Updated Outbreak Assessment #25

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

10 May 2022 Ref: VITT/1200 HPAI in the UK and Europe

Disease report

Since our last outbreak assessment on 25 April 2022, there have been 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 reported in domestic poultry and wild birds.

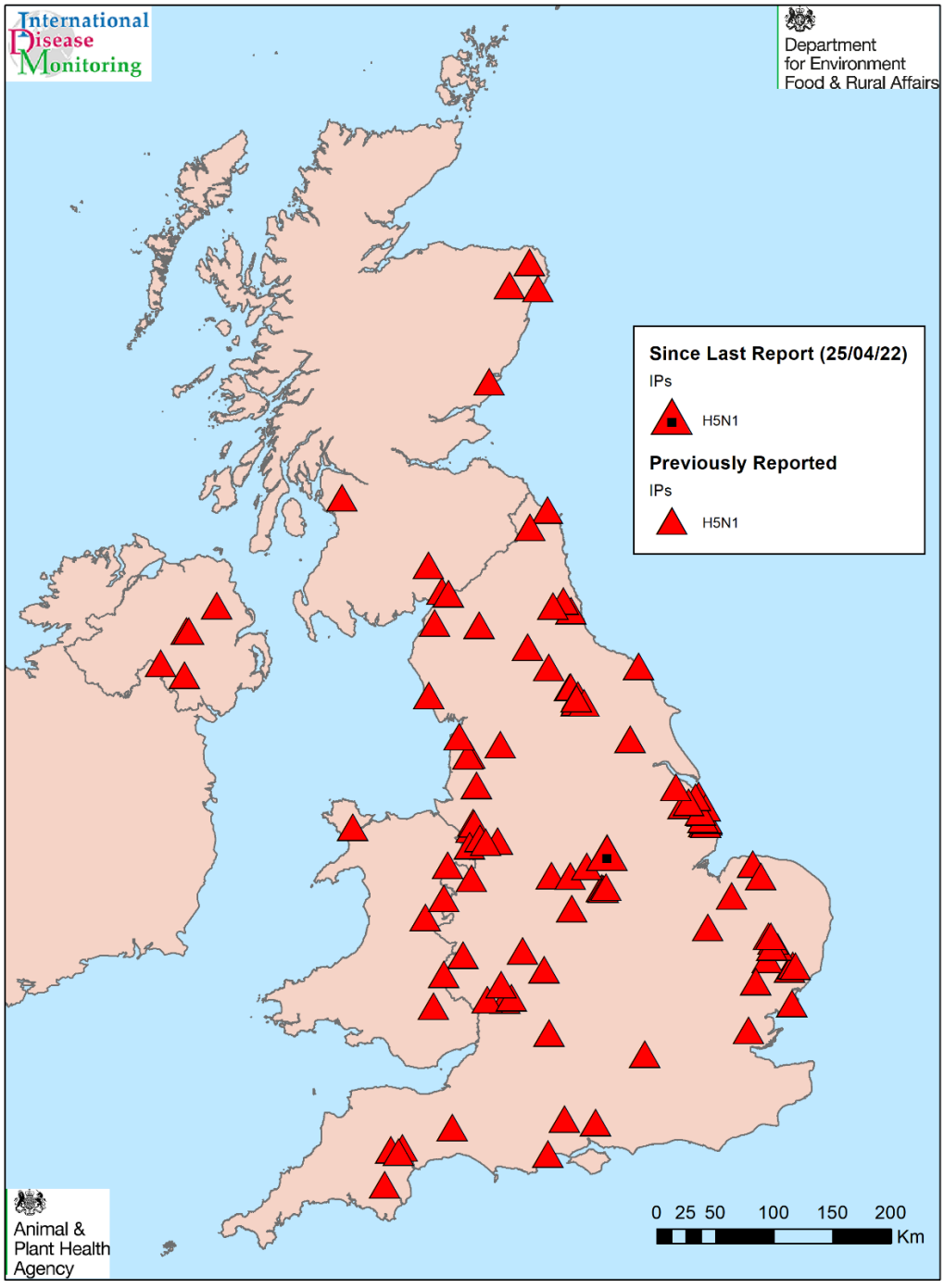
One new IP with HPAI H5N1 in domestic poultry has been confirmed in England and 10 further HPAI H5 events have been detected in wild birds in Great Britain (GB) since our last assessment. There have been no further HPAI H5N1 IPs confirmed in Northern Ireland since our last assessment (DAERA, 2022). A total of seven wild bird findings have been reported for Northern Ireland, during this 2021 to 2022 outbreak season (IZSVe, 2022).

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

Wild bird cases of HPAI H5N1 continue to be reported in Austria, Finland, France, Germany, Greece, Iceland, Lithuania, Russia, Spain and Sweden.

The OIE has also reported untyped HPAI H5 in domestic poultry in Bulgaria, as well as HPAI H5N5 in wild birds in Norway.

Map 1: HPAI H5 outbreaks in domestic poultry[1] and captive birds across the United Kingdom, October 2021 to 10 May 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 during 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. An AIPZ was declared in England, Wales and Scotland on 3 November 2021,requiring personnel working with poultry and hobbyists to take additional biosecurity measures. Additional housing measures came into force from 29 November 2021. These housing measures were lifted on 2 May 2022 but the AIPZ remains in place.

Since the first HPAI H5N1 detection on 15 October 2021, there have been 110 further confirmed IPs with HPAI H5N1 in poultry and captive birds across Great Britain (Map 1), (Table 1). Of these 111 IPs in total, 97 have occurred in England, nine have occurred in Scotland, and five in Wales.

Since our last assessment on 25 April 2022, HPAI H5N1 has been confirmed at one further poultry premises in England. The new IP was a commercial premises with free range laying hens in Nottinghamshire.

