

SCOPAFF meeting
13 January 2022

AHW.A.03

EFSA ECDC EURL scientific reports on the latest epidemic of avian influenza

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APPROVED: 20 December 2021

doi: 10.2903/j.efsa.2021.7108

Avian influenza overview September – December 2021

European Food Safety Authority,
European Centre for Disease Prevention and Control and
European Union Reference Laboratory for Avian Influenza

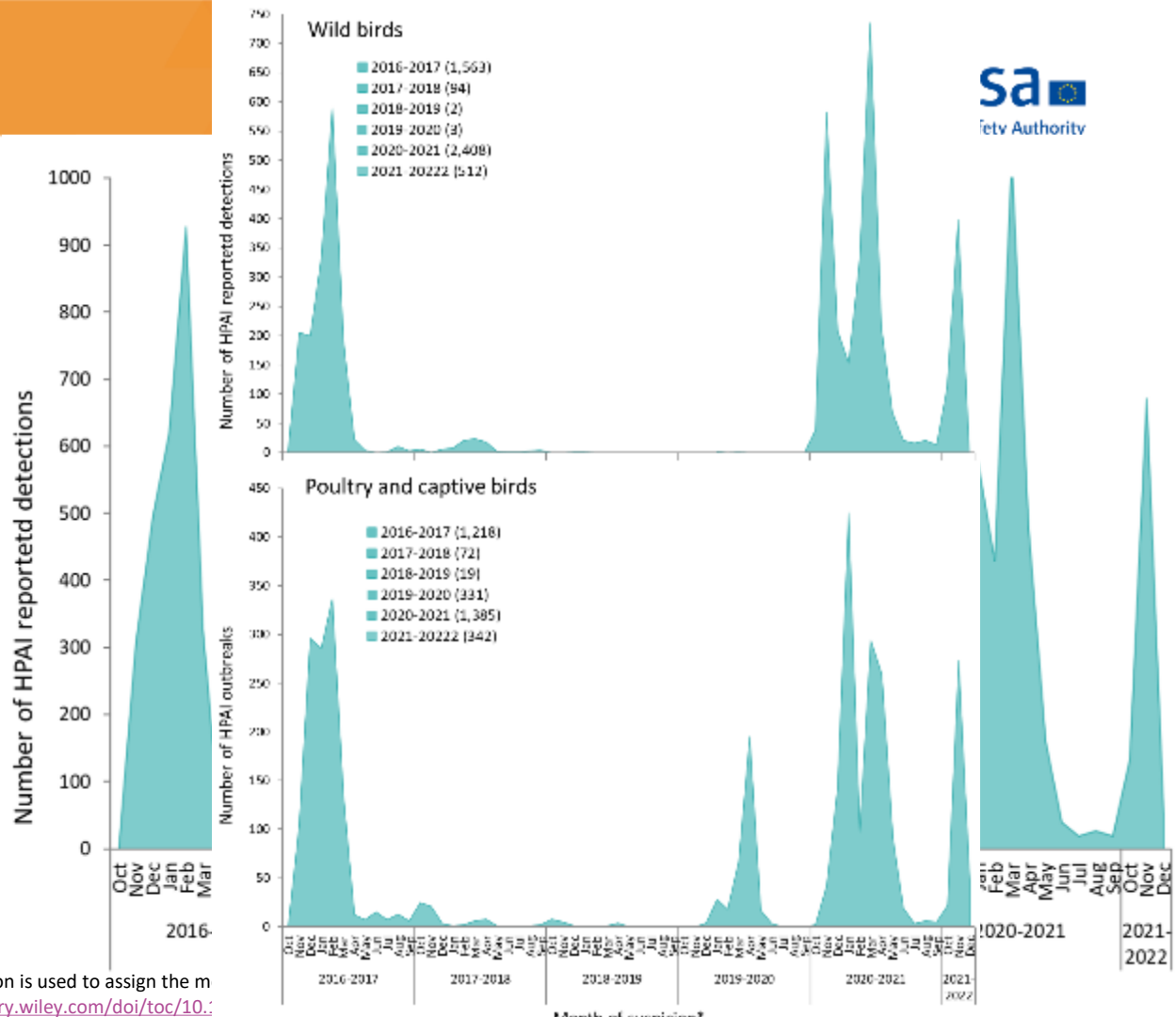
Cornelia Adlhoch, Alice Fusaro, José L Gonzales, Thijs Kuiken, Stefano Marangon, Éric Niqueux, Christoph Staubach, Calogero Terregino, Inma Aznar, Irene Muñoz Guajardo and Francesca Baldinelli

