

## Epidemiological situation of HPAI viruses from clade 2.3.4.4 in Europe as of 3<sup>rd</sup> May 2018

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**Sources:** Data updated on 3<sup>rd</sup> May 2018 (included) ADNS/FAO/OIE, DGAL (General Directorate of Food – French Ministry of Agriculture), ProMED

Since the last situation report on 26<sup>th</sup> March 2018, the highly pathogenic avian influenza (HPAI) virus of subtype H5N6 has been reported for the first time in Slovakia on 28<sup>th</sup> March in wild birds (the virus was detected in a black-headed gull (*Chroicocephalus ridibundus*) among five birds found dead), and in Finland with two cases reported on 3<sup>rd</sup> and 24<sup>th</sup> April in white-tailed eagles (*Haliaeetus albicilla*).

The H5N6 virus was also identified in wild birds in other countries:

- Denmark: 22 new reports involving five white-tailed eagles (four reports on 23/04 and one report on 30/04), ten common buzzards (*Buteo buteo*) (nine reports on 24/04 and one report on 12/04), two mute swans (*Cygnus olor*) (reports on 23/04 and 24/04), a great cormorant (*Phalacrocorax carbo*) (report on 23/04), a herring gull (*Larus argentus*) (report on 23/04), a black-headed gull (report on 23/04), and two hooded-crows (*Larus argentus*) (reports on 12/04),
- Germany: a case in a white-tailed eagle (report on 30/04),
- Sweden: cases in two white-tailed eagles (reports on 09/04 and 26/04), in a common buzzard (report on 26/04), and in a Northern goshawk (*Accipiter gentilis*) (report on 26/04),
- United-Kingdom: a case in two common buzzards (report on 20/04), and
- The Netherlands: a case in a common buzzard (report on 28/03).

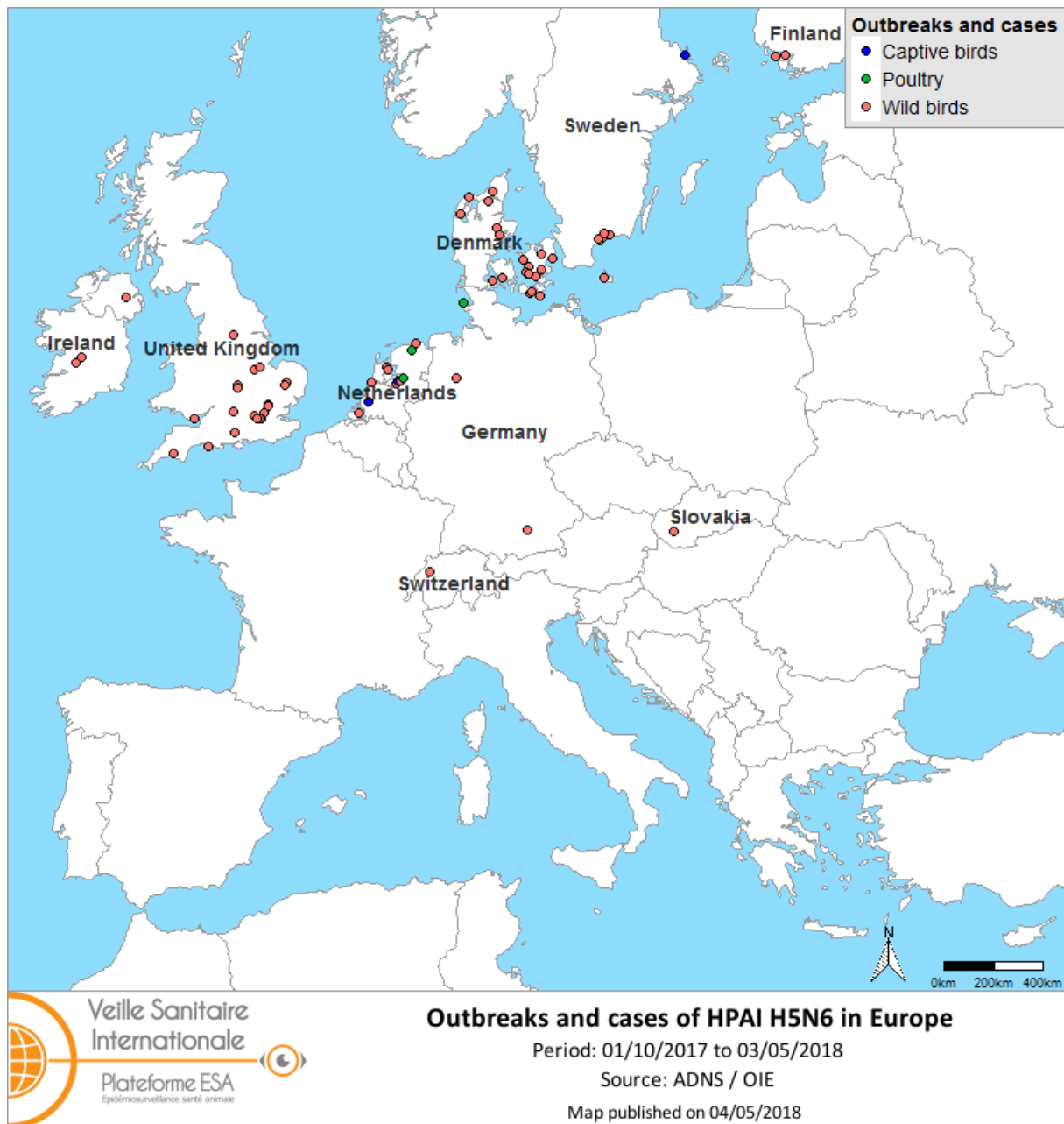
The H5N6 virus has also been notified in captive wild birds with a case reported in Sweden on 9<sup>th</sup> April in a non-commercial holding of 105 birds (species not mentioned).

