Updated Outbreak Assessment #22

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

11 April 2022 Ref: VITT/1200 HPAI in the UK and Europe

Disease report

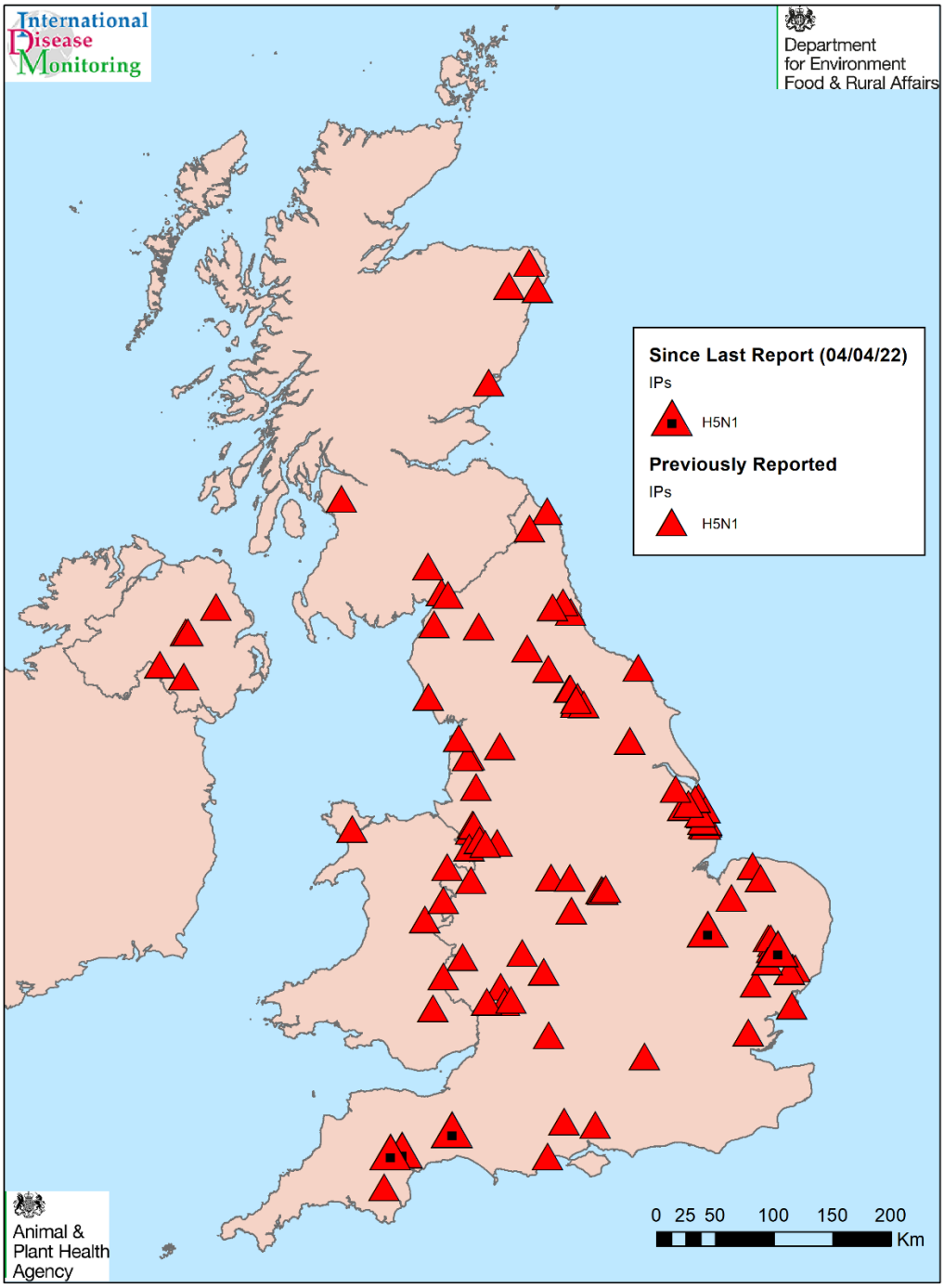
Since our last outbreak assessment on 04 April 2022, there have continued to be reports of high pathogenicity avian influenza (HPAI) H5 both in Europe and in the United Kingdom (UK). This includes five further confirmed infected premises (IPs) with HPAI H5N1 in domestic poultry in the UK. In Europe HPAI continues to be reported in poultry and wild birds.

Five new IPs with HPAI H5N1 in domestic poultry have been confirmed in England and 17 further HPAI H5 events have been detected in wild birds in Great Britain (GB) 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 this 2021 to 2022 outbreak season (IZSVe, 2022).

The OIE has also reported new IPs with HPAI H5N1 in domestic poultry in France, Germany, Italy and Poland, since our last report.

