



Avian influenza overview

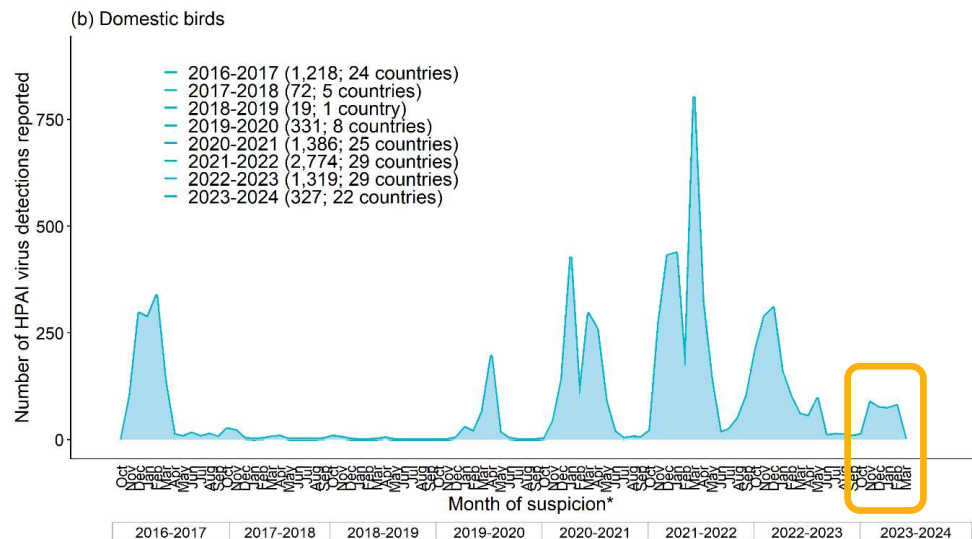
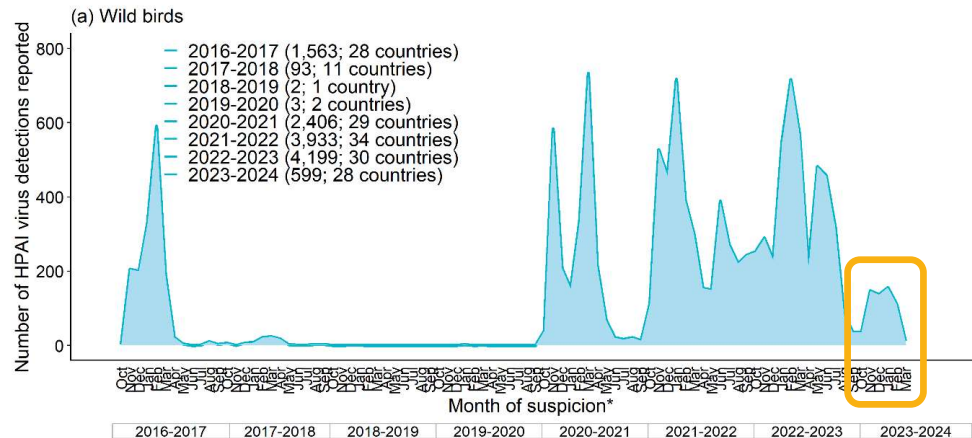
December 2023–March 2024

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BIOHAW Unit

HPAI IN DOMESTIC AND WILD BIRDS IN EUROPE



HPAI IN BIRDS | DECEMBER 2023 – MARCH 2024

DOMESTIC BIRDS

- 58 Moldova
- 34 Poland
- 29 Germany
- 27 Czechia
- 22 Hungary
- 9 Denmark
- 9 Slovakia
- 8 Bulgaria
- 8 France
- 7 Ukraine
- 3 Austria
- 3 Belgium
- 2 Italy
- 2 Romania
- 2 Sweden
- 1 Croatia
- 1 Lithuania
- 1 Norway
- 1 United Kingdom

