

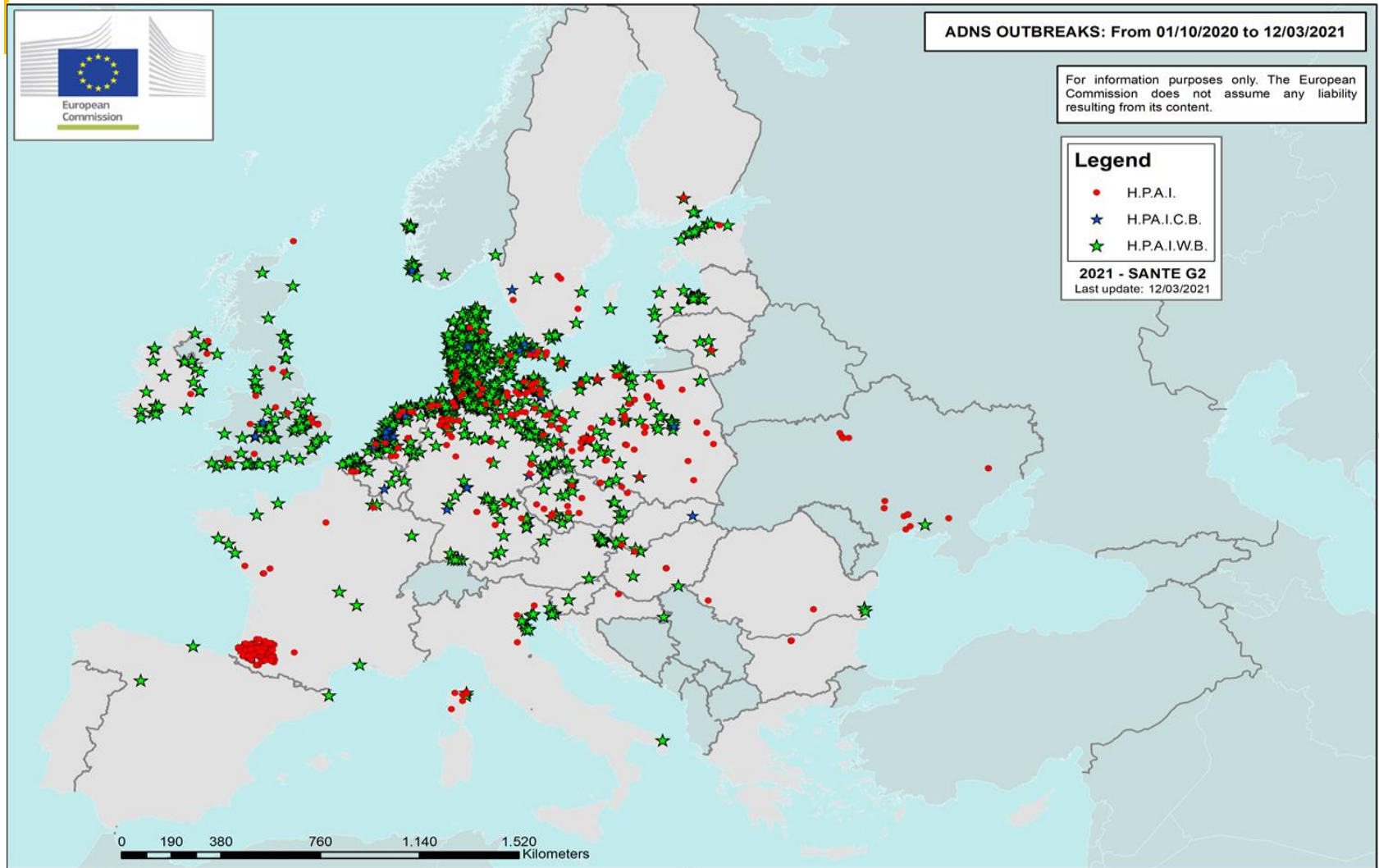


Update on avian influenza in the EU

**AHW PAFF Committee
15 March 2021**

**European Commission,
DG Health and Food Safety
Unit G2 – Animal Health**

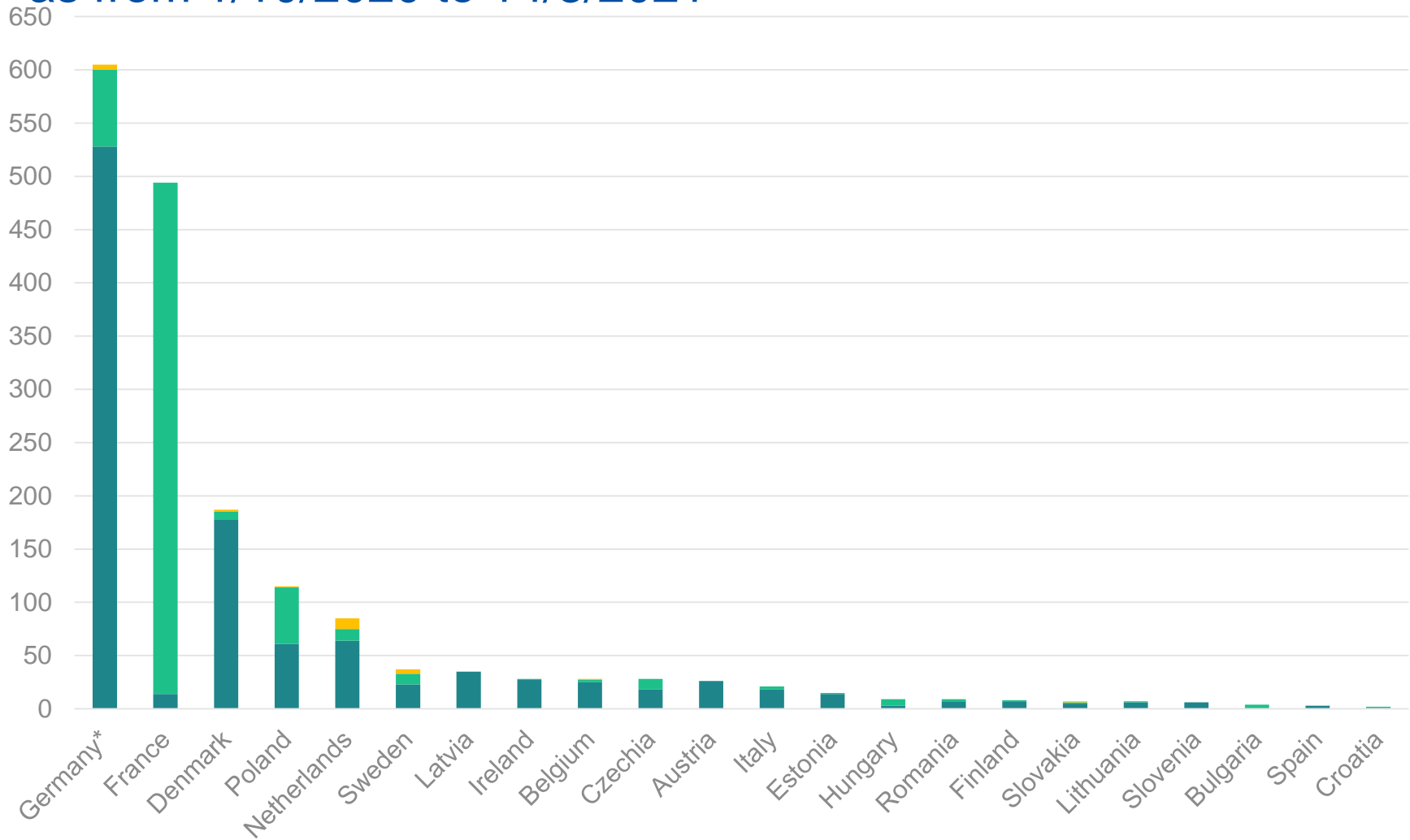
Geographical distribution of HPAI



	Member State	Wild birds	Poultry	Captive birds	Total
1	Austria	26			26
2	Belgium	25	2	1	28
3	Bulgaria		4		4
4	Croatia	1	1		2
5	Czechia	18	10		28
6	Denmark	178	7	2	187
7	Estonia	14	1		15
8	Finland	7	1		8
9	France	14	480		494
10	Germany	793	103	5	901
11	Hungary	3	6		9
12	Italy	18	3		21
13	Ireland	27	1		28
14	Latvia	35			35
15	Lithuania	6	1		7
16	Netherlands	64	11	10	85
17	Poland	61	53	1	115
18	Romania	7	2		9
19	Slovakia	5	1	1	7
20	Slovenia	6			6
21	Spain	3			3
22	Sweden	23	10	4	37
	TOTAL	1334	697	24	2055