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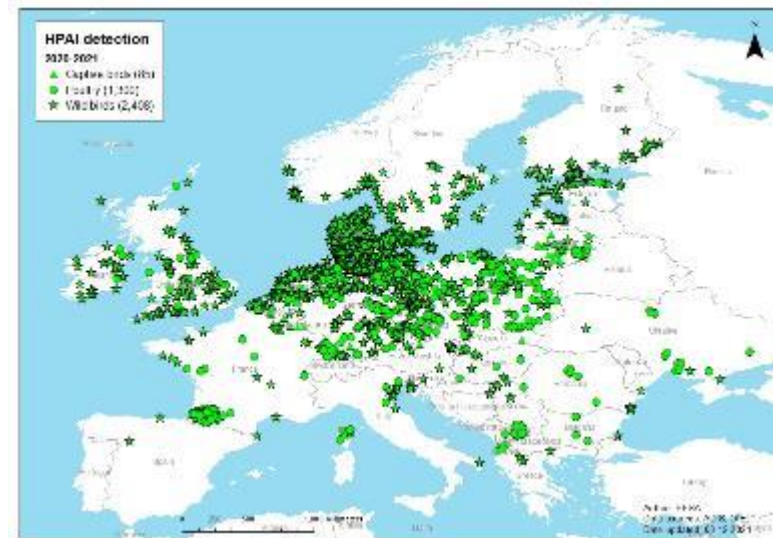
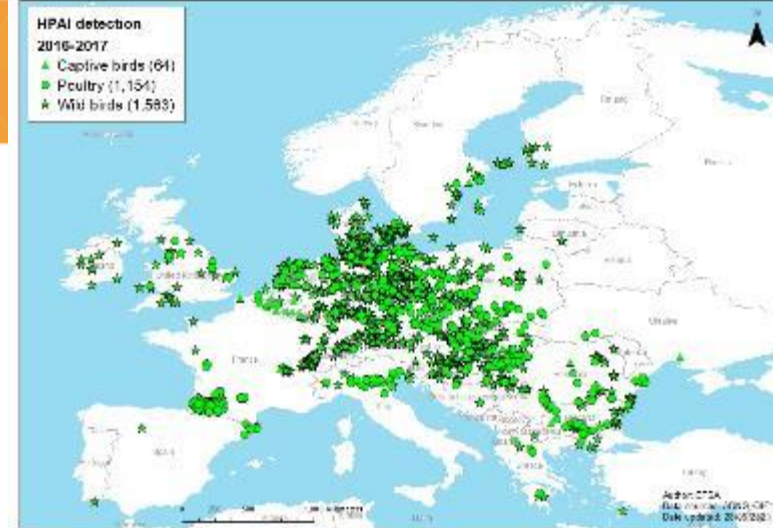
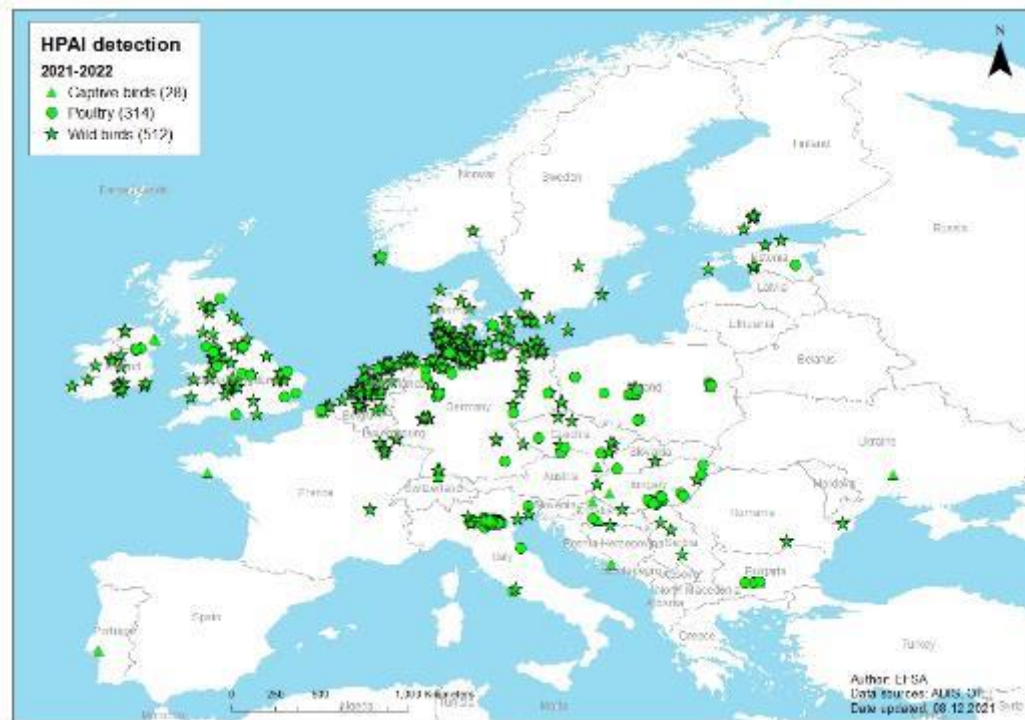
HPAI in Europe in birds

- Distribution of HPAI virus detections reported in EU/EEA and the UK by epidemic seasons and month of suspicion
- 1 Oct 2016 – 8 Dec 2022 (7,948)



*When the date of suspicion is not available then the date of confirmation is used to assign the m
Source: EFSA/ECDC/EURL avian influenza reports [https://efsa.onlinelibrary.wiley.com/doi/toc/10.:](https://efsa.onlinelibrary.wiley.com/doi/toc/10.)

