

## Updated Outbreak Assessment #23

# Highly pathogenic avian influenza (HPAI) in the UK and Europe

19 April 2022

Ref: VITT/1200 HPAI in the UK and Europe

### **Disease report**

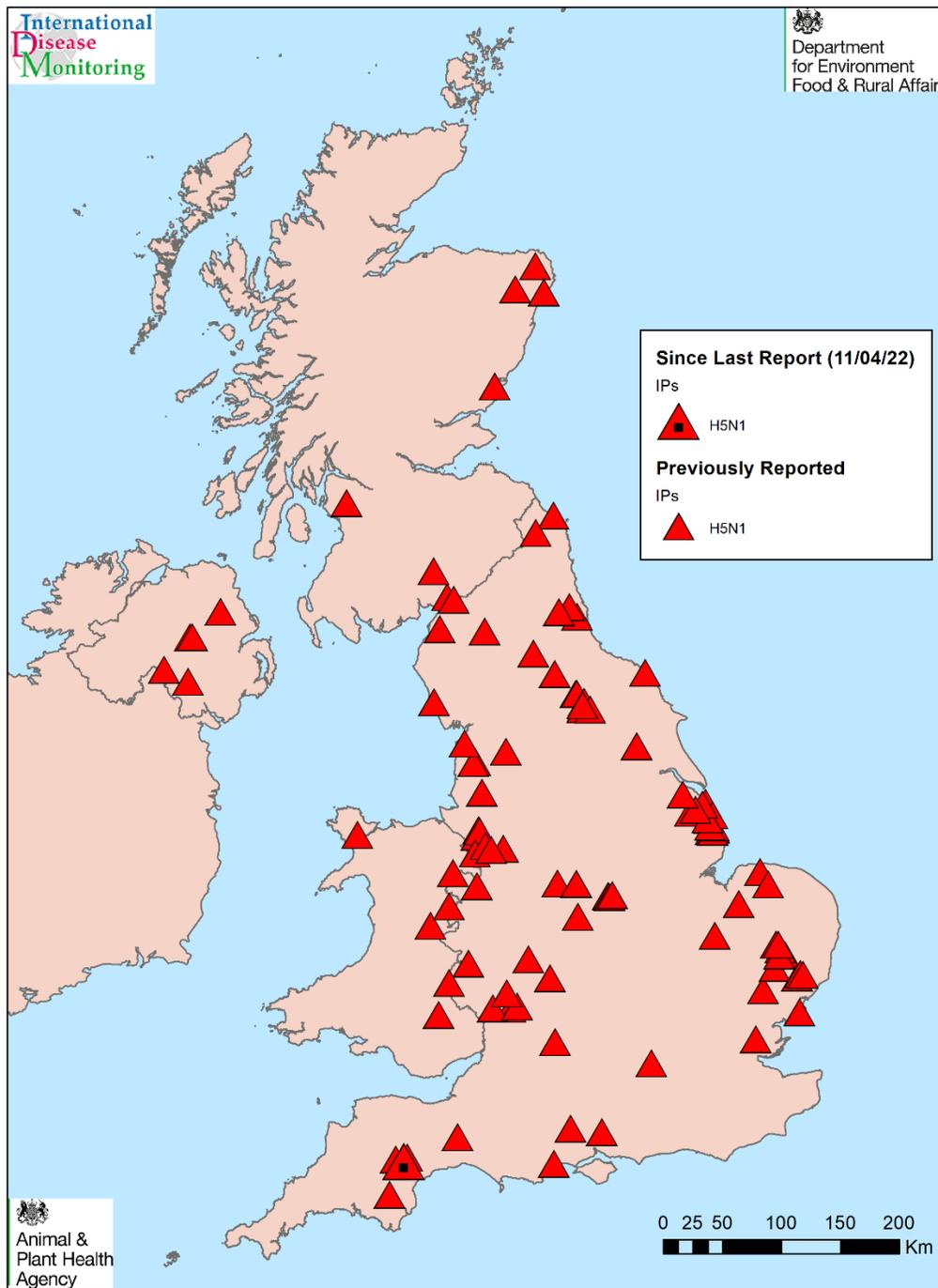
Since our last outbreak assessment on 11 April 2022, there have continued to be reports of high pathogenicity avian influenza (HPAI) H5 both in Europe and in the United Kingdom (UK). This includes one further confirmed infected premises (IP) with HPAI H5N1 in domestic poultry in the UK. In Europe, HPAI continues to be widely reported in wild birds, with two outbreaks in domestic poultry reported by OIE in the last week.

One new IP with HPAI H5N1 in domestic poultry has been confirmed in England and five further HPAI H5 events have been detected in wild birds in Great Britain since our last assessment. There have been no further HPAI H5N1 IPs confirmed in Northern Ireland since our last assessment (DAERA, 2022). A total of seven wild bird findings have been reported for Northern Ireland, during this 2021 to 2022 outbreak season (IZSve, 2022).

The OIE has also reported new IPs with HPAI H5N1 in domestic poultry in Hungary and the Netherlands, since our last report.

Wild bird cases of HPAI H5N1 continue to be reported in Belgium, Finland, France, Germany, Lithuania, the Netherlands, Poland and Spain. The first case of HPAI H5N1 this outbreak season has been reported in a wild bird in Iceland, though this case occurred in October 2021.

**Map 1: HPAI H5 outbreaks in domestic poultry<sup>1</sup> and captive birds across the United Kingdom, October 2021 to 19 April 2022.**



Date: 19/04/2022  
Map prepared by IDM

**UK HPAI IPs**  
October 2021 - April 2022

<sup>1</sup> According to the 2021 OIE definition of poultry: [Terrestrial Code Online Access - OIE - World Organisation for Animal Health](#)

# Situation assessment

## United Kingdom

The first detection of HPAI H5N1 virus this 2021 to 2022 HPAI season was in rescued wild swans and captive poultry at a swan sanctuary in Worcester (England) on 15 October 2021.

Since then, there have been 108 further confirmed IPs with HPAI H5N1 in poultry and captive birds across Great Britain (Map 1), (Table 1). Of these 109 IPs in total, 95 have occurred in England, nine have occurred in Scotland, and five in Wales.

In the week since our last assessment on 11 April 2022, HPAI H5N1 has been confirmed at one further poultry premises in England. The new IP was a commercial premises with a mixed flock comprising of chickens, turkeys, ducks and aviary birds, in Devon.

There have been no new premises with HPAI H5N1 confirmed in Northern Ireland since 11 April 2022. The total number of poultry IPs in Northern Ireland remains at six: across the counties of Tyrone, Antrim, Armagh and Fermanagh.