Non-poultry IPs and wild bird cases of HPAI H5 continue to be reported in Austria, Estonia, France, Germany, Hungary, the Netherlands, Norway and Sweden. The first cases of HPAI H5N5 this outbreak season have been reported in wild birds in Norway.

Map 1: HPAI H5 outbreaks in domestic poultry[1] and captive birds across the United Kingdom, October 2021 to 11 April 2022.



[1] 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 107 further confirmed IPs with HPAI H5N1 in poultry and captive birds across Great Britain (Map 1), (Table 1). Of these 108 IPs in total, 94 have occurred in England, nine have occurred in Scotland, and five in Wales.

In the week since our last assessment on 04 April 2022, HPAI H5N1 has been confirmed at five poultry premises, all of which are in England. Three of the IPs were commercial mixed poultry premises; in Devon, Somerset and Suffolk. The other two IPs were: a commercial fattening duck premises in Cambridgeshire, and a backyard flock of mixed species in Devon.

There have been no new premises with HPAI H5N1 confirmed in Northern Ireland since 04 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[1] and captive bird premises with High Pathogenicity Avian Influenza (HPAI) H5N1 in Great Britain during the epizootic since 1 October 2021, as of 11 April 2022

Outbreak Count	Date HPAI H5N1 confirmed	Location, County	Description	Date resolved[2]
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	5 December 2021

Outbreak Count	Date HPAI H5N1 confirmed	Location, County	Description	Date resolved[2]
			guinea fowl and 12 ducks.	
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

Outbreak Count	Date HPAI H5N1 confirmed	Location, County	Description	Date resolved[2]
13	21 November 2021	Near North Fambridge, Essex	Small flock of mixed geese, chickens, ducks	22 December 2021
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

Outbreak Count	Date HPAI H5N1 confirmed	Location, County	Description	Date resolved[2]
24	29 November 2021	Near Thirsk, Yorkshire	Commercial turkey premises	5 March 2022
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

Outbreak Count	Date HPAI H5N1 confirmed	Location, County	Description	Date resolved[2]
36	07 December 2021	Near Pocklington, East Yorkshire	Commercial ducks	19 February 2022
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

Outbreak Count	Date HPAI H5N1 confirmed	Location, County	Description	Date resolved[2]
48	12 December 2021	Near Alford, Lincolnshire	Commercial laying hens	24 March 2022
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

Outbreak Count	Date HPAI H5N1 confirmed	Location, County	Description	Date resolved[2]
59	17 December 2021	Near Alford, Lincolnshire	Commercial laying hens	24 March 2022
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

Outbreak Count	Date HPAI H5N1 confirmed	Location, County	Description	Date resolved[2]
70	03 January 2022	Near Alford, Lincolnshire	Backyard chickens	24 March 2022
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	
81	26 January 2022	Near Whitby, North Yorkshire	Wildlife rescue centre mixed species	11 March 2022

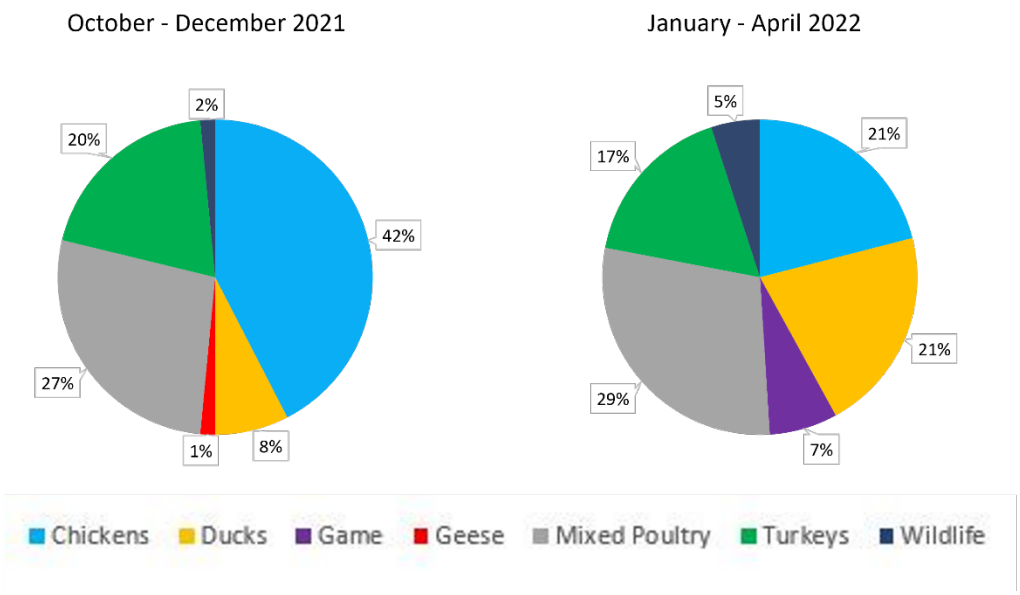
Outbreak Count	Date HPAI H5N1 confirmed	Location, County	Description	Date resolved[2]
82	28 January 2022	Near Calveley, Cheshire	Commercial turkeys	5 April 2022
83	28 January 2022	Near Ashleworth, Gloucestershire	Backyard chickens	15 March 2022
84	4 February 2022	Near Bishops Waltham, Hampshire	Commercial broiler breeder chickens	
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