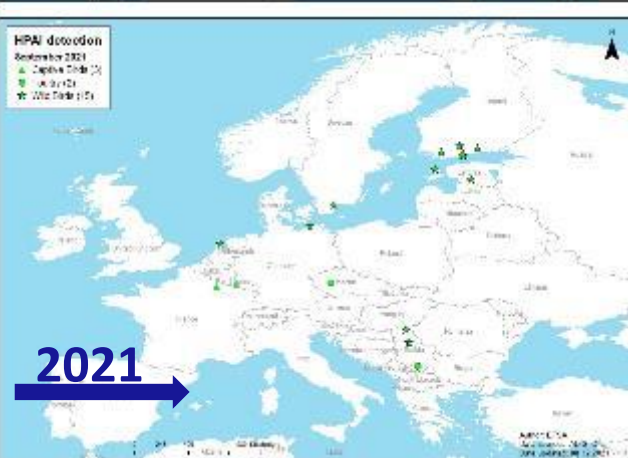
HPAI in Europe in birds



* This designation is without prejudice to positions on status and is in line with United Nations Security Council Resolution 1244 and the International Court of Justice Opinion on the Kosovo Declaration of Independence.

Source: EFSA/ECDC/EURL avian influenza reports <https://www.efsa.europa.eu/it/efsajournal/pub/9989>

HPAI detections, 2020-2021 and 2021-2022

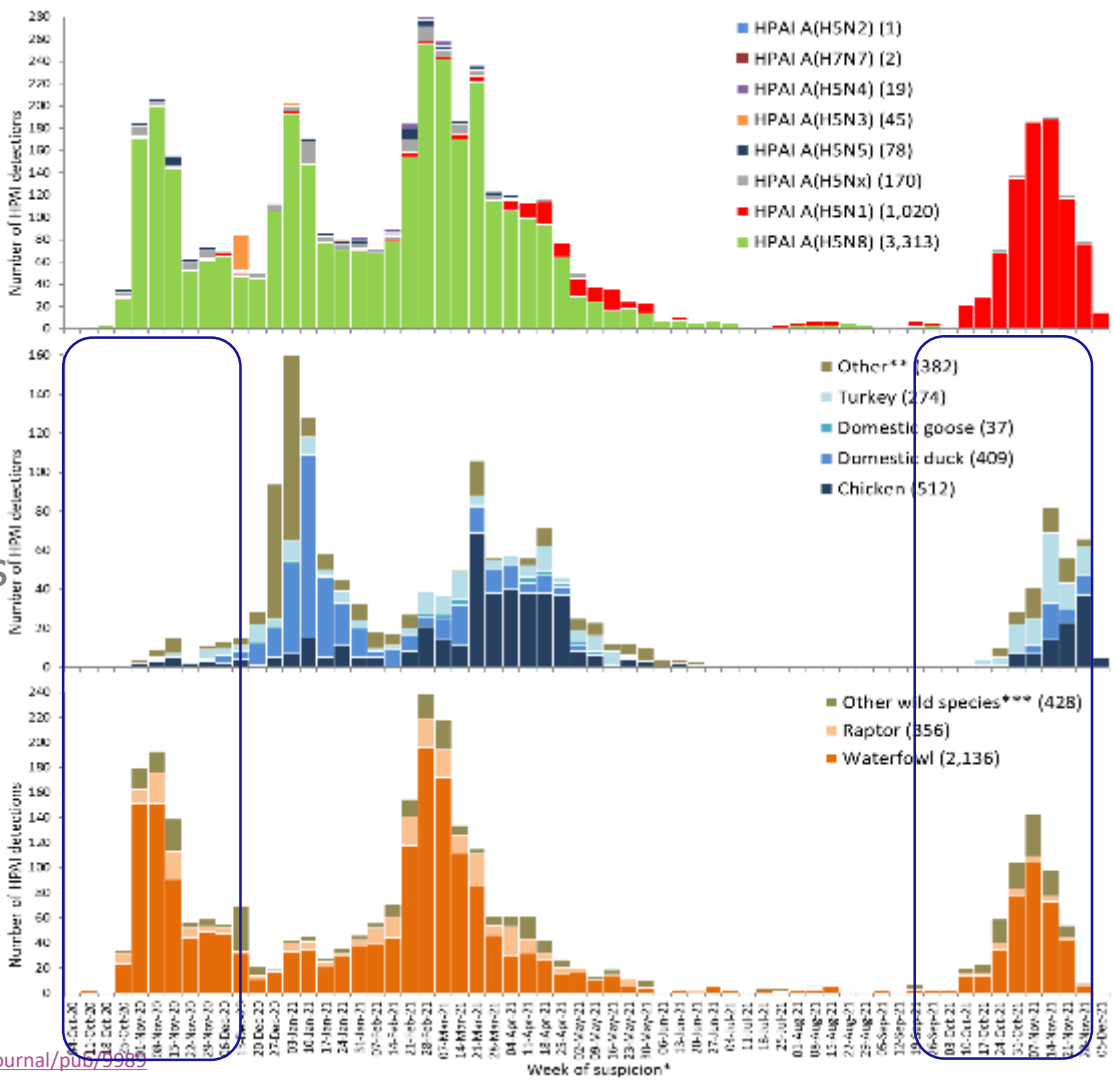


HPAI detections 2020-2021 and 2021-2022

Distribution of total number of HPAI virus detections reported in Europe by week of suspicion (dates indicate the first day of the week) and

