In the mission to detect the Asian H5N1 virus, Prairie State waterfowl hunters are helping scientists.

Avian Influenza Surveillance in Illinois

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While not much has been mentioned about avian influenza or "bird flu" in the media lately, the potentially devastating disease remains a concern for poultry, wild birds and humans.

The emergence of highly pathogenic Asian H5N1 avian influenza has resulted in great economic losses of poultry and the deaths of approximately 299 people in Asia, Africa and Europe. In addition to losses of humans and poultry, an unknown number of wild birds also have died due to the disease.

The greatest concern with Asian H5N1, however, remains the possibility that it could mutate into a form that could be easily transmitted between humans. Fortunately, it is difficult for humans to contract the disease and transmission between humans has been very rare. Human infections are thought to have primarily occurred due to close contact with contaminated domestic poultry, surfaces or equipment.

At this time Asian H5N1 has not been found anywhere in North America. There are many potential pathways for the disease to arrive on the continent, such as in a shipment of infected poultry or along with the trade in caged birds. Also, wild migratory birds have been suggested as another possible source of entry. While the role of wild birds in transportation of the disease between widely separated geographic regions is not clear, birds have been known to transport the disease within continents.

Waterfowl hunters have been instrumental in Illinois' H5N1 surveillance project. Swabs taken from birds are tested for the highly pathogenic avian influenza.

The author processes one of the birds harvested at Rice Lake State Fish and Wildlife Area in Fulton County.

Therefore, one cannot completely rule out the possibility that wild birds could transport the disease to North America from other parts of the world.

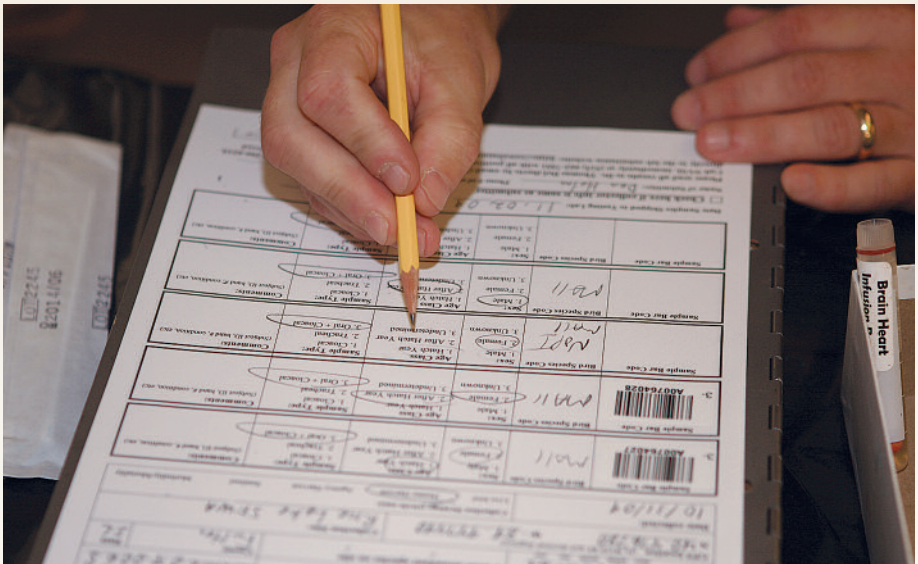
As a result, a federal and state government partnership that began in 2006 established a comprehensive surveillance program with the goal of early detection of Asian H5N1 should it arrive in North America.

The Department of Natural Resources first entered into a cooperative agreement with the U.S. Department of Agriculture's Wildlife Services Program in 2006 to begin sampling wild waterfowl, the primary reservoirs of avian influenza. Sampling has occurred every year since, and additional surveillance projects were added to the USDA effort in 2008 and 2009 under a separate agreement with the U.S. Fish and Wildlife Service. Species were chosen for sampling based on their historic infections with low pathogenic forms of avian influenza, behavior and migratory pathways.

Sampling sites and surveillance areas were selected based on known waterfowl use. Effort was made to select sites that were distributed throughout the state to ensure that most important waterbird areas were covered. Additionally, samples were taken during most months of the year so that some active surveillance was occurring nearly all year.

The waterbird sampling strategies employed included sampling live-caught and released birds, sampling hunter-harvested birds, conducting active mortality surveillance of key areas, and monitoring of waterbird mortality events. Approximately 2,840 samples were taken by DNR for avian influenza testing from 20 species of waterbirds located in 31 areas throughout Illinois.

The bulk of the samples were taken from hunter-harvested waterfowl with the cooperation of Illinois waterfowl hunters. None of the samples tested positive for Asian H5N1 avian influenza or any other type of highly pathogenic avian influenza. However, many different subtypes of avian influenza exist and detection of these types of the disease was expected. As a result, approximately 254 samples that were tested for avian influenza were positive for low-pathogenic types of the disease. The practice of pooling different samples together during initial testing procedures in 2006 likely somewhat inflated the number of positive samples during that year.



Nevertheless, these types of avian influenza were known to circulate in wild birds and none of these types is a threat to human health. Even wild birds that are infected with low-pathogenic types of avian influenza rarely show signs of sickness or die.

Much of the effectiveness and success of DNR's avian influenza surveillance program is due to the continued cooperation of Illinois waterfowl hunters. Without the support of the waterfowl hunting community, this continental surveillance program would not be possible.

Active sampling of hunter-harvested and live-trapped waterbirds for avian influenza testing will continue during 2010-2011. Hunters can continue to help in this effort by allowing their harvested waterfowl to be sampled at check stations and boat ramps. The sampling involves taking swabs and only takes a minute to complete. Birds will then be returned to the hunter intact.

Additionally, the general public can assist by reporting to DNR sick and dead waterbirds, when several are found at a time.

While waterbird mortality is normally due to other diseases which are routine, continued vigilance will help in detecting Asian H5N1, should it arrive in Illinois.

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