**The H5N8 virus continues to circulate in poultry farms:**

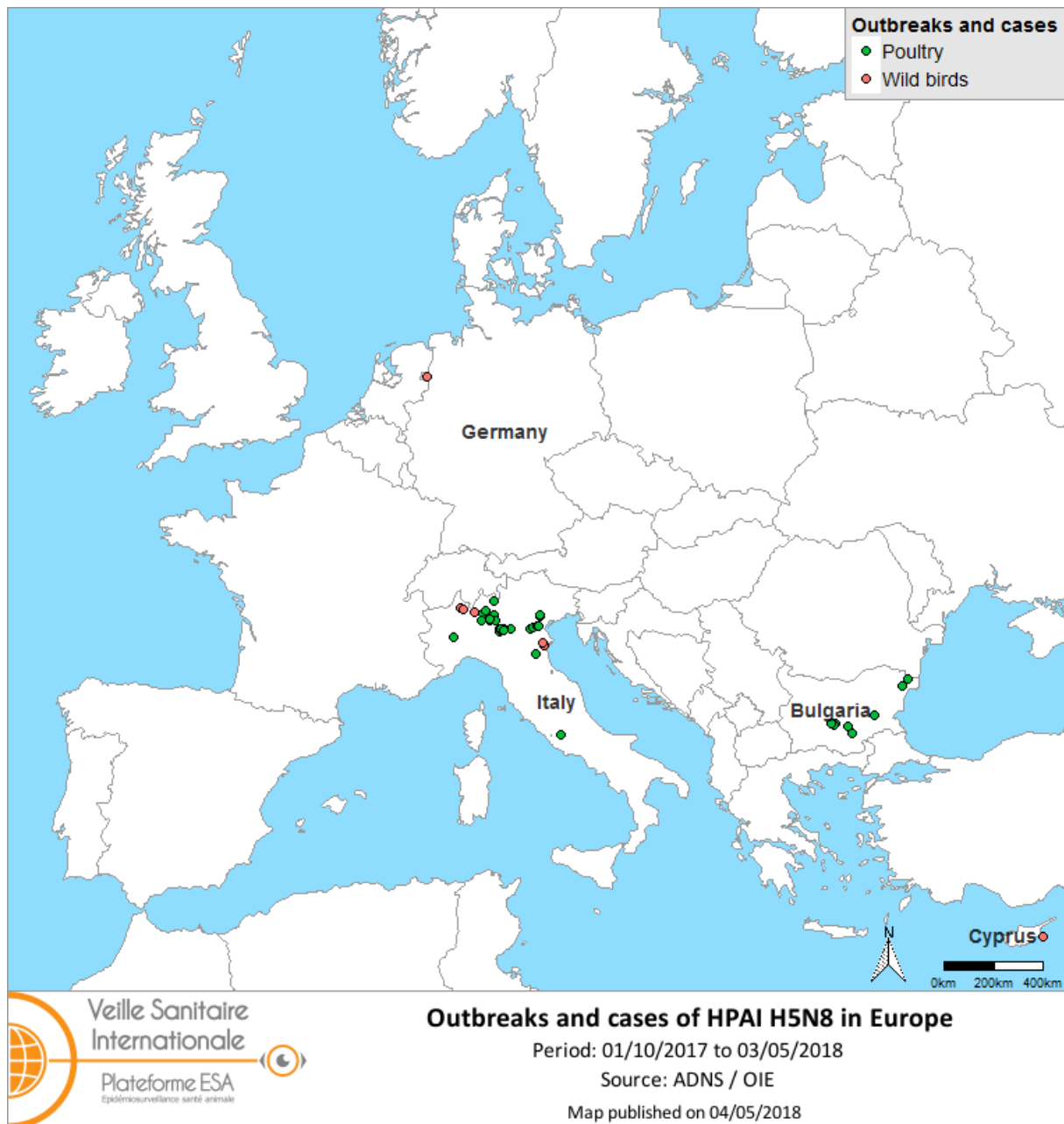
- **Italy: an outbreak reported in a fattening turkey farm (report on 28/03), and**
- **Bulgaria: four outbreaks reported in three duck farms (reports on 05/04 and 24/04) and in a State hunting reserve (report on 18/04).**