HPAI virus subtype detections in domestic birds
2 December 2023 - 15 March 2024

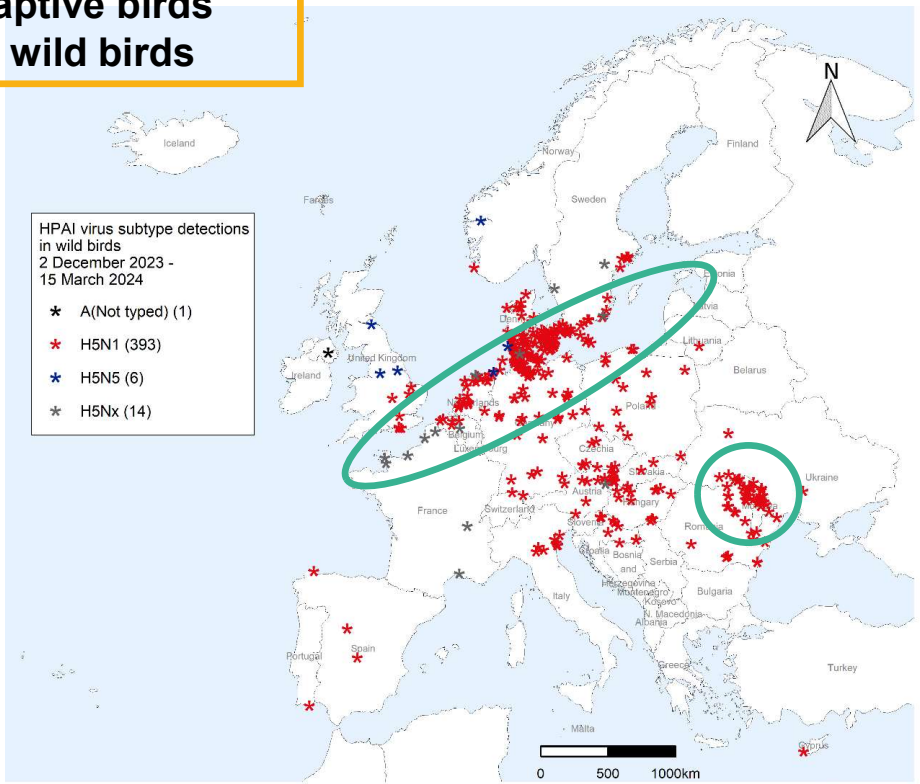
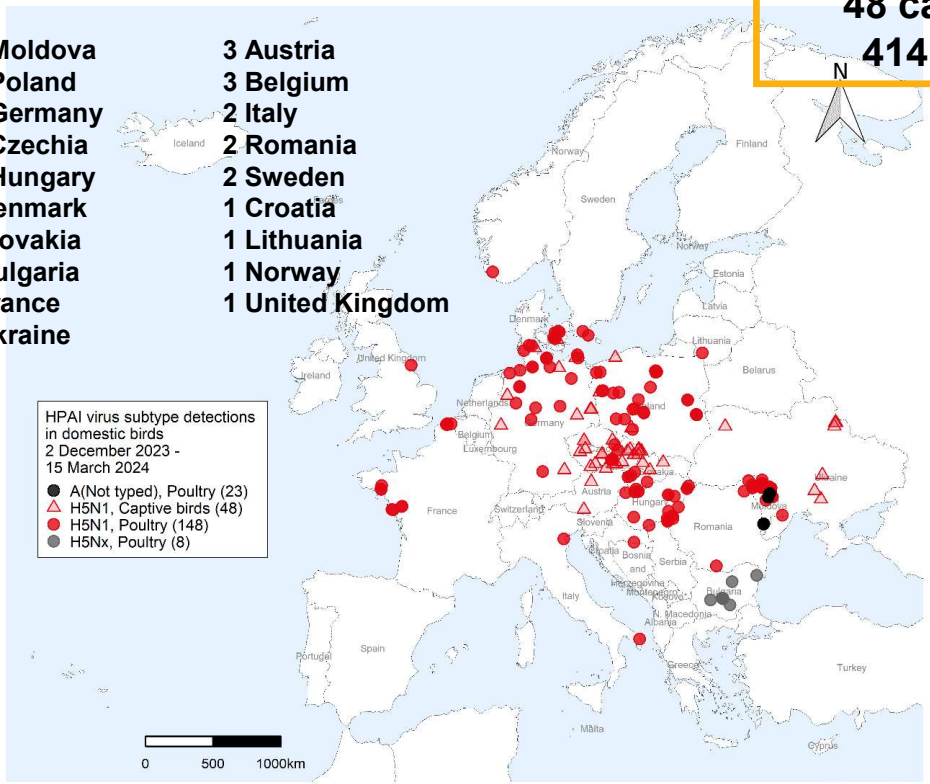
- A(Not typed), Poultry (23)
- ▲ H5N1, Captive birds (48)
- H5N1, Poultry (148)
- H5Nx, Poultry (8)

179 poultry
48 captive birds
414 wild birds

WILD BIRDS

HPAI virus subtype detections in wild birds
2 December 2023 - 15 March 2024

- * A(Not typed) (1)
- * H5N1 (393)
- * H5N5 (6)
- * H5Nx (14)