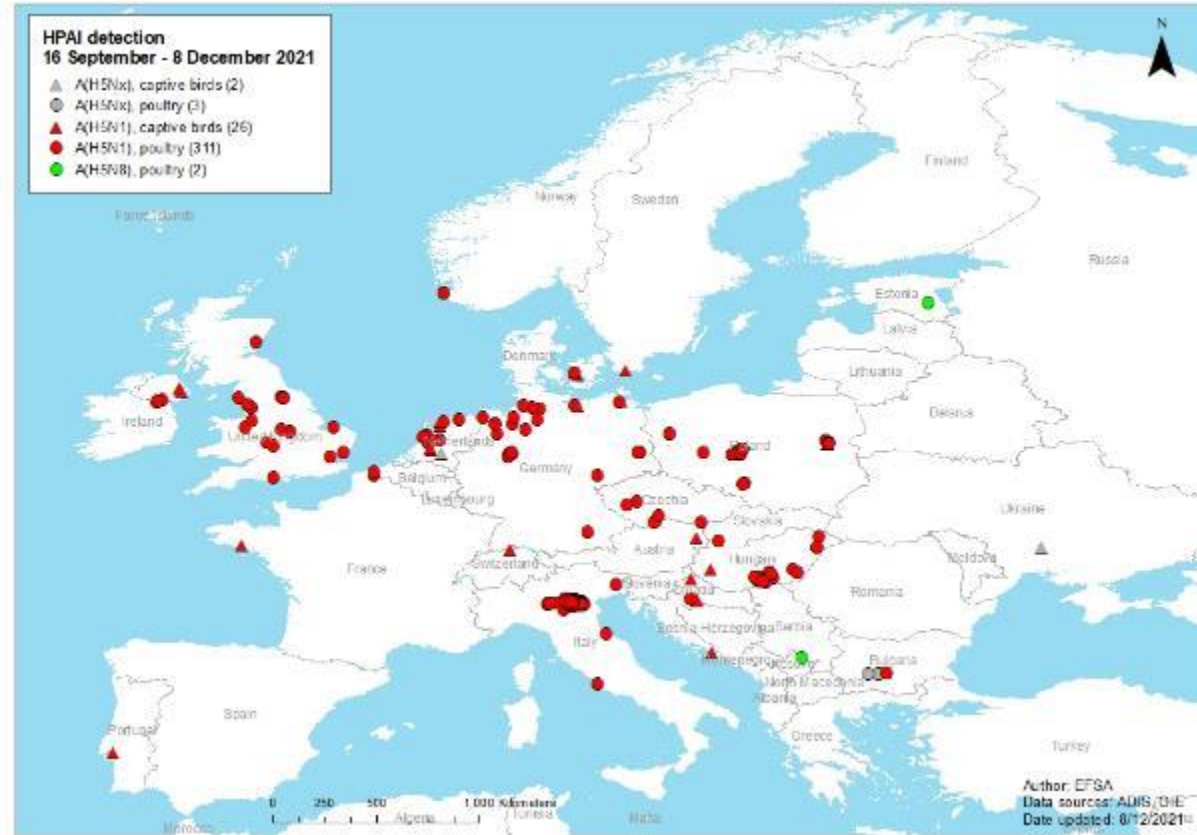
- A. virus **subtype** (4,647)
- B. affected **poultry** categories (1,614)
- C. affected **wild bird** categories (2,920)

5 Oct 2020 – 8 Dec 2021



* When the date of suspicion is not available then the date of confirmation is used to assign the week of suspicion. ** 'Other domestic species' category contains mixed, unknown bird species, or categories different from those displayed (i.e guinea fowl, peacock, pheasant and quail). *** 'Other wild species' category contains mixed, unknown bird species, or categories different from those displayed

- Most affected countries: Italy (167), Hungary and Poland (35 each), Germany (27)
- Norway, Bosnia Herzegovina and Serbia affected for the first time
- 16 Sep – 8 Dec 2022 (316)



1 May – 15 September

- 103 poultry outbreaks
- ≈3 million birds affected
- 48% 'small' farms
- 26% 'medium' farms
- 2% 'large' farms

16 September – 8 December

- 316 poultry outbreaks
- ≈ 12 million birds affected
- 9% 'small' farms
- 53% 'medium' farms
- 10% 'large' farms