**Table 1: Poultry<sup>1</sup> and captive bird premises with High Pathogenicity Avian Influenza (HPAI) H5N1 in Great Britain during the epizootic since 1 October 2021, as of 19 April 2022**

Outbreak Count	Date HPAI H5N1 confirmed	Location, County	Description	Date resolved <sup>2</sup>
1	27 October 2021	Near Wychavon, Worcester	Rescued wild swans (adults and young), rescued and captive geese, ducks, and chickens.	27 November 2021
2	2 November 2021	Near Chirk, Cheshire	Backyard chickens	3 December 2021
3	4 November 2021	Near Arbroath, Angus	Mixed backyard flock of 16 chickens, 20 guinea fowl and 12 ducks.	5 December 2021

Outbreak Count	Date HPAI H5N1 confirmed	Location, County	Description	Date resolved <sup>2</sup>
4	8 November 2021	Near Alcester, Bidford	Small flock of 31 turkeys and 19 chicken	8 December 2021
5	11 November 2021	Near Kirby Cross, Essex	Small flock of mixed geese, chickens, guinea fowl	17 December 2021
6	12 November 2021	Near Preston, Lancashire	Commercial turkey premises	29 December 2021
7	13 November 2021	Near Northallerton, North Yorkshire	Commercial free range laying hens	5 March 2022
8	16 November 2021	Near Preston, Lancashire	Backyard chickens	29 December 2021
9	17 November 2021	Near Willington, Derbyshire	Commercial turkey premises	14 February 2022
10	19 November 2021	Near Pokesdown, Bournemouth	Backyard ducks	20 December 2021
11	19 November 2021	Near Silecroft, Cumbria	Commercial free range laying hens	4 January 2022
12	21 November 2021	Near Mouldsworth, Chester	Commercial turkey premises	8 March 2022
13	21 November 2021	Near North Fambridge, Essex	Small flock of mixed geese, chickens and ducks	22 December 2021

Outbreak Count	Date HPAI H5N1 confirmed	Location, County	Description	Date resolved <sup>2</sup>
14	21 November 2021	Near Holkham, Norfolk	Small flock of mixed chickens and turkeys	24 December 2021
15	21 November 2021	Near Thirsk, Yorkshire	Commercial turkey premises	5 March 2022
16	25 November 2021	Near Thirsk, Yorkshire	Commercial free range laying hens	5 March 2022
17	25 November 2021	Near Thirsk, Yorkshire	Commercial turkey premises	5 March 2022
18	26 November 2021	Near Loughborough, Leicestershire	Commercial free range laying hens	4 February 2022
19	26 November 2021	Near Thirsk, Yorkshire	Commercial turkey premises	5 March 2022
20	27 November 2021	Near Blackpool, Lancashire	Mixed ornamental birds	20 February 2022
21	26 November 2021	Near Anglesey, Wales	Backyard hobby farm	27 December 2021
22	26 November 2021	Near Clitheroe, Lancashire	Mixed captive birds	9 February 2022
23	28 November 2021	Near Thirsk, Yorkshire	Backyard hobby farm	5 March 2022
24	29 November 2021	Near Thirsk, Yorkshire	Commercial turkey premises	5 March 2022

Outbreak Count	Date HPAI H5N1 confirmed	Location, County	Description	Date resolved <sup>2</sup>
25	01 December 2021	Leicestershire	Commercial free range laying hens	4 February 2022
26	02 December 2021	Near Thirsk, Yorkshire	Commercial free range laying hens	5 March 2022
27	02 December 2021	Staffordshire	Backyard hobby farm	29 January 2022
28	02 December 2021	Herefordshire	Commercial broiler farm	14 January 2022
29	04 December 2021	Dumfries	Commercial laying hens	18 January 2022
30	04 December 2021	Powys	Mixed captive birds	10 January 2022
31	04 December 2021	Yorkshire	Backyard turkeys	6 February 2022
32	04 December 2021	Gloucestershire	Wildfowl Park	24 January 2022
33	04 December 2021	Yorkshire	Commercial laying hens	5 March 2022
34	06 December 2021	Leicestershire	Commercial laying hens	4 February 2022
35	07 December 2021	Leicestershire	Commercial laying hens	4 February 2022
36	07 December 2021	Near Pocklington, East Yorkshire	Commercial ducks	19 February 2022

Outbreak Count	Date HPAI H5N1 confirmed	Location, County	Description	Date resolved <sup>2</sup>
37	08 December 2021	Near Sudbury, South Suffolk	Commercial laying hens	26 January 2022
38	08 December 2021	Near Thirsk, North Yorkshire	Commercial turkeys	5 March 2022
39	09 December 2021	Cumbria	Commercial laying hens	31 January 2022
40	09 December 2021	Dumfries	Backyard mixed species	16 January 2022
41	10 December 2021	Near Moffat, Dumfriesshire	Backyard mixed species	14 January 2022
42	10 December 2021	Near Highworth, Wiltshire	Commercial turkeys	29 January 2022
43	10 December 2021	Near Clifford, Herefordshire	Commercial turkeys	25 January 2022
44	11 December 2021	Near Washington, Sunderland, Tyne & Wear	Mixed wildfowl	6 March 2022
45	11 December 2021	Near Alford, Lincolnshire	Commercial laying hens	24 March 2022
46	11 December 2021	Near Willington, Derbyshire	Mixed poultry	14 February 2022
47	12 December 2021	Near Alford, Lincolnshire	Commercial laying hens	24 March 2022
48	12 December 2021	Near Alford, Lincolnshire	Commercial laying hens	24 March 2022

Outbreak Count	Date HPAI H5N1 confirmed	Location, County	Description	Date resolved <sup>2</sup>
49	14 December 2021	Near Middleton-in-Teesdale, County Durham	Backyard chickens	17 February 2022
50	14 December 2021	Near Pocklington, Yorkshire	Commercial ducks	19 February 2022
51	14 December 2021	Near Alford, Lincolnshire	Commercial laying hens	24 March 2022
52	14 December 2021	Near Alford, Lincolnshire	Commercial broiler breeder and laying hens	24 March 2022
53	15 December 2021	Near Atherstone, Leicestershire	Backyard mixed species	9 February 2022
54	15 December 2021	Near Wem, Shropshire	Commercial mixed species	9 February 2022
55	15 December 2021	Near Lockerbie, Dumfries and Galloway	Backyard mixed species	18 January 2022
56	16 December 2021	Near Alford, Lincolnshire	Commercial chickens	24 March 2022
57	16 December 2021	Near Thirsk, Yorkshire	Commercial broiler chickens	5 March 2022
58	16 December 2021	Near Alford, Lincolnshire	Commercial laying hens	24 March 2022
59	17 December 2021	Near Alford, Lincolnshire	Commercial laying hens	24 March 2022

Outbreak Count	Date HPAI H5N1 confirmed	Location, County	Description	Date resolved <sup>2</sup>
60	18 December 2021	Near Alford, Lincolnshire	Commercial laying hens	24 March 2022
61	18 December 2021	Near Frodsham, Cheshire	Commercial mixed species	8 March 2022
62	22 December 2021	Near Alvanley, Cheshire	Backyard ducks	8 March 2022
63	22 December 2021	Near Buckfastleigh, Devon	Backyard ducks	11 February 2022
64	28 December 2021	Near Pentney, Norfolk	Commercial turkeys	9 February 2022
65	28 December 2021	Near North Somercotes, Lincolnshire	Commercial turkeys	27 March 2022
66	30 December 2021	Near Romsey, Hampshire	Backyard mixed species	5 February 2022
67	31 December 2021	Near Theddlethorpe, Lincolnshire	Backyard mixed species	24 March 2022
68	31 December 2021	Near Melton Mowbray, Lincolnshire	Commercial turkeys	28 March 2022
69	02 January 2022	Near Eton, Berkshire	Rescued wild swans	22 March 2022
70	03 January 2022	Near Alford, Lincolnshire	Backyard chickens	24 March 2022

Outbreak Count	Date HPAI H5N1 confirmed	Location, County	Description	Date resolved <sup>2</sup>
71	04 January 2022	Near Carlisle, Cumbria	Commercial mixed species	12 March 2022
72	05 January 2022	Near Louth, Lincolnshire	Commercial turkeys	27 March 2022
73	07 January 2022	Near Upholland, Lancashire	Backyard mixed species	14 March 2022
74	10 January 2022	Near Louth, Lincolnshire	Commercial laying hens	28 March 2022
75	13 January 2022	Near Tattenhall, Cheshire	Commercial grandparent breeder turkeys	29 March 2022
76	13 January 2022	Near Tarporley, Cheshire	Commercial breeder turkeys	5 April 2022
77	20 January 2022	Near Ross on Wye, Herefordshire	Backyard mixed species	2 March 2022
78	22 January 2022	Near Crewe, Cheshire	Commercial turkeys	5 April 2022
79	22 January 2022	Near Inverurie, Aberdeenshire	Backyard mixed species	
80	25 January 2022	Near Newcastle upon Tyne, Tyne and Wear	City farm smallholder mixed species	14 April 2022
81	26 January 2022	Near Whitby, North Yorkshire	Wildlife rescue centre mixed species	11 March 2022
82	28 January 2022	Near Calveley, Cheshire	Commercial turkeys	5 April 2022