There have been no new premises with HPAI H5N1 confirmed in Northern Ireland since our last report on 25 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 10 May 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

Outbreak Count	Date HPAI H5N1 confirmed	Location, County	Description	Date resolved[2]
3	4 November 2021	Near Arbroath, Angus	Mixed backyard flock of 16 chickens, 20 guinea fowl and 12 ducks.	5 December 2021
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	14 April 2022
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	12 April 2022
85	5 February 2022	Near Fakenham, Norfolk	Conservation park mixed species	26 April 2022
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	20 April 2022
92	25 February 2022	Near Ledbury, Herefordshire	Commercial game supplier	31 March 2022

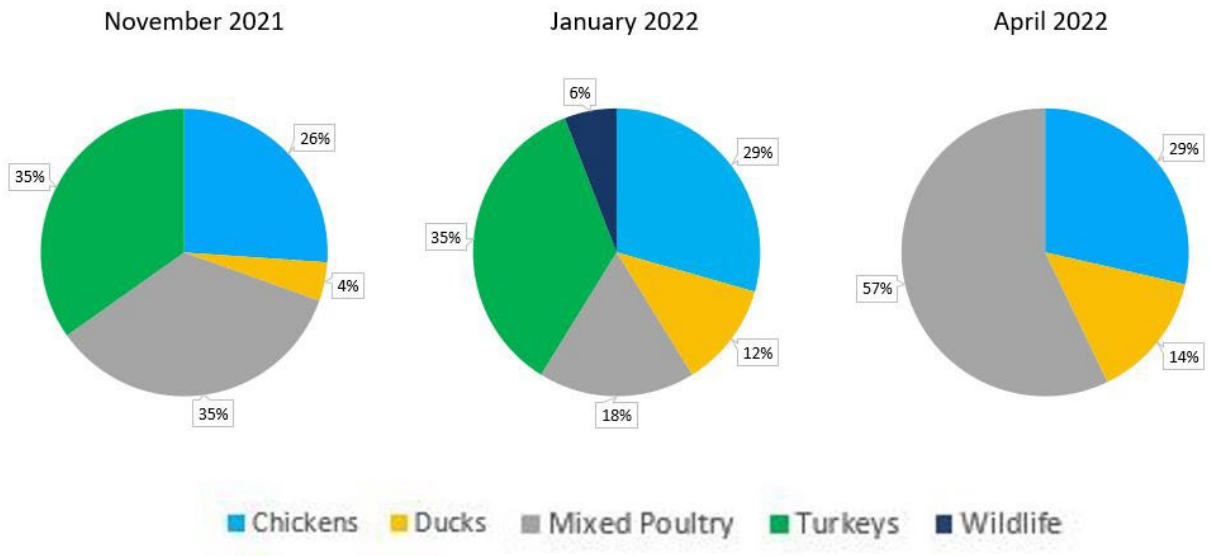
Outbreak Count	Date HPAI H5N1 confirmed	Location, County	Description	Date resolved[2]
93	26 February 2022	Near Westhorpe, Suffolk	Smallholding mixed species	
94	1 March 2022	Near Redgrave, Suffolk	Commercial fattening ducks	
95	11 March 2022	Near Ellon, Aberdeenshire	Backyard mixed species	12 April 2022
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.	22 April 2022
99	19 March 2022	Near Strichen, Aberdeenshire	Commercial laying hens	30 April 2022
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	
109	13 April 2022	Near Teignbridge, Devon	Commercial mixed species	
110	24 April 2022	Near Ilkeston, Derbyshire	Smallholder mixed species	
111	7 May 2022	Near Lowdham, Nottinghamshire	Commercial laying hens	

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

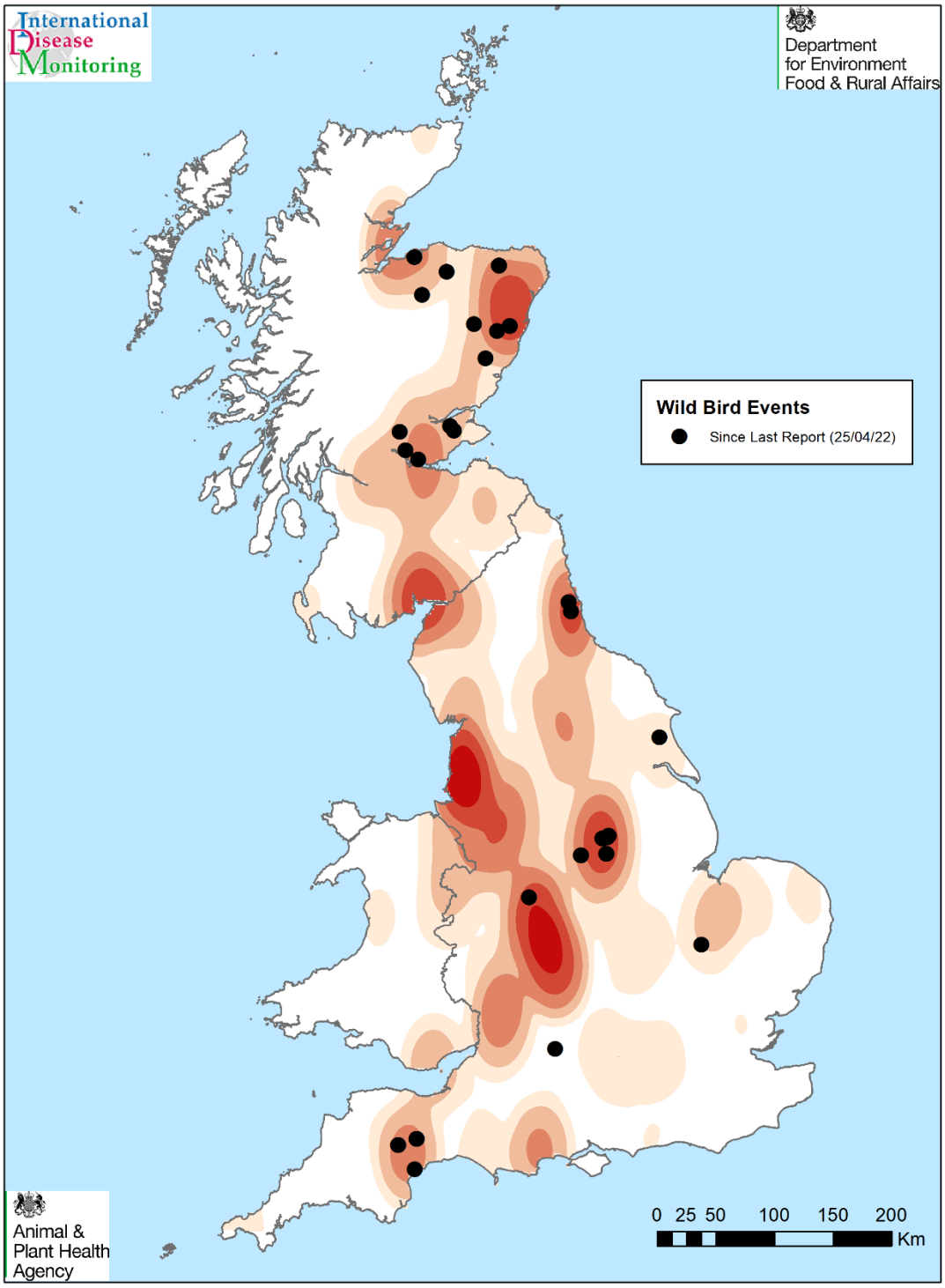
[2] Date resolved refers to the date when all disease control restrictions (3km Protection Zone, 10km Surveillance Zone, 3km Captive Bird Monitoring Controlled Zone) have been removed from the premises

