique to Utah; it is spreading throughout North America, Asia, Africa, and Europe. Figure 1 shows the latest data regarding HPAI in Utah, and Table 1 shows the breakdown of each county affected by HPAI. Wild birds in Utah have also tested positive for HPAI. As of Aug. 30, 44 birds have tested positive for avian flu in various areas of Utah. The birds include Canada geese, great horned owls, hawks, pelicans, turkey vultures and ducks. Two red foxes in Salt Lake County have also tested positive.<sup>2</sup>

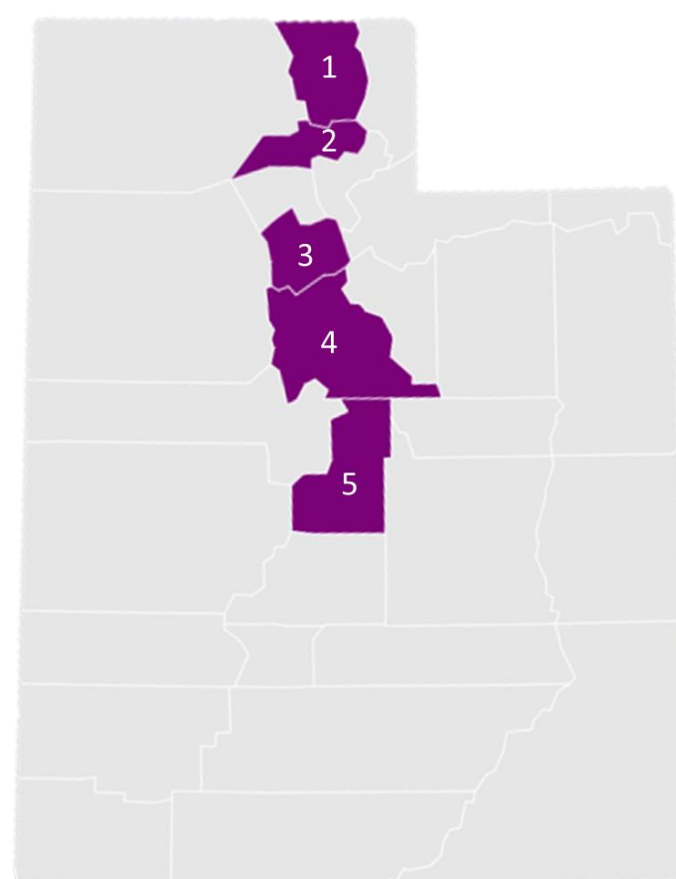


Figure 1. A map of Utah representing the counties in which HPAI has been detected in commercial, backyard, and exhibition flocks.

	County	Bird Loss	Outbreaks
1.	Cache	1,501,540	3
2.	Weber	20	1
3.	Salt Lake	120	3
4.	Utah	7	1
5.	Sanpete	481,900	15

Table 1. Counties in Utah in which HPAI has been detected in commercial, backyard, and exhibition flocks, with bird loss and outbreak numbers.

## Mission Ready Rapid Response

The URRT is equipped with a mobile response unit that has the capacity to respond rapidly to human and animal food emergencies when needed. This was proven when we received a call requesting our response from the State Veterinarian to assist in an outbreak. The URRT was able to respond, including stand up of the Incident Command Post, in four hours (Figure 2). This was a big task considering our home base office was two hours away in one direction. Prior exercises prepared us for this situation. We knew who was available, who would be able to drive the vehicles, and the equipment was already organized and ready to go. This allowed us to be mission ready and have a faster response.



Figure 2. This is a photo of the URRT incident command post responding to the HPAI outbreak.

The URRT assisted in the depopulation of 1.5 million chickens at a commercial egg laying facility and managed the incident command post. The URRT supplies that were used included a 16'x19.5' tent, a supply trailer, and a trailer for resting and recovery which doubles for hauling equipment, and Personal Protective Equipment (PPE) needed to initiate on-site support.

The tent is equipped with: temperature control, tables, chairs, floors, windows, locked doors, electricity, AC/heater, conference phone, lights, insulation, able to withstand 85 mph wind, and more.

The URRT was onsite for 11 days of the response, during which time there were over 100 volunteers that assisted in the depopulation process. In addition, the URRT supported the response by leaving our equipment on site for an additional three weeks with minimal staff.

Incidents will happen in all kinds of weather; having the proper equipment is vital to a response. During this response we experienced heavy rain and snow, wind, heat and cold weather; sometimes those were all on the same day. The weather changed consistently; however, having the proper equipment allowed for continuity of operations. Another thing to note about weather conditions is making sure you have equipment that is being stored and maintained as to not disrupt the flow of the operation. With so much change in the weather human safety was of the utmost importance and was monitored.