Outbreak Count	Date HPAI H5N1 confirmed	Location, County	Description	Date resolved <sup>2</sup>
83	28 January 2022	Near Ashleworth, Gloucestershire	Backyard chickens	15 March 2022
84	4 February 2022	Near Bishops Waltham, Hampshire	Commercial broiler breeder chickens	12 April 2022
85	5 February 2022	Near Fakenham, Norfolk	Conservation park mixed species	
86	9 February 2022	Near Berwick-upon-Tweed, Northumberland	Backyard mixed species	6 April 2022
87	14 February 2022	Near Wooler, Northumberland	Backyard mixed species	7 April 2022
88	21 February 2022	Near Grimsby, Lincolnshire	Commercial rearing turkeys	2 April 2022
89	21 February 2022	Near Newtown, Powys	Commercial breeding pheasants	30 March 2022
90	21 February 2022	Near Welshpool, Powys	Commercial breeding pheasants	30 March 2022
91	23 February 2022	Near Gateshead, Tyne and Wear	Commercial hobby flock mixed species	
92	25 February 2022	Near Ledbury, Herefordshire	Commercial game supplier	31 March 2022
93	26 February 2022	Near Westhorpe, Suffolk	Smallholding mixed species	

Outbreak Count	Date HPAI H5N1 confirmed	Location, County	Description	Date resolved <sup>2</sup>
94	1 March 2022	Near Redgrave, Suffolk	Commercial fattening ducks	
95	11 March 2022	Near Ellon, Aberdeenshire	Backyard mixed species	12 April 2022
96	11 March 2022	Near Diss, Suffolk	Commercial fattening ducks	
97	12 March 2022	Near Diss, Suffolk	Commercial fattening ducks and chickens	
98	18 March 2022	Near Beith, North Ayrshire	Rescued pigeons, buzzards, swans, hens and ducks.	
99	19 March 2022	Near Strichen, Aberdeenshire	Commercial laying hens	
100	20 March 2022	Near Woodbridge, Suffolk	Commercial broiler ducks	
101	27 March 2022	Near Tuddenham St Martin, Suffolk	Commercial layer ducks	
102	28 March 2022	Near Stowmarket, Suffolk	Backyard mixed species	
103	30 March 2022	Near Woodbridge, Suffolk	Backyard chickens	
104	06 April 2022	Near Exeter, Devon	Commercial mixed species	
105	06 April 2022	Near Ely, Cambridgeshire	Commercial fattening ducks	

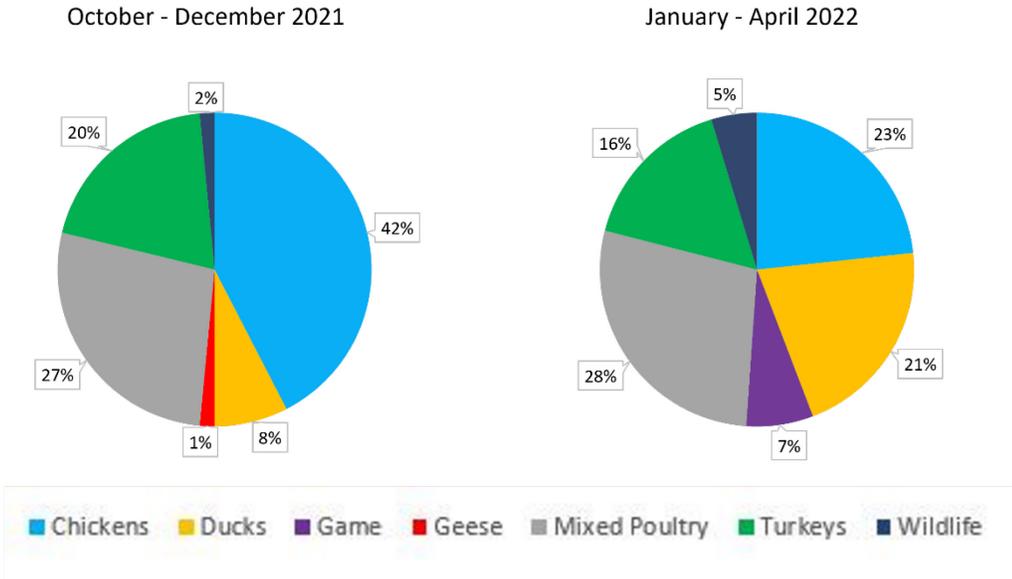
Outbreak Count	Date HPAI H5N1 confirmed	Location, County	Description	Date resolved <sup>2</sup>
106	07 April 2022	Near Exeter, Devon	Backyard mixed species	
107	08 April 2022	Near Ilminster, Somerset	Commercial mixed species	
108	08 April 2022	Near Eye, Suffolk	Commercial mixed species	
109	13 April 2022	Near Teignbridge, Devon	Commercial mixed species	

**References**

<sup>1</sup> According to the 2021 OIE definition of poultry: [Terrestrial Code Online Access - OIE - World Organisation for Animal Health](#)

<sup>2</sup> Date resolved refers to the date when all disease control restrictions (3km Protection Zone, 10km Surveillance Zone, 3km Captive Bird Monitoring Controlled Zone) have been removed from the premises

**Figure 1: Proportion of HPAI-positive premises according to species kept across the 2021 to 2022 season in Great Britain, as of 19 April 2022**

