Updated Outbreak Assessment #30

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

18 July 2022 Ref: VITT/1200 HPAI in the UK and Europe

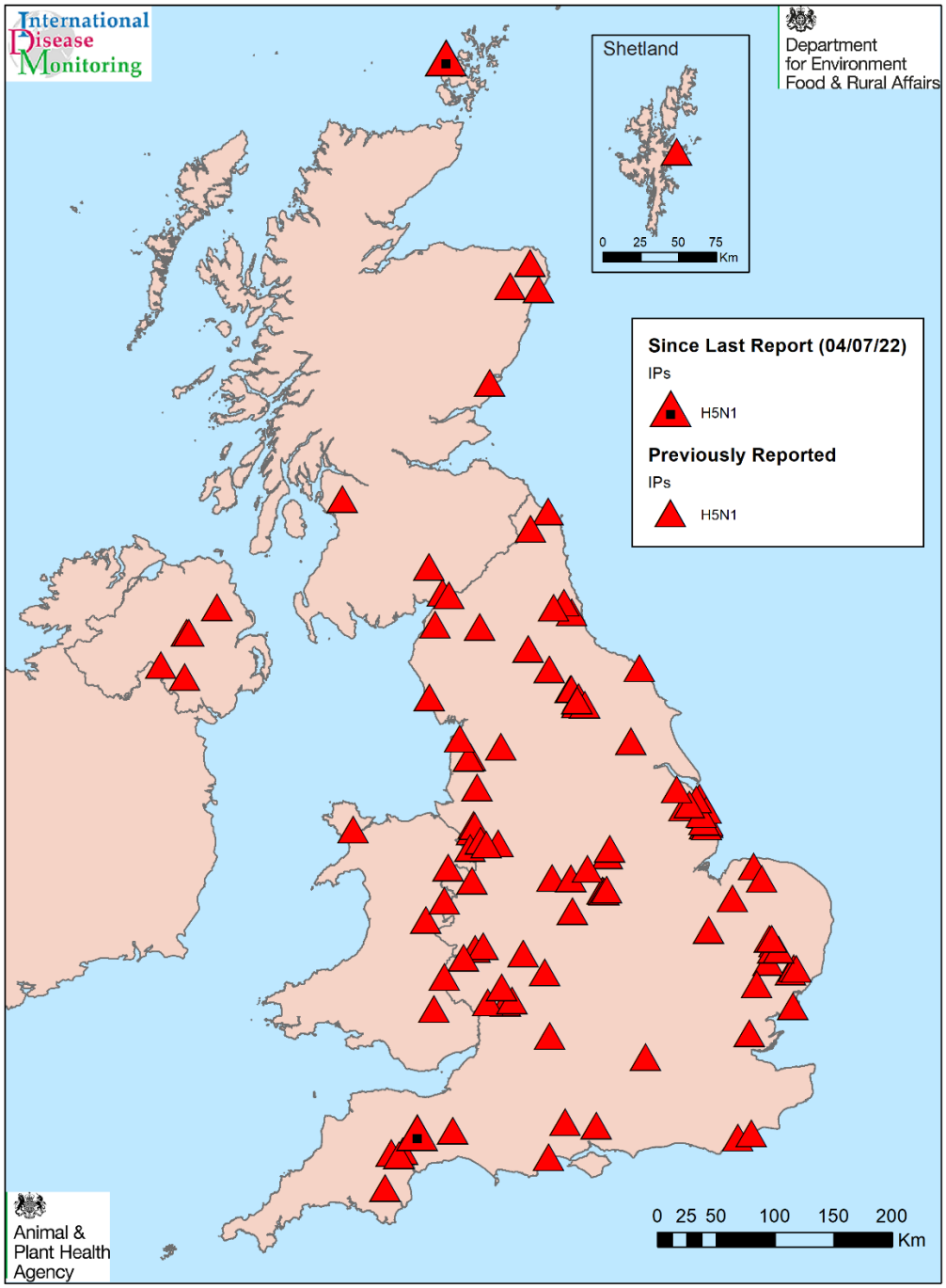
Disease report

Since our last outbreak assessment on 04 July 2022, there have been further reports of high pathogenicity avian influenza (HPAI) H5 both in domestic poultry and in wild birds in the United Kingdom (UK) and Europe. These include two new infected premises (IPs) confirmed with HPAI H5N1 in domestic poultry, one in Scotland and one in England. There have been 27 further HPAI H5 events detected in wild birds in Great Britain (GB) since our last assessment.

The World Organisation for Animal Health (WOAH) has reported further IPs with HPAI H5N1 in domestic poultry in France, Germany and Hungary since our last report.

Wild bird cases of HPAI H5N1 in Europe appear to be increasing in a third peak this summer with cases reported in Belgium, Denmark, the Faroe Islands, Finland, France, Germany, the Republic of Ireland, the Netherlands, Norway, Russia, Spain and Sweden since our last report. Further cases of HPAI H5N5 in wild birds have been reported in Norway as far north as Svalbard since our last assessment.

Map 1: HPAI H5 outbreaks in domestic poultry[1] and captive birds across the United Kingdom, October 2021 to 18 July 2022



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

Situation assessment

United Kingdom

Since the first HPAI H5N1 detection on 15 October 2021, there have been 118 further confirmed IPs with HPAI H5N1 in poultry and captive birds across Great Britain (Map 1), (Table 1) including one on the Shetland Islands north of Scotland. Of these 119 IPs in total, 103 have occurred in England, 11 have occurred in Scotland (including the Shetland Islands), and five in Wales. The AIPZ, which requires personnel working with poultry and hobbyists to take additional biosecurity measures, remains in place in England, Wales and Scotland.

Since our last assessment on 04 July 2022, HPAI H5N1 has been confirmed at two further backyard premises, one in the Orkney Islands, Scotland, and one in Devon, England.

