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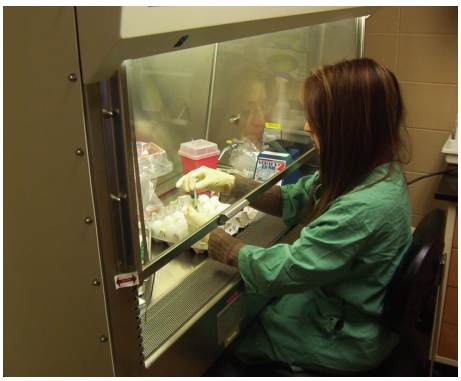
Surveillance for Asian H5N1 Avian Influenza in the United States

The federal government initiates early detection efforts in wild birds



Injecting eggs with avian influenza virus at the USGS National Wildlife Health Center.

Increasing concern over the potential for migratory birds to introduce the Asian H5N1 strain of avian influenza to North America prompted the White House Policy Coordinating Committee for Pandemic Influenza Preparedness to request that the U.S. Departments of Agriculture (USDA) and Interior (DOI) develop a plan for the early detection of highly pathogenic avian influenza (HPAI) in the United States. To promote coordination among wildlife, agriculture, and human health agencies on HPAI surveillance efforts, the two Departments worked with representatives of the U.S. Department of Health and Human Services, the International Association of Fish and Wildlife Agencies, and the Alaska Department of Fish and Game to develop the U.S. Interagency Strategic Plan for Early Detection for Asian H5N1 Highly Pathogenic Avian Influenza in Wild Migratory Birds.

The Plan consists of five strategies for the early detection of the Asian H5N1 avian influenza strain:

- Investigation of morbidity and mortality events
- Surveillance in live wild birds
- Surveillance of hunter-killed birds
- Sentinel species
- Environmental sampling

The DOI surveillance efforts are focused on the investigation of morbidity/mortality events, live wild bird surveillance and the surveillance of hunter-killed birds. They involve collaboration among the U.S. Geological Survey (USGS), U.S. Fish and Wildlife Service (FWS), National Park Service (NPS), USDA, state and territory agencies, the International Association of Fish and Wildlife Agencies, and the U.S. Migratory Bird Flyway Councils.

In the spring of 2006, USGS, FWS, NPS, and partner state and territory wildlife agencies will expand surveillance efforts to include:

Investigation of Disease Outbreaks in Wild Birds: The systematic investigation of disease events in wild birds offers the highest and earliest probability of detecting the Asian H5N1 strain, should it be introduced into the United States by migratory birds. Biologists in State natural resource agencies and Federal refuges and parks, primarily within the FWS National Wildlife Refuge System and the National Park System, are in the best position to detect and respond to mortality events involving wild birds. This strategy capitalizes on existing programs to investigate disease outbreaks that are conducted by DOI and its partners, and expands these efforts.

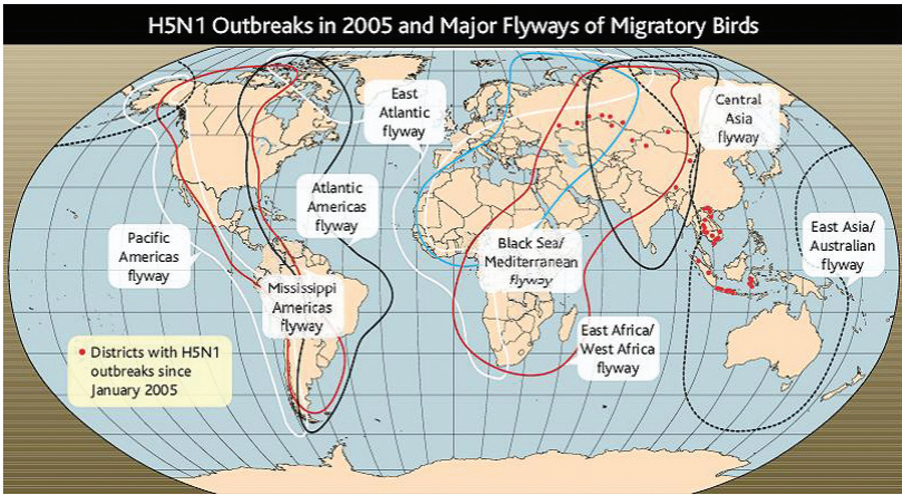
Targeted Surveillance for H5N1 in Live Wild Birds: This effort targets bird species in North America that represent the highest risk of being exposed to, or infected with, Asian H5N1 avian influenza, because of their migratory movement patterns. Species being considered for sampling include birds that migrate directly between Asia, Oceania (including Hawaii and Trust Territories), and North America, and birds that may be in contact with species from areas in Asia with reported avian influenza outbreaks. This strategy incorporates sampling of live-

captured, apparently healthy wild birds to detect the presence of H5N1 virus or antibodies to the virus. Data collected by organizations currently conducting research and monitoring for avian influenza in Alaska will be combined with additional bird captures to provide a broad species and geographic surveillance effort. This strategy also capitalizes on current research activities of DOI, USDA and other partners.

Targeted Sampling of Hunter-Killed Birds: Hunter check stations operated by the FWS and state natural resource agencies for waterfowl hunting provide an opportunity to collect additional samples to test for the presence of highly pathogenic H5N1 and other subtypes of avian influenza viruses. These samples supplement the targeted surveillance samples from live wild birds and focus on species that are most likely to have been exposed to HPAI in Asia; have relatively direct migratory pathways from those areas to the United States via Alaska or directly to the Pacific Coast; or that mix in migratory staging areas in Alaska with species that could bring the virus from Asia. Collection of samples from these species will occur at hunter check stations in the lower 48 states, as well as Alaska, during hunting seasons in areas where these birds gather during migration or over-wintering. USGS and FWS are working with the four Migratory Bird Flyway Councils to develop sampling plans for hunter-killed birds.

While the Interagency Strategic plan addresses surveillance of the Asian H5N1 strain, questions remain that only field and laboratory research will be able to address:

1. Evaluating the risk that migratory birds will bring the H5N1 strain to North America.
2. Evaluating the role of wild birds in the spread and maintenance of HPAI in North America.
3. Understanding the pathology, epidemiology, transmission, and maintenance of the disease in North American migratory bird species.
4. Potential effects of HPAI on migratory bird populations in North America.



Food and Agriculture Organization of the United Nations

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