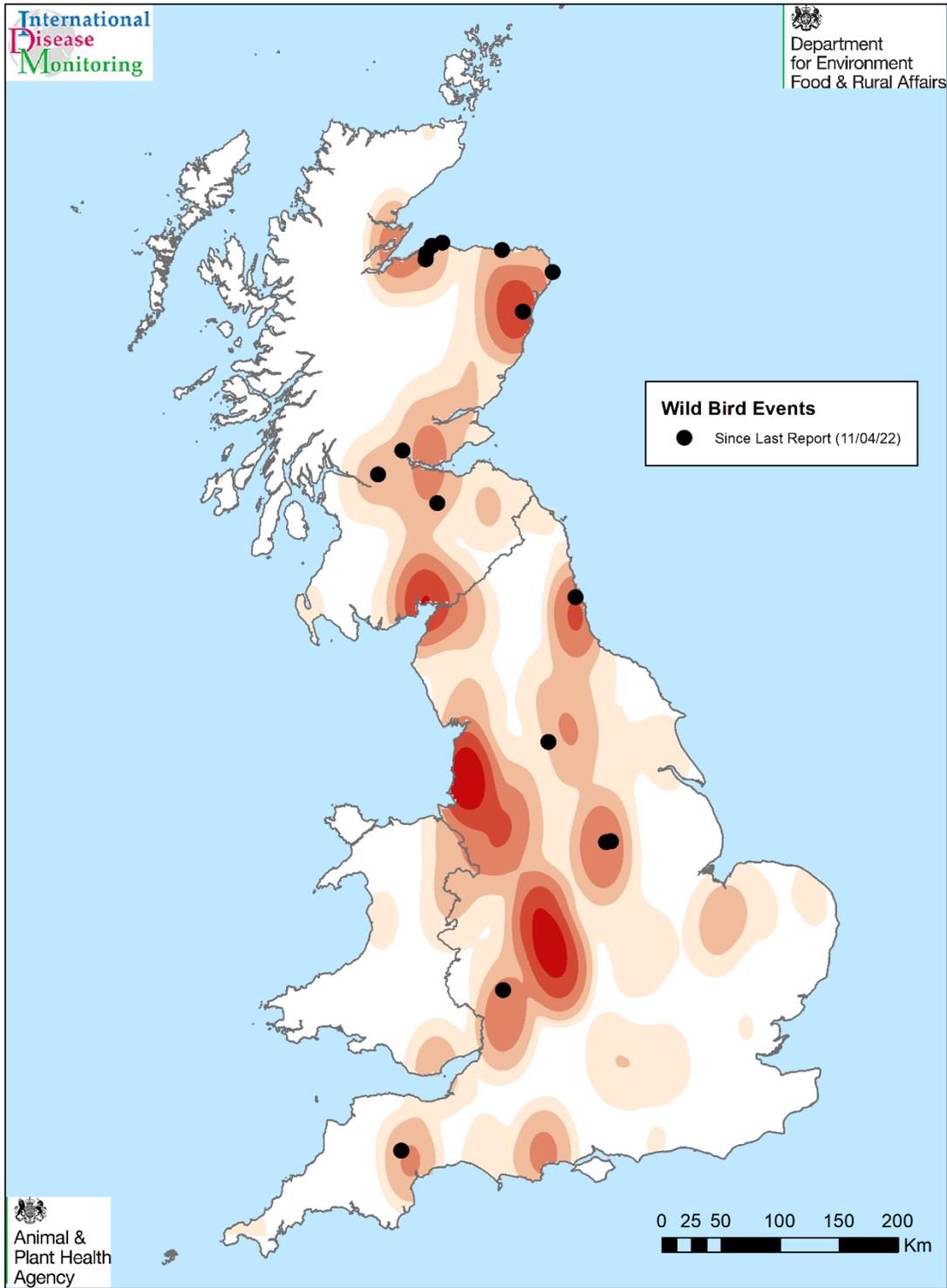


Across the HPAI season in Great Britain, the majority of premises affected have been backyard (mixed species), commercial poultry (chicken, turkey and ducks) and captive birds (non-poultry species) (Figure 1).

A greater proportion of duck premises have been affected between January and April 2022, compared with October to December 2021 (21% versus 8%, respectively), as the outbreak in Great Britain has progressed (Figure 1).

There have also been some game premises affected between January and April 2022, whereas there were none between October and December 2021 (Figure 1).

**Map 2: Map showing the relative density of and most recent HPAI H5 positive findings in wild birds across Great Britain October 2021 to 19 April 2022**



**GB HPAI Wild Bird Events**  
October 2021 - April 2022

In the week since our last outbreak assessment on 11 April 2022, HPAI H5 has been detected in wild birds in a further five locations in Great Britain, bringing the total to 269 separate wild bird positive locations, involving 45 different bird species (listed in Table 2), in 74 separate counties.

The total number of positive wild bird findings is 973, with most in England (Table 2). The findings reported within the last week are widespread across Great Britain, with multiple findings observed in north-eastern Scotland.

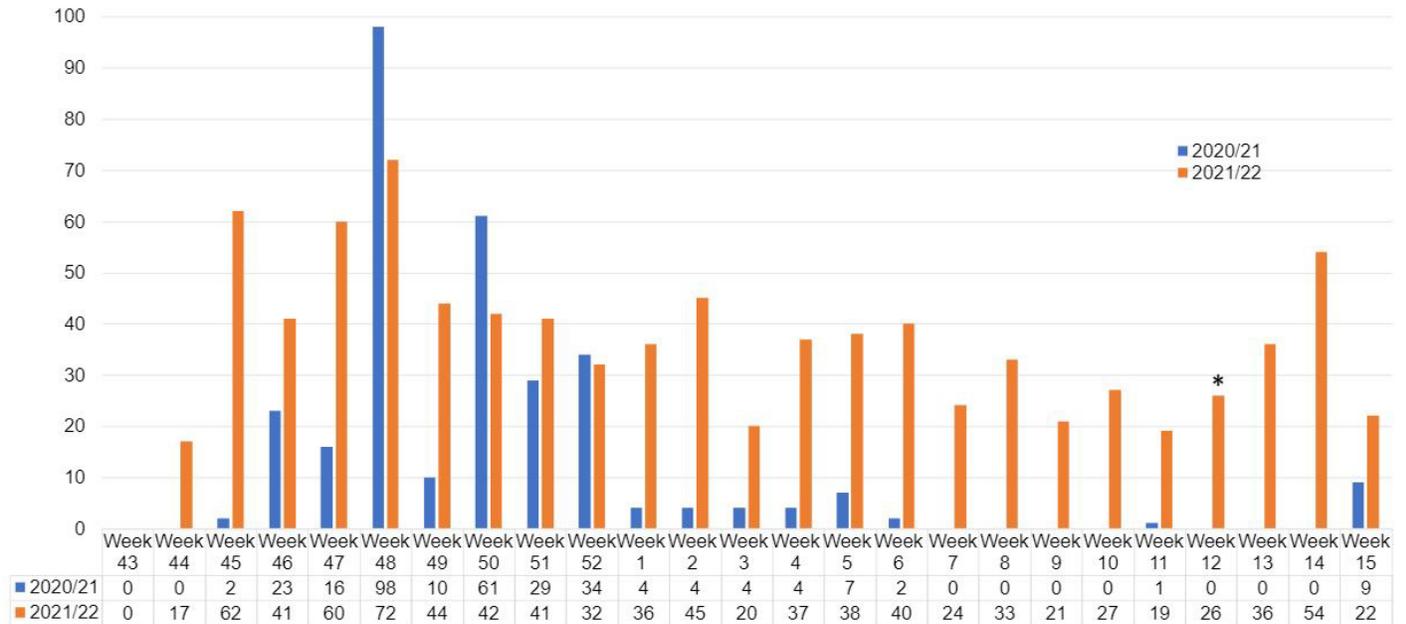
The majority of wild birds that have tested positive for HPAI in Great Britain during the 2021 to 2022 season have been infected with the H5N1 strain. HPAI continues to be detected in wild birds, with many more reports in the 2021 to 2022 season compared to the 2020 to 2021 season (Figure 2).

The number of detections has increased weekly between weeks 12 and 14, coinciding with the threshold for collection of dead wild birds for HPAI surveillance in England being reduced from three birds to one bird; for duck, swan and goose species (denoted by asterisk in Figure 2).

Week 15 has shown a decrease in cases, with fewer than half the number reported in the previous week (22 versus 54, see Figure 2). Conversely, in 2021 there was an increase in wild bird findings, with nine reported in week 15, after no birds were reported in the three weeks prior.

There have been 50 cases for which the HPAI H5 genotype has been identified, and characterisation of NA subtype is in progress due to low viral loads. The NA could not be determined for a total eight H5 HPAI samples from wild birds, due to very low viral loads.