There have been no new premises with HPAI H5N1 confirmed in Northern Ireland since our last report on 04 July 2022. Following the lifting of the AIPZ in Northern Ireland on 1 June 2022, the total number of poultry IPs remains at six including the counties of Tyrone, Antrim, Armagh and Fermanagh (DAERA, 2022). There have been confirmed cases of HPAI in wild sea birds reported in the following areas: Portrush West Strand, Portballintrae, Rathlin Island, Portaferry, Lough Erne and associated lakes (DAERA, 2022). As of 15 July 2022, the number of wild bird findings of HPAI H5 in Northern Ireland is 10 (IZSVe, 2022).

Table 1: Current poultry[1] and captive bird premises with High Pathogenicity Avian Influenza (HPAI) H5N1 in Great Britain and Scottish Isles as of 18 July 2022. For outbreaks which were resolved before 03 July, see our previous outbreak assessment

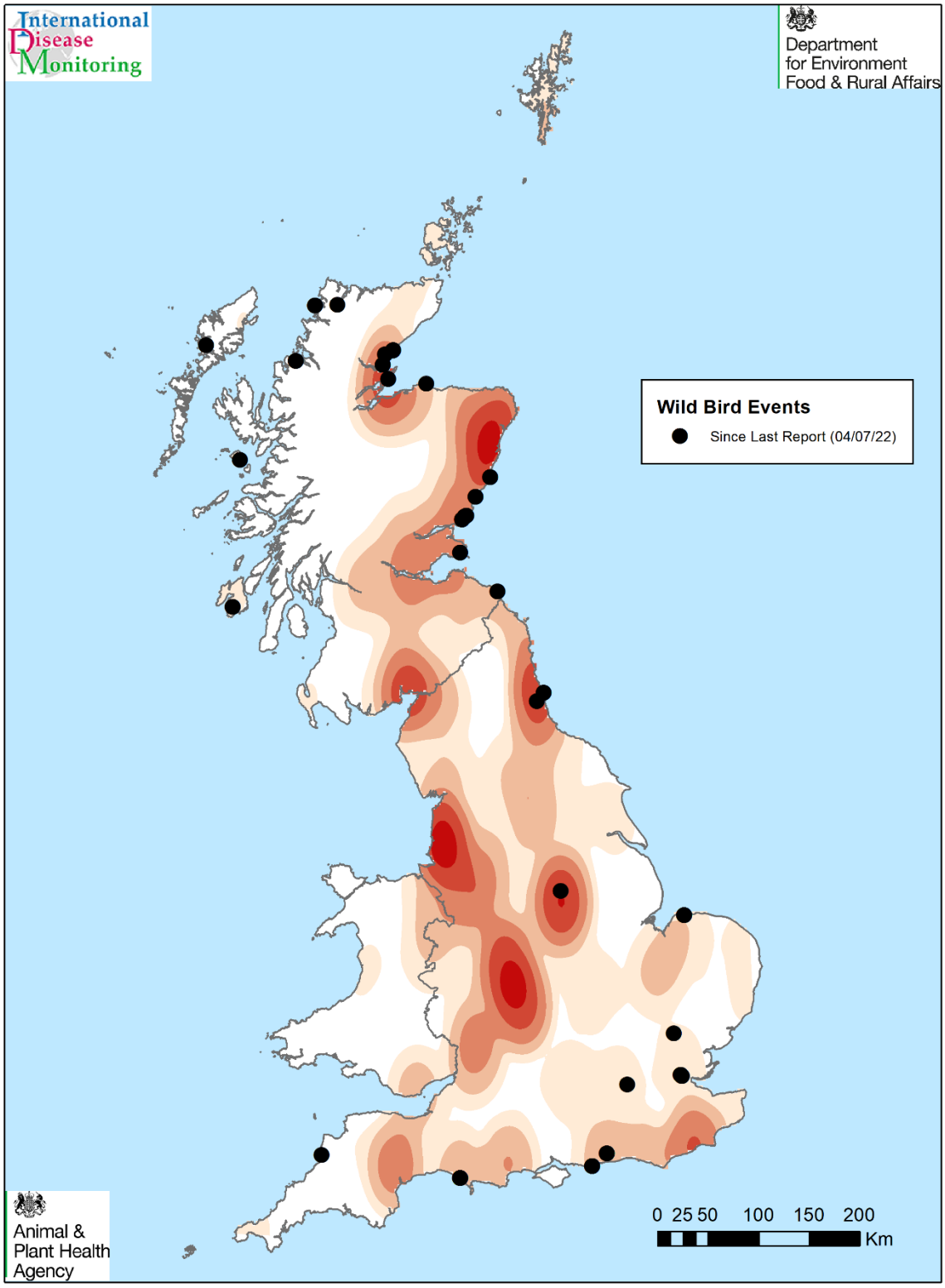
Outbreak Number	Date HPAI H5N1 confirmed	Location, County	Description	Date resolved[2]
110	24 April 2022	Near Ilkeston, Derbyshire	Smallholder mixed species	6 July 2022
111	7 May 2022	Near Lowdham, Nottinghamshire	Commercial laying hens	
112	19 May 2022	Near Southwell, Nottinghamshire	Commercial smallholder	

Outbreak Number	Date HPAI H5N1 confirmed	Location, County	Description	Date resolved[2]
			mixed species	
113	30 May 2022	Near the Island of Whalsay, Shetland	Commercial free range laying hens	3 July 2022
114	1 June 2022	Near Ludlow, Shropshire	Commercial fattening turkeys	
115	7 June 2022	Near Ludlow, Shropshire	Commercial fattening turkeys	
116	15 June 2022	Near Bexhill-on-Sea, East Sussex	Backyard chickens	
117	21 June 2022	Near Hastings, East Sussex	Wildlife rehabilitation centre	
118	6 July 2022	Near Birsay, Orkney	Backyard chickens	
119	8 July 2022	Near Tiverton, Devon	Backyard mixed species	

[1] According to the 2021 WOAH definition of poultry: Terrestrial Code Online Access - WOAH - 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

Map 2: Map showing the relative density of and most recent HPAI H5 positive findings in wild birds across Great Britain October 2021 to 18 July 2022