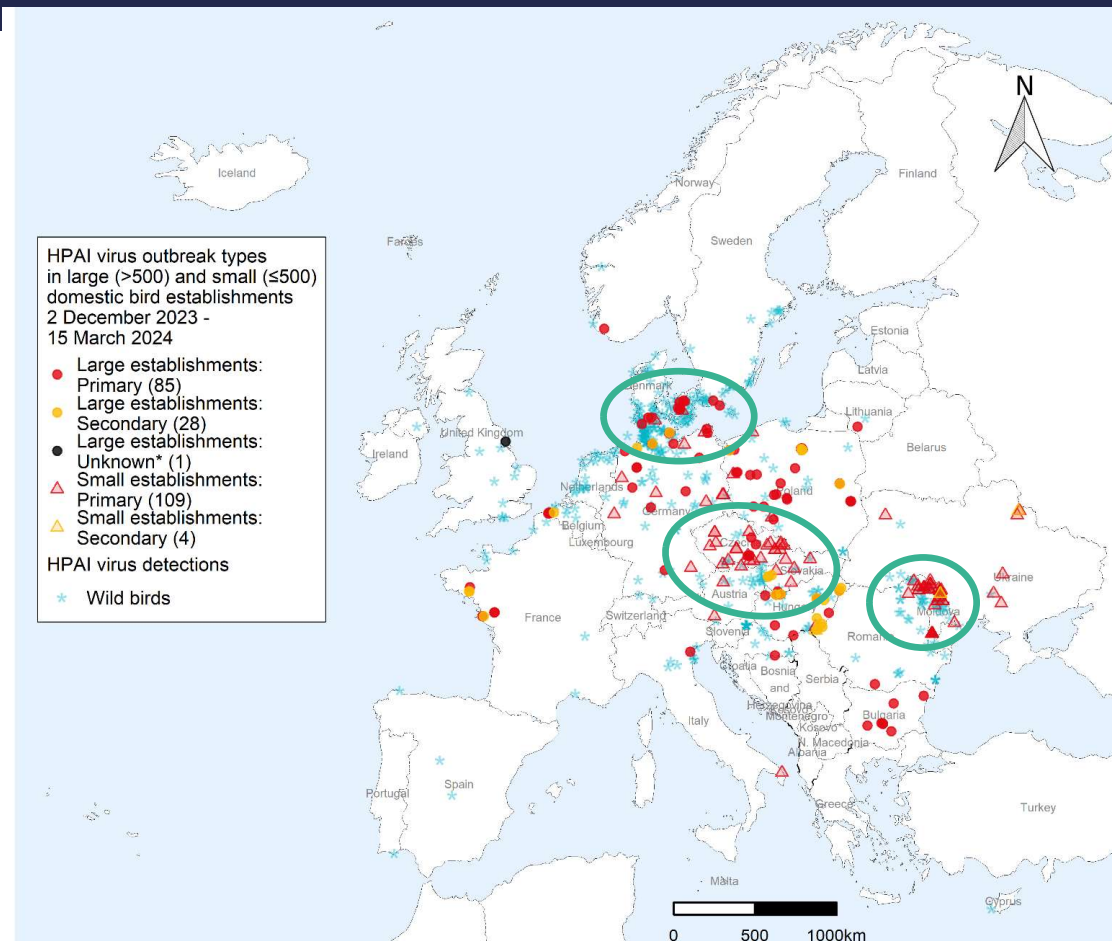


Author: EFSA
Data sources: ADIS, WOAH
Date updated: 15/03/2024

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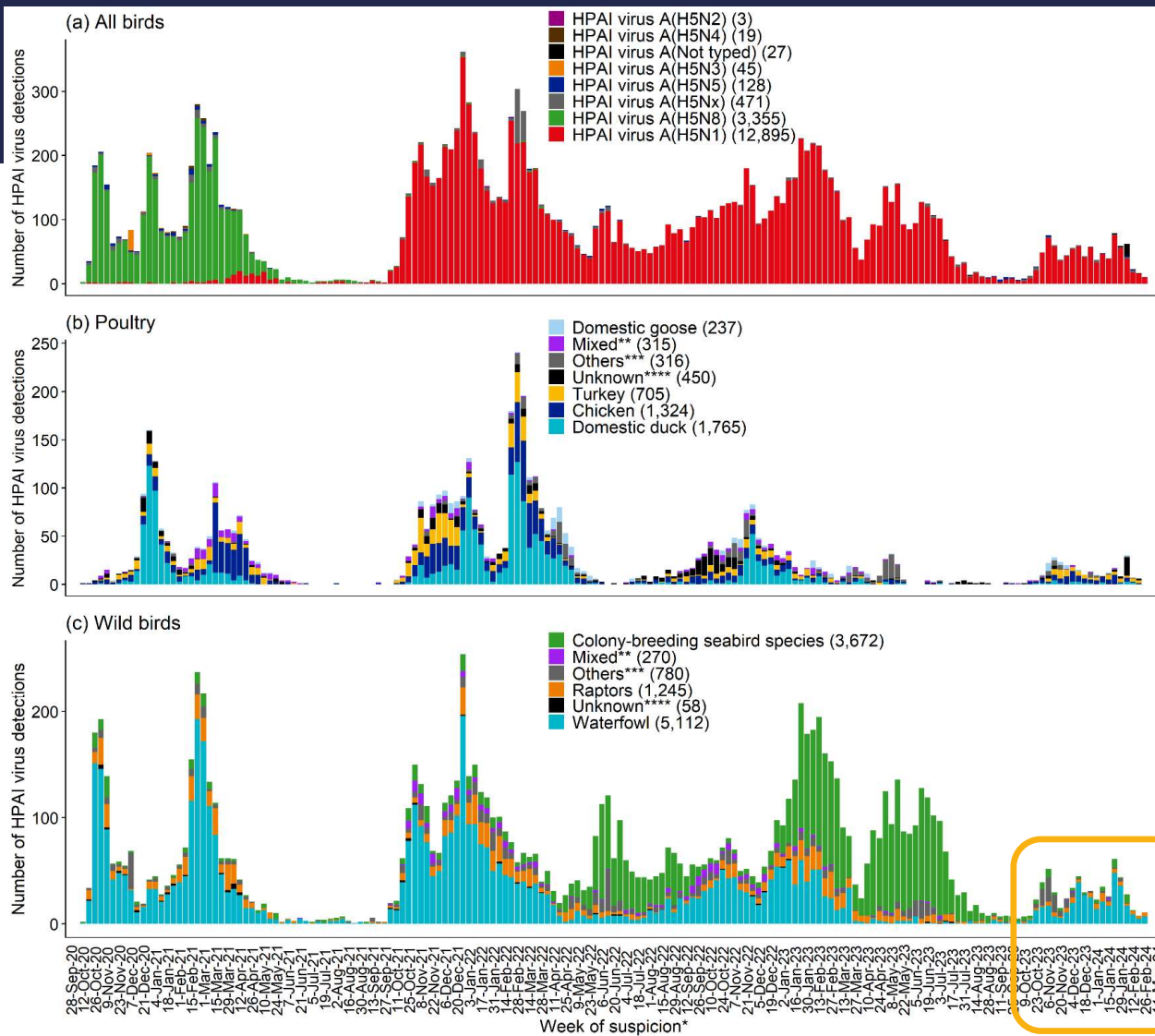