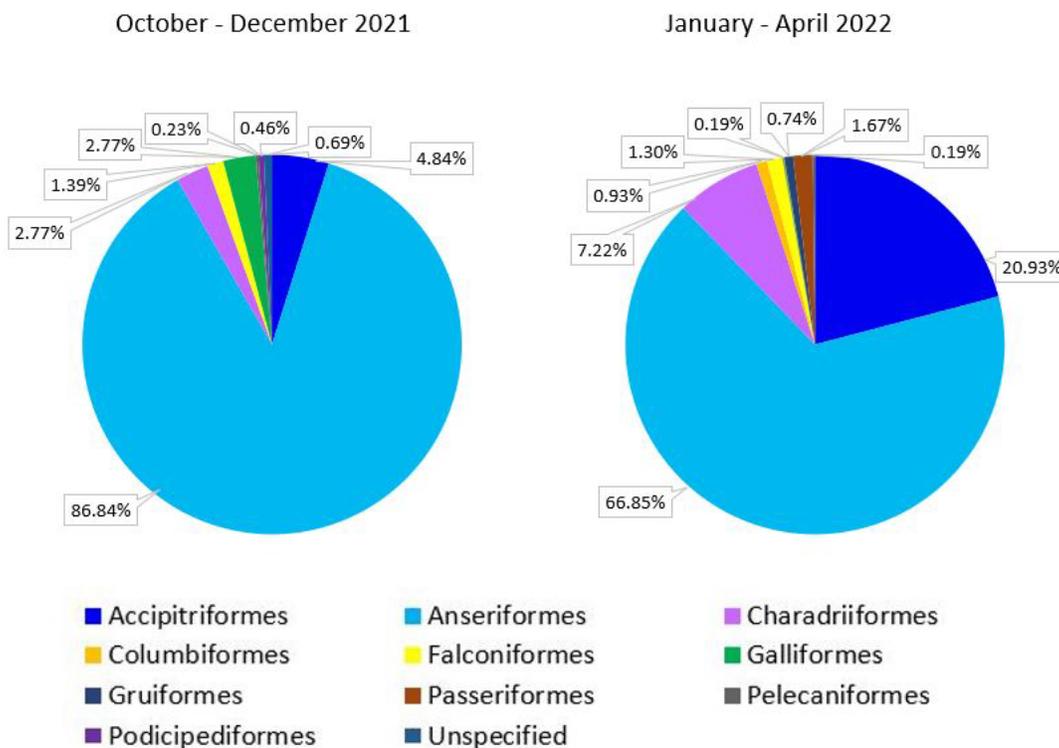
**Figure 2: Wild bird HPAI H5N1 positives across Great Britain 2020 to 2021 and 2021 to 2022 seasons**



Analysis of the Order profile of HPAI positive wild birds in Great Britain throughout the current 2021 to 2022 season has shown a shift to a greater variety of wild bird species overall.

In particular, an increasing proportion of birds of prey/raptor (*Accipitriformes*) and other indigenous species (*Passeriformes*, *Columbiformes*) have become infected as the outbreak has progressed, although Anseriformes still represent the main order of birds affected, with some continued large mortality events (Figure 3); especially in North-East Scotland where birds are staging as part of their northward spring migration.

**Figure 3: Proportion of HPAI H5 wild bird positives by Order across the 2021 to 2022 HPAI season in Great Britain as of 19 April 2022**



For further details, please see the report (updated weekly) on findings of [HPAI in wild birds](#) in Great Britain and [Northern Ireland](#).

**Table 2: Wild bird species in Great Britain that have tested positive for HPAI H5 as of 19 April 2022**

Region and species	Total number of birds testing positive
England	629
Barnacle Goose	13
Bewick's Swan	1
Black headed gull	17
Black Swan	2
Canada Goose	122
Common Buzzard	56
Common Eider	1
Coot	1
Curlew	2
Gadwall	1

Region and species	Total number of birds testing positive
Goshawk	1
Great-crested Grebe	2
Grey Heron	2
Greylag goose	29
Guillemot	1
Gull sp	6
Hen Harrier	1
Herring Gull	8
Kestrel	6
Kittiwake	1
Lapwing	1
Little Gull	1
Magpie	1
Mallard Duck	9
Moorhen	3
Mute Swan	226
Peregrine Falcon	5
Pheasant	8
Pied Wagtail	6
Pink Footed Goose	16
Red Kite	2
Sea Eagle	1
Sparrowhawk	7
Tufted Duck	1
Unidentified Swan	18
Unspecified Dove	2
Unspecified Duck	1
Unspecified Goose	14
Unspecified Pigeon	1
White Fronted Goose	1
Whooper Swan	31
Wigeon	1
Scotland	306
Barnacle Goose	34
Blackbird	1
Black headed gull	1
Canada Goose	3
Common Buzzard	51
Greylag Goose	20

Region and species	Total number of birds testing positive
Gull sp	6
Herring Gull	6
Kestrel	1
Magpie	1
Mallard Duck	1
Mute Swan	26
Pink Footed Goose	73
Red Kite	2
Sea Eagle	2
Sparrowhawk	5
Unidentified Swan	15
Unspecified Bird of Prey	3
Unspecified Duck	2
Unspecified Goose	42
Unspecified Waterfowl	1
Whooper Swan	9
Wood Pigeon	1
<b>Wales</b>	<b>38</b>
Canada Goose	4
Common Buzzard	4
Goshawk	1
Greylag goose	1
Herring Gull	1
Mute Swan	13
Peregrine Falcon	1
Pheasant	5
Sparrowhawk	1
Unidentified Swan	1
Unspecified Goose	5
Unspecified Pigeon	1
<b>Grand total</b>	<b>973</b>

## Europe

The total numbers of IPs with HPAI H5 in poultry and cases in wild birds in Europe are presented in Table 3. New disease reports are still being made to the World Organisation for Animal Health (OIE) on a daily basis. Numbers reported are from OIE's WAHIS platform.

**Table 3: Events (to 19 April 2022) of HPAI H5 in domestic poultry (P) and cases in wild birds (WB) since 1 October 2021 in the UK and Europe, according to OIE report date**

Country	H5 (WB)	H5 (P)	H5N1 (WB)	H5N1 (P)	H5N8 (WB)	H5N8 (P)	H5N2 (WB)	H5N2 (P)	H5N3 (WB)	H5N5 (WB)	Total
Albania			1			4					5
Austria			34								34
Belgium	6		62	3							71
Bosnia and Herzegovina			2								2
Bulgaria		10									10
Croatia			8	2							10
Czech Republic			18	4							22
Denmark		1	114	4	1	1					121
Estonia			10		2	1					13
Faroe Islands			1								1
Finland			15		2						17
France			83	895							978
Germany			995	68			1		1		1,065

Country	H5 (WB)	H5 (P)	H5N1 (WB)	H5N1 (P)	H5N8 (WB)	H5N8 (P)	H5N2 (WB)	H5N2 (P)	H5N3 (WB)	H5N5 (WB)	Total
Greece			4								4
Hungary			32	114							146
Iceland			1								1
Ireland			75	6							81
Italy			21	249							270
Latvia			2								2
Lithuania			3								3
Luxembourg			4								4
Moldova				1							1
Netherlands	1		204	32	2						239
Norway			8	2						2	12
Poland			32	100				1			133
Portugal			12	4							16
Republic of North Macedonia			3								3
Romania			14	3							17
Russia	35	12	12	9							68

Country	H5 (WB)	H5 (P)	H5N1 (WB)	H5N1 (P)	H5N8 (WB)	H5N8 (P)	H5N2 (WB)	H5N2 (P)	H5N3 (WB)	H5N5 (WB)	Total
Serbia and Montenegro			3		3		1				7
Slovakia			22	2	1						25
Slovenia			39	1							40
Spain			37	31							68
Sweden			37	4	1						42
Switzerland			3								3
Ukraine	2	1									3
United Kingdom			332	76	1						409

### Northern Europe (OIE data only, by report date)

Since our last outbreak assessment on 11 April 2022, HPAI H5 has been reported in nine European countries excluding the United Kingdom (OIE). The total number of European countries affected this HPAI season according to IZSve (2022) is currently 34.

#### Belgium

Between 11 and 19 April 2022 there have been no further HPAI IPs reported in Belgium, but there have been two further HPAI H5N1 events involving wild birds. One event involved a barnacle goose (*Branta leucopsis*), the other event involved two greylag geese (*Anser anser*) and one Canada goose (*Branta canadensis*).

#### Finland

There have been no further reports of HPAI in poultry premises in Finland since our last assessment, but there has been one case of HPAI H5N1 reported in a wild whooper swan (*Cygnus cygnus*).

