



OFFLU wild bird experts group zoom call

(12 January 2022)

Participants: Cynthia Pekarik, Megan Jones, Catherine Soos, Greg Robertson, Ted Leighton, Frank Wong, Les Sims, Andrew Breed, , Yohannes Berhane, Timm Harder, Ian Brown, Nicola Lewis, Yoshi Sakoda, Chakradhar Tosh, Mia Torchetti, David Swayne, Erica Spackman, Billy Karesh, Catherine Machalaba, Ron Fouchier, Sasan Fereidouni, Lidewij Wiersma, Amelia Coggon, Yanbing Li, Jiming Chen, Sophie VonDobschuetz, Celia Abolnik, Keith Hamilton, Sophie Muset, Jonathan Sleeman, Dave Stallknecht, Susan Shriner, Andy Ramey, Jonathan Runstadler, Luis Barcos, Ruth Cromie, Alice Fusaro, Gounalan Pavade, Hon Ip, Paolo Tizzani, Thijs Kuiken.

Agenda:

1. Update of H5N1 events in wild birds in Canada, UK, Israel and other Europe countries.

https://www.offlu.org/wp-content/uploads/2021/12/OFFLU-statement_Newfoundland_H5N1.pdf
[Israel and UK facing record-breaking bird flu outbreaks - BirdLife International](#)

2. Round table discussion on above events.

Updates from Canada:

On 20 December 2021, following the bird die off in an exhibition farm in Newfoundland which is an island at the very east end of Canada, the Canada Food Inspection Agency (CFIA) started sampling and depopulation at this facility and other agencies including Canadian wildlife service and Canadian wildlife health cooperative joined to support the surveillance efforts. More field sampling was also collected from wild birds in the city of St. John, Newfoundland in late December for analysis. On 29th December 2021, H5N1 was confirmed in one juvenile great black-backed gull at a rehabilitation facility picked up in the city of St. John. The bird showed neurologic signs and necropsy lesions compatible with HPAI including hemorrhagic meningitis in brain. Histologically acute necrotizing encephalitis, hepatitis, splenitis and pancreatitis were found. Additional dead wild bird samples received are pending for analysis.

Analysis of the whole genome sequences from the birds in Newfoundland revealed high similarity to the viruses circulating in Northwestern Europe in spring 2021 and not much evidence for reassortment. It is likely that this virus has been circulating in birds in the North Atlantic area since the northern summer of 2021 and subsequently was brought across the Atlantic. Analysis of available data has been unable to determine which of several potential routes it could have taken. Additionally, Iceland has large number of birds that arrive from Northwest Europe to breed and stage enroute to Greenland with opportunities to mix with birds that migrate to the east coast of North America. St. John itself has an artificially large wild bird wintering population.

Dr Berhane provided further updates on the cases. The first outbreak (IP 1) happened in a small exhibition non-commercial farm which contained a number of bird species (chickens, turkeys, ducks,

geese, guinea fowl, peafowl, emus and different exotic mammals) and a pond around the farm where the domestic ducks and wild ducks mingle. Captive and wild birds were allowed to move freely in and out of pens. H5N1 was isolated from exotic chickens, turkeys, emus, guineafowl and geese. The second outbreak (IP 2) happened in the same area in domestic backyard poultry which is just outside the 10km quarantine area. Farmer reported death of three layers. Owner fed both domestic and wild ducks present in the farm. H5N1 isolated was similar to the first outbreak. In addition, two confirmed cases in wild birds (great black-backed gulls) were reported. Phylogenetically all the viruses were closely related to 2.3.4.4b clade H5N1 viruses that circulated in Northwestern Europe in spring 2021. All four sequenced H5N1 viruses have all 8 gene segments of Eurasian origin.

Further update after the OFFLU call indicate, further outbreak in the third location, Nova Scotia. <https://inspection.canada.ca/animal-health/terrestrial-animals/diseases/reportable/avian-influenza/detection-of-high-pathogenic-avian-influenza-h5n1-/eng/1640207916497/1640207916934>

The Delta-Flu project working with experts of CFIA shared a preprint publication submitted to Biorxiv regarding the HPAI virus incursion on Newfoundland.

(<https://www.biorxiv.org/content/10.1101/2022.01.13.476155v1>).

Update from USA:

An Interagency Steering Committee coordinates surveillance for influenza in wild birds and after the Newfoundland detection, the Committee met several times and took several actions including alerts for increased vigilance for mortality events and enhanced sampling along the Atlantic flyway. The targeted surveillance for the Atlantic flyway is underway this winter and the season continues until March, so the efforts are ongoing.

Research underway on shorebirds along the Atlantic coast is an annual event for monitoring at Delaware bay.

Reports shared after the call.

- [USDA APHIS | USDA Confirms Highly Pathogenic Avian Influenza in a Wild Bird in South Carolina](#)
- [USDA APHIS | USDA Confirms Additional Highly Pathogenic Avian Influenza Finds in Wild Birds](#)

Update from UK:

Had a very unusual wildlife season through the summer with a higher-than-normal number of wild bird cases and detections in Europe particularly Northern Europe. Detections noticed in a variety of species including geese, swans, raptors, gulls and a few ducks. Last winter it was subtype H5N8 with multiple genotypes including a minority of H5N1.