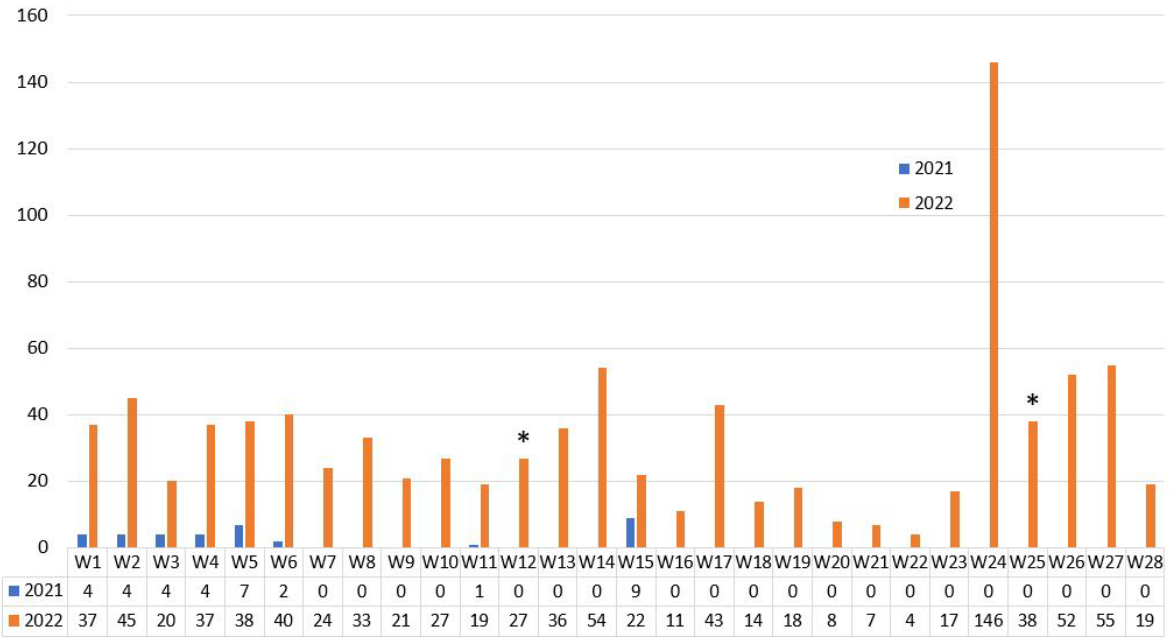


Since our last outbreak assessment on 04 July 2022, HPAI H5 has been detected in wild birds in 27 locations in Great Britain and the Scottish Isles, 12 of which have not had HPAI reported in wild birds previously, bringing the total to 343 separate wild bird positive locations, involving 61 different bird species (listed in Table 2), in 78 separate counties. The total number of positive wild bird findings is 1,422, with most in England (Table 2). The findings reported within the last two weeks are largely focussed around the Scottish coastline and southern coast of England. Most of these findings were seabird species, involving mass mortality events, although there was also one unrelated inland waterfowl case.

The majority of wild birds that have tested positive for HPAI H5 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 between January and July 2022 compared to the same period in 2021 (Figure 1).

There have been 53 cases for which the HPAI H5 genotype has been identified, and characterisation of neuraminidase (NA) subtype is in progress due to low viral loads in samples. The NA could not be determined for a total of eight H5 HPAI samples from wild birds, due to very low viral loads.

Figure 1: Wild bird HPAI H5N1 positives per week across Great Britain: January to July 2021 and 2022. Asterisks denote changes in surveillance sensitivity[1]. For earlier data from both HPAI seasons, see our previous outbreak assessment.



	W1	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	W14	W15	W16	W17	W18	W19	W20	W21	W22	W23	W24	W25	W26	W27	W28
2021	4	4	4	4	7	2	0	0	0	0	1	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0
2022	37	45	20	37	38	40	24	33	21	27	19	27	36	54	22	11	43	14	18	8	7	4	17	146	38	52	55	19

[1]Increased sensitivity of surveillance in England in week 12 and decreased sensitivity of surveillance in heavily affected seabird populations across Great Britain in week 25.

The species of wild birds affected by HPAI in mainland Great Britain have varied throughout the current 2021 to 2022 season, including a greater variety of wild bird species overall compared to previous seasons. An increasing proportion of birds of prey/raptor species (*Accipitriformes*) and other resident species (*Passeriformes, Columbiformes*) have become infected as the outbreak has progressed and more recently, many seabirds including gannets, gulls, guillemots and great skua have become infected throughout June and July 2022. For further information on the "order shift" of HPAI during the 2021/2022 epizootic season, see our previous outbreak assessment.

This increased number of cases in sea birds may be in part due to breeding patterns, with auk species such as guillemot now at coastal breeding sites where birds are closely packed on vertical cliff faces rather than dispersed out to sea. Gannets and auks nest in high density colonies on cliffs and would be exposed to faeces from other birds in the colony. For further details, please see the report (updated weekly) on findings of HPAI in wild birds in Great Britain and Northern Ireland.

As of 18 July 2022, there has been a total of 43 wild bird HPAI findings from across the Scottish islands of Shetland (29), Orkney (10) and the Western Isles (4). These findings comprise of four Arctic terns, eight common eider ducks, 11 gannets, two great black-backed gulls, 16 great skua, one unidentified gull and one unspecified goose and were collected between 18 March and 06 June 2022. We are continuing to monitor the situation regarding HPAI in the Scottish islands.