## France

Between 11 and 19 April 2022, there have been no further IPs with HPAI H5N1 in domestic poultry reported for France, according to OIE. Extended restriction zones which form larger 'Zones at Risk of Diffusion' (ZRD) continue to be implemented (Gouv.fr, 2022). The latest report from the Animal Health Epidemiological Surveillance Platform (ESA) has stated that the total number of poultry outbreaks in the south-west departments of France is stabilising, and that as of 11 April 2022, no new outbreaks had been declared since 23 March 2022 (Plateforme, 2022).

Part of the control strategy that has been implemented in the west of France has included a 'firewall' approach, aiming to prevent the spread of virus to other production basins by reducing the density of domestic waterfowl in an area unaffected by HPAI.

This strategy involved applying a 10km width 'Further restricted zone' (FRZ) in the north of the area, within which movement of Galliformes, hatchery and breeding stock were not restricted, but depopulation of duck farms was carried out using in priority valorisation in the slaughterhouse. The measures were applied until 10 April 2022 (PAFF, 2022a).

There have been seven further HPAI H5N1 events in wild birds reported since our last assessment.

One of these events involved 12 European herring gulls (*Larus argentatus*), all of the other events involved either one or two birds from the following species: greylag goose (*Anser anser*), great black-backed gull (*Larus marinus*), European greenfinch (*Carduelis chloris*), black-headed gull (*Chroicocephalus ridibundus*), European herring gull (*Larus argentatus*) and mute swan (*Cygnus olor*).

## Germany

There have been no further poultry IPs with HPAI H5N1 reported for Germany since our last assessment. However, there have been 41 further reports of HPAI H5N1 in wild birds in the last week, according to OIE. These events involved a total 52 birds of unidentified species from the Orders of *Anatidae* (34), *Laridae* (8), *Accipitridae* (3), *Ardeidae* (2), *Cygnus* (2), *Corvidae* (1), *Podicipedidae* (1) and *Strigidae* (1).

## Hungary

Since our last assessment, the OIE has reported one further poultry IP with HPAI H5N1 in Hungary. The premises was a foie-gras geese farm with 3,510 birds, located in the town of Kiskunmajsa, southern Hungary.

## **Iceland**

Between 11 and 19 April 2022, OIE has reported HPAI H5N1 for the first time this HPAI outbreak season in Iceland. A single case was confirmed in a wild white-tailed eagle (*Haliaeetus albicilla*) which was found dead in the municipality of Reykholahreppur, located in the Westfjords peninsula, north-western Iceland. Although this case was reported by OIE within the last week, the case originally occurred in October 2021.

## **Lithuania**

There has been one further case of HPAI H5N1 reported in a wild mallard duck (*Anas platyrhynchos*) in Lithuania, since 11 April 2022. The bird was found in the city of Šilutė, near the west coast of Lithuania, and was submitted for testing as part of passive wildlife disease surveillance.

## **Netherlands**

There has been one further commercial poultry HPAI H5N1 IP reported since 11 April 2022. The premises had 7,740 fattening ducks and was located in Lunteren, Gelderland.

There have also been 13 HPAI H5N1 events reported in wild birds, including barnacle goose (*Branta leucopsis*), mute swan (*Cygnus olor*), Eurasian sparrowhawk (*Accipiter nisus*), greylag goose (*Anser anser*), western jackdaw (*Corvus monedula*), great blue heron (*Ardea herodias*), great black-headed gull (*Larus ichthyaetus*) and peregrine falcon (*Falco peregrinus*) species.

## **Poland**

Since our last assessment, no further poultry premises with HPAI H5N1 in Poland have been reported by OIE. There has been one further report of HPAI H5N1 in a wild mute swan (*Cygnus olor*).

## **Southern Europe (OIE data only, by report date)**

### **Spain**

There have been no further IPs with HPAI reported in Spain since 11 April, but there have been three HPAI H5N1 events in wild birds, according to OIE reporting. These three events involved six greylag geese (*Anser anser*), one white stork (*Ciconia ciconia*) and one unspecified *Anatidae*, respectively.

According to OIE, there have been no further reports of HPAI H5N1 outbreaks in domestic poultry or cases in wild birds between 11 and 19 April in: Albania, Austria, Bosnia and Herzegovina, Bulgaria, Croatia, the Czech Republic, Denmark, Estonia, the Faroe Islands, Greece, Italy, Latvia, Luxembourg, Moldova, North Macedonia, Norway, Portugal, the Republic of Ireland, Romania, Russia, Serbia and Montenegro, Slovakia, Slovenia, Sweden, Switzerland or Ukraine.

**Table 4: Number of HPAI H5 infected poultry premises (P) and findings in non-poultry (NP), including wild birds reported in the United Kingdom and Europe each month during the 2021 to 2022 epizootic, according to OIE report date as of 19 April 2022**

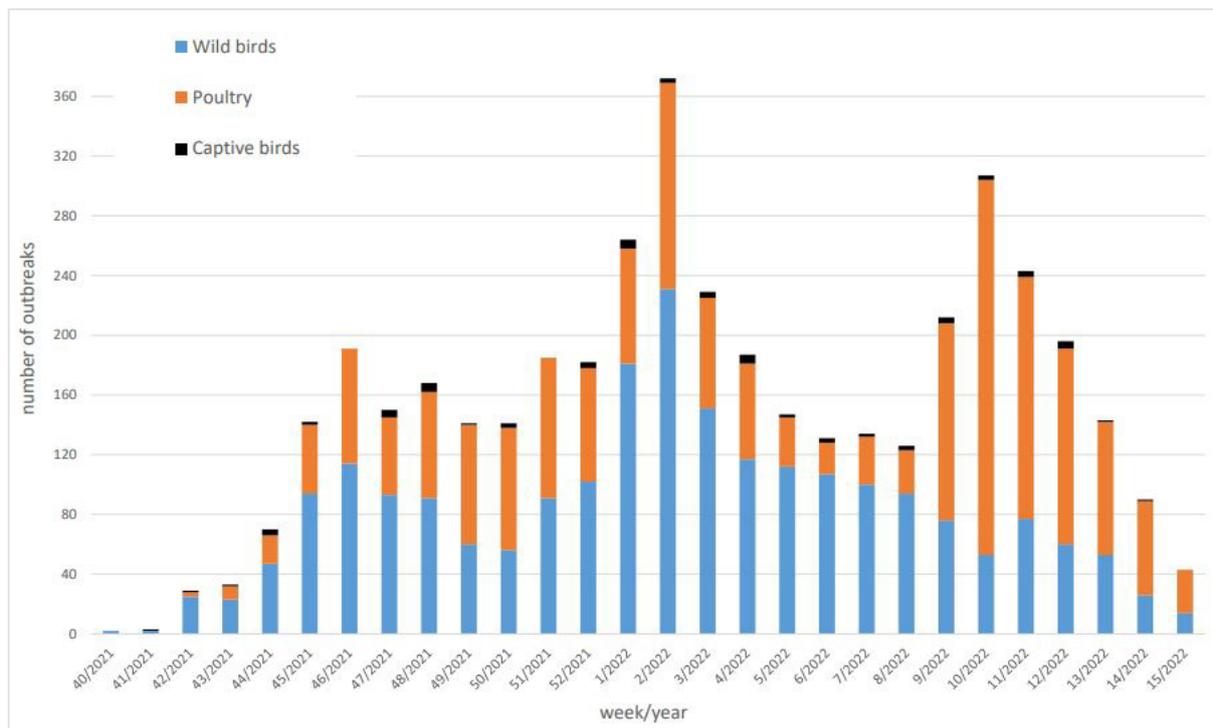
Country	Oct 2021		Nov 2021		Dec 2021		Jan 2022		Feb 2022		Mar 2022		Apr 2022	
	P	NP												
Albania	0	0	0	0	0	0	0	0	0	0	4	1	0	0
Austria	0	0	0	1	0	7	0	13	0	6	0	1	0	2
Belgium	0	0	0	11	2	5	1	20	0	25	1	9	0	2
Bosnia and Herzegovina	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Bulgaria	0	0	0	0	7	0	2	0	1	0	1	0	0	0
Croatia	0	0	1	2	0	4	1	5	0	2	0	0	0	0
Czech Republic	0	0	2	5	2	4	0	0	1	9	0	1	0	0
Denmark	0	2	1	19	1	14	3	39	2	23	0	12	0	6
Estonia	1	3	0	1	0	5	0	0	0	2	0	0	0	1