Outbreak Count	Date HPAI H5N1 confirmed	Location, County	Description	Date resolved[2]
93	26 February 2022	Near Westhorpe, Suffolk	Smallholding mixed species	
94	1 March 2022	Near Redgrave, Suffolk	Commercial fattening ducks	
95	11 March 2022	Near Ellon, Aberdeenshire	Backyard mixed species	
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	

Outbreak Count	Date HPAI H5N1 confirmed	Location, County	Description	Date resolved[2]
105	06 April 2022	Near Ely, Cambridgeshire	Commercial fattening ducks	
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	

[1] According to the 2021 OIE definition of poultry: Terrestrial Code Online Access - OIE - World Organisation for Animal Health
[2] 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

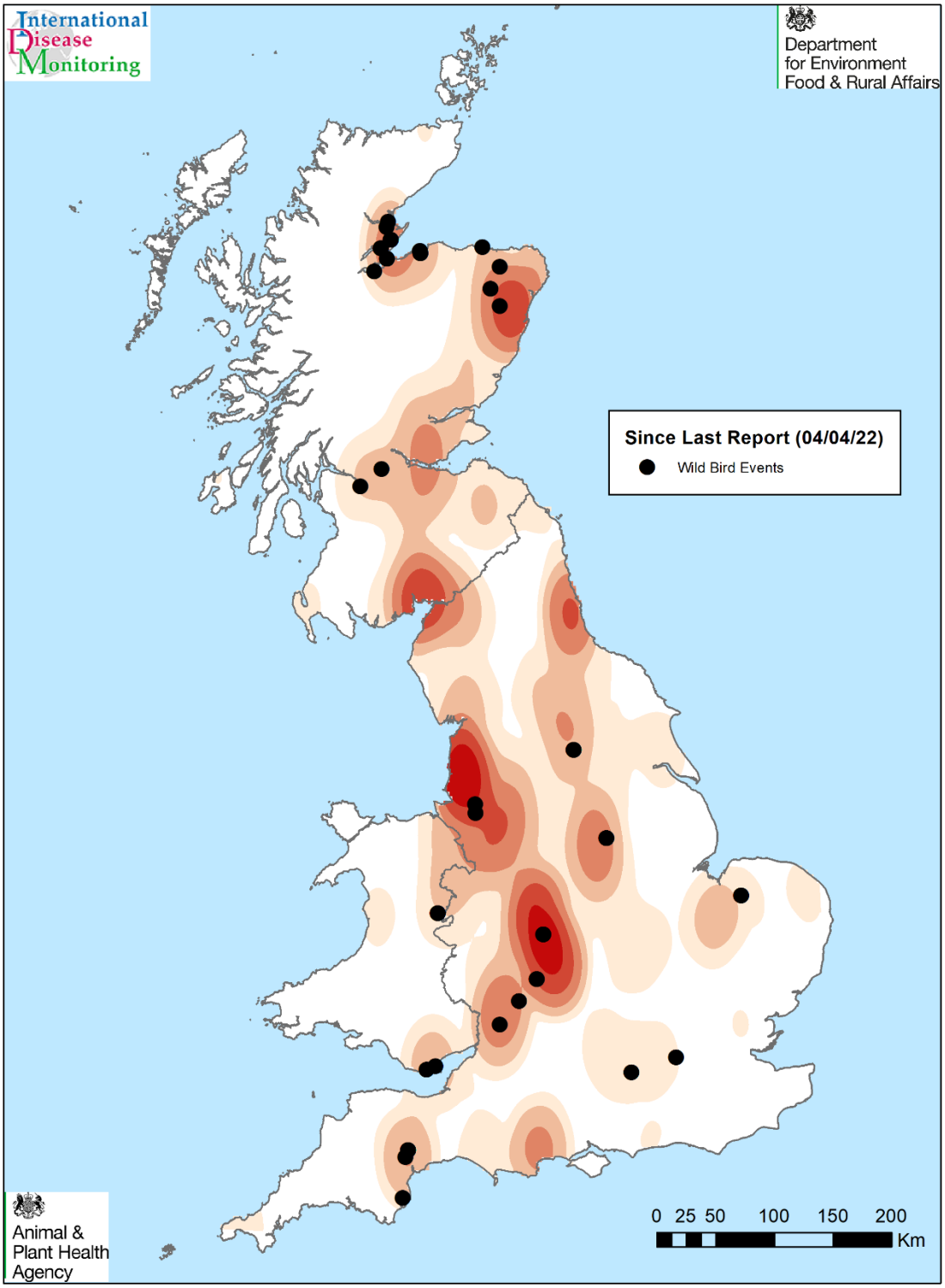
Figure 1: Proportion of HPAI-positive premises according to species kept across the 2021 to 2022 season in Great Britain, as of 11 April 2022