Figure 1: Proportion of HPAI-positive premises according to species kept across the 2021 to 2022 season in Great Britain, as of 10 May 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). The proportion of confirmed infected duck premises has increased from 4% in November 2021 to 12% in January 2022, then 14% in April 2022 as the outbreak in Great Britain has progressed (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 10 May 2022

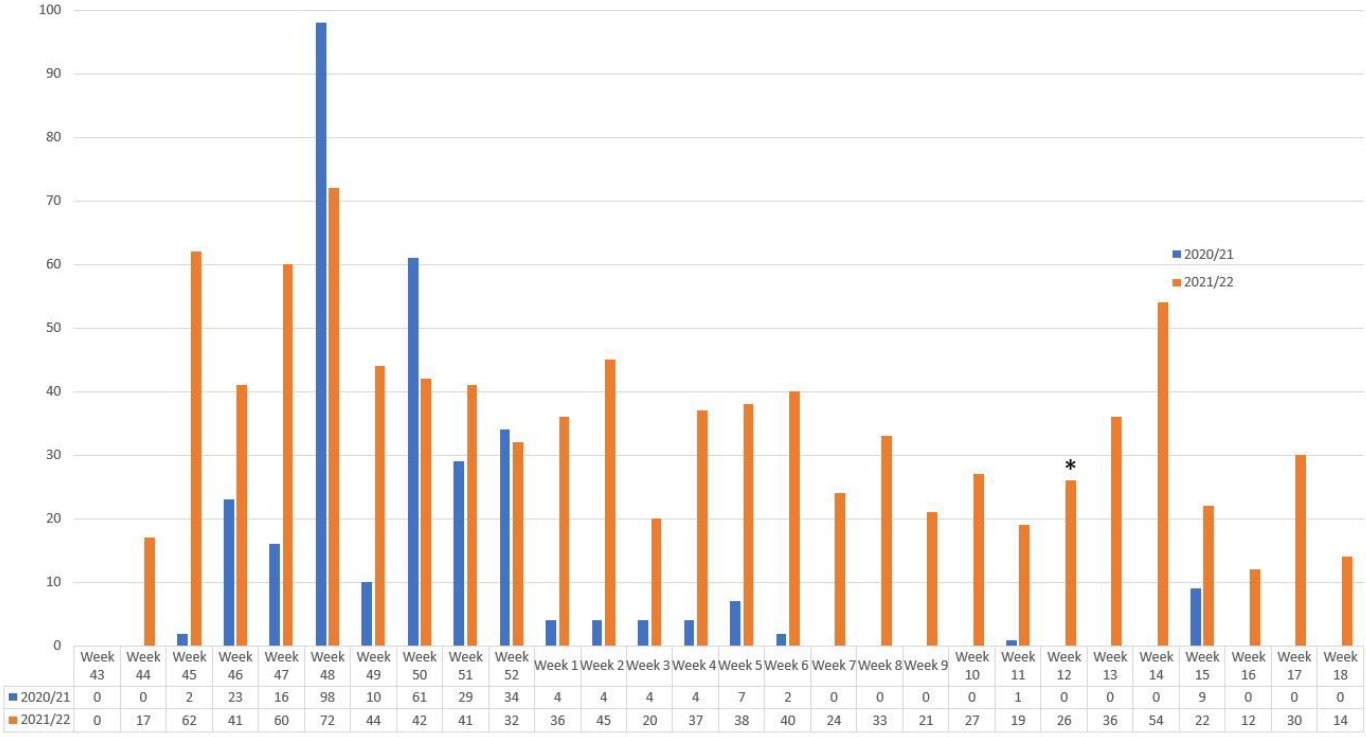


Since our last outbreak assessment on 25 April 2022, HPAI H5 has been detected in wild birds in 10 further locations in Great Britain, bringing the total to 280 separate wild bird positive locations, involving 47 different bird species (listed in Table 2), in 75 separate counties. The total number of positive wild bird findings is 1,047, with most in England (Table 2). The findings reported within the last two weeks are widespread across Great Britain, with multiple findings continuing to be 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 fluctuated between weeks 15 and 18 with the highest number (30) reported in week 17. Nevertheless, this represents an almost twofold reduction compared with week 14 (30 versus 54; Figure 2).

There have been 64 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.