Country	Oct 2021		Nov 2021		Dec 2021		Jan 2022		Feb 2022		Mar 2022		Apr 2022	
	P	NP	P	NP	P	NP	P	NP	P	NP	P	NP	P	NP
Faroe Islands	0	0	0	0	0	2	0	0	0	1	0	0	0	0
Finland	0	7	0	4	0	0	0	2	0	1	0	2	0	1
France	0	0	1	4	29	14	171	13	161	16	602	13	77	9
Germany	1	5	17	30	17	116	19	187	9	301	3	74	3	74
Greece	0	0	0	0	0	1	0	0	0	0	0	10	0	0
Hungary	0	0	20	2	52	5	41	11	0	9	0	3	1	1
Iceland	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Ireland	0	0	2	17	4	12	0	5	0	4	0	8	0	0
Italy	4	0	113	4	168	10	23	4	4	5	5	0	1	0
Latvia	0	0	0	0	0	0	0	2	0	0	0	0	0	0
Lithuania	0	0	0	0	0	0	0	0	0	2	0	0	0	1



Country	Oct 2021		Nov 2021		Dec 2021		Jan 2022		Feb 2022		Mar 2022		Apr 2022	
	P	NP												
Slovakia	0	0	1	1	0	2	1	2	1	3	0	5	0	0
Slovenia	0	0	0	0	1	2	0	35	0	0	0	0	0	0
Spain	0	0	0	0	0	0	1	4	17	15	23	12	0	3
Sweden	0	1	0	9	3	6	0	13	0	7	0	3	0	1
Switzerland	0	0	0	1	0	0	0	0	0	1	0	2	0	0
Ukraine	0	1	0	0	0	1	0	0	0	0	0	0	0	0
United Kingdom	0	1	12	53	38	96	8	64	7	45	6	49	3	14

**Figure 4: Number of HPAI positive events reported in poultry, captive and wild birds each week in Europe from October 2021 to 15 April 2022 (IZSVe, 2022)**



Across Europe, the number of poultry IPs reported weekly continues to decrease from around 100 outbreaks in week 13, to 60 in week 14, and then down further to around 30 IPs reported to date in week 15 (Figure 4). Cases of HPAI infection in wild birds have also shown a decreasing trend between weeks 13 and 15 in Europe (Figure 4).

Some local variation may be expected due to changes in surveillance methods, such as the change in threshold for collection of dead wild swans and geese in England from three birds to one bird, which has resulted in an increased number of wild bird cases being reported in Great Britain.

Reinforcement of passive wildlife surveillance may also be expected in European countries due to the extent of this unprecedented epizootic (PAFF, 2022b, PAFF 2022c). There is a general decreasing trend in the number of poultry IPs with HPAI H5 reported per month for European countries (Table 4).

There has been an increased number of wild bird cases of HPAI H5 reported in Germany and the Netherlands during the month of April 2022 (Table 4), which may indicate the beginning of spring migration patterns.

Further detailed genomic analyses of 103 H5N1 HPAI viruses from poultry and wild birds in the UK (detected in late 2021 to 2022) supports that all viruses belong to clade 2.3.4.4b

and can be distinguished in the haemagglutinin gene between outbreak seasons (2020 to 2021 versus 2021 to 2022).

Whilst the 2021/22 H5N1 viruses are related to those detected during 2020 to 2021, three UK genotypes (AIV07, 08, 09) have been identified that can be distinguished based on their genetic composition.

Genetic analysis of the viral sequences obtained from the first (and multiple others) poultry outbreak in the UK confirmed that it was highly similar to the clade 2.3.4.4b B1 H5N1 lineage (observed previously in northern Europe and the UK in summer 2021 in wild birds and associated with the majority of H5N1 European detections during the 2020 to 2021 H5Nx epizootic) and has subsequently been referred to as the AIV07 genotype.

It is hypothesised that the AIV07 genotype was re-introduced into the UK in late 2021 via Russia and eastern Europe, due to relatedness to sequences from this region detected in late 2021.

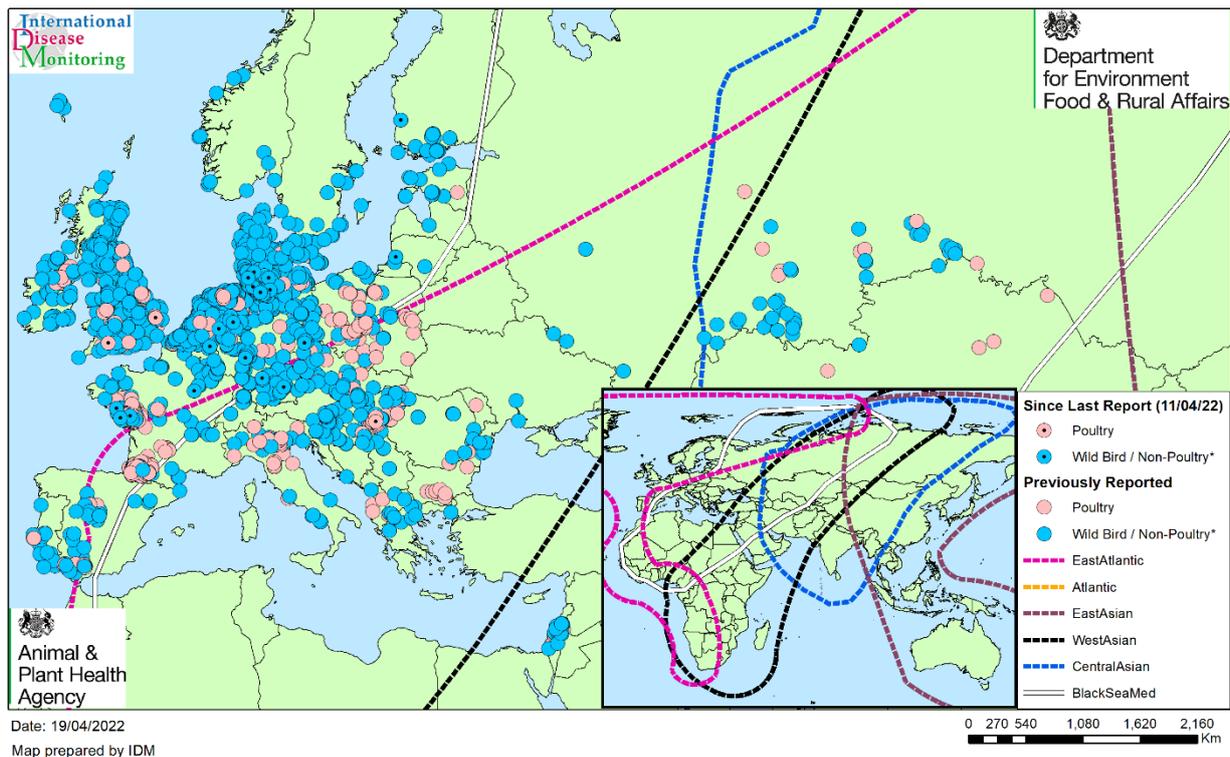
Whilst it is most plausible that this virus was brought in with migratory waterfowl, it cannot be excluded that the source of some of these viruses was from local wild bird populations. The AIV09 genotype shares a high degree of similarity to the AIV07 genotype, but possesses the HA from the B2 H5N1 lineage, along with novel PB2 and PA genes.