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 11 April 2022

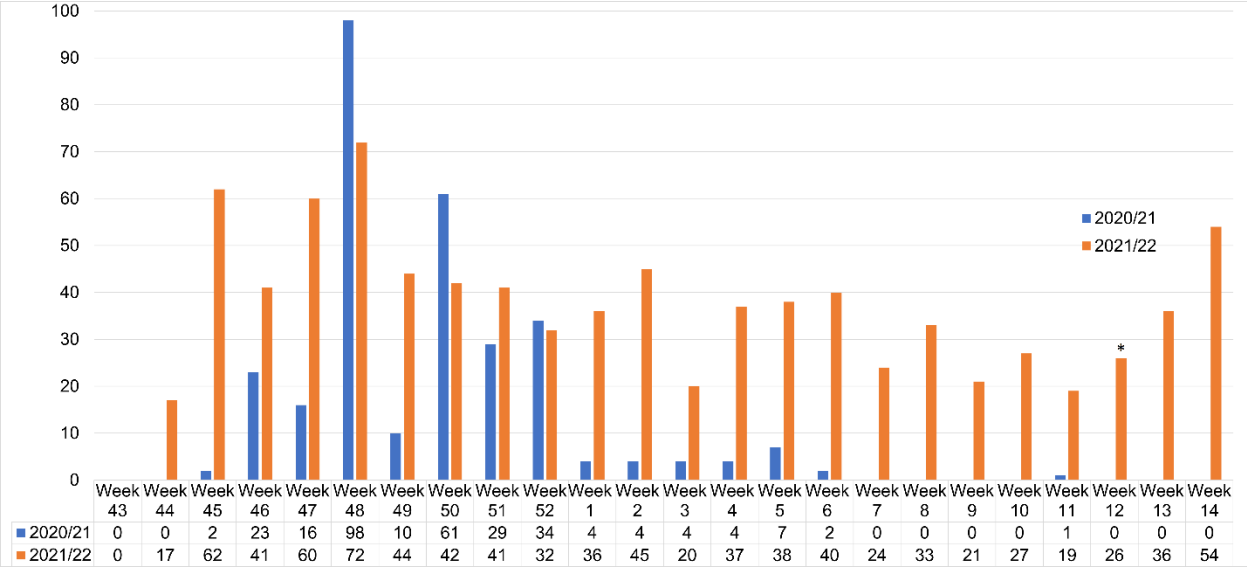


In the week since our last outbreak assessment on 04 April 2022, HPAI H5 has been detected in wild birds in a further 17 locations in Great Britain, bringing the total to 264 separate wild bird positive locations, involving 45 different bird species (listed in Table 2), in 74 separate counties. The total number of positive wild bird findings is 942, 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). Following a general decreasing trend in the number of HPAI-positive wild bird detections between weeks 6 and 11 of 2022, the number of detections has increased weekly between weeks 11 and 14. This coincides 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).

There have been 49 cases for which the HPAI H5 genotype has been identified, and characterisation of NA subtype is in progress due to low viral load. The NA could not be determined for a further eight H5 HPAI samples from wild birds, due to very low viral load.

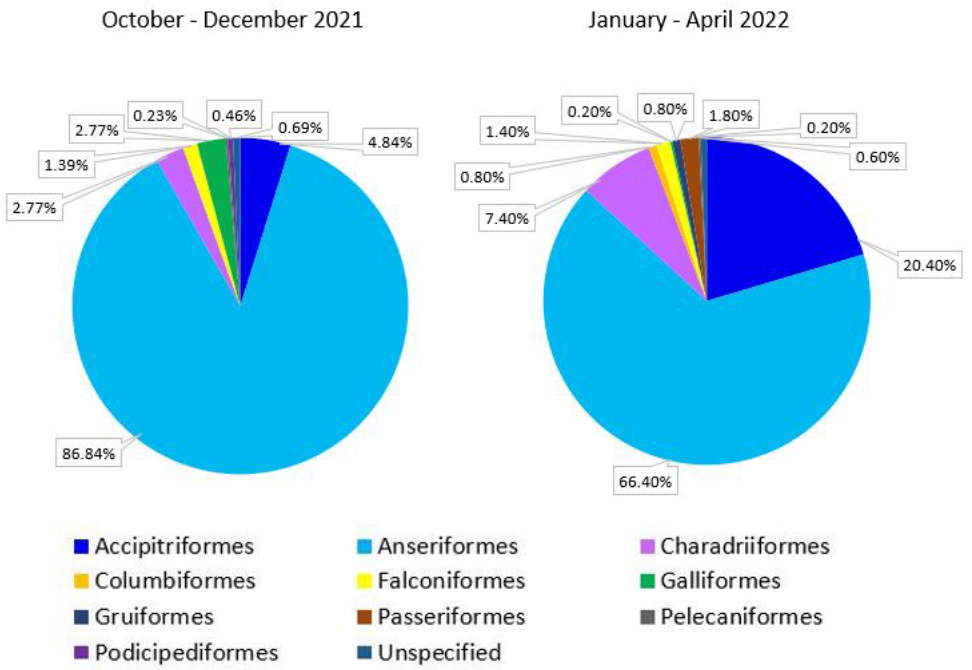
Figure 2: Wild bird HPAI H5N1 positives across Great Britain 2020 to 2021 and 2021 to 2022 seasons