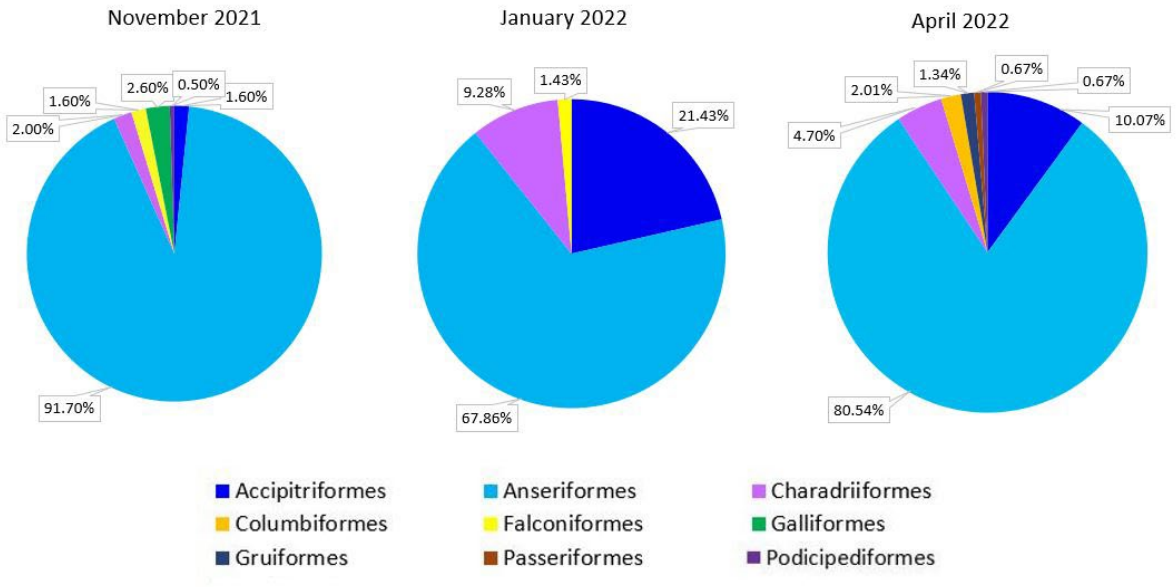
Figure 2: Wild bird HPAI H5N1 positives across Great Britain 2020 to 2021 and 2021 to 2022 seasons. The asterisk denotes an increase in surveillance sensitivity in England.



	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	Week 15	Week 16	Week 17	Week 18
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	9	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	22	12	30	14

The species of wild birds affected by HPAI in Great Britain have varied throughout the current 2021 to 2022 season, including a greater variety of wild bird species overall. In particular, an increasing proportion of birds of prey/raptor (*Accipitriformes*) and other resident species (*Passeriformes, Columbiformes*) have become infected as the outbreak has progressed, although Anseriformes (swans, geese and ducks) still represent the main order of birds affected, with some continued large mortality events (Figure 3); especially in North-East Scotland where birds continue to stop-over as part of their northward spring migration. Cases confirmed in the past two weeks include many species that are resident such as Canada geese (16), greylag geese (11), common buzzards (7), mute swans (6) and mallard ducks (5). This suggests a reduction in the influence of overwintering migrants on the risks produced by HPAI although there have been five recent detections in Pink Footed geese.

Figure 3: Proportion of HPAI H5 wild bird positives by Order across the 2021 to 2022 HPAI season in Great Britain as of 10 May 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 10 May 2022

Region and species	Total number of birds testing positive
England	**670**
Barnacle Goose	13
Bewick's Swan	1

Region and species	Total number of birds testing positive
Black headed gull	17
Black Swan	2
Canada Goose	138
Common Buzzard	58
Common Eider	1
Coot	1
Curlew	2
Gadwall	1
Goshawk	1
Great-crested Grebe	3
Grey Heron	2
Greylag goose	36
Guillemot	1
Gull sp.	8
Hen Harrier	1
Herring Gull	9
Kestrel	6
Kittiwake	1
Lapwing	1
Little Gull	1
Magpie	1
Mallard Duck	14
Moorhen	3
Mute Swan	230
Oystercatcher	1
Peregrine Falcon	5
Pheasant	8
Pied Wagtail	6
Pink Footed goose	18
Red Kite	2
Sea Eagle	1
Sparrowhawk	7
Tawny Owl	1
Tufted Duck	1
Unidentified Swan	17
Unspecified Dove	2
Unspecified Duck	1
Unspecified Goose	14
Unspecified pigeon	1
White Fronted Goose	1

Region and species	Total number of birds testing positive
Whooper Swan	31
Widgeon	1
Wales	**40**
Canada Goose	4
Common Buzzard	4
Goshawk	1
Greylag goose	1
Herring Gull	1
Mute Swan	15
Peregrine Falcon	1
Pheasant	5
Sparrowhawk	1
Unidentified Swan	1
Unspecified Goose	5
Unspecified pigeon	1
Scotland	**337**
Barnacle Goose	34
Bird of Prey Unspecified	3
Black headed gull	1
Blackbird	1
Canada Goose	3
Common Buzzard	57
Common Eider	5
Greylag goose	26
Gull sp.	9
Herring Gull	7
Kestrel	1
Magpie	1
Mallard Duck	1
Mute Swan	28
Pink Footed goose	80
Red Kite	2
Sea Eagle	2
Sparrowhawk	5
Unidentified Swan	16
Unspecified Duck	2
Unspecified Goose	42
Unspecified Gull	1
Unspecified waterfowl	1
Whooper Swan	9

Region and species	Total number of birds testing positive
Wood Pigeon	1
Grand Total	**1,047**

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 10 May 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			35								35
Belgium	6		63	3							72
Bosnia and Herzegovina			2								2
Bulgaria	1	24									25
Croatia			8	2							10
Czech Republic			18	5							23
Denmark		1	114	4	1	1					121
Estonia			10		2	1					13