HPAI ADNS
 notifications
 in EU
 during the period
 1.10.2020 – 14.03.2021

Number of HPAI ADNS notifications by Member States as from 1/10/2020 to 14/3/2021



* Data truncated for better visibility

■ Wild birds ■ Poultry ■ Captive birds

Wild birds: species affected

	Common name	Scientific name	Order	H5	H5N1	H5N3	H5N4	H5N5	H5N8	Total
1	Mute swan	<i>Cyngus olor</i>	Anseriformes	20	1			11	390	422
2	Barnacle goose	<i>Branta leucopsis</i>	Anseriformes	5	3			6	320	334
3	Greylag goose	<i>Anser anser</i>	Anseriformes	16	3	1	2	2	190	214
4	Swan ns	<i>Cyngus spp</i>	Anseriformes				2	19	99	120
5	Whooper swan	<i>Cyngus cyngus</i>	Anseriformes	21				4	73	98
6	Eurasian wigeon	<i>Mareca penelope</i>	Anseriformes	27	11			1	49	88
7	Red knot	<i>Calidris canutus</i>	Charadriiformes			80		1		81
8	Common buzzard	<i>Buteo buteo</i>	Accipitriformes	1	1	1	1	2	68	74
9	Common pheasant	<i>Phasianus colchicus</i>	Galliformes						52	52
10	Mallard duck	<i>Anas platyrhynchos</i>	Anseriformes	10			2	1	38	51

- in total: 63 affected species belonging to 13 Orders
- most affected: Anseriformes
- most detected HPAI subtype: H5N8 (> 80% of detections), followed by H5N5 (~ 3,5% of detections)
- H5N3 subtype – only in Red knots

H5 HPAI viruses in EU (1)

Genetics

- Five identified serotypes: **H5N1**, **H5N3**, **H5N4**, **H5N5**, **H5N8**
- All in a **single group** within clade 2.3.4.4B
- Cluster with HPAI H5 viruses detected in Kazakhstan and Russia since summer 2020
- Eight distinct genotypes** (of 11 detected in Europe, Russia and Kazakhstan) :
 - **Genotype A: H5N8**, identified **in all countries**; includes **70% of the sequenced viruses**
 - **Genotype C: H5N1** in **NL** and **IT**; cluster with 3 reassortant H5N8 viruses from Russia (possible common ancestor)
 - **Genotype E: H5N5** in **BE, DE, IT, SI, SE**; cluster with European HPAI H5N8 and with Russian LPAI viruses circulating in wild birds
 - **Genotype F: H5N5** in **DK**; cluster with European HPAI H5N8, with genotype E H5N5 virus and with LPAI viruses circulating in wild birds in Eurasia and Africa
 - **Genotype G: H5N3** in **DE** and **DK**; cluster with H5N5 and H5N8 viruses, with H5N1 (genotype C) and LPAI viruses identified in wild birds in Europe and Eurasia
 - **Genotype H: H5N5** in **SE**, cluster with HPAI H5N5 of genotype E and with LPAI in wild birds in Eurasia. One gene may share a common ancestor with H5N3 identified in DE and DK
 - **Genotype I: H5N5** in **RO**, result of reassortments events with LPAI in wild birds in Eurasia and Africa; some genes clustering with European HPAI H5N8 viruses
 - **Genotype L: H5N5** in **AT** and **SK**; cluster with HPAI H5N1 (genotype C) and with HPAI H5N5 detected in RO (genotype I)