## Incident Command

One aspect of incident command is Just-In-Time Training (JITT). JITT allows for training that is essential to know while responding to an incident. JITT increases the confidence of those responding to an outbreak by ensuring that everyone knows the processes and how to carry them out, and who is in charge of each process. JITT allows for smoother responses and easier communication. JITT also covers aspects of safety of operation of equipment, supplies, and those who are responding. Many volunteers were not familiar with the aspects of depopulation procedures and JITT helped ensure understanding and safety.

During our JITT we trained with over 100 volunteers. JITT training included:

- The clean and dirty lines (hot and cold zones)
- How to properly don (put on) and doff (take off) your PPE (Figure 3)
- Signing in and out
- Understanding of tasks and separation of duties
- Understanding impact of HPAI and the responsibility of each person
- Monitoring of work times
- Needed breaks
- Keeping hydrated
- Various tasks that did not include assisting with depopulation
- LHD monitoring of symptoms

We also had a person in charge of PPE. The Safety Officer would ensure that the volunteers were donning their PPE and correcting people when PPE was not put on correctly to ensure everyone's safety.

The URRT approach to Incident Command is a unified command. This being said there are many different agencies with response duties. We were able to come in and support with IC post duties, allowing USDA and UDAF to focus on the avian flu outbreak. Supplies were handed out by staff that were not exposed in any way during the response. The tent was used as the secure place for no contamination. We clearly defined three areas of incident management control, which were:

- Incident Command Post
  - Tent and equipment
  - Daily situational meetings
  - Food and Water
  - Sign In/Out
  - Supplies and storage
  - Issued supplies
- Cold Zone
  - A place to take a break and eat
  - Receive instructions for the day
  - Participate in Just-In-Time Training
  - Apply Personal Protective Equipment
- Hot Zone
  - Removal of PPE
  - All vehicles and equipment coming in and out are sanitized
  - Separation of contamination and non contamination
  - Human decontamination zone



Figure 3. This photo shows the fence which represented the clean and dirty lines (hot and cold zones) as well as the PPE that was used during the response of HPAI.

## Partnership and Collaboration

A successful response relies on partnership and collaboration. During this response we worked with the Local Health Department, who conducted surveillance on the volunteers, provided posters and flyers regarding safety and health information in regards to the Avian flu. We also worked with the County EM and Law Enforcement, County Environmental Landfill, USDA, UDAF, PIO, Volunteers, Owner of Facility and workers, Veterinarians and UDHHS. All of these agencies and individuals played a critical role in responding to this outbreak.

The elements that made this recovery so successful were committed resources, preparation, training, and organized volunteerism, and coordination with involved partnerships.

## Recovery Process

The speed of recovery is impacted by how the response is handled. The URRT was able to have a fast response (Figure 4), which allowed the management of the facility to focus on depopulation and not to lose momentum in responding to this outbreak. Having supplies and equipment on site allowed for depopulation efforts to begin immediately. The owner later said with the quick response they were able to restart production three months sooner than expected. The USDA emergency coordinator commented that The USDA representative on site said I have never been to a response where there were so many volunteers and a coordinated command post.



Figure 4. This infographic depicts the highlights of the URRT response of the HPAI outbreak.

## After Action Review

With the URRT we held an After Action Review (AAR) for the HPAI response process. During our AAR the things that went well were having food and water available, being adaptable for all types of weather, and adhering to safety protocols. Some things that did not go well were not having a wide variety of Tyvek suits, and not having the proper types of gloves. These two items were later resolved by the supplies the USDA offered.

Another item that was identified during the AAR was understanding the difference between clean and dirty lines. Additional training of volunteers was provided and the issue was resolved. One key component to this response was how fast the URRT was able to respond and set up. USDA also had incident command staff on-site, and was a valuable partner to assist in the response.

## Conclusion and Acknowledgments

After the URRT deactivated their equipment from the response we decontaminated the tent, trailers, and equipment. We took the supplies to a neutral location where we were able to clean and resupply.

In conclusion, the preparation of the URRT became a key factor in this response. Another positive aspect of this response was a willingness of volunteers and the opportunity to work side by side with various agencies. With everyone involved, it is estimated that over 1,000 volunteer hours went into this response.

The URRT along with the Utah Department of Agriculture and Food employees who helped with the response efforts were invited to a recognition luncheon (Figure 5) with Governor Spencer Cox, as well as the owners of the facility. We were recognized for the work performed during this outbreak and stepping up during an extremely difficult time.



Figure 5. In August of 2022, Governor Cox hosted UDAF employees involved in the HPAI animal health emergency at the Governor's Mansion for a thank you lunch for their hard work and going above and beyond the call of duty to help with the outbreak.

## References

1. <https://www.cdc.gov/flu/avianflu/index.htm>
2. <https://wildlife.utah.gov/avian-influenza.html>
3. Figure 1; Table 1: <https://www.cdc.gov/flu/avianflu/data-map-commercial.html>