Table 2: Wild bird species in Great Britain that have tested positive for HPAI H5 as of 18 July 2022

Region and species	Total number of birds testing positive
England (below)	**839**
Arctic Tern	1
Barnacle Goose	13
Bewick's Swan	1
Black headed gull	32
Black Swan	2
Canada Goose	153
Common Buzzard	60
Common Eider	1
Common Tern	5

Region and species	Total number of birds testing positive
Coot	1
Cormorant	1
Curlew	2
Gadwall	1
Gannet	25
Goshawk	1
Great-crested Grebe	3
Grey Heron	3
Greylag goose	38
Guillemot	4
Gull sp.	11
Hen Harrier	3
Herring Gull	79
Kestrel	6
Kittiwake	1
Lapwing	1
Little Egret	1
Little Gull	1
Magpie	1
Mallard Duck	16
Moorhen	5
Mute Swan	235
Oystercatcher	1
Peregrine Falcon	5
Pheasant	8
Pied Wagtail	6
Pink Footed goose	18
Puffin	1
Razorbill	1
Red Kite	2
Roseate Tern	1
Sandwich Tern	9
Sea Eagle	1
Sparrowhawk	7
Tawny Owl	1
Tufted Duck	1
Unidentified Swan	17
Unspecified Dove	2
Unspecified Duck	1
Unspecified Goose	16

Region and species	Total number of birds testing positive
Unspecified pigeon	1
White Fronted Goose	1
Whooper Swan	31
Widgeon	1
Wales (below)	**45**
Black headed gull	1
Canada Goose	4
Carrion Crow	2
Common Buzzard	4
Goshawk	1
Greylag goose	1
Herring Gull	3
Mute Swan	15
Peregrine Falcon	1
Pheasant	5
Sparrowhawk	1
Unidentified Swan	1
Unspecified Goose	5
Unspecified pigeon	1
Scotland (below)	**538**
Arctic Tern	4
Barnacle Goose	34
Bird of Prey Unspecified	5
Black headed gull	2
Blackbird	1
Canada Goose	3
Common Buzzard	63
Common Eider	13
Gannet	107
Golden Eagle	2
Great black backed gull	3
Great skua	19
Greylag goose	26
Guillemot	28
Gull sp.	16
Herring Gull	12
Kestrel	1
Kittiwake	1
Magpie	1
Mallard Duck	1

Region and species	Total number of birds testing positive
Manx Shearwater	1
Mute Swan	28
Pink Footed goose	80
Razorbill	2
Red Kite	3
Sandwich Tern	1
Sea Eagle	3
Sparrowhawk	5
Unidentified Swan	16
Unspecified Crow	1
Unspecified Duck	2
Unspecified Goose	42
Unspecified Gull	1
Unspecified Skua	1
Unspecified waterfowl	1
Whooper Swan	9
Wood Pigeon	1
Grand Total	**1,422**

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 (WOAH) on a daily basis. Numbers reported are from WOAH's WAHIS platform.

Table 3: Events (to 18 July 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 WOAH report date

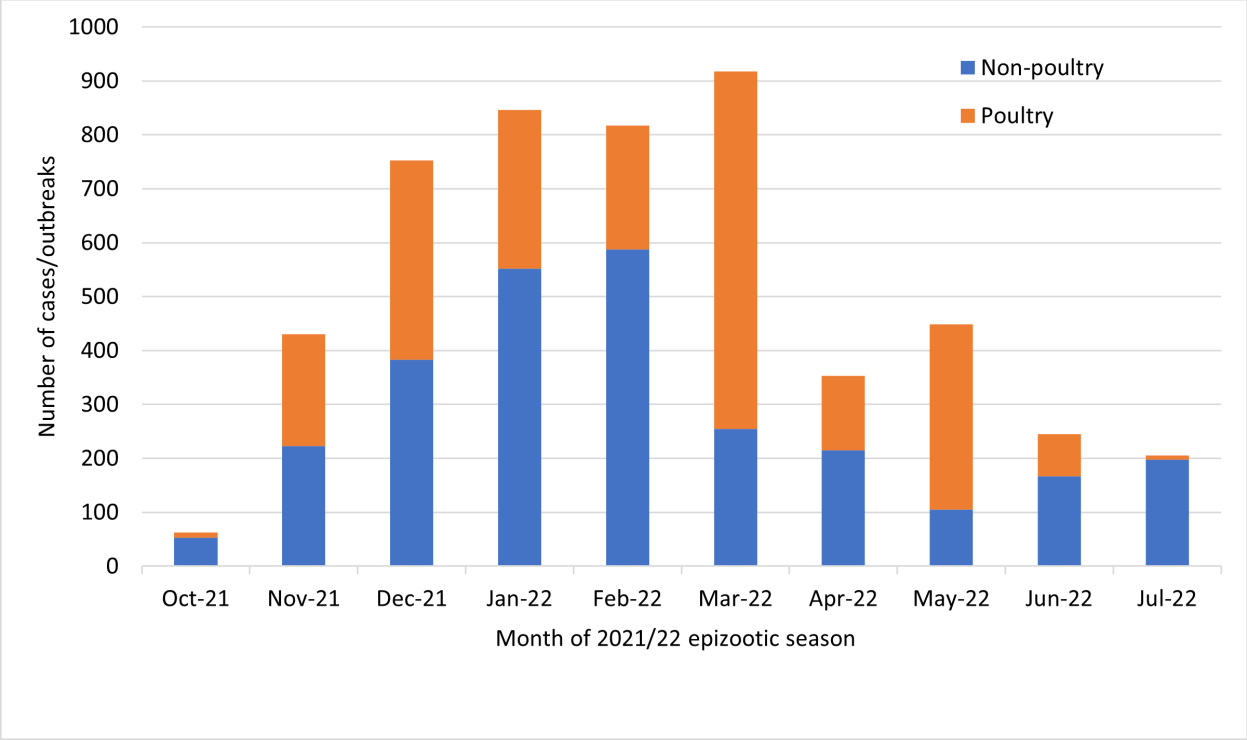
Country	H5 (WB)	H5 (P)	H5N1 (WB)	H5N1 (P)	H5N8 (WB)	H5N8 (P)	H5N2 (WB)	H5N2 (P)	H5N3 (WB)	H5N5 (WB)	Total
Albania			1			4					5
Austria			35								35