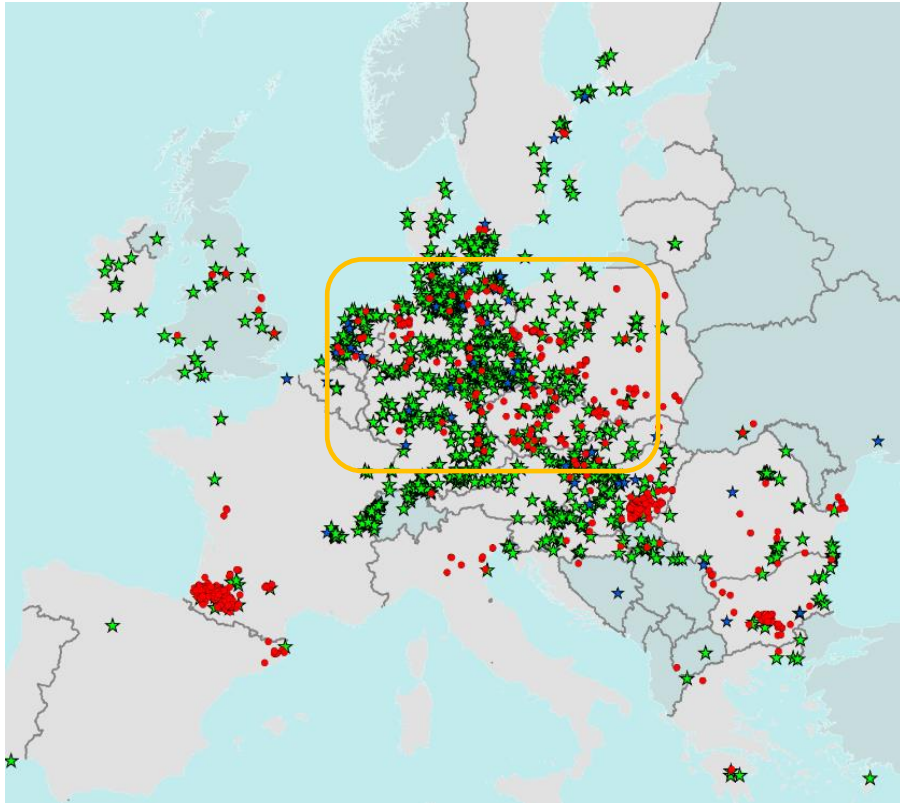
H5 HPAI viruses in EU (2)

Mutations of interest

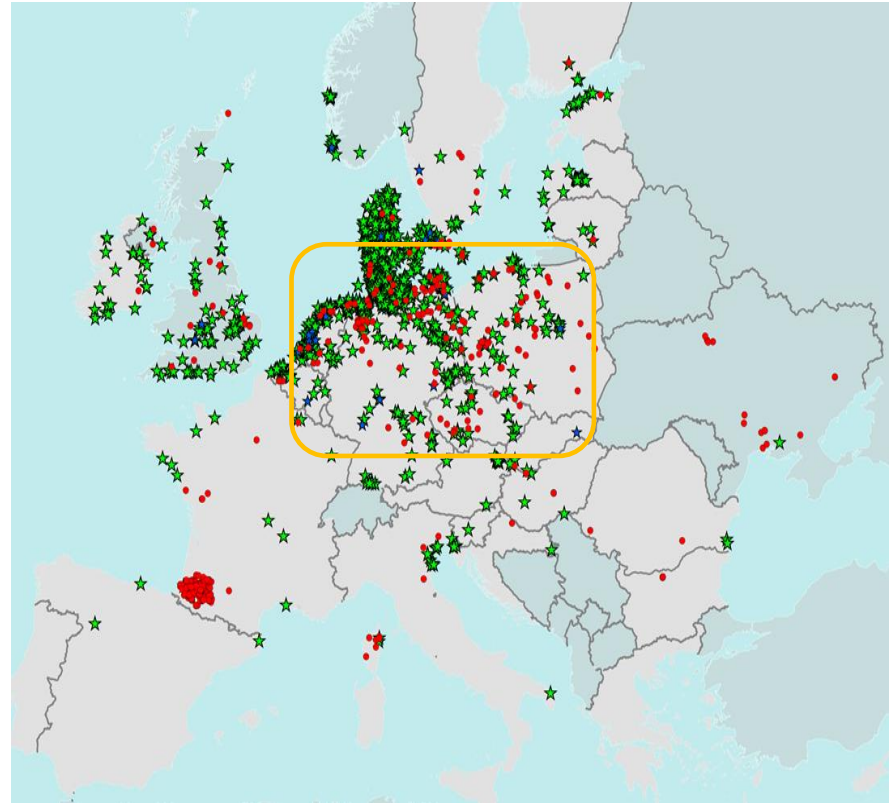
- two H5N5 viruses identified in January 2021 in mute swan and in chicken: the NP protein contains a mutation (N319K) which enhances transcription and replication in mammalian cells
 - isolated events (no fixation of zoonotic multiple mutations has been observed so far in the current HPAIV population).
- one H5N8 virus identified in January 2021 in a Muskovy duck has a mutation (of the amino acid V27A) - reported to be related to resistance to amantadine (antiviral)
 - no resistance has so far been found for the new generation of antivirals (neuraminidase inhibitors).