	Week 43	Week 44	Week 45	Week 46	Week 47	Week 48	Week 49	Week 50	Week 51	Week 52	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	Week 14
2020/21	0	0	2	23	16	98	10	61	29	34	4	4	4	4	7	2	0	0	0	0	1	0	0	0
2021/22	0	17	62	41	60	72	44	42	41	32	36	45	20	37	38	40	24	33	21	27	19	26	36	54

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 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 11 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 11 April 2022

Region and species	Total number of birds testing positive
England	**611**
Barnacle Goose	13
Bewick's Swan	1
Black headed gull	17
Black Swan	2
Canada Goose	112

Region and species	Total number of birds testing positive
Common Buzzard	54
Common Eider	1
Coot	1
Curlew	2
Gadwall	1
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	7
Moorhen	3
Mute Swan	225
Peregrine Falcon	5
Pheasant	8
Pied Wagtail	6
Pink Footed Goose	16
Red Kite	1
Sea Eagle	1
Sparrowhawk	7
Tufted Duck	1
Unidentified Swan	17
Unspecified Dove	2
Unspecified Duck	1
Unspecified Goose	14
Unspecified Passeriformes	6
White Fronted Goose	1
Whooper Swan	31
Wigeon	1
Scotland	**293**
Barnacle Goose	34

Region and species	Total number of birds testing positive
Blackbird	1
Black headed gull	1
Canada Goose	3
Common Buzzard	48
Greylag Goose	20
Gull sp	6
Herring Gull	5
Kestrel	1
Magpie	1
Mallard Duck	1
Mute Swan	25
Pink Footed Goose	66
Red Kite	2
Sea Eagle	2
Sparrowhawk	5
Unidentified Swan	15
Unspecified Bird of Prey	3
Unspecified Duck	2
Unspecified Goose	42
Whooper Swan	9
Wood Pigeon	1
Wales	**38**
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
Grand Total	**942**

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 8 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		60	3							69
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

Country	H5 (WB)	H5 (P)	H5N1 (WB)	H5N1 (P)	H5N8 (WB)	H5N8 (P)	H5N2 (WB)	H5N2 (P)	H5N3 (WB)	H5N5 (WB)	Total
Finland			14		2						16
France			76	895							971
Germany			954	68			1		1		1,024
Greece			4								4
Hungary			32	113							145
Ireland			75	6							81
Italy			21	249							270
Latvia			2								2
Lithuania			2								2
Luxembourg			4								4
Moldova				1							1
Netherlands	1		191	31	2						225
Norway			8	2						2	12
Poland			31	100				1			132
Portugal			12	4							16
Republic of North Macedonia			3								3

Country	H5 (WB)	H5 (P)	H5N1 (WB)	H5N1 (P)	H5N8 (WB)	H5N8 (P)	H5N2 (WB)	H5N2 (P)	H5N3 (WB)	H5N5 (WB)	Total
Romania			14	3							17
Russia	35	12	12	9							68
Serbia and Montenegro			3		3		1				7
Slovakia			22	2	1						25
Slovenia			39	1							40
Spain			34	31							65
Sweden			37	4	1						42
Switzerland			3								3
Ukraine	2	1									3
United Kingdom			332	74	1						407

Northern Europe (OIE data only, by report date)

In the week since our last outbreak assessment on 04 April 2022, HPAI H5 has been reported in 10 European countries (OIE). The total number of European countries affected this HPAI season according to IZSVe (2022) is currently 33.

Austria

Since our last assessment, OIE has not reported any further poultry IPs with HPAI H5N1 in Austria, but has reported two further HPAI H5N1 events in wild birds. Both events involved single common buzzards (*Buteo buteo*).

Estonia

In the last week, there have been no further reports of HPAI H5N1 in domestic poultry in Estonia, however a further case of HPAI H5N1 has been confirmed in a wild bird belonging to the Order Anserinae. No further information on the species has been reported.