Country	H5 (WB)	H5 (P)	H5N1 (WB)	H5N1 (P)	H5N8 (WB)	H5N8 (P)	H5N2 (WB)	H5N2 (P)	H5N3 (WB)	H5N5 (WB)	Total
Faroe Islands			1								1
Finland			16		2						18
France			92	1,062							1,154
Germany			1,032	69			1		1		1,101
Greece			7								7
Hungary			32	180							212
Iceland			2	1							3
Ireland			75	6							81
Italy			21	249							270
Latvia			2								2
Lithuania			5								5
Luxembourg			4								4
Moldova				1							1
Netherlands	1		204	42	2						249
Norway			8	2						4	14
Poland			32	103				1			136
Portugal			12	4							16

Country	H5 (WB)	H5 (P)	H5N1 (WB)	H5N1 (P)	H5N8 (WB)	H5N8 (P)	H5N2 (WB)	H5N2 (P)	H5N3 (WB)	H5N5 (WB)	Total
Republic of North Macedonia			3								3
Romania			14	5							19
Russia	35	12	13	9							69
Serbia and Montenegro			3		3		1				7
Slovakia			22	2	1						25
Slovenia			39	1							40
Spain			40	31							71
Sweden			40	4	1						45
Switzerland			3								3
Ukraine	2	1									3
United Kingdom			380	78	1						459

Northern Europe (OIE data only, by report date)

Since our last outbreak assessment on 25 April 2022, HPAI H5 has been reported in 16 European countries excluding the United Kingdom (OIE). The total number of European countries affected this HPAI season according to IZSVe (2022) is currently 34.

Austria

Between 25 April and 10 May 2022, the OIE has not reported any new HPAI H5N1 IPs but has reported one further case of H5N1 involving six wild greylag geese (*Anser anser*).

Bulgaria

Between 25 April and 10 May 2022 there have been 12 outbreaks of untyped H5Nx HPAI in Bulgaria. Seven premises had ducks, three had broiler chickens and two premises had laying hens. Of the 12 premises, seven reported the number of birds, which ranged from 12,250 to 28,796.There was also one reported case of untyped H5Nx in a wild bird in Bulgaria since our last assessment, involving the Eurasian magpie (*Pica pica*).

Finland

Since our last assessment, the OIE has not reported any further HPAI IPs, but has reported one further case of HPAI H5N1, involving two whooper swans (*Cygnus cygnus*).

France

Between 25 April and 10 May 2022, the OIE has reported 167 further HPAI IPs with domestic poultry. With the exception of six premises, the majority of the reported HPAI IPs formed two geographic groups: one spanning the Loire-Atlantique, Maine-et-Loire and Vendée departments, the second spanning the Dordogne, Lot et Garonne and Lot departments in the south. Where the type of birds kept was reported, chickens and ducks were the most prevalent species, with turkey, guineafowl and pigeon premises also reported. There is a time delay in receiving case reports, and while outbreaks in France are continuing to occur, the situation is improving with the four-week rolling number of outbreaks reduced from 146 last week to 99 this week (Plateforme ESA, 2022)

In addition, a further nine outbreaks of HPAI H5N1 were reported in non-poultry premises, comprising of eight backyard holdings and one zoo/bird park with birds of prey and parrots. The bird park had 300 birds in total and is located in Rocamadour, within the Lot department. The number of birds at the backyard holdings ranged from two to 50.

Germany

There have been no further poultry premises with HPAI H5N1 reported for Germany since our last assessment, but there have been a further 37 cases reported in wild

birds, including unspecified Accipitridae (3), Anatidae (35), Charadriidae (1), Laridae (8), Phalacrocoracidae (11) and Cygnus (2) birds.

Hungary

Between 25 April and 10 May 2022, there has been an increase in the rate of detections in Hungary. The OIE has reported a further 66 HPAI H5N1 IPs in Hungary. Of these 66 IPs, 35 had foie gras or fattening ducks and 22 had foie gras or fattening geese, forming the majority of the affected premises. The IPs were all located in the Southern Great Plain of Hungary.

Iceland

Since our last assessment, the OIE has reported the first poultry IP with HPAI H5N1 of this 2021/2022 outbreak season, a backyard premises located in Reykir, northern Iceland with 10 birds. A further case of HPAI H5N1 in a wild pink-footed goose (*Anser brachyrhynchus*) was also reported which is anticipated by the expected migration northwards of these birds.

Lithuania

There have been no reports of HPAI in poultry since 25 April, but there have been two further cases of HPAI H5N1, involving a total of three white storks (*Ciconia ciconia*).

Netherlands

There have been nine further commercial poultry HPAI H5N1 IPs reported since 25 April 2022. Seven of the nine IPs had laying hens, one had breeding ducks and one had broiler breeders. Only four of the IPs reported the number of birds, which ranged from 2,764 to 28,579. Geographically, all of the IPs are located in the province of Gelderland; six are located in Lunteren, the remaining three in Voorthuizen, Terschuur and Barneveld. While outbreaks in the Netherlands are continuing to occur, the situation is improving and the four-week rolling number of outbreaks has been falling for nine consecutive weeks (Plateforme ESA, 2022) There were no HPAI H5N1 events reported in wild birds in the Netherlands.

Norway

There have been no further reports of HPAI H5N1 in poultry or wild birds since 25 April, but there have been two further cases of HPAI H5N5 reported, each involving a single white-tailed eagle (*Haliaeetus albicilla*).

Poland

Since 25 April 2022, the OIE has reported a further three HPAI H5N1 IPs with domestic poultry. The type of birds kept at the premises was not reported. The number of birds kept was reported for only one of the farms, which was 23,645. There have been no wild bird cases of HPAI reported by OIE since our last assessment.

Romania

A further two poultry IPs with HPAI H5N1 have been reported since 25 April. The total number of birds kept was not reported for either IP, however the reported number of birds killed and disposed of was 51 and 9,200 for each IP. There have been no wild bird cases of HPAI reported by OIE since our last assessment.

Russia

There have been no further HPAI IPs reported since our last assessment but there has been one case of HPAI H5N1 reported, involving a single carrion crow (*Corvus corone*).