Large-size farm: 50,000-100,000 poultry

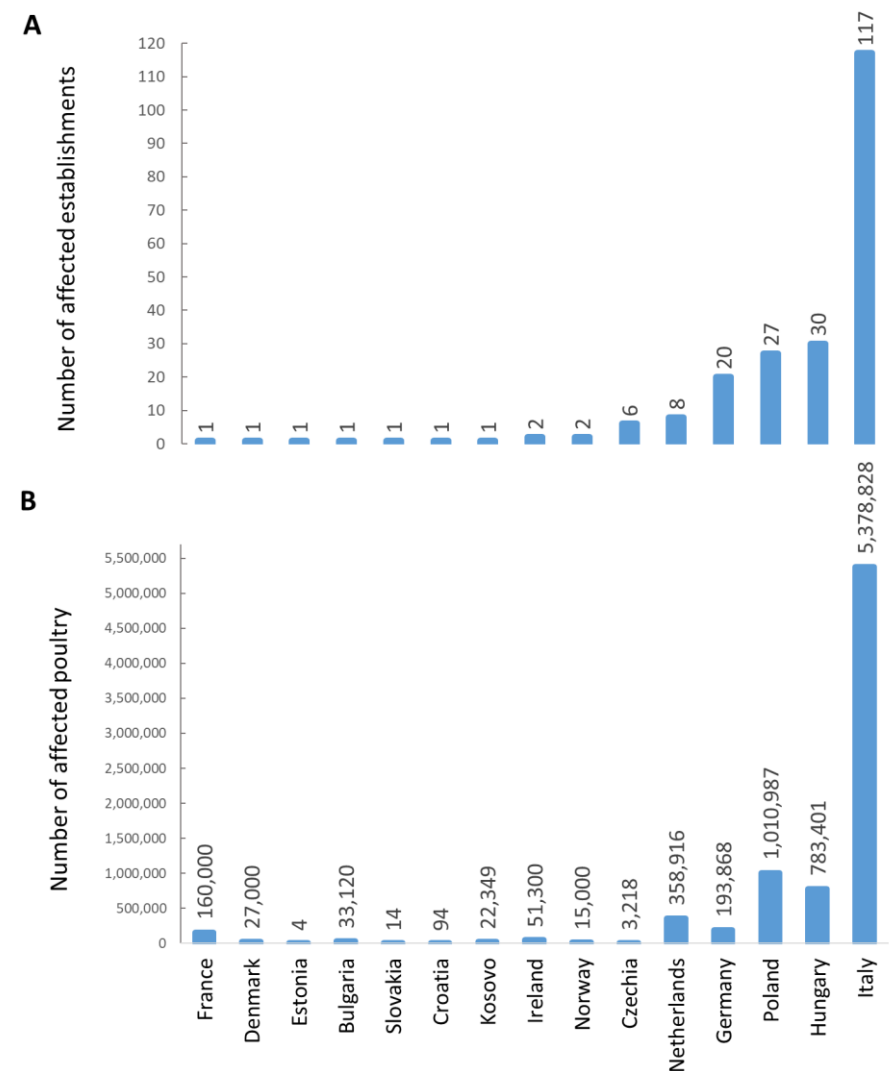
Medium-size farm: 10,000-50,000 poultry

Small-size farm: <1,000 poultry

HPAI outbreaks in poultry

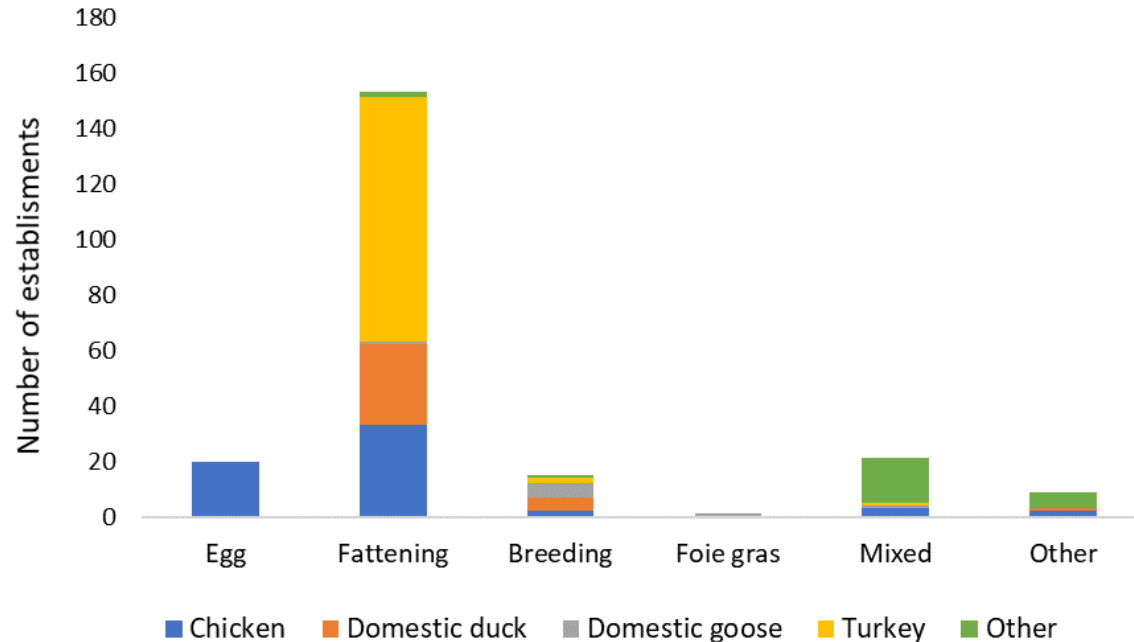
Number of establishments (A) and domestic birds (poultry) (B) affected by HPAI in the EU 15 Sep - 1 Dec 2021