In UK, unusually detected H5N1 in great skuas in July, a species of remote rocky coastlines and offshore islands with its main breeding population in the far north of UK. The detections were an 'out of season' indicating that something different was going on in the epidemiology of wild birds and spreading to other populations previously undetected. At present 595 detections in 31 species of wild birds reported, all H5N1 subtypes with subtle variations in genotypes. Similar pathology as described in Canadian cases with some variation were noticed. 40% of birds tested by passive surveillance have been found positive for HPAI. However targeted surveillance done for certain species and dead birds. One significant feature observed this winter is a mortality event in barnacle geese on the border between Scotland and England. So far, with the outbreak continuing, around 4000 have died (10% of

this discrete population). Update following the meeting indicate that this figure is apparently closer to 12000 (i.e. 30%). Detections also in ducks, geese, swans, raptors and a few shorebirds reported. This indicates that the infection pressure is high this year and the events started little earlier in UK than previous years. No unusual pattern in the migration of wild birds noticed.

Update from Netherlands:

The situation is not quite as severe as last year although there are substantial die offs reported now. Through active surveillance this virus is also found in apparently healthy mallards and wigeons. Although most positive barnacle geese were found dead, two positive barnacle geese were apparently healthy. There is potential for spread of this virus by healthy birds.

Update from Germany:

Same situation as last year with roughly 60 poultry and 600 wild birds found positive at the moment. Mainly barnacle geese, gulls, raptors and some shorebirds. Currently compiling a study on the phylogeny of the viruses across 2021. This year two different lineages can be distinguished based on the sequences of the HA gene, one belongs to the older lineage derived from late 2020 and since October 2021 there is incursion of a second lineage probably from the Northeast and Central Asia. Genotypic variation is present but not affecting the NA subtype (N1).

Update from Italy:

Only 15 cases in wild birds so far through active and passive surveillance. But the poultry cases are more numerous, at about 300 outbreaks mostly in the northern part of Italy which are areas of high poultry population density. Most of the outbreaks have been in commercial holdings (turkeys, broilers, layers) and a few in backyard poultry. In most of the cases, there were no signs of the disease which is different from typical HPAI presentation. At the genomic level, there were multiple viral incursions seen with 11 different main genetic groups. Most of the viruses are related to the viruses detected in Northern Europe and some related to Eastern Europe suggesting multiple incursions from both Northern and Eastern Europe to Italy.

Update on Israel outbreaks:

In addition to the poultry outbreaks, extensive wild bird mortality noticed in the Hula Valley region with about 8000 Eurasian Cranes and hundreds of white pelicans and various other species including marbled teal which is a threatened species. Enormous human-mediated concentration of these birds in the artificial lake in Hula Valley which is fed as a mitigation to reduce the agricultural damage in surrounding areas. Although roosting cranes do naturally mingle at high densities, the artificial feeding of birds might have created artificial concentration of wild birds.

Data loggers on a reasonable number of those cranes provided some estimation of mortality rate in this event. From the accelerometers on those birds, one could see the changes in behaviors and movement before they actually died or recovered. Carcass removal by the agencies and volunteers was done to reduce the amount of infectious material. There is concern for a second wave of mortality as this area is a staging area for cranes which winter further south in NE Africa and will pass through in the spring during migration to breeding grounds. With regards to the timeline, the first cases of outbreaks actually started in domestic turkeys in October and then followed by the first wild bird mortalities in November and December. Also, healthy northern shovelers tested positive for H5N1.

Additional resources shared:

1. Link to a new publication and attention to chapter 6 which may be of interest. Bird Migration Studies: A Training manual, 2020. Bombay Natural History Society. 68 pp. The BNHS is using this manual as a basis for training front line forest staff and others in various states across India to build interest and understanding of these issues.

https://drive.google.com/file/d/1gL08MCRcblG3giFNN7t4L9xLnH_MGWfa/view

2. Bird flu (H5N1) detected in a fox with neurological symptoms.

<https://www.wur.nl/en/Research-Results/Research-Institutes/Bioveterinary-Research/show-bvr/Bird-flu-H5N1-detected-in-a-fox-with-neurological-symptoms.htm?fbclid=IwAR1aQa1uTAQlqGXVe3ydCMpBl4rJbKP1O8GqSa5SLgTriAdzucJ0FbtXrxU> .

3. Highly pathogenic avian influenza is an emerging disease threat to wild birds in North America.

<https://wildlife.onlinelibrary.wiley.com/doi/full/10.1002/jwmg.22171>

4. Transatlantic spread of highly pathogenic avian influenza H5N1 by wild birds from Europe to North America in 2021. <https://www.biorxiv.org/content/10.1101/2022.01.13.476155v1>

5. Statement produced by the CMS FAO Scientific Task Force on Avian Influenza and Wild Birds

https://www.cms.int/sites/default/files/uploads/avian_influenza_0.pdf