Country	H5 (WB)	H5 (P)	H5N1 (WB)	H5N1 (P)	H5N8 (WB)	H5N8 (P)	H5N2 (WB)	H5N2 (P)	H5N3 (WB)	H5N5 (WB)	Total
Belgium	6		86	3							95
Bosnia and Herzegovina			2								2
Bulgaria	1	32									33
Croatia			8	3							11
Czech Republic			21	6							27
Denmark		1	156	4	1	1					163
Estonia			10		2	1					13
Faroe Islands			8								8
Finland			24		2						26
France			156	1,124							1,280
Germany			1,069	72			1		1		1,143
Greece			7								7
Hungary			33	306							339
Iceland			20	1							21
Ireland			77	6							83
Italy			21	249							270

Country	H5 (WB)	H5 (P)	H5N1 (WB)	H5N1 (P)	H5N8 (WB)	H5N8 (P)	H5N2 (WB)	H5N2 (P)	H5N3 (WB)	H5N5 (WB)	Total
Latvia			2								2
Lithuania			6								6
Luxembourg			4								4
Moldova				1							1
Netherlands	1		251	47	2						301
Norway			19	2						16	37
Poland			35	103				1			139
Portugal			13	4							17
Republic of North Macedonia			3								3
Romania			14	5							19
Russia	35	12	28	9							84
Serbia and Montenegro			3		3		1				7
Slovakia			22	4	1						27
Slovenia			39	1							40
Spain			58	31							89
Sweden			56	4	1						61

Country	H5 (WB)	H5 (P)	H5N1 (WB)	H5N1 (P)	H5N8 (WB)	H5N8 (P)	H5N2 (WB)	H5N2 (P)	H5N3 (WB)	H5N5 (WB)	Total
Switzerland			3								3
Ukraine	2	1									3
United Kingdom			460	83	1						544

Figure 2: Number of HPAI H5 outbreaks in domestic poultry[1] and cases in non-poultry, including wild birds reported in the United Kingdom and Europe each month during the 2021 to 2022 epizootic, according to WOAH report date as of 18 July 2022



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

The number of outbreaks of HPAI H5 in poultry reported by the WOAH each month are at their lowest since November 2021, with 7 outbreaks reported so far in July 2022 (Figure 2). The number of cases in non-poultry, including wild birds has increased from 167 cases reported in June to 198 cases reported in July (Figure 2). This observed increase has been driven mainly by the widespread findings in seabirds across the continent. Typically, there has been a lag between wild bird cases and poultry outbreaks throughout this season, as has been observed in previous seasons.

Northern Europe

Since our last outbreak assessment on 04 July 2022, HPAI H5 has been reported in 13 European countries excluding the United Kingdom (WOAH). The total number of European countries affected this HPAI season according to EU reference laboratory data, (Istituto Zooprofilattico Sperimentale delle Venezie; IZSVe, 2022) is currently 34.

Belgium

Between 04 and 18 July, the WOAH has not reported any further HPAI outbreaks in poultry but has reported eight further cases of HPAI H5N1 in wild and captive birds. These cases involved four sandwich terns (*Thalasseus sandvicensis*), four European herring gulls (*Larus argentatus*), three common terns (*Sterna hirundo*), one barnacle goose (*Branta leucopsis*), one black-headed gull (*Chroicocephalus ridibundus*), one Mediterranean gull (*Ichthyaetus melanocephalus*) and one great black-backed gull (Larus marinus).

Denmark

There have been no further reports of HPAI in poultry since our last assessment but there has been one outbreak in a backyard premises, a household with two chickens, plus a further 21 cases in wild birds. These cases involved a total of 28 northern gannets (*Morus bassanus*), three sandwich terns (*Thalasseus sandvicensis*), three white-tailed eagles (*Haliaeetus albicilla*), one common buzzard (*Buteo buteo*) and one Arctic tern (*Sterna paradisaea*).

Faroe Islands

Between 04 and 18 July, there have been five further cases of HPAI H5N1 in wild birds which comprised of three great skua (*Stercorarius skua*) and two northern gannets (*Morus bassanus*).

Finland

Since our last assessment, the WOAH has not reported any further HPAI IPs, but has reported one further case of HPAI H5N1 in a single wild white-tailed eagle (*Haliaeetus albicilla*).

France

According to the WOAH, there have been three reports of HPAI H5N1 in domestic poultry since 04 July 2022, however the start dates for these outbreaks are in mid-March 2022. Two of the IPs kept ducks and the third premises kept chickens. All three IPs were located within the Loire-Atlantique department in western France. An outbreak in a backyard flock of five hens was reported, which started on 29 June and was located in Ouistreham, Normandy.

The WOAH has also reported 53 cases of HPAI H5N1 in wild birds, involving 155 European herring gulls (*Larus argentatus*), 10 black-headed gulls (*Chroicocephalus ridibundus*), six griffon vultures (*Gyps fulvus*), six northern gannets (*Morus bassanus*), four Caspian terns (*Hydroprogne caspia*), two common terns (*Sterna hirundo*), one grey heron (*Ardea cinerea*), one white stork (*Ciconia ciconia*), one mute swan (*Cygnus olor*), one moorhen (*Gallinula chloropus*) and one Eurasian whimbrel (*Numenius phaeopus*).

Germany

There has been one further poultry IP with HPAI H5N1 reported by the WOAH for Germany since our last assessment. The IP was a farm with 11,000 geese and 2,500 chickens for fattening located in Husby, Schleswig-Holstein in northern Germany, close to the border with Denmark. There has also been a further nine cases reported in wild birds, including unspecified Laridae (24), Anatidae (12), Ciconiidae (2) and Sulidae (2) birds.

Hungary

Between 04 and 18 July, there has been one further poultry IP reported with HPAI H5N1. The premises was a foie gras duck holding at which three birds were reported to be culled and disposed of. Although this outbreak was reported by WOAH on 18 July, the start date is reported to be 2 May 2022.

Republic of Ireland

Since our last assessment, there have been no further reports of HPAI in poultry by the WOAH but there have been two further cases of HPAI H5N1 reported in wild birds. These cases involved one common raven (*Corvus corax*) and one black guillemot (*Cepphus grylle*).

