



**National Wildlife Health Center
Wildlife Health Bulletin 2015-01**

Detection of Novel Highly Pathogenic Avian Influenza Viruses in Wild Birds

To: Natural Resource/Conservation Managers
From: Dr. Jonathan Sleeman, Center Director, USGS National Wildlife Health Center
Date: January 26, 2015

In response to initial detections of highly pathogenic avian influenza (HPAI) viruses in wild birds and backyard poultry in the U.S. and Canada, the USGS National Wildlife Health Center (NWHC) continues to work closely with the USDA APHIS Wildlife Services, U.S. Fish and Wildlife Service, Washington Department of Fish and Wildlife, and other state wildlife agencies to implement enhanced mortality and hunter-harvest surveillance in wild birds. (For background, see bulletin on [Detection of Highly Pathogenic Avian Influenza Viruses H5N2 and H5N8 in Wild Birds of the United States](#)).

As of mid-January, NWHC has completed testing of swabs (oropharyngeal/cloacal) from over 1,200 birds originating from California, Nevada, Oregon, and Washington, with the majority of collections focused in Washington. Of these samples, 167 swabs were positive for avian influenza viruses by an initial molecular screening test (matrix RT-PCR) and seven of those samples have been further characterized by the NWHC and USDA's National Veterinary Services Laboratories (NVSL) as HPAI intercontinental group A strains H5N1, H5N2, and H5N8. The new identifier, intercontinental group A (icA), has been proposed to differentiate this growing group of H5-reassortant viruses that originated in Asia from other viruses such as the Asian H5N1 HPAI. These icA viruses may also be referenced with the prefixes EA and AM to indicate presence of viral genes of Eurasian and North American origins, respectively. There has been no evidence for icA H5 virus-related illness in humans, but appropriate hygiene measures should be observed when handling wild birds.

An up-to-date summary of results from combined Federal and State agency HPAI virus surveillance in wild birds can be accessed [here](#), and surveillance results for HPAI in captive wild birds and backyard poultry is available [here](#).

As indicated above, a novel H5N1-reassortant virus belonging to the same group¹ as the other icA H5 viruses detected in the U.S. that are highly pathogenic to poultry was identified from a green-winged teal (*Anas carolinensis*) sampled through hunter-harvest surveillance. Scientists from NWHC sampled this bird in Whatcom County, Washington on December 29, 2014, and the finding was confirmed by NVSL and reported to the World Organisation for Animal Health (OIE) on January 20, 2015. The bird from which this novel virus was identified originated in the same general area of Whatcom County where other icA H5 HPAI viruses have been identified, indicating that this group of viruses continues to circulate in North American wild birds.

It is important to note that the novel icA H5N1 HPAI virus recently detected in Washington is different from the Asian strain of H5N1 HPAI. Specifically, NVSL determined it is a reassortant, or mixed-origin, virus that incorporates Asian-origin genes from the icA H5N8 HPAI virus recently detected in a captive gyrfalcon (Washington) and waterfowl (California, Idaho, and Utah) together with other genes from a low-pathogenic avian influenza virus of North American wild-bird origin.

The NWHC is continuing to monitor for HPAI viruses by testing sick and dead migratory birds. In an effort to maximize early detection of HPAI and to understand the spatial extent and species involvement of H5 HPAI in North America, wildlife managers should remain vigilant for wild bird morbidity and mortality events and continue to submit carcasses from any events that meet the criteria described below.

Submission criteria:

- 1) Mortality events involving waterfowl (ducks, geese and swans) or other water birds (loons, grebes, coots, shorebirds or wading birds such as egrets, herons, or cranes).
- 2) Mortality events involving raptors or other avian scavengers (ravens, crows, or gulls), particularly those observed near locations with on-going waterbird mortality.
- 3) Mortality events where estimated dead exceeds 500 birds.
- 4) Mortality events involving wild bird species in close proximity to facilities harboring domestic birds in which H5 HPAI has been detected.

Additional information on winter (2014/2015) wild bird HPAI virus surveillance results can be found at:

[Update on Avian Influenza Findings in the Pacific Flyway](#)

[OIE Notification Report from APHIS](#)

The following recommendations review general safety guidelines for handling wildlife.

Hunters should follow these routine precautions when handling game:

- Do not handle or eat sick game.
- Prepare game in a well-ventilated area.
- Wear rubber or disposable latex gloves while handling and cleaning game.
- Wash hands and thoroughly clean knives, equipment and surfaces that come in contact with game.
- Do not eat, drink, or smoke while handling animals.
- All game should be thoroughly cooked to an internal temperature of 165 degrees F.

Field biologists should follow these precautions when handling sick or dead birds associated with a mortality event:

- Wear protective clothing including coveralls, rubber boots, and latex or rubber gloves that can be disinfected or discarded.
- Minimize exposure to mucosal membranes, as possible, by wearing protective eyewear and a particulate respirator (NIOSH N95 respirator/mask or better is recommended).
- Wash hands often, and disinfect work surfaces and equipment between sites.
- Do not eat, drink, or smoke while handling animals.
- Decontaminate work areas and properly dispose of potentially infectious material including carcasses. For additional information see the [USGS Field Manual of Wildlife Diseases](#).
- **Field Biologists working with wild birds in areas where H5 HPAs have been detected** should monitor their health for any signs of fever and respiratory symptoms following exposure to live or dead wild birds and for one week after last exposure to potentially HPAI virus-infected or exposed birds. If symptoms develop please contact your health care provider.

Disease Investigation Services:

To request diagnostic services or report wildlife mortality, please contact the NWHC at **608-270-2480** or by email at NWHC-epi@usgs.gov, and a field epidemiologist will be available to discuss the case. To report wildlife mortality events in Hawaii or Pacific Island territories, please contact the Honolulu Field Station at 808-792-9520 or email Thierry Work at thierry_work@usgs.gov. Further information can be found at <http://www.nwhc.usgs.gov/services/>.

Wildlife Mortality Reporting and Diagnostic Submission Request Form

If you have any questions or concerns regarding the scientific and technical services we provide, please do not hesitate to contact NWHC Director Jonathan Sleeman at 608-270-2401, jsleeman@usgs.gov.

To see past Wildlife Health Bulletins, click [here](#).

WILDLIFE HEALTH BULLETINS are distributed to natural resource/conservation agencies to provide and promote information exchange about significant wildlife health threats. If you would like to be added to or removed from the mailing list for these bulletins, please contact Gail Moede Rogall at 608-270-2438 or e-mail: nwhcoutreachdb@usgs.gov.

¹H5 clade 2.3.4.4 (http://www.who.int/influenza/gisrs_laboratory/h5_nomenclature_clade2344/en/)