Sweden

Since 25 April 2022, the OIE has not reported any further poultry IPs with HPAI but has reported three cases of HPAI H5N1 in wild birds. Each case involved single birds of the barnacle goose (*Branta leucopsis*), European herring gull (*Larus argentatus*) and white-tailed eagle (*Haliaeetus albicilla*) species.

Southern Europe (OIE data only, by report date)

Greece

There have been no further IPs with HPAI reported in Greece since 25 April, but there has been one further HPAI H5N1 event in a wild bird, according to OIE reporting. The event involved a single found dead dalmatian pelican (*Pelecanus crispus*).

Spain

Since 25 April 2022, the OIE has not reported any further HPAI IPs with domestic poultry, but has reported three cases of HPAI H5N1 in wild birds. These cases involved one unidentified Anatidae, two white storks (*Ciconia ciconia*), one Egyptian goose (*Alopochen aegyptiaca*) and five greylag geese (*Anser anser*).

According to OIE, there have been no further reports of HPAI H5N1 outbreaks in domestic poultry or cases in wild birds between 25 April and 10 May in; Albania, Belgium, Bosnia and Herzegovina, Croatia, Czech Republic, Denmark, Estonia, the

Faroe Islands, , Italy, Latvia, Luxembourg, Moldova, North Macedonia, Portugal, the Republic of Ireland, Serbia and Montenegro, Slovakia, Slovenia, 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 10 May 2022

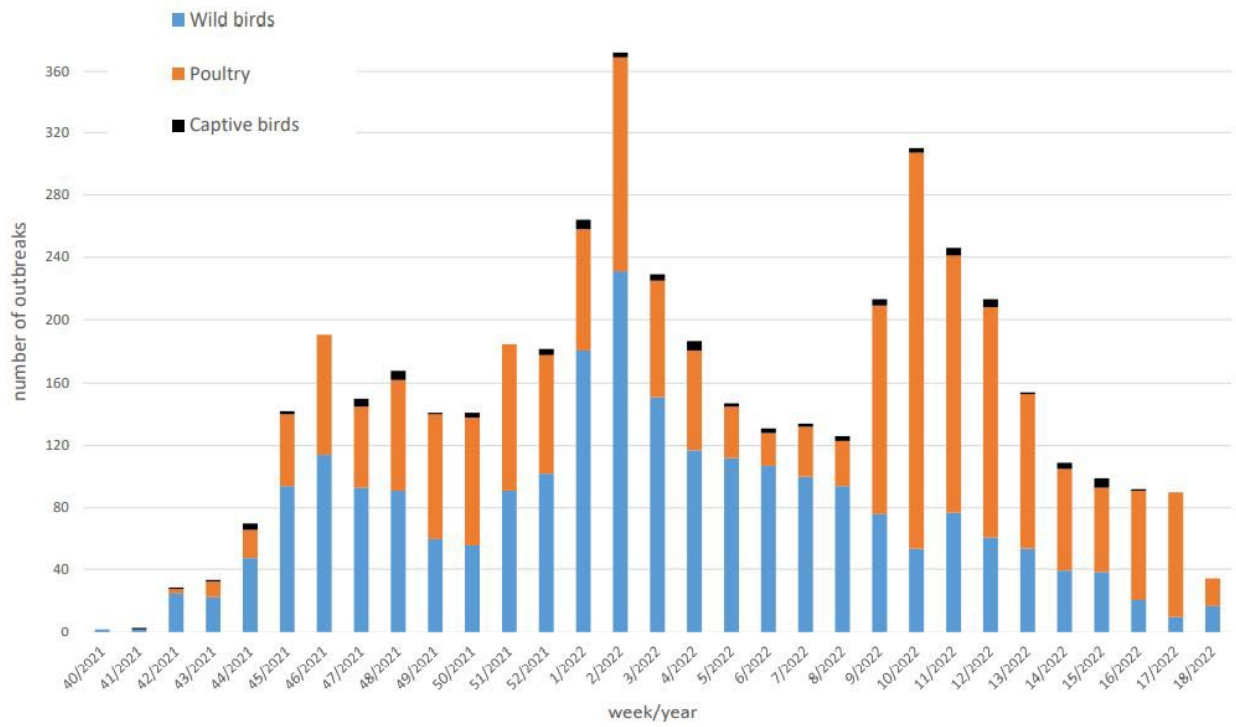
Country	Oct 21-P	Oct 21-NP	Nov 21-P	Nov 21-NP	Dec 21-P	Dec 21-NP	Jan 22-P	Jan 22-NP	Feb 22-P	Feb 22-NP	Mar 22-P	Mar 22-NP	Apr 22-P	Apr 22-NP	May 22-P	May 22-NP
Albania	0	0	0	0	0	0	0	0	0	0	4	1	0	0	0	0
Austria	0	0	0	1	0	7	0	13	0	6	0	1	0	2	0	1
Belgium	0	0	0	11	2	5	1	20	0	25	1	9	0	3	0	0
Bosnia and Herzegovina	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Bulgaria	0	0	0	0	7	0	2	0	1	0	1	0	9	1	5	0
Croatia	0	0	1	2	0	4	1	5	0	2	0	0	0	0	0	0
Czech Republic	0	0	2	5	2	4	0	0	1	9	0	1	1	0	0	0
Denmark	0	2	1	19	1	14	3	39	2	23	0	12	0	6	0	0
Estonia	1	3	0	1	0	5	0	0	0	2	0	0	0	1	0	0