France

Between 04 and 11 April 2022, there have been 77 further IPs with HPAI H5N1 in domestic poultry reported for France, according to OIE. Most of these affected premises are located in the Pays de la Loire region. Outside of Pays de la Loire, two of the 77 farms are located in south-western France, one in the Gers department and one in the Lande department, and two farms are located in the Occitanie region. The number of new IPs reported weekly continues to decrease, with the largest proportion (30/77) of IPs being chicken premises (Platforme, 2022). The species kept was only reported for one of the farms in the Occitanie region, which is a duck farm with 6,118 birds. Extended restriction zones which form larger 'Zones at Risk of Diffusion' (ZRD) continue to be implemented (Gouv.fr, 2022).

There have been two further non-commercial IPs with HPAI H5N1 reported, these are private backyard flocks: one in the Loire-Atlantique department with 20 chickens and 5 geese, the other in the Deux-Sèvres department with 15 laying hens. No further HPAI events in wild birds have been reported.

Germany

There have been three further poultry IPs with HPAI H5N1 reported for Germany since our last assessment. These are two fattening turkey farms and a geese breeder flock. The fattening turkey farms are located in Oldenburg, Lower Saxony, and Rostock, Mecklenburg-Vorpommern; with 13,220 and 5,950 birds, respectively. The geese breeding farm is located in Steinburg, Schleswig-Holstein and has 3,330 birds. There have also been 33 further reports of HPAI H5N1 in non-poultry, including wild birds, in the last week according to OIE. These events involved unidentified species from the Orders of *Anatidae* (21), *Accipitridae* (7), *Cygnus* (3) and *Laridae* (2).

Hungary

Since our last assessment, the OIE has reported one further HPAI H5N1 event in Hungary involving two wild mute swans (*Cygnus olor*). that were located in a forest area in the village of Báta, southern Hungary.

Netherlands

There have not been any further commercial poultry IPs with HPAI H5N1 reported since 04 April 2022, but there have been 46 separate events involving non-commercial poultry or wild birds. Two events occurred at hobby farms with captive birds belonging to the Order *Phasianidae.* The other 44 HPAI H5N1 events involved a total of 26 barnacle geese (*Branta leucopsis*), 14 mute swans (*Cygnus olor*), nine greylag geese (*Anser anser*), seven common buzzards (*Buteo buteo*), three Eurasian curlew (*Numenius arquata*), two each of mallard ducks (*Anas platyrhynchos*) and grey-headed gulls (*Chroicocephalus cirrocephalus*). Single cases of the following species were also reported: western grebe (*Aechmophorus occidentalis*), Canada goose (*Branta canadensis*), sanderling (*Calidris alba*), spotted harrier (*Circus assimilis*), peregrine falcon (*Falco peregrinus*), Caspian gull (*Larus cachinnans*) and Great Black-headed gull (*Larus ichthyaetus*).

Norway

Between 04 and 11 April, the OIE has not reported any further poultry IPs with HPAI in Norway, but has reported three cases of HPAI in wild white-tailed eagles (*Haliaeetus albicilla*). One of these cases was confirmed as caused by the H5N1 strain of HPAI, the other two cases were caused by the H5N5 strain, which is the first report of HPAI H5N5 this 2021 to 2022 outbreak season in Europe. Both birds with HPAI H5N5 were located on the west coast of Norway, one on the northern island of Vagoya, the other in Karihola, Kristiansund.

Poland

Since our last assessment, HPAI H5N1 has been confirmed at one further poultry premises. The farm is located in Dzietrzkowice village, central Poland and has 25 birds including laying hens, broiler chickens, slaughter ducks and slaughter turkeys. There have been no further reports of HPAI H5N1 in wild birds.

Sweden

There have been no further reports of HPAI H5N1 in domestic poultry in Sweden between 04 and 11 April 2022. There has been a single case of HPAI H5N1 in a black-headed gull (*Chroicocephalus ridibundus*) which was found sick and euthanased.

Southern Europe (OIE data only, by report date)

Italy

Between 04 and 11 April 2022, there has been one further poultry IP with HPAI H5N1 reported in Conselice, Ravenna, northern Italy. The premises is a farm with 1,513 birds of multiple species. No further details on the species kept at the premises are currently

available. There have been no further reports of HPAI H5N1 in wild birds since our last assessment.

According to OIE, there have been no further reports of HPAI H5N1 outbreaks in domestic poultry or cases in wild birds between 04 and 11 April in; Albania, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, the Czech Republic, Denmark, the Faroe Islands, Finland, Greece, Latvia, Lithuania, Luxembourg, Moldova, North Macedonia, Portugal, the Republic of Ireland, Romania, Russia, Serbia and Montenegro, Slovakia, Slovenia, Spain, 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 08 April 2022