Comparison of HPAI distribution in 2016/2017 and 2020/2021 epidemic seasons, as of 1 Oct. to 15 Mar.

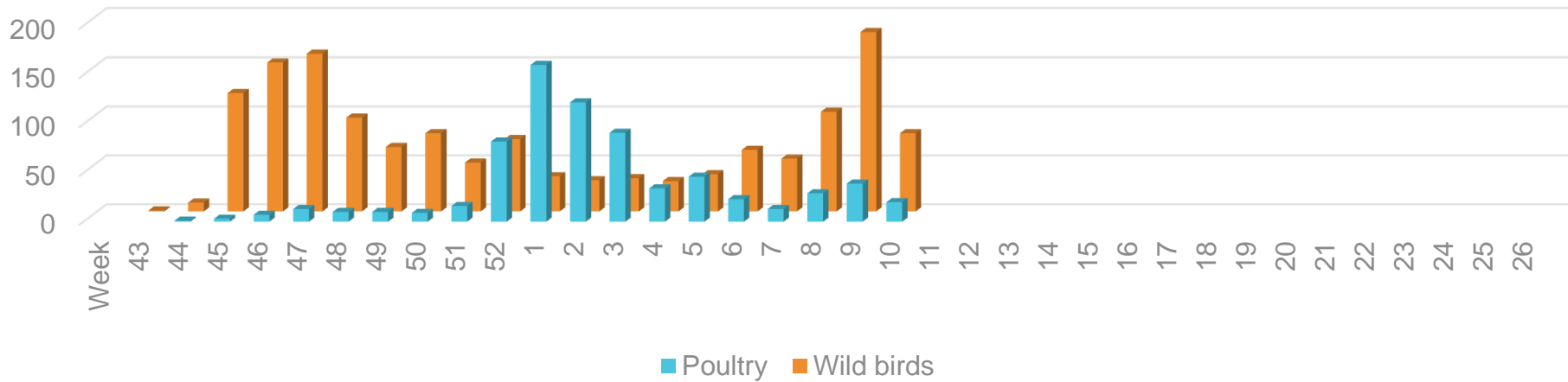
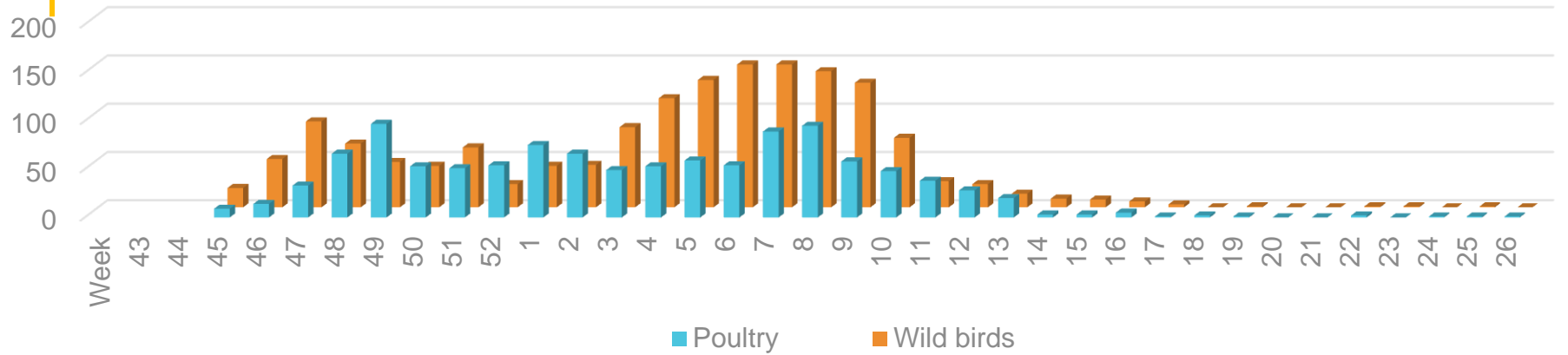
2016/2017