Country	Oct 21-P	Oct 21-NP	Nov 21-P	Nov 21-NP	Dec 21-P	Dec 21-NP	Jan 22-P	Jan 22-NP	Feb 22-P	Feb 22-NP	Mar 22-P	Mar 22-NP	Apr 22-P	Apr 22-NP	May 22-P	May 22-NP
Faroe Islands	0	0	0	0	0	2	0	0	0	1	0	0	0	0	0	0
Finland	0	7	0	4	0	0	0	2	0	1	0	2	0	1	0	1
France	0	0	1	4	29	14	171	13	161	16	602	13	77	9	167	9
Germany	1	5	17	30	17	116	19	187	9	301	3	74	4	101	0	10
Greece	0	0	0	0	0	1	0	0	0	0	0	10	0	2	0	1
Hungary	0	0	20	2	52	5	41	11	0	9	0	3	29	1	38	0
Iceland	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
Ireland	0	0	2	17	4	12	0	5	0	4	0	8	0	0	0	0
Italy	4	0	113	4	168	10	23	4	4	5	5	0	1	0	0	0
Latvia	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
Lithuania	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	2

Country	Oct 21-P	Oct 21-NP	Nov 21-P	Nov 21-NP	Dec 21-P	Dec 21-NP	Jan 22-P	Jan 22-NP	Feb 22-P	Feb 22-NP	Mar 22-P	Mar 22-NP	Apr 22-P	Apr 22-NP	May 22-P	May 22-NP
Luxembourg	0	0	0	2	0	1	0	1	0	1	0	0	0	0	0	0
Moldova	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Netherlands	1	0	7	40	2	64	6	102	11	93	7	40	9	59	2	0
Norway	0	0	2	2	0	2	0	3	0	1	0	0	0	4	0	2
Poland	0	0	23	3	40	5	16	18	5	6	9	0	4	1	0	0
Portugal	0	0	0	0	2	1	0	6	5	1	0	5	0	0	0	0
Republic of North Macedonia	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0
Romania	0	0	0	1	0	2	0	2	1	7	2	4	0	0	2	0
Russia	3	28	5	9	2	2	0	1	4	0	0	1	0	1	0	0
Serbia and Montenegro	0	5	0	1	0	0	0	0	0	0	0	0	0	0	0	0

Country	Oct 21-P	Oct 21-NP	Nov 21-P	Nov 21-NP	Dec 21-P	Dec 21-NP	Jan 22-P	Jan 22-NP	Feb 22-P	Feb 22-NP	Mar 22-P	Mar 22-NP	Apr 22-P	Apr 22-NP	May 22-P	May 22-NP
Slovakia	0	0	1	1	0	2	1	2	1	3	0	5	0	0	0	0
Slovenia	0	0	0	0	1	2	0	35	0	0	0	0	0	0	0	0
Spain	0	0	0	0	0	0	1	4	17	15	23	12	0	6	0	0
Sweden	0	1	0	9	3	6	0	13	0	7	0	3	0	1	0	3
Switzerland	0	0	0	1	0	0	0	0	0	1	0	2	0	0	0	0
Ukraine	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0
United Kingdom	0	1	12	53	38	96	8	64	7	45	6	49	4	14	0	24

Figure 4: Number of HPAI positive events reported in poultry, captive and wild birds each week in Europe from October 2021 to 9 May 2022 (IZSVe, 2022)



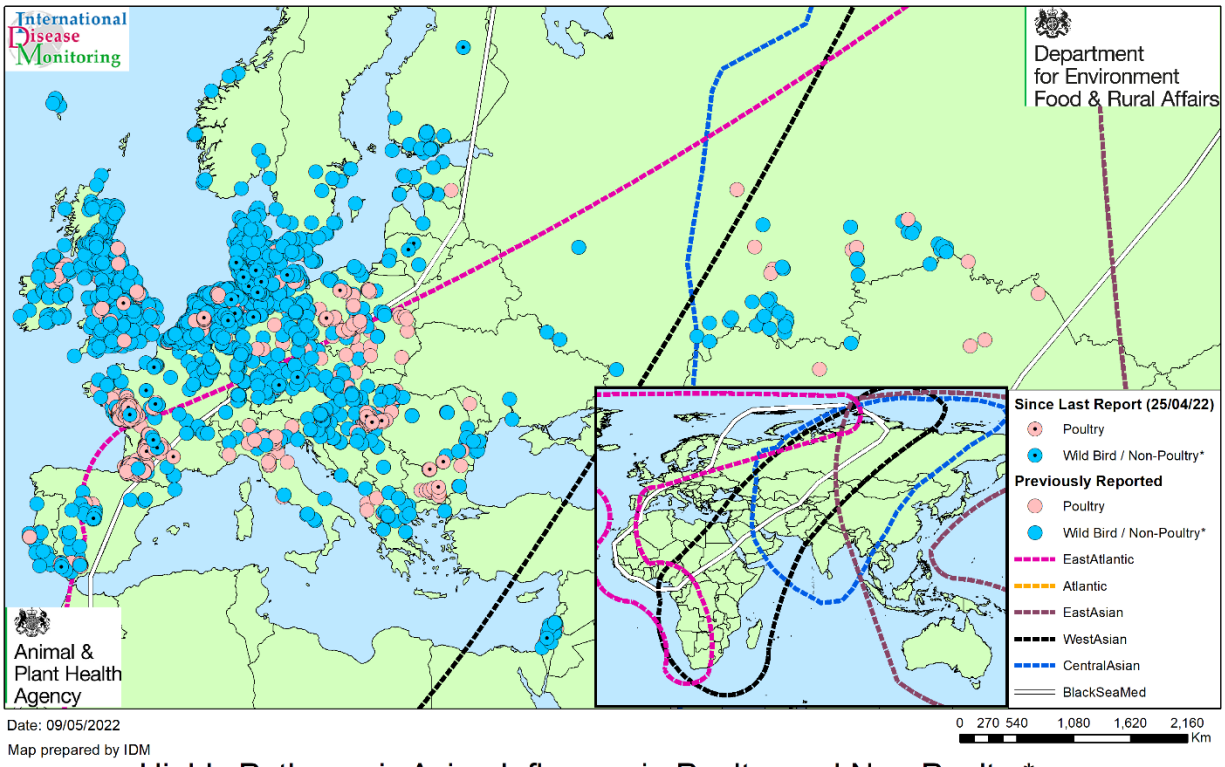
Across Europe, the number of poultry IPs reported weekly has increased slightly between weeks 14 and 17, with around 70 outbreaks in week 14, down to 55 in week 15 then increasing to around 70 again in week 16 and 80 in week 17 (Figure 4). Cases of HPAI infection in wild birds continue to show a decreasing trend between weeks 14 and 17 in Europe (Figure 4). There is a general decreasing trend in the number of poultry IPs with HPAI H5 reported per month by the OIE for European countries with slight spiking in France and Hungary according to available data for May so far (Table 4).