- 219 HPAI poultry outbreaks
- ≈ 8 million birds affected



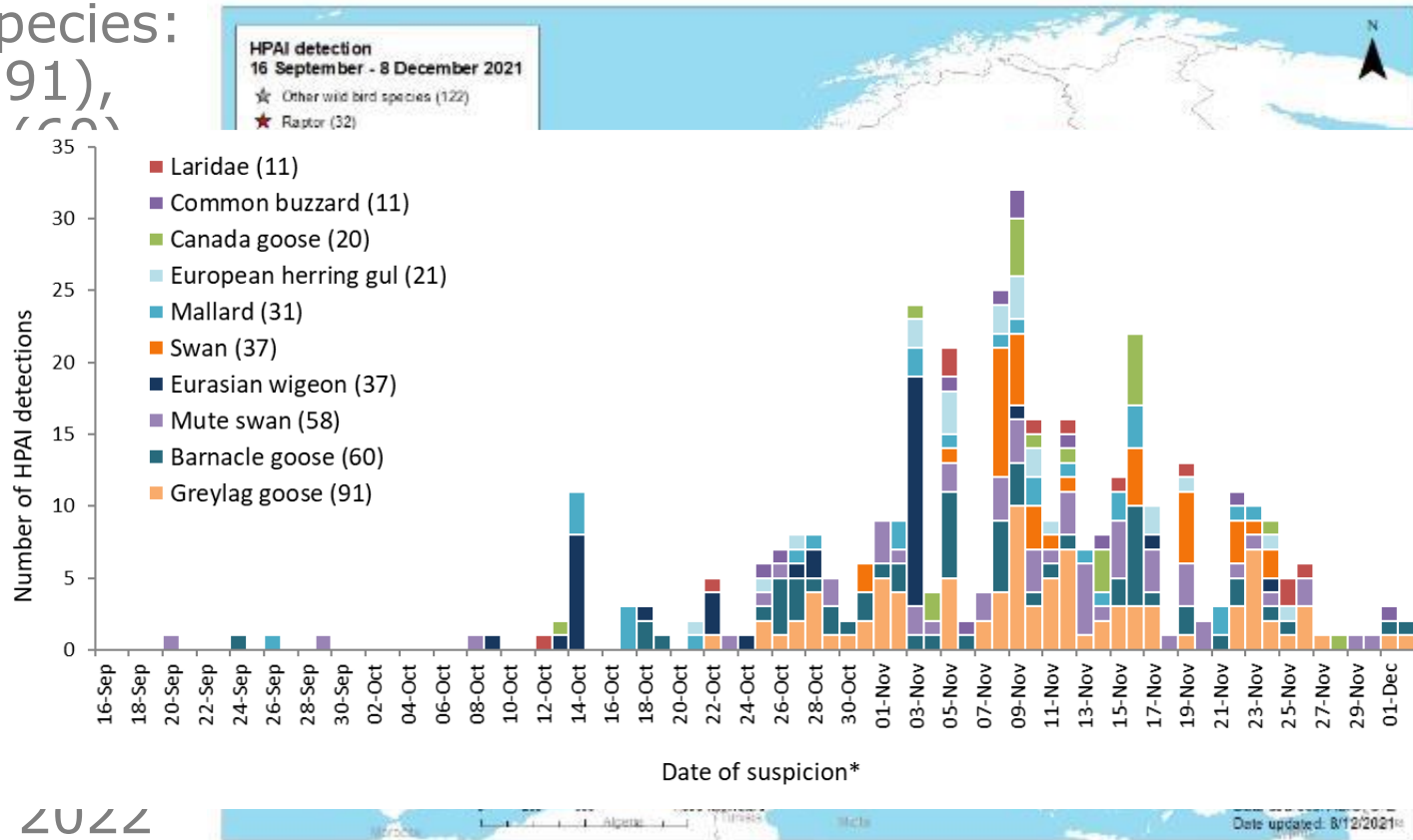
HPAI outbreaks in poultry

- 35% of poultry outbreaks in **fattening turkeys** (vs 9% in 2020)
- 15% in **broilers** (vs 6% in 2020)
- 198 HPAI outbreaks were reported from **commercial** farms and 16 in non-commercial farms
- **Outdoor access:**
 - ✓ 17 farms with outdoor access (6 in Czechia, 2 in Poland, Hungary, Italy and the Netherlands, 1 in Croatia, Estonia, and Slovakia)
 - ✗ 78 did not have outdoor access
 - ? 126 farms unknown



HPAI detections in wild birds

- Most affected species: graylag goose (91), barnacle goose (60), mute swan (58), Eurasian wigeon (37), European herring gull (21), Canada goose (20), mallard (31), Laridae (11), Common buzzard (11), Canada goose (20), European herring gull (21), Mute swan (58), Barnacle goose (60), Greylag goose (91)
- New HPAI detected species: pied avocet, ferruginous duck, merlin
- 16 Sep – 8 Dec 2021 (523)