2020/2021

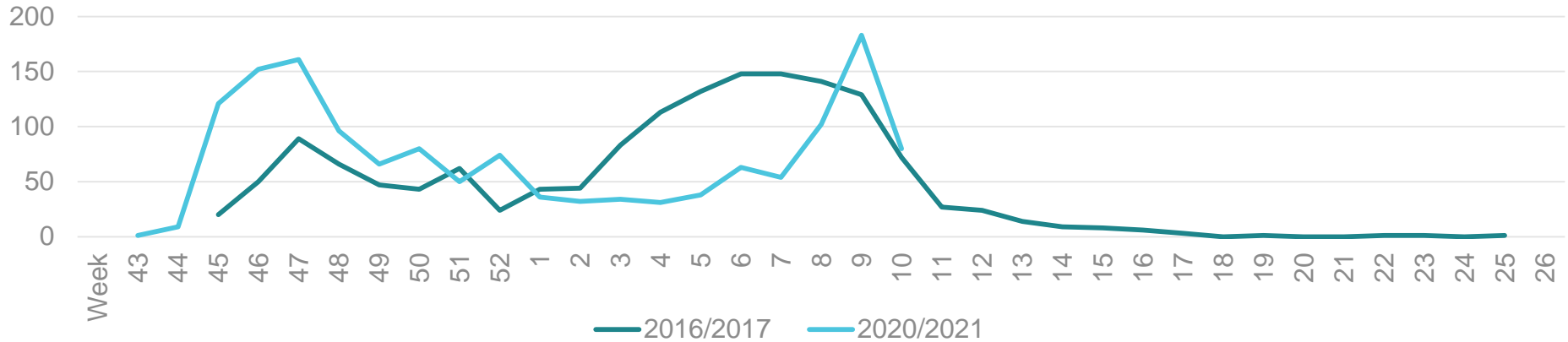


Comparison of temporal distribution of HPAI detections in 2016/2017 (up) and 2020/2021 (down) epidemic seasons