Genetic analysis of viral sequences (detailed in our previous report) indicate that 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.

Data generated at APHA Weybridge indicates that this H5N1 virus will retain infectivity in the environment at low temperatures, for up to 45 days at 4°C (Ian Brown, APHA Weybridge, Pers. Comm.). As higher temperatures, sunlight intensity and day length reduce virus survival, environmental decay will be occurring at a faster rate. The survival at 20°C drops to 18 days supporting declining virus infectivity in the environment as temperatures averaging 14°C have been occurring in the UK for the last few weeks.

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 10 May 2022. Those events reported since our last outbreak assessment on 25 April are identified with black central dots.

Map 3: HPAI outbreaks (from OIE) in poultry, captive, and wild birds across Europe, September 2021 to 10 May 2022.



Implications for the UK

Though the detections of HPAI in wild birds and rate of new IP's is greatly decreased from what was observed earlier on in the season, the domestic poultry and captive bird populations in Great Britain continue to remain under a higher 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. While the infection pressure from wild birds continues to decrease, 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, especially since the lifting of housing measures on 2 May.

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 downward trend in wild bird cases (Figure 4) may also be reflected in UK wild bird cases.

Currently, although some traffic of birds migrating eastward from Ireland may occur where they briefly use stop-over sites in the UK, most eastbound migratory species are thought to overfly the UK. Northbound species leaving Ireland for breeding sites in Greenland and Iceland, may perhaps stop-over in western Scotland or the Northern Isles.

The departure of migratory wildfowl is very well progressed. This year the timings of migratory movements appear 'average', and it is most likely that a substantial proportion of the migratory species will have already left the UK.

Resident birds (species which breed here and can be relatively sedentary) have also been infected, may continue to circulate viruses and consequently act as a source of infection to poultry. However, changes in their behaviour may also reduce this risk, as birds make regional or neighbourhood scale movements away from winter aggregations on larger waters into smaller groups at their breeding sites (often smaller waterbodies). This change in population structure and contact behaviour ought to reduce contamination risk close to poultry production, and circulation of virus (as was experienced in 2016/17 and 2020/21).

It should be noted that the departure of migrant waterfowl does not mark the end of the risks produced by wild birds and HPAI. The virus is likely to continue to circulate in resident wild birds in GB over the next month, with sporadic detections, although the

rate is predicted to continue falling throughout spring in line with previous epizootics, although detection in sentinel species (e.g., raptors) may continue for some time.

Increasing temperature and sunlight will reduce the level of environmental contamination as higher temperatures, sunlight intensity and day length reduce virus survival. As a result environmental decay will be occurring at a faster rate. As the day length increases over the coming weeks the current warm weather is also expected to continue. The long-range forecast from the Met Office predicts that temperatures are likely to remain above normal (forecast until 8 June). With the average maximum temperature for May at 14.5°C, (according to a 20-year average based on the West Yorkshire weather station as the centre of GB Bingley SAMOS (West Yorkshire) UK climate averages - Met Office) the Met Office anticipates that temperatures will likely move back to nearer normal through June.

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, though a downward trend is observed.

There have been 1,047 confirmed cases of HPAI H5 in wild birds in Great Britain to 10 May 2022 across a range of species, with multiple detections in wild birds each week (Figure 2). The wild bird species 'order shift' observed between November 2021 and January 2022 (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. As the outbreak has progressed further into the spring months of 2022, the proportion of HPAI-positive Anseriformes (waterfowl) has increased. A potential contributing factor to this increase could be the increased sensitivity of surveillance in England since 22 March. The overall number of detections in wild birds, and wild bird infection pressure, is also decreasing (Figure 2).

On the date of this report migrating waterfowl are no longer expected to enter the UK from Continental Europe, even if the weather there were to deteriorate significantly in the coming weeks. Even though many birds have been infected already and the remaining migratory waterbirds are departing the UK, there are still immunologically naïve susceptible resident bird species in the UK. However, as these birds disperse to their breeding grounds within the UK, bird-to-bird contacts will reduce, and with decreasing environmental levels of virus the wild bird transmission rate is also

decreasing and with it the wild bird risk. With the departure of the migratory waterbirds from the UK, resident wild bird species will now play a more important role in any residual spread of virus. Bridging species will play a less important role in onward spread of virus given the decrease in environmental contamination. Higher environmental temperatures, together with increasing sunlight intensities will reduce environmental levels of H5N1 and the associated risks in the spring months.

The risk of HPAI H5 infection in wild birds in GB is therefore maintained at **HIGH**.

The risk of exposure of poultry across the whole of Great Britain is maintained at **low** (with high uncertainty) where good biosecurity is applied, and at **medium** (with high 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. The housing measures were subsequently lifted across the UK on Monday 2 May 2022, though the AIPZ still remains in place, and biosecurity requirements should be adhered to.

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 sunnier, warmer weather is forecast. Strict attention should be made to ensure compliance with reviewed contingency plans, with regular maintenance checks and repairs being carried out promptly not only on buildings, but to fencing and boundaries of outdoor areas to minimise contact with wild birds.

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 to 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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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).

- DAERA (2022) Department of Agriculture, Environment and Rural Affairs Avian influenza information page

- IZSVe (2022) IZSVe report - Number of highly pathogenic avian influenza positive events notified by country and poultry category (pdf)

- Plateforme ESA (2022) Weekly bulletin of international health monitoring (BHVSI-SA) 02/05/2002 - 08/05/2022

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