Netherlands

Between 04 and 18 July, there have been no further reports of HPAI H5N1 in poultry but there have been 37 further cases reported by the WOAH in wild birds. These cases comprised of 24 unspecified Phasianidae, 19 sandwich terns (*Thalasseus sandvicensis*), 10 common terns (*Sterna hirundo*), nine black-headed gulls (*Chroicocephalus ridibundus*), eight greylag geese (*Anser anser*), eight mute swans (*Cygnus olor*), six Canada geese (*Branta canadensis*), four white storks (*Ciconia ciconia*), four northern gannets (*Morus bassanus*), two black-necked grebes (*Podiceps nigricollis*), one western grebe (*Aechmophorus occidentalis*), one little owl (*Athene noctua*) and one red-billed gull (*Larus scopulinus*).

Norway

There have been no further reports of HPAI H5N1 in poultry since 04 July, but there have been nine further cases of HPAI H5 reported in wild birds. These cases comprised of one bird with HPAI H5N1 plus a further eight cases confirmed with HPAI H5N5. The single case of HPAI H5N1 involved one great skua (*Stercorarius skua*). The cases with HPAI H5N5 comprised of four great skua (*Stercorarius skua*), four white-tailed eagles (*Haliaeetus albicilla*), one hooded crow (*Corvus cornix*), one glaucous gull (*Larus hyperboreus*) and one northern gannet (*Morus bassanus*).

Russia

Between 04 and 18 July, the WOAH has reported no further commercial poultry IPs with HPAI H5N1 but has reported eight outbreaks in non-commercial backyard flocks. The number of birds at each premises ranged from 41 to 186. The species of birds kept was only reported for one of the outbreaks, which was chickens and ducks. No further cases of HPAI in wild birds have been reported since our last assessment.

Sweden

There have been no further reports of HPAI in poultry since our last assessment but there have been seven cases of HPAI H5N1 reported in wild birds, involving a total of eight northern gannets (*Morus bassanus*), one northern fulmar (*Fulmarus glacialis*)and one white-tailed eagle (*Haliaeetus albicilla*).

Southern Europe

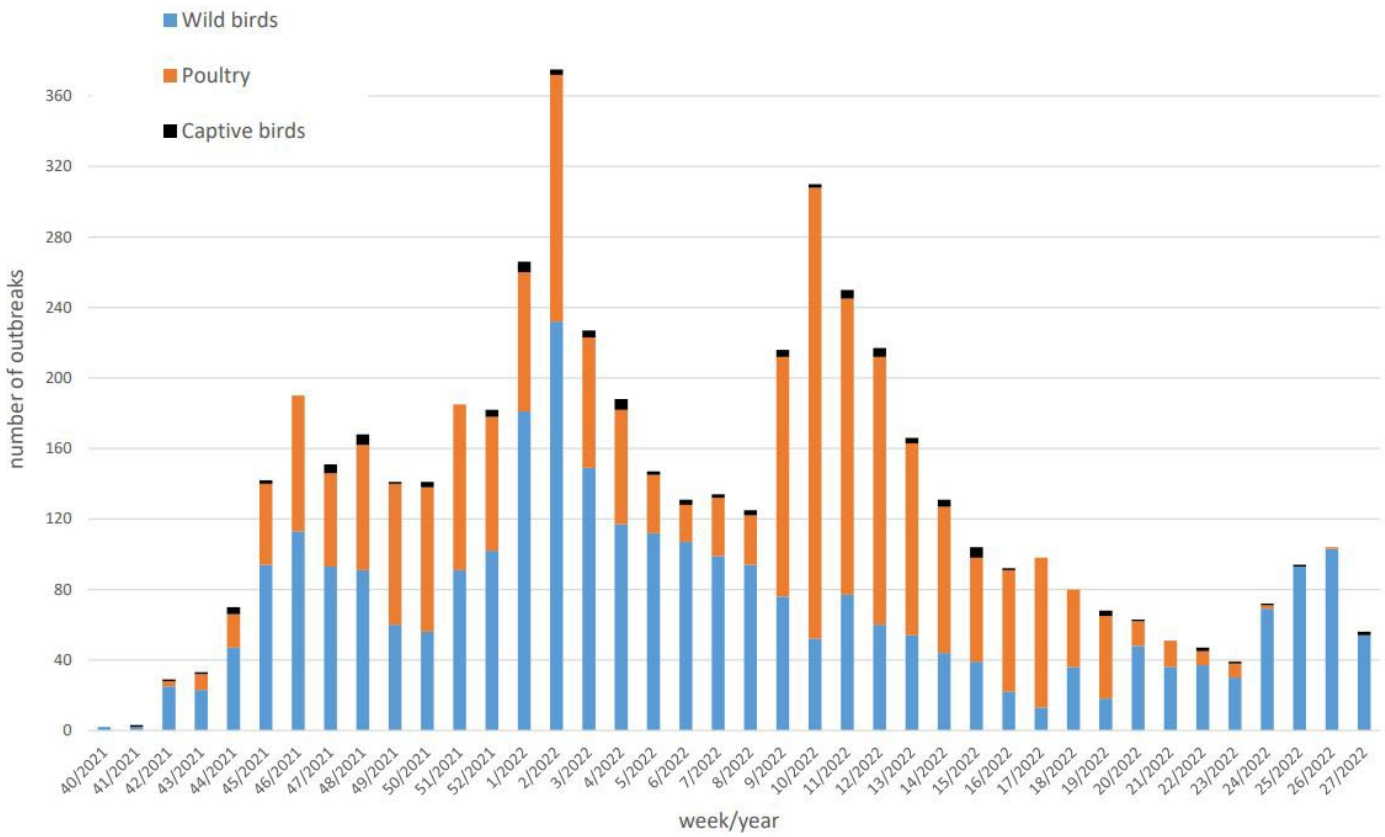
Spain

Since 04 July 2022, the WOAH has not reported any further HPAI IPs with domestic poultry but has reported five further cases of HPAI H5N1 in wild birds. These cases

involved a total of three bearded vultures (*Gypaetus barbatus*), two Harris's hawks (*Parabuteo unicinctus*), one variable hawk (*Buteo polyosoma*), one crested caracara (*Caracara cheriway*) and one black-headed gull (*Chroicocephalus ridibundus*). Though these were all reported by the WOAH on 7 July, the case start dates are all in June of 2022.