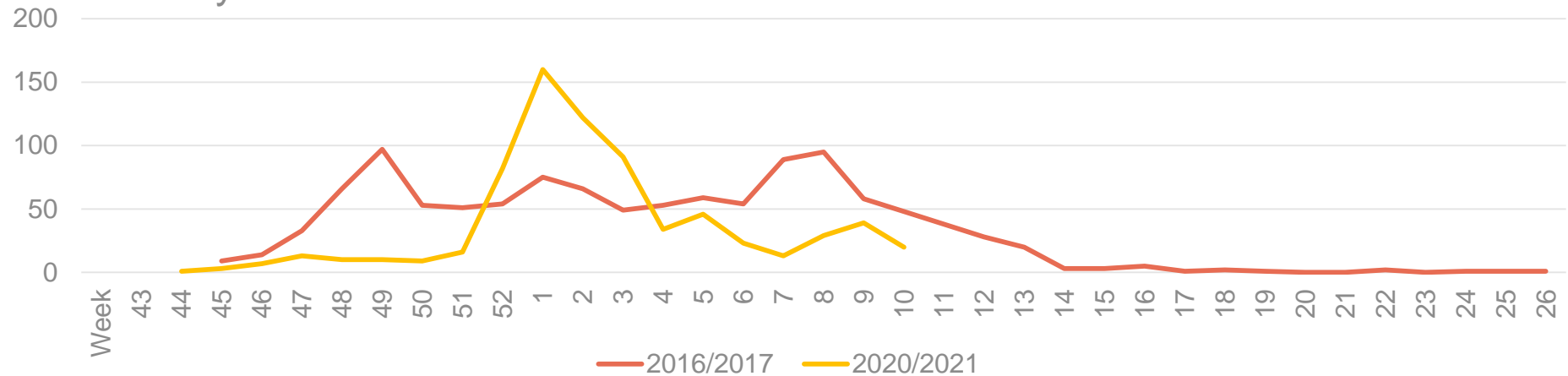


Comparison of epidemic curves of 2017/2017 and 2020/2021 epidemic seasons

Wild birds

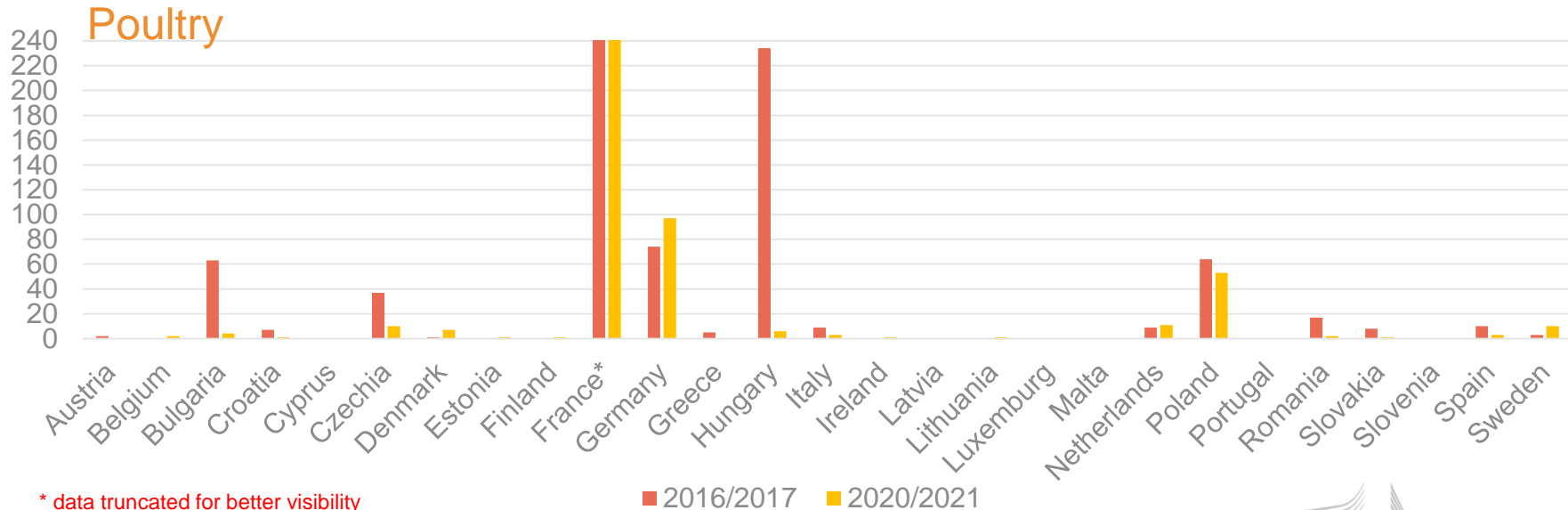
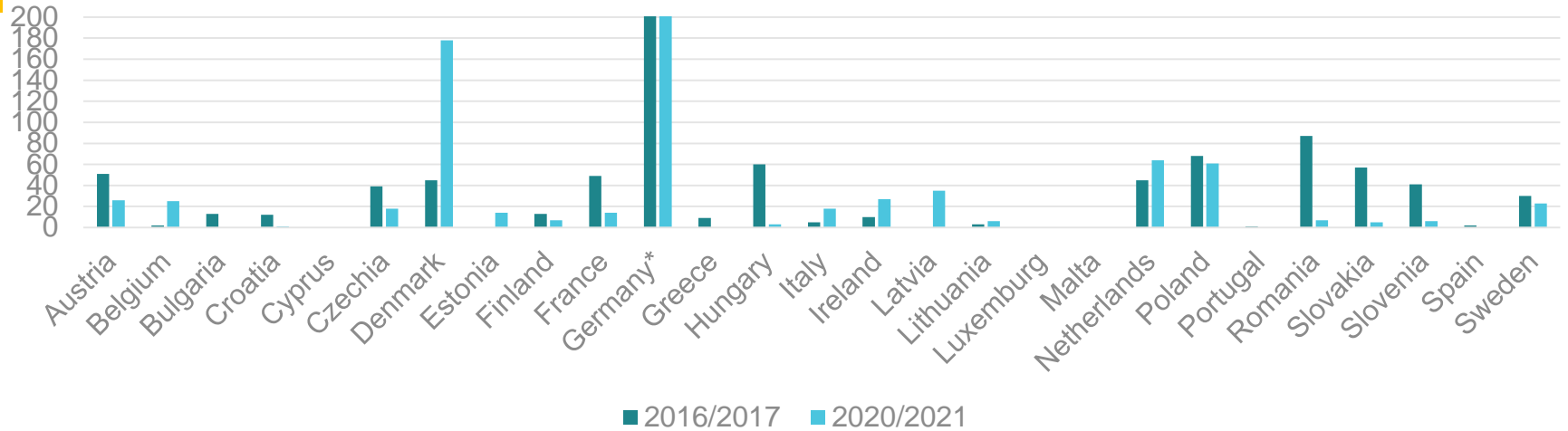