HPAI IN DOMESTIC BIRDS | DECEMBER 2023 – MARCH 2024



Author: EFSA
Data sources: ADIS, WOAH
Date updated: 15/03/2024

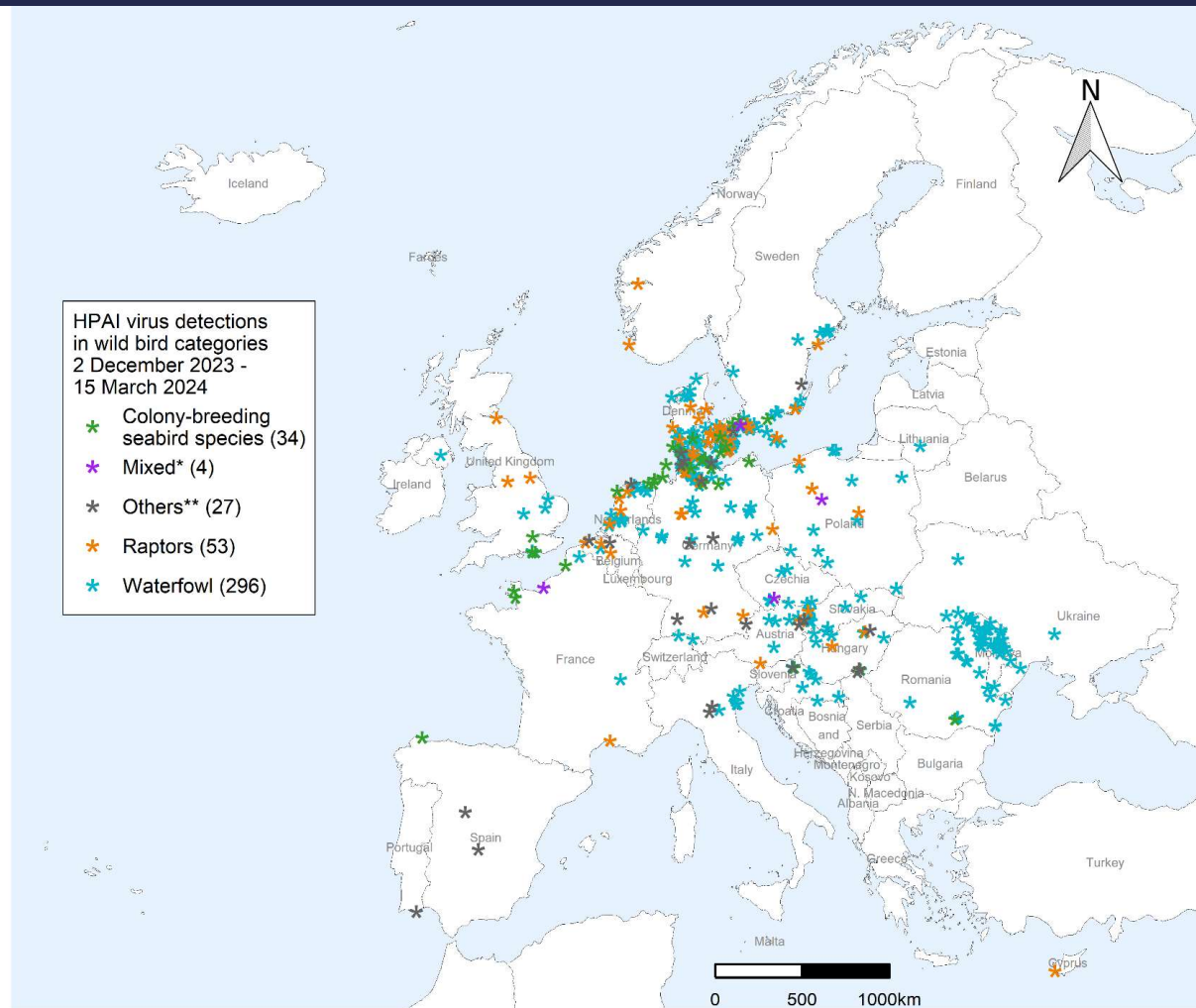




Temporal distribution in poultry and wild birds

- a) HPAI virus subtypes
- b) Poultry categories
- c) Wild bird categories