**Bulgaria has also reported four outbreaks of H5Nx in duck farms on 5<sup>th</sup> and 25<sup>th</sup> April.**

From 1<sup>st</sup> October 2017 to 3<sup>rd</sup> May 2018 (included), a total of 145 outbreaks of HPAI H5 (including 60 outbreaks of H5N8) were notified in twelve European countries: Bulgaria, Cyprus, Denmark, Germany, Ireland, Italy, the Netherlands, Sweden, Switzerland, the United-Kingdom, Finland and Slovakia (Table 1, Figures 1&2). Two serotypes were identified: H5N6 (Figure 1) and H5N8 (Figure 2).



**Figure 1: Map of HPAI H5N6 outbreaks and cases notified in Europe from 1<sup>st</sup> October 2017 to 3<sup>rd</sup> May 2018 included (sources: ADNS/OIE)**



**Figure 2: Map of HPAI H5N8 outbreaks and cases notified in Europe from 1<sup>st</sup> October 2017 to 3<sup>rd</sup> May 2018 included (sources: ADNS/OIE)**

**Table 1: Number of outbreaks in domestic, wild and captive birds notified in Europe from 1<sup>st</sup> October 2017 to 3<sup>rd</sup> May 2018 by country and subtype of virus (source: ADNS/OIE)**

Country	H5N8			H5N6			H5Nx		
	domestic	wild	captive	domestic	wild	captive	domestic	wild	captive
<b>Bulgaria</b>	4	-	-	-	-	-	6	-	-
<b>Cyprus</b>	-	1	-	-	-	-	-	-	-
<b>Denmark</b>	-	-	-	-	27	-	-	-	-
<b>Finland</b>	-	-	-	-	2	-	-	-	-
<b>Germany</b>	-	1	-	1	2	-	-	-	-
<b>Ireland</b>	-	-	-	-	3	-	-	-	-
<b>Italy</b>	45	5	-	-	-	-	-	-	-
<b>The Netherlands</b>	-	-	-	3	9	2	-	-	-
<b>Slovakia</b>	-	-	-	-	1	-	-	-	-
<b>Sweden</b>	-	-	-	1	6	1	-	-	-
<b>Switzerland</b>	-	-	-	-	1	-	-	-	-
<b>United-Kingdom</b>	-	-	-	-	20	-	-	-	-
<b>Total</b>	60			79			6		

## SEVERAL WILDLIFE SPECIES AND SECTORS OF THE POULTRY INDUSTRY AFFECTED SINCE 1<sup>ST</sup> OCTOBER 2017

The HPAI H5 outbreaks has affected several sectors of the poultry industry, including fattening turkeys, ducks, geese, laying hens and chickens, in both commercial and backyard farms.

Table 2 lists the affected wild bird species.

**Table 2: List of wild bird species affected by HPAI in Europe from 1<sup>st</sup> October 2017 to 3<sup>rd</sup> May 2018 included (source: ADNS) (in yellow: new species/locations since the last update)**

Family	Latin name	English name	Country where HPAI case was declared
Accipitridae	<i>Buteo buteo</i>	Common buzzard	Cyprus (30/10), United-Kingdom (28/02, 23/03, 20/04), Ireland (12/03), Sweden (14/03, 26/04), The Netherlands (23/03, 28/03), Denmark (12/04, 24/04)
Accipitridae	<i>Haliaeetus albicilla</i>	White-tailed eagle	Ireland (09/02, 15/03), Sweden (20/02, 09/04, 26/04), Denmark (02/03, 26/03, 23/04, 30/04), Finland (03/04, 24/04), Germany (30/04)
Accipitridae	<i>Accipiter gentilis</i>	Northern goshawk	United-Kingdom (12/03), Sweden (26/04)
Anatidae	<i>Anas platyrhynchos</i>	Mallard	United-Kingdom (22/01, 29/01)
Anatidae	<i>Anser anser</i>	Greylag goose	United-Kingdom (22/01, 28/02)
Anatidae	<i>Aythya ferina</i>	Common pochard	United-Kingdom (17/01)