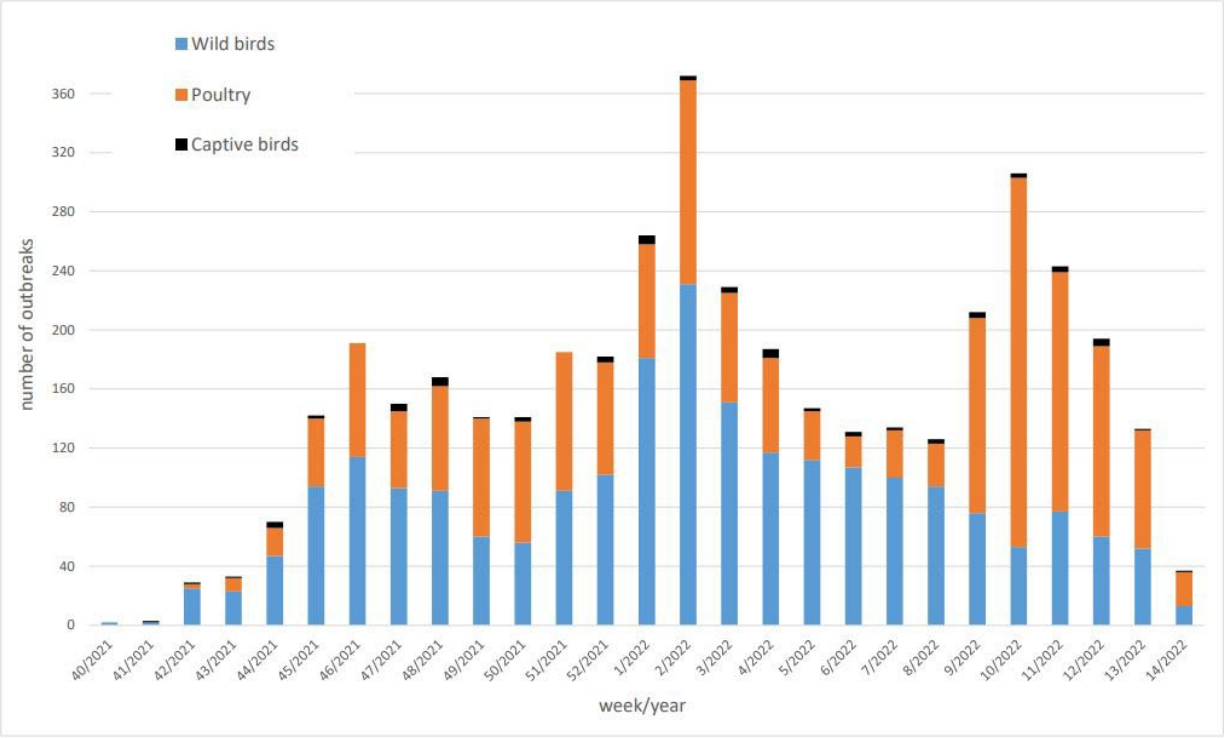
Country	Oct 2021		Nov 2021		Dec 2021		Jan 2022		Feb 2022		Mar 2022		Apr 2022	
	P	NP	P	NP	P	NP	P	NP	P	NP	P	NP	P	NP
Albania	0	0	0	0	0	0	0	0	0	0	4	1	0	0
Austria	0	0	0	1	0	7	0	13	0	6	0	1	0	2
Belgium	0	0	0	11	2	5	1	20	0	25	1	9	0	0
Bosnia and Herzegovina	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Bulgaria	0	0	0	0	7	0	2	0	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	0
France	0	0	1	4	29	14	171	13	161	16	602	13	77	2
Germany	1	5	17	30	17	116	19	187	9	301	3	74	3	33
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	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	0
Luxembourg	0	0	0	2	0	1	0	1	0	1	0	0	0	0

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
Moldova	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Netherlands	1	0	7	40	2	64	6	102	11	93	7	40	0	46
Norway	0	0	2	2	0	2	0	3	0	1	0	0	0	4
Poland	0	0	23	3	40	5	16	18	5	6	9	0	1	0
Portugal	0	0	0	0	2	1	0	6	5	1	0	5	0	0
Republic of North Macedonia	0	0	0	0	0	0	0	0	0	2	0	0	0	0
Romania	0	0	0	1	0	2	0	2	1	7	2	4	0	0
Russia	3	28	5	9	2	2	0	1	4	0	0	1	0	0
Serbia and Montenegro	0	5	0	1	0	0	0	0	0	0	0	0	0	0
Slovakia	0	0	1	1	0	2	1	2	1	3	0	5	0	0

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
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	0
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	1	14

Figure 4: Number of HPAI positive events reported in poultry, captive and wild birds each week in Europe from October 2021 to 08 April 2022 (IZSVe, 2022)



Across Europe, the number of poultry IPs reported weekly continues to decrease from around 125 outbreaks in week 12, to 80 in week 13, and then down further to around 25 IPs reported to date in week 14 (Figure 4). The reported weekly numbers of poultry IPs are still largely being driven by the situation in France. Cases of HPAI infection in wild birds have also shown a decreasing trend between weeks 12 and 14 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. With the exception of France, 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 non-poultry cases of HPAI H5 reported in Germany and the Netherlands (Table 4), the majority of these are wild birds, which may indicate the beginning of spring migration patterns.