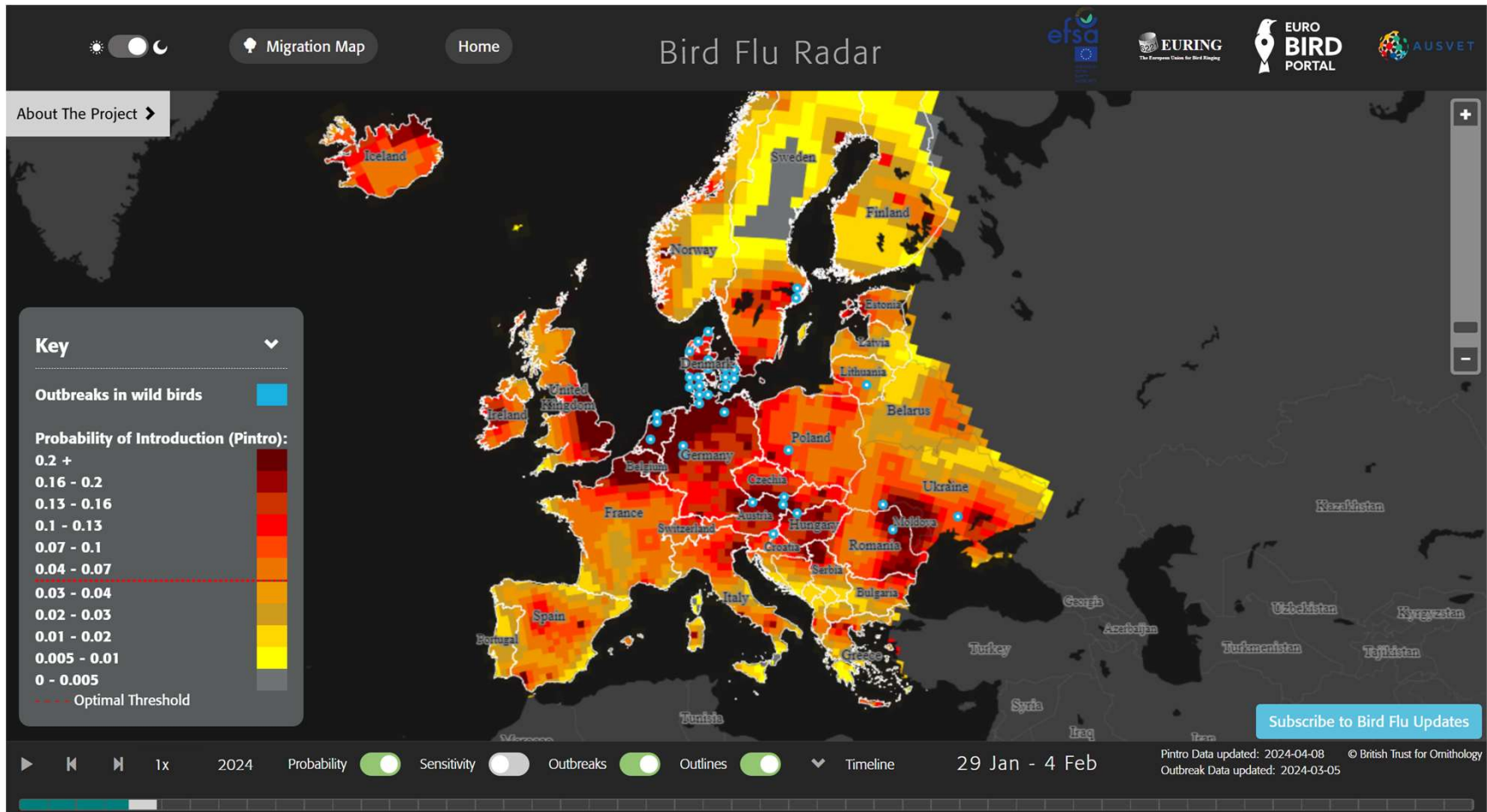
Spatial distribution in wild birds

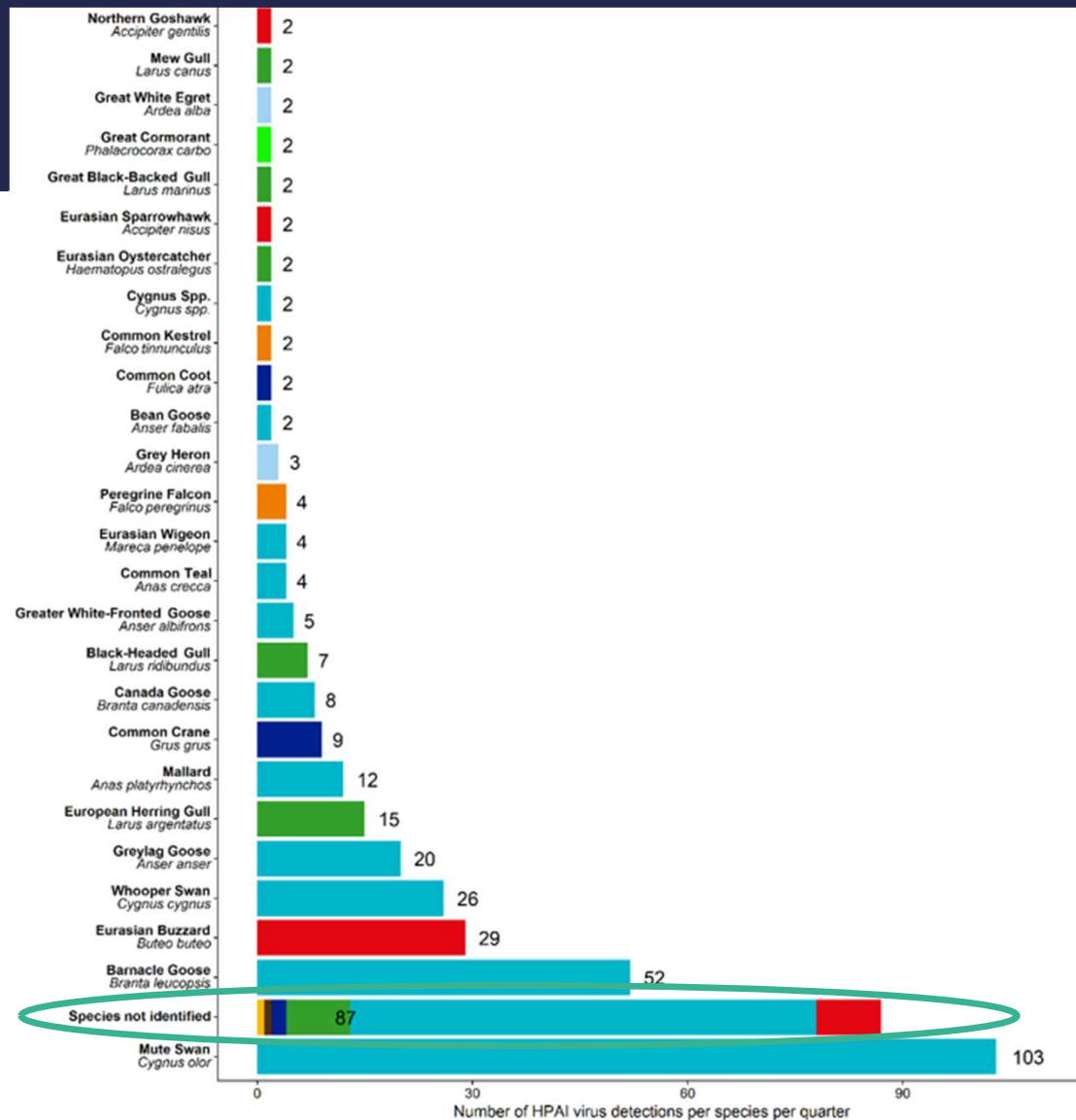
- Waterfowl all over Europe and particularly in southeastern parts
- Colony-breeding seabirds only along coastlines
- Still a few common cranes ('Others') in southern parts