Anatidae	<i>Aythya fuligula</i>	Tufted duck	United-Kingdom (17/01, 22/01, 29/01, 05/02)
Anatidae	<i>Aythya marila</i>	Greater scaup	The Netherlands (26/02)
Anatidae	<i>Branta canadensis</i>	Canada goose	United-Kingdom (17/01)
Anatidae	<i>Cygnus olor</i>	Mute swan	Italy (04/10, 20/10), The Netherlands (15/12, 20/12, 29/12), Switzerland (29/12), United-Kingdom (17/01, 29/01, 05/02, 06/02, 14/02, 02/03), Denmark (23/04, 24/04)
Anatidae	Espèce non précisée	Wild goose	Italy (09/11)
Anatidae	Espèce non précisée	Wild duck	Germany (23/10, 08/01)
Colombidae	<i>Columba livia</i>	Rock pigeon	Italy (09/11)
Corvidae	<i>Corvus cornix</i>	Hooded crow	Denmark (12/04)
Falconidae	<i>Falco peregrinus</i>	Peregrine falcon	The Netherlands (23/03)
Falconidae	<i>Falco tinnunculus</i>	Common kestrel	Italy (09/11)
Laridae	<i>Chroicocephalus ridibundus</i>	Black-headed gull	The Netherlands (25/01), Slovakia (28/03), Denmark (23/04)
Laridae	<i>Larus argentus</i>	Herring gull	United-Kingdom (17/01), Denmark (23/04)
Laridae	<i>Larus canus</i>	Mew gull	United-Kingdom (22/01)
Laridae	<i>Larus marinus</i>	Great black- headed gull	United-Kingdom (17/01), Netherlands (25/01)
Phalacrocoracidae	<i>Phalacrocorax carbo</i>	Great cormorant	Denmark (23/04)
Phasianidae	<i>Phasianus colchicus</i>	Common pheasant	United-Kingdom (28/02)

Podicipedidae	<i>Podiceps cristatus</i>	Great-crested grebe	United-Kingdom (17/01)
Rallidae	<i>Gallinula chloropus</i>	Common moorhen	United-Kingdom (29/01)

Many wild birds recently infected by IAHP H5 viruses are birds of prey, including the common buzzards (*Buteo buteo*). The majority of these buzzards are probably residents, which could indicate a diffuse infection from smaller birds which the buzzards prey on, an infection that could go unnoticed due to the small size of these preys (e.g. sparrows).

The rock pigeon belongs to the Columbidae family, which is in general though to be less susceptible to avian influenza strains. The only cases of HPAI H5N8 detected in Columbidae in the world were located in the South-West of France (two common wood pigeons and five turtledoves), in direct link with the affected farms, with the hypothesis of a particularly high viral load developed in the affected poultry farms. This hypothesis is also valid for Italy. The list of wild species at risk in Europe has been published in the EFSA journal ([Scientific opinion, adopté le 14 Septembre 2017, doi: 10.2903/j.efsa.2017.4991](https://doi.org/10.2903/j.efsa.2017.4991))

Wild birds are now nesting (reproduction period) which limits their movements.

#### **A H5N2 VIRUS DETECTED IN RUSSIA**

On 29<sup>th</sup> December 2017, Russia reported an outbreak of HPAI H5N2 in a poultry farm of more than 660 000 birds, in the region of Kostroma in the Northeast of Moscow (OIE report 29/12/2017). This outbreak was initially notified as H5N8 three days prior.

This is the first report of HPAI H5N2 virus in Russia and the last outbreak of HPAI H5N2 reported in Europe dates back to January 2017 with three outbreaks reported in poultry farms in France.

Regarding the origin of this virus, two hypotheses can be formulated:

- the mutation of a LP H5N2 virus in domestic birds, into a HP virus (as was the case in 2015 with H7N7 in the United Kingdom and Germany, or with H5N1 and H5N2 in France),
- a reassortment between HP H5N8 which circulated in Europe in 2016-2017 with a LP Eurasian strain, as for the H5N6 virus currently circulating in Europe. Indeed, viruses from clade 2.3.4.4 have a strong mutation potential, as illustrated by the emergence of H5N6 and H5N5 viruses following the circulation of H5N8 in Europe in 2016-2017.

Whatever the case may be, further analyses are needed to identify the origin, the link and the genetic composition of these new viruses, and the evolution of the epidemiological situation in Europe should be closely monitored.