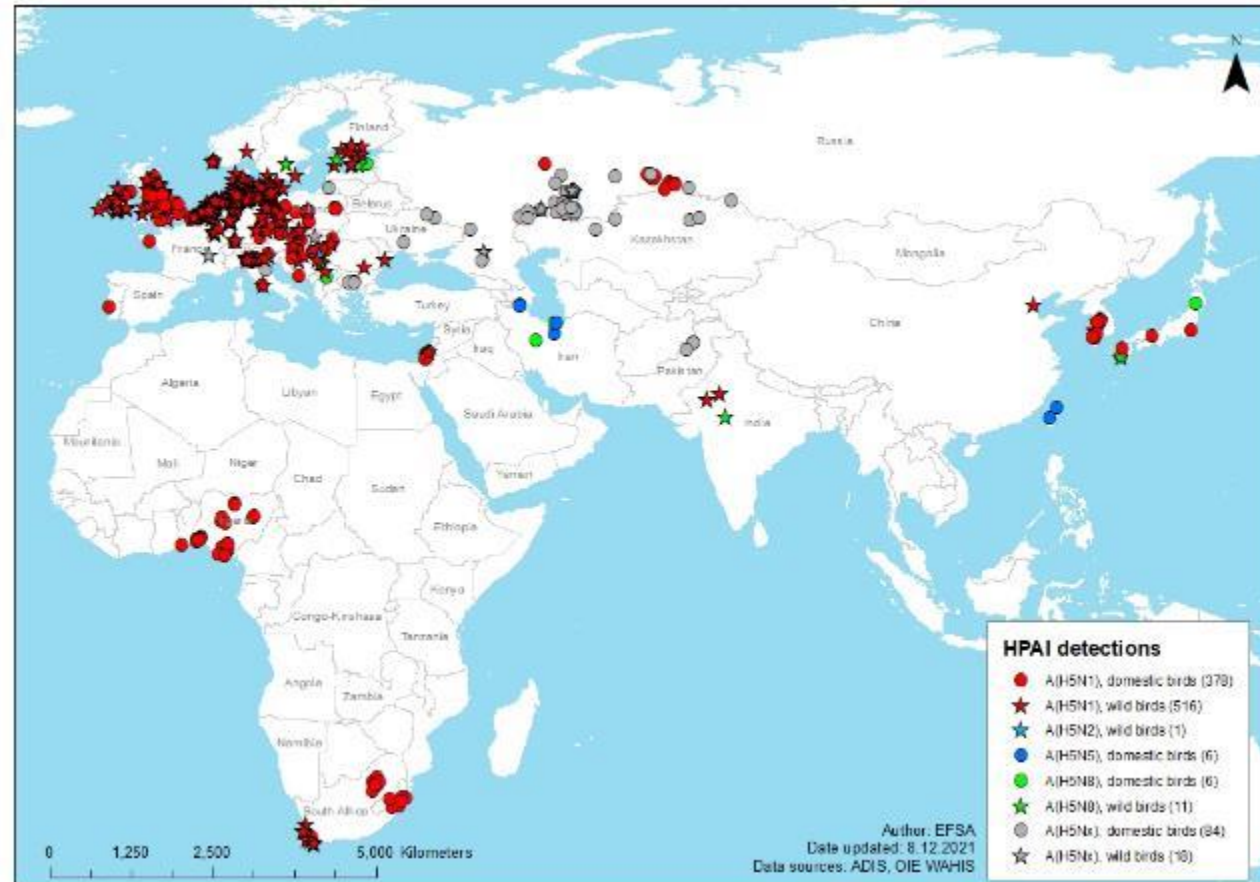


HPAI- infected wild mammals

Date	Country	Animal (species)	Virus	Reference
November 2016, April 2017	Poland	2 grey seals (<i>Halichoerus grypus</i>)	A(H5N8) clade 2.3.4.4b	(Shin et al., 2020)
December 2016 to May 2017	France	Domestic pigs (<i>Sus scrofa</i>), serological detection	A(H5N8) clade 2.3.4.4b	(Herve et al., 2021)
2017	Germany	Wild boar serological detection	A(H5N8)	(Schülein et al., 2021)
Late 2020	The United Kingdom	4 juvenile common seals (<i>Phoca vitulina</i>), 1 juvenile grey seal (<i>Halichoerus grypus</i>), 1 juvenile red fox (<i>Vulpes vulpes</i>)	A(H5N8) clade 2.3.4.4b	(Floyd et al., 2021)
April, February, and September 2021	Sweden	1 gray seal (<i>Halichoerus grypus</i>), 2 red foxes (<i>Vulpes vulpes</i>)	A(H5N8) clade 2.3.4.4b, A(H5N1) clade 2.3.4.4b, A(H5N1)*	(SVA, online: Personal communication by Siamak Zohari, SVA)
May 2021	Netherlands	2 red fox cubs (<i>Vulpes vulpes</i>)	A(H5N1) clade 2.3.4.4b	(Rijks et al., 2021)
August 2021	Germany	3 harbour seals (<i>Phoca vitulina</i>)	A(H5N8) clade 2.3.4.4b	(Ärzteblatt, online)
September and November 2021	Finland	2 fox (<i>Vulpes vulpes</i>), 1 otter (<i>Lutra lutra</i>)	A(H5N1) clade 2.3.4.4b	(FFA, online)
November 2021	Estonia	Fox (<i>Vulpes vulpes</i>)	A(H5N1) clade 2.3.4.4b	(OIE, online-b)
November 2021	Italy	Domestic pigs (<i>Sus scrofa</i>) (serological detection in HPAI poultry outbreak)	A(H5N1) clade 2.3.4.4b	EURL

HPAI detections outside Europe

Geographical distribution of HPAI detections reported in domestic birds (2,406) and wild birds (2,612) in Europe, Asia and Africa, by virus type, 15 Sep to 8 Dec 2021



- The viruses characterised to date retain a preference for avian-type receptors; however, the high level of reassorted viruses currently circulating in Europe are of concern for public health
- The risk of infection for the **general population** in the EU/EEA is assessed as **low**, and for occupationally **exposed people low to medium** with high uncertainty due to the high diversity of circulating avian influenza viruses in bird populations

- In addition to **continued low-level HPAI A(H5) circulation** in resident wild bird populations in Europe, **new virus incursions** with migratory waterbirds both in northeast Europe and in southeast Europe. In the coming months, virus detections in wild birds may be expected to **extend to the southern and western** limits of outbreaks observed in previous years
- The rate of virus detection in **greylag goose** and **barnacle goose**, species in which HPAI A(H5) were hardly detected before 2020, continued to be high this autumn

- The persistent HPAI A(H5) virus presence in wild birds and in the environment at low winter temperatures will continue to pose a **risk for the poultry industry** in Europe for the coming months
- The frequent occurrence of HPAI A(H5) virus incursions in **commercial farms** where birds are kept indoors including poultry production types considered at low avian influenza risk raises concern about the capacity of applied **biosecurity measures** to prevent virus introduction