According to the WOAH, there have been no further reports of HPAI H5 outbreaks in domestic poultry or cases in wild birds between 04 and 18 July in; Albania, Austria, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Estonia, Greece, Iceland, Italy, Latvia, Lithuania, Luxembourg, Moldova, North Macedonia, Poland, Portugal, Romania, Serbia and Montenegro, Slovakia, Slovenia, Switzerland or Ukraine.

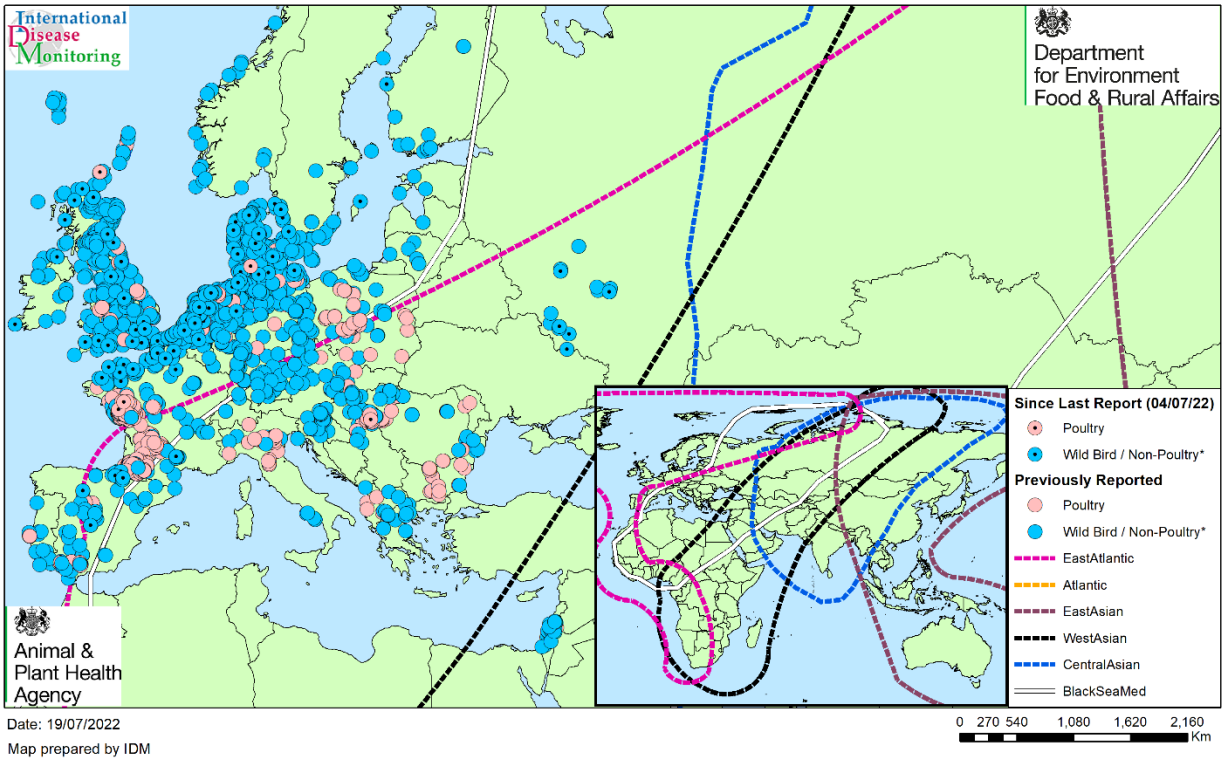
Figure 3: Number of HPAI positive events reported in poultry, captive and wild birds each week in Europe from October 2021 to 18 July 2022 (IZSVe, 2022)



Across Europe, the number of poultry IPs reported weekly by IZSVe is still very low at one or two per week (Figure 3). The weekly number of HPAI cases in wild birds is still increasing with over 100 in week 26, which is the highest number of cases observed in one week since February 2022 (Figure 3).

Map 3 shows the distribution of HPAI H5 outbreaks in poultry and captive birds, together with cases in wild birds, in Europe reported by WOAH between January 2022 and 18 July 2022. Those events reported since our last outbreak assessment on 04 July are identified with black central dots.

Map 3: HPAI outbreaks (from WOAH) in poultry, captive, and wild birds across Europe, January 2022 to 18 July 2022.



Highly Pathogenic Avian Influenza in Poultry and Non-Poultry*
January - July 2022
Overlay: Migratory Bird Flyways

WOAH Data Only
*WOAH Defined

Implications for GB

The ongoing situation with HPAI H5N1 in breeding birds over the summer months in GB and north-west Europe is unprecedented and we are in uncharted territory with mass die-offs continuing in seabird breeding colonies around the GB coastline. A variety of seabird species have been infected including gannets, great skuas, puffins, guillemots, common eider ducks, herring gulls, and arctic, sandwich and common tern. Of conservation concern, a roseate tern (red list) breeding colony has been affected too. In previous years HPAI has generally not been detected in wild birds in the summer months and the national risk level for HPAI H5 in wild birds has typically been at low for several weeks. While seabirds typically forage in the sea, gull species may fly inland and scavengers such as raptors and corvids could bring infection inland from the affected coastal sites. Indeed, there have recently been cases of H5N1 in wild birds inland in England. These inland cases together with the affected gull colonies in coastal areas present a period of uncertainty and warrant maintaining the national risk level for HPAI H5 in wild birds at medium.