The latest quarterly Avian Influenza overview by EFSA states that between 9 December 2021 and 15 March 2022, 2,653 HPAI virus detections were reported in 33 EU/EEA countries and in the UK, as follows: poultry (1,030), wild birds (1,489) and captive birds

(133) (EFSA, 2022). Genetic analysis has confirmed that all of the HPAI H5Nx detections characterised since October 2021 belong to clade 2.3.4.4b, while whole genome sequencing indicates “the persistent circulation of the A(H5N1) and A(H5N8) subtypes in Northern Europe, which have been circulating in the whole of Europe since October 2020” (EFSA 2022). The autumn migration of wild birds and local reassortment events have been implicated in the introduction of these novel genotypes (EFSA, 2022).

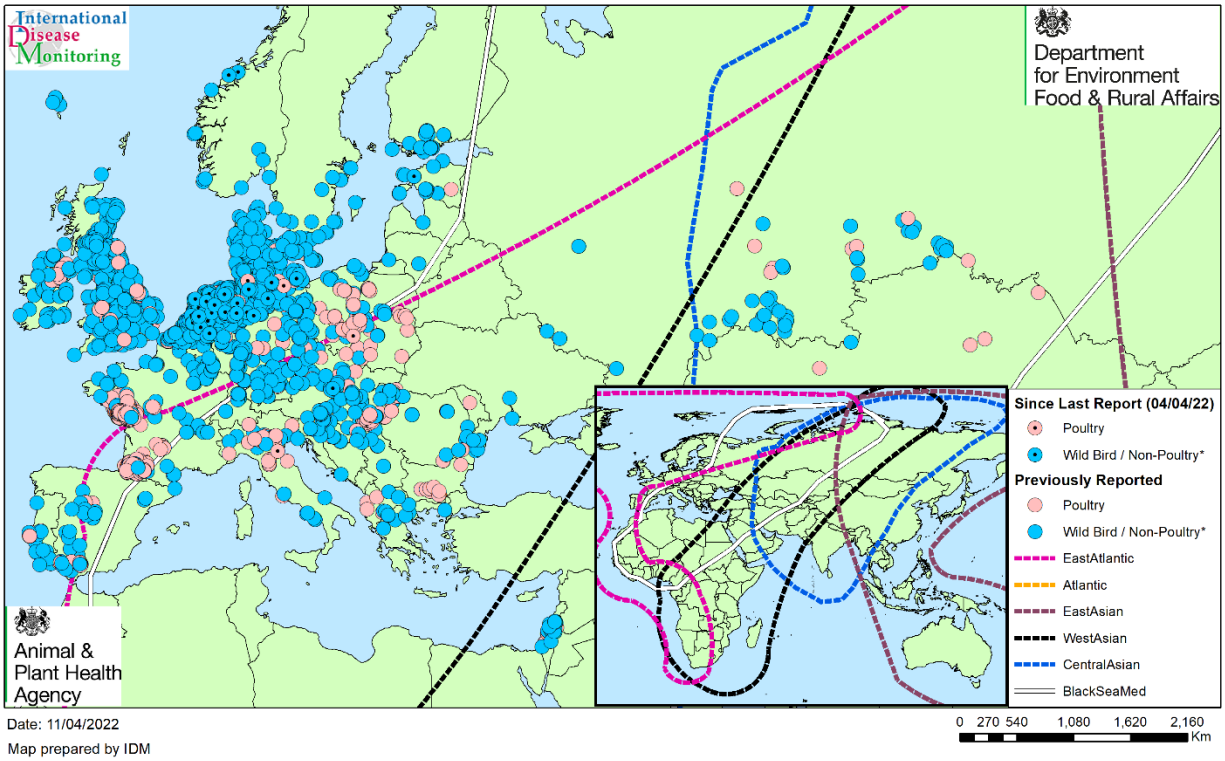
Further detailed genomic analyses of 103 H5N1 HPAI viruses from poultry and wild birds in the UK (detected in late 2021-2022) supports that all viruses belong to clade 2.3.4.4b, and can be distinguished in the haemagglutinin gene between outbreak seasons (20/21 versus 21/22). Whilst the 2021/22 H5N1 viruses are related to those detected during 2020/21, 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 2020/21 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 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 separate 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 11 April 2022. Those events reported since our last outbreak assessment on 04 April are identified with black central dots.

Map 3: HPAI outbreaks (from OIE) in poultry, captive, and wild birds across Europe, September 2021 to 11 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/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 week, 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 942 confirmed cases of HPAI H5 in wild birds in Great Britain to 11 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 most recently 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.

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.

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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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This publication is available at https://www.gov.uk/government/collections/animal-diseases-international-monitoring

Any enquiries regarding this publication should be sent to us at iadm@apha.gov.uk