Short-term preparedness and **medium- and long-term prevention strategies** should be identified and implemented

Preparedness strategies include:

- Passive and active surveillance in wild birds
- Appropriate early detection and rapid response, together with sustainable and effective biosecurity in domestic birds
- Appropriate systems for culling operations and disposal of dead animals and contaminated waste
- Timely generation and sharing of complete viral genome sequences from birds
- Surveillance in mammals and humans that can potentially be exposed to infected birds

Prevention strategies include:

- Biosecurity measures for domestic birds
- Reduction of the density of commercial poultry farms
- Reorganization of poultry production systems highly susceptible to avian influenza exposure
- Possible application of appropriate vaccination strategies
- People living in areas where avian influenza outbreaks have been detected should avoid touching such sick or dead animals or bird droppings unprotected
- People potentially exposed to infected domestic birds should be adequately protected and actively monitored
- Sero-epidemiological studies in exposed people

Target list of wild bird species for passive surveillance of H5 HPAI viruses in the EU, based on passive surveillance data from 2005 to 2017

Table: Fifty wild bird species targeted for passive surveillance of H5 HPAI viruses in the EU. This list is based on data reported by Member States to the AI EU Reference Laboratory in the AI passive surveillance system between 2005 and 2017 (years 2011, 2012, 2013 excluded). Only those submissions that were identified to species and having a detection rate of 0.4 % or higher were included. The species are arranged in families (for the large family Anatidae also in subfamily, tribe or genus), and ordered according to the species with the highest detection rates.

Family	Subfamily, tribe, or genus	Species	% positive (no. positive/no. tested)
Ducks, geese, and swans (Anatidae)	Diving ducks (Aythyini)	Tufted duck (<i>Aythya fuligula</i>)	33.4% (338/1011)
		Greater scaup (<i>Aythya marila</i>)	12.7% (9/71)
		Common pochard (<i>Aythya ferina</i>)	11.4% (26/228)
		Red-crested pochard (<i>Netta rufina</i>)	0.9% (1/112)
		Northern pintail (<i>Anas acuta</i>)	5.4% (3/56)
	Dabbling ducks (Anatinae)	Eurasian wigeon (<i>Anas penelope</i>)	3.7% (8/219)

EFSA is in the process of revising the list of target species for passive surveillance in wild birds

Wild birds – active surveillance



Animal &
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- The Linnæus University Centre for Ecology and Evolution in Microbial model Systems (EEMiS)

- Dept. Viroscience and National Influenza Centre, Erasmus MC

Member State representatives for avian influenza

Acknowledgements: In addition to the listed authors, EFSA, ECDC and the EURL wish to thank the following: Member State representatives who provided epidemiological data on avian influenza outbreaks or shared sequence data: Eveline Wodak and Sandra Revilla-Fernandez (Austria) Mieke Steensels (Belgium), Aleksandra Miteva and Gabriela Goujgoulova (Bulgaria), Lucie Kalášková, and Alexander Nagy (Czechia), Vladimir Savic (Croatia), Pernille Dahl Nielsen, Jonas Berggren Fabricius, Sanne Wiingreen, Mette Schebye Skriver (Denmark), Kärt Jaarma and Helen Prommik (Estonia), Niina Tammiranta (Finland), the Epidemic Intelligence team of the French National Epidemiological Surveillance Platform for Animal health, Béatrice Grasland, Audrey Schmitz, Yves Lambert and Andrea Jimenez (France), Sokratis Perdikaris (Greece), Franz Conraths, Christoph Staubach, and Timm Harder (Germany), Georgina Helyes (Hungary), Laura Garza Cuartero (Ireland), Francesca Scolamacchia, Tiziano Dorotea, Paolo Mulatti, Bianca Zecchin and Isabella Monne (Italy), Juris Kibilds (Latvia), Vilija Grigaliūnienė, Paulius Bušauskas and Gediminas Pridotkas (Lithuania), Grim Rømo and Britt Gjerset (Norway), Magdalena Gawędzka, Katarzyna Wawrzak and Krzysztof Śmietanka (Poland), Marcel Spiereburg and Nancy Beerens (The Netherlands), Flavius Prelipcean, Onita Iuliana, Ioana Neghirla (Romania), Dejan Vidanovic (Serbia), Martin Tinak, Vilem Kopriva and Martin Chudy (Slovakia), Brigita Slavec (Slovenia), Azucena Sánchez Sánchez (Spain), Malin Grant and Siamak Zohari (Sweden); Denys Muzyka from National Scientific Center Institute of Experimental and Clinical Veterinary Medicine and Svitlana Shlapatska from State Service of Ukraine on Food Safety and Consumer Protection (Ukraine), Ian Brown from Animal and Plant Health Agency (United Kingdom), Michael McMenemy (AFBI), Ilya Chvala from Federal Center for Animal Health (FGBI 'ARRIAH' (Russia)); Elke Schneider from European Agency for Safety and Health at Work for the contribution to the occupational safety part; the many hundreds of people who sampled birds in the field for avian influenza; the working group AImpact2021 for the data on mortality in the Netherlands; Grazina Mirinavičiute from ECDC and Sotiria Eleni Antoniou from EFSA for the support provided to this scientific output; we gratefully acknowledge the authors, originating and submitting laboratories of the sequences from GISAID's EpiFlu™ Database, which is used for this assessment.

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