EFSA'S BIRD FLU RADAR

<https://app.bto.org/hpai>





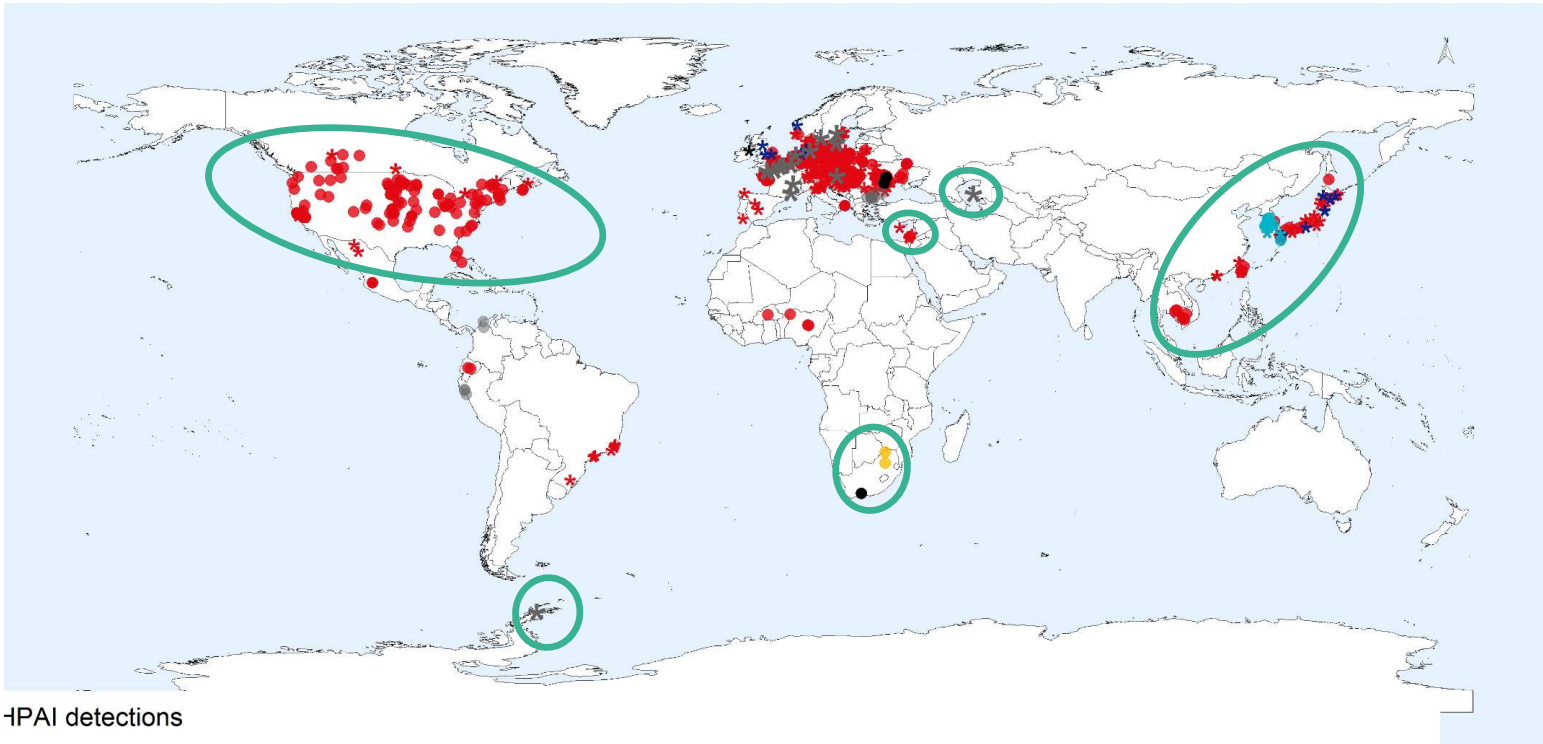
Most frequently affected wild bird species

- Waterfowl: swans and geese
- Colony-breeding seabirds: gulls
- Raptors: peregrine falcons
- 'Others': common cranes