Poultry



Notifications/EU Member State during period 1 Oct. – 12 Mar. / epidemic season

Wild birds



* data truncated for better visibility

Comparison of HPAI 2016/2017 vs 2020-2021 epidemics in EU

	Number of countries affected	HPAI virus serotypes	Wild birds cases	Poultry outbreaks	Number of poultry affected in outbreaks
2016/2017*	22	H5N5, H5N6, H5N8	1563	1131	~ 9 mil.
2020/2021**	22	H5N1, H5N3, H5N4, H5N5, H5N8	1334	697	~ 11 mil

*Whole epidemic season (Oct. 2016-Sept.2017)

** Oct. 2020 – Mar. 2021

Conclusions

- Current epidemic has similarities with the 2026/2017 epidemic in terms of number and type of wild birds affected, but in this epidemic season:
 - good early warning from EFSA
 - areas where HPAI was detected in poultry but no cases in wild birds
 - infected wild birds without clinical signs?
 - not enough awareness of general public or interest for surveillance of wild birds?
 - vast majority of the wild bird cases are concentrated in the Northern part
 - warmer winter?
 - less total number of outbreaks in poultry but higher number of affected poultry:
 - bigger farms?
 - higher farm density?
 - higher diversity of HPAI viruses
 - Barnacle and Greylag geese have been the wild birds most detected with HPAI until end of January
 - swans became the most detected wild bird species since end of January especially in Central EU
- Poultry outbreaks, also clusters, in the same areas as in 2016/2017
- Farms keeping palmipedes and turkeys continues to be the most affected ones
 - structural problems of these sectors?

For reflection

What do we have to improve for:

- increasing awareness during the high risk period?
- prevention: behavioural (human factor), structural (biosecurity of farms and activities), other tools when high risk from wild birds?
- additional surveillance and preventive activities in poultry in areas with high density, in the high risk period?
- intensified surveillance of wild birds: passive and active, when duly justified (suspicion to have HPAI in wild birds without clinical signs or deaths)?

Updated information on the HPAI situation

https://ec.europa.eu/food/sites/food/files/animals/docs/ad_control-measures_hapai_chrono_2021_map.pdf

https://ec.europa.eu/food/sites/food/files/animals/docs/ad_control-measures_hapai_chrono_2021.pdf

<https://www.izsvenezie.com/reference-laboratories/avian-influenza-newcastle-disease/europe-update/>

New EFSA scientific report

<https://efsa.onlinelibrary.wiley.com/doi/epdf/10.2903/j.efsa.2021.6497>



Thank you



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