The number of wild bird cases increased 5-fold at week 24 in GB (Figure 1) and although the number of new cases reduced by around half in week 25, that decrease may have reflected the reduction in sensitivity of collecting wild bird carcases (set out at end of this document). Indeed, cases increased again in weeks 26 and 27 mirroring the third peak in birds in Europe (Figure 3). Due to differences in nesting and feeding behaviours, the recent mass mortality events observed in seabirds are not anticipated to pose the same level of onward risk to the poultry population as the peak numbers of wild bird mortalities observed earlier in the 2021/2022 epizootic, which included predominantly waterfowl and raptor species. However, residual infectivity at coastal sites in southern and eastern England could serve as a source of infection for the dark-bellied brent geese and pink-footed geese which overwinter here, and will be returning from their summer breeding sites (along the arctic coast of Russia for dark bellied brent geese, Iceland and Greenland for the pink-footed geese) in late September and early October. This could lead to infection in large numbers of geese at coastal sites around south-east England which would be unprecedented and could serve as a further source of infection to poultry this coming winter.

The unprecedented third peak in wild bird cases is continuing in Europe with the number of cases reported at over 100 last week (Figure 3). Most of the wild bird cases are in northern Europe running along the English Channel through northern coast of France and Belgium onto The Netherlands, northern Germany and as far east as southern Sweden (Map 3). The presence of HPAI in seabirds in northern Europe at this time of year is unprecedented and of concern as a potential source of infection for ducks, geese and swans migrating west to the UK this autumn. Furthermore, there have been reports of HPAIV H5N5 and H5N1 infection in great skuas and glaucous gulls in Svalbard (off the range of Map 3) this summer together with more cases in wild birds in northern Norway around the Arctic Circle. Again this is unprecedented, and the concern is that the barnacle geese that breed in these regions at this time of year will bring infectivity back to the Solway this autumn.

It should be noted that trends in wild bird cases in Europe are of minimal significance as a predictor for UK incursions at this time of year. However, the similarity of the trends in wild bird cases in GB (Figure 1) and Europe (Figure 3) over the last few weeks is striking, possibly reflecting seabirds moving between sites with similar seabird species to those affected in GB being reported in northern Europe.

This summer, resident wild birds may continue to circulate HPAI H5 virus and consequently act as a future source of infection to poultry. It is notable in France that endemic waterbirds, namely moorhens (found end of June) and mute swans (first week of July) are now also being infected, this mirrors cases in moorhens and Canada geese recently in the UK, suggesting ongoing circulation in some resident waterbirds inland.

Poultry outbreaks appear now to be more under control both in Europe and the UK after the unprecedented number of outbreaks this last season (2021/2022). This is perhaps due to high temperatures (from recent heat waves) and long hours of sunlight inactivating the virus and so reducing environmental spread at inland sites. This inactivation of the virus would not diminish transmission between the seabirds which congregate on top of each other on vertical cliffs at this time of year. In the next month, those seabird breeding colonies will start to disperse, particularly the auk colonies with the birds flying out to sea, although gannets and skuas may remain at their colonies a little longer. It is expected that the transmission in seabirds will reduce as they leave their colonies and disperse out to sea. However, there is now the emergence of immunologically naïve juvenile birds leaving their nests and dispersing inland to consider both for gulls and passerine species. This change in population structure and contact behaviour could increase the circulation of virus within the wild bird population and hence HPAI virus contamination levels close to sites of poultry production over the summer.

Further east, there are ongoing poultry outbreaks in western Russia to the east of Ukraine. Previous seasons have considered these reports in late summer to be the first signs of the impending autumn risk of HPAIV H5. Additionally, the ducks geese and swans returning from Siberia to GB in the autumn, will travel through northern Europe (Scandinavia, northern Germany, the Netherlands) where H5 continues to be reported in wild birds.

Though there are gaps in scientific knowledge, the direct risk to GB poultry from infected seabirds at coastal locations is currently assumed to be relatively low, due to seabird behaviour and few opportunities for mixing. However, the continued detection of HPAI positive wild birds at inland locations, together with the new IPs reported in Orkney and Devon, confirm the ongoing infection pressure from wild birds particularly where biosecurity is sub-optimal. The ongoing wild bird infection pressure will likely expose any weaknesses that exist, even where biosecurity is good.

It is imperative that biosecurity is maintained to the highest 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 2022.

Conclusion

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

There have been 1,422 confirmed cases of HPAI H5 in wild birds in Great Britain to 18 July 2022 across a range of species, with multiple detections increasing dramatically in wild birds in the last two weeks, albeit many of these represented mass mortality events associated with sea bird breeding colonies (Figure 1). The previously described wild bird species 'order shift' observed between November 2021 and June 2022 reflects the spread of HPAIV infection from migratory water birds to native, sedentary wild bird species, including now seabird populations, which is unprecedented. The overall number of detections in wild birds, and wild bird infection pressure, are not decreasing as was perhaps anticipated from previous epizootics (Figure 1).

In most years, the risk of HPAIV H5 falls rapidly over the summer months as the migratory waterbirds leave the UK in April. The mass die-offs this summer together with sustained transmission in breeding birds over the summer in GB and Europe is unprecedented. Even though the migratory waterbirds departed the UK some months ago, infection is maintained in tightly packed seabird colonies at coastal sites. There are still immunologically naïve, susceptible, resident bird species in the UK which could become infected from residual environmental contamination. Furthermore, the number of these susceptible birds will increase as the juvenile birds from this season fledge and disperse. Higher environmental temperatures, together with increasing sunlight intensities must be greatly reducing environmental levels of HPAI H5N1 currently and may be contributing to the reduced number of poultry outbreaks both in Europe and GB.

The risk of HPAI H5 infection in wild birds in GB remains at **MEDIUM**.

The risk of exposure of poultry across the whole of Great Britain is maintained at **low** (with low uncertainty) where good biosecurity is applied, and at **medium** (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. 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 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 WOAH, 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, Scotland and Wales, 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):

- 3 or more swans, geese, ducks, gulls and waders
- Any number of birds of prey, including owls
- five or more birds of any species

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 (WOAH). 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 (WOAH).

- 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)

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