No new wild bird species affected
 In more than 20% of HPAI virus detections, the species was not identified



HPAI IN BIRDS WORLDWIDE | DECEMBER 2023 – MARCH 2024



HPAI detections

- A(H5N1), domestic birds (365)
- A(H5N1), wild birds (477)
- ★ A(H5N5), wild birds (29)
- A(H5N6), domestic birds (27)
- ★ A(H5N6), wild birds (12)
- A(H5Nx), domestic birds (13)
- ★ A(H5Nx), wild birds (16)
- A(H7N6), domestic birds (2)
- A(Not typed), domestic birds (24)
- ★ A(Not typed), wild birds (1)

Author: EFSA
 Data sources: ADIS, WOAH
 Date updated: 18/03/2024



HPAI IN MAMMALS | DECEMBER 2023 – MARCH 2024

FARMED	PET	WILD
<ul style="list-style-type: none">Fur farms (Finland): Arctic fox, red fox, common raccoon dog  <p>A(H5) antibodies were found in 44 out of all 346 (12.7%) surveyed establishments</p> <ul style="list-style-type: none">Goat (USA)Cattle (USA)	<ul style="list-style-type: none">Cat (Canada, USA)	<ul style="list-style-type: none">Red fox (Germany, Sweden*)Red fox (Norway) A(H5N5)Mountain lion (USA)Raccoon (USA)Striped skunk (USA)Abert's squirrel (USA)*Polar bear (USA)*South American fur seal (Antarctic region)Southern elephant seal (Antarctic region)

*previous reporting period



HPAI IN HUMANS | DECEMBER 2023 – APRIL 2024



Subtype	New cases reported (deaths) 1 Dec 2023–8 Apr 2024	Total cases (deaths)	Countries reporting human cases
A(H3N8)	-	3 (1), since 2022	China
A(H5N1)	Cambodia: 5 (1) Vietnam: 1 (1) United States: 1	889* (463) Since 2004	23 countries, including one EU/EEA country: Spain*
A(H5N6)	China: 2 (1)	90 (35) Since 2014	No EU/EEA country; China (89), Laos (1)
A(H9N2)	China: 7 Vietnam: 1	136 (2) Since 1998	No EU/EEA country; China (122), Egypt (4), Bangladesh (3), Cambodia (2), Oman (1), Pakistan (1), India (1), Senegal (1), Vietnam (1)
A(H10N3)	China: 1	3, since 2021	China (3)
A(H10N5)	China: 1 (1)	1 (1), first reported in 2024	China (1)

*includes detections due to suspected environmental contamination from Spain (2) and the USA (1) in 2022, and from the UK (3) in 2023

Source: ECDC line list; WHO; Cumulative number of confirmed human cases for avian influenza A(H5N1) reported to WHO, 2003-2024 ([2024_feb_tableh5n1.pdf \(who.int\)](#)); [Highly Pathogenic Avian Influenza A \(H5N1\) Virus Infection Reported in a Person in the U.S. | CDC Online Newsroom | CDC](#); HCMC: recorded the country's first human case of avian influenza A(H9N2) ([hcdc.vn](#))



HPAI IN HUMANS | RISK ASSESSMENT



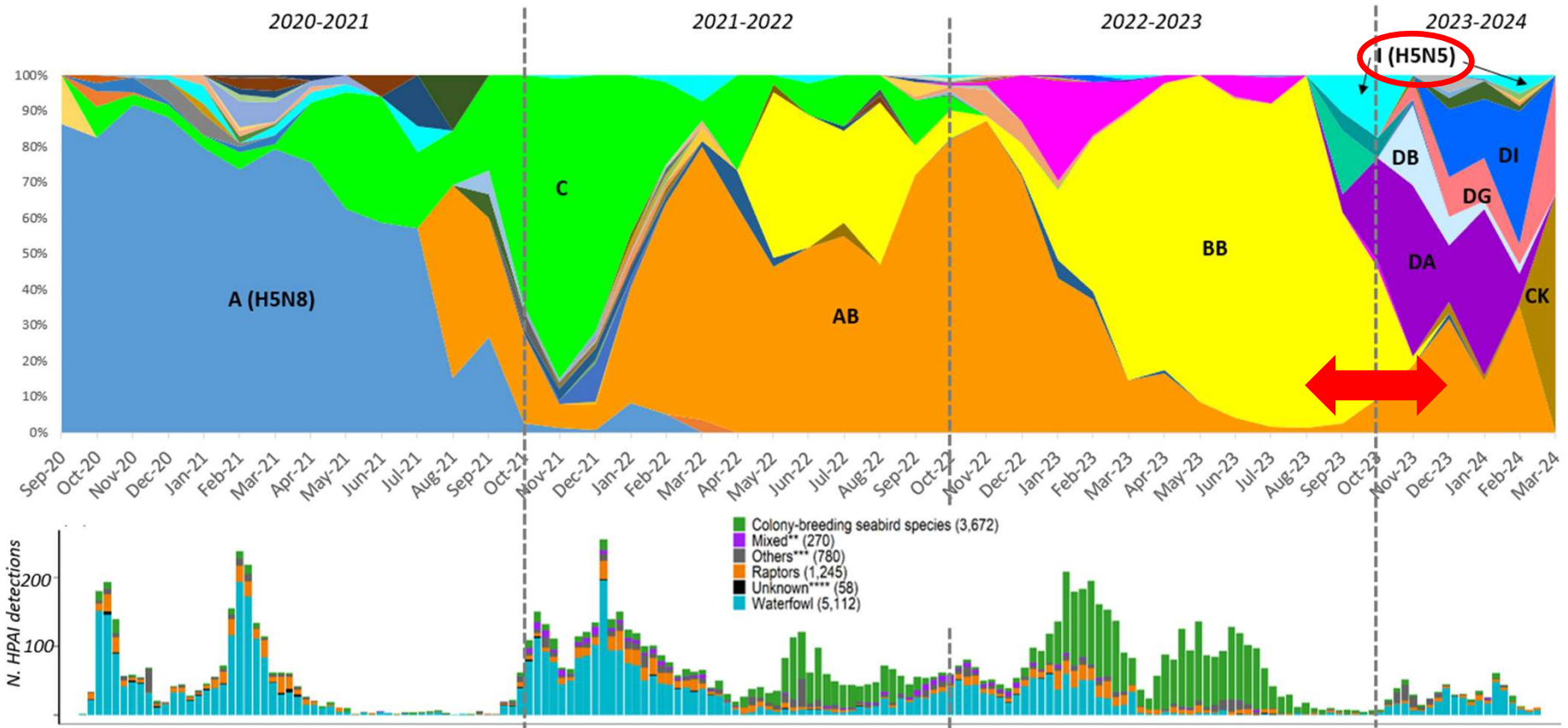
- Transmission to humans is **rare** but disease can be severe
- **No sustained human-to-human transmission**
- Sporadic human infections likely to continue occurring in settings where people are **exposed to infected animals or their environment**