The PB2/PA genes are related to those from low pathogenicity avian influenza viruses (LPAIVs) detected in European wild birds. The third genotype AIV08 is a minor variant population and derived via reassortment of AIV07 B1 viruses with another avian influenza virus, inheriting a different PB2 gene.

Therefore, many of the UK H5N1 cases in 2021/22 epizootic are due to viruses that may have their origins in migratory waterfowl that arrived in the UK in late 2021 (some of these can be distinguished genetically from viruses over-summering in northern Europe), but which themselves likely separated into further genotypes following reassortment with other influenza viruses in wild birds.

Map 3 shows the distribution of HPAI H5 outbreaks in poultry and captive birds, together with cases in wild birds, in Europe reported to OIE between September 2021 and 15 April 2022. Those events reported since our last outbreak assessment on 11 April are identified with black central dots.

**Map 3: HPAI outbreaks (from OIE) in poultry, captive, and wild birds across Europe, September 2021 to 15 April 2022.**



### Highly Pathogenic Avian Influenza in Poultry and Non-Poultry\*

September 2021 - April 2022  
 Overlay: Migratory Bird Flyways

OIE Data Only  
 \*OIE Defined

## Implications for the UK

Given the continuing reports of wild bird cases of HPAI H5N1 across Great Britain, the domestic poultry and captive bird populations in Great Britain continue to remain under a high infection pressure, particularly where biosecurity is sub-optimal. Even where biosecurity is good, the ongoing high wild bird infection pressure is likely to expose any weaknesses that exist. It is imperative that biosecurity is maintained to the greatest extent possible to mitigate against the ongoing risk of infection posed by wild birds across the UK.

There has been an unprecedented number of HPAI H5N1 IPs with domestic poultry and captive birds, as well as wild bird cases, reported in this 2021 to 2022 season; not only for the UK, but also across Europe. It should be noted that trends in wild bird cases in Europe are now of relatively minimal significance as a predictor for UK incursions during the spring, although the downwards trend in wild bird cases (Figure 4) may also be reflected in UK wild bird cases.

Those birds that migrated from continental Europe to overwinter in Great Britain during the autumn and winter will now have begun their return journeys back to Europe, and numbers remaining in Great Britain are greatly reduced compared to the December and January peaks.

As the spring progresses, those remaining migratory ducks, geese and swans will depart the UK and Europe thereby reducing the background endemic infection pressure, while sedentary wild bird species will disperse from their winter aggregates within the UK to their breeding sites.

This together with higher temperature and increased sunlight will increase virus degeneration and thus reduce the likelihood of disease infection from wild birds over the coming months, although how rapidly this will occur cannot be predicted given the scale of the current epizootic.

## Conclusion

Cases of HPAI H5 in wild birds and confirmations in poultry premises have continued to be reported across Europe and in Great Britain since our last assessment.

Numbers of migrating wild water birds (ducks, geese, and some swan species) peaked in Great Britain in December to January and many of these birds have now begun their return journeys through Europe.

The continued reports of predominantly wild water birds (Order *Anatidae*) testing positive for HPAI H5N1 in Germany during the past two weeks, may reflect the increased numbers migrating through the Baltic. The persistence and circulation of HPAI viruses in those migratory birds and the resident wild birds will continue to pose a risk for the poultry industry in northern Europe, this month at least.

There have been 973 confirmed cases of HPAI H5 in wild birds in Great Britain to 19 April 2022 across a range of species, with multiple detections in wild birds each week (Figure 2). The wild bird species 'order shift' observed (Figure 3) demonstrates that a greater proportion of other species, including raptors and potential bridging species such as pigeons, gulls, pheasants and pied wagtails, have tested positive as the outbreak has developed.

This reflects HPAI infection spreading initially from migratory water birds at incursion, to more native, sedentary wild bird species, likely via environmental exposure.

The report of HPAI H5N1 in a greenfinch in France within the last week suggests that interspecific infection spread from migratory to sedentary/indigenous species similar to that observed in wild birds in Great Britain may also be occurring in Europe.

HPAI virus H5 is continuing to circulate within Great Britain. The risk level of HPAI H5 in wild birds is therefore maintained at very high across Great Britain.

The risk of exposure of poultry across the whole of Great Britain is maintained at medium (with low uncertainty) where good biosecurity is applied, and at high (with low uncertainty) where biosecurity is suboptimal. This assessment takes into consideration the Avian

Influenza Protection Zone (AIPZ) and assumes that bird keepers are taking the additional biosecurity measures required.

On 24 November, the Chief Veterinary Officers for England, Scotland, Wales, and Northern Ireland announced housing measures, which came into force on the 29 November 2021.

It is now a legal requirement for all bird keepers to keep their birds indoors, to exclude contact with wild birds, and to follow strict biosecurity measures in order to limit the spread of and eradicate the disease.

These housing measures build on the strengthened biosecurity requirements that were introduced as part of the AIPZ in Great Britain on 3 November 2021, and in Northern Ireland on 17 November 2021.

We are continuing to closely monitor the situation and reviewing the risk.

It is particularly important that stringent adherence to good biosecurity practices is now still maintained, even though the outbreak appears to be waning and the sunny weather is approaching. Strict attention should be made to ensure compliance with reviewed contingency plans, with regular maintenance checks and repairs being carried out promptly on roofs and fabric of buildings.

Reinforcement of good biosecurity awareness behaviours and practices should be a constant reminder to all personnel working with birds; any lapse of these measures could still easily result in disease being introduced to poultry and captive birds.

Special consideration should be made when bringing in equipment and materials, especially bedding and outer packages which may have become contaminated following environmental exposure whilst stored outside.

If you keep poultry (including game birds or as pets), you should follow our [biosecurity best practice advice](#) on GOV.UK

Remain vigilant for any signs of disease in your flock and report any suspicious clinical signs of avian influenza to the Animal and Plant Health Agency.

- In England contact 03000 200 301
- In Wales, contact 0300 303 8268
- In Scotland, contact your [local field services office](#)

Further guidance about Avian Influenza including updated biosecurity advice for poultry keepers, in:

- [England is available on GOV.UK](#)
- Wales, is available on the [Welsh Government's website](#)
- Scotland, is available on the [Scottish Government's website](#)
- North Ireland is available on [DAERA's website](#)

The OIE, FAO International Reference Laboratory and the UK National Reference Laboratory at Weybridge has the necessary diagnostic capability for strains of avian influenza virus, whether of low or high pathogenicity, and continually monitors changes in the virus on a wide scale whilst utilising global networks to gain early insights to epidemiological trends and potential emergence of new genotypes which might change the risk profile.

We will continue to report on any updates on the situation in Europe and in particular, any changes in disease distribution or wild bird movements which may increase the risk to the UK.

In England, any findings of the following dead wild birds found at the same location at the same time should be reported to the Wild bird Helpline (Telephone: 03459 33 55 77 – select option 7):

- any number of swans, geese, ducks, gulls, waders and raptors
- five or more birds of any species

It is advisable that you do not touch these birds.

In Scotland and Wales, findings of any number of dead wild birds of any species, found at the same location at the same time should be reported to the Wild bird Helpline (Telephone: 03459 33 55 77 – select option 7). It is advisable that you do not touch these birds.

## Authors

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## References

All outbreaks and cases were taken from the World Organisation for Animal Health (OIE). Please note that changes in format and level of detail are due to the change of data source for this report, from EU's Animal Disease Notification System (ADNS) to World Organisation for Animal Health (OIE).

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