Risk assessment:

- **General public** in the EU/EEA: the risk of human infection with avian influenza A(H5) clade 2.3.4.4b viruses currently circulating in Europe is assessed as **low**
- The risk is considered **low-to-moderate** for people who are **occupationally or otherwise exposed to birds or mammals infected with avian influenza**



GENETIC CHARACTERISTICS OF HPAI VIRUSES IN EUROPE

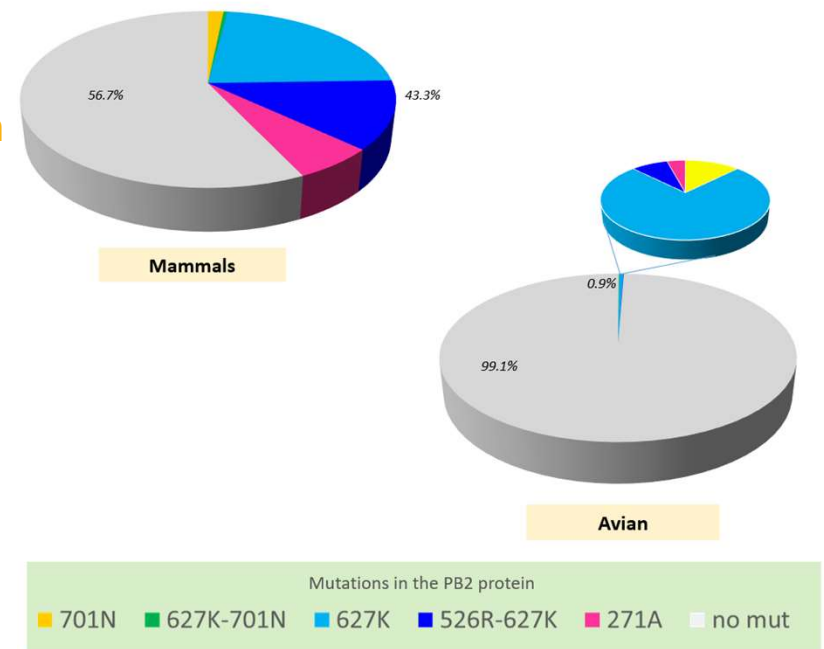


European Reference Laboratory for Avian Influenza



ZOOONOTIC POTENTIAL OF HPAI VIRUSES IN EUROPE

- A(H5N1) viruses characterised in the current epidemiological year continue to be **well-adapted to avian species**, as they retain a preferential binding for avian-like receptors
- **Mutations in the PB2 protein** associated with **virus adaptation in mammals** (E627K or D701N), and therefore **increased zoonotic potential**, have recently been detected in **viruses collected from birds**:
 - ❖ A(H5N5) viruses (genotype EA-2021-I) collected in Norway and Germany from wild birds
 - ❖ A(H5N1) viruses collected from separate outbreaks in domestic birds in Poland (genotypes EA-2022-CH and EA-2022-AB) and Denmark (genotype EA-2023-DB)
- About **43% of European viruses** collected from **mammalian species** contain **molecular markers of mammalian adaptation in the PB2 protein** → these mutations can be rapidly acquired by the virus during infection in mammalian species



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OPTIONS FOR RESPONSE

- Maintaining high levels of **biosecurity** in poultry establishments
- **Surveillance:**
 - ❖ Active surveillance in wild birds to estimate viral prevalence and seroprevalence (to assess whether some level of flock immunity has been acquired)
 - ❖ Inclusion of fur farms in national surveillance programmes
 - ❖ Increased surveillance in mammals, especially in those in or around affected poultry establishments
- Accurate and comprehensive recording, investigation and reporting of HPAI-associated **mortality events in wild birds and mammals**
 - ❖ Timely sharing of viral genomic sequence data
- Improving wild bird **species identification**
- Continuously monitoring the dynamics of **HPAI A(H5N5) virus**

