Updated Outbreak Assessment #35

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

24 October 2022 Ref: VITT/1200 HPAI in the UK and Europe

Disease report

Since our last outbreak assessment on 11 October 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 48 new infected premises (IPs) confirmed with HPAI H5N1 in Great Britain, 39 in commercial poultry premises and nine in non-commercial premises.

There have been 47 HPAI H5 events detected in wild birds in Great Britain since our last assessment.

For administrative purposes, the 2021 to 2022 HPAI season ended on 30 September 2022 and the new 2022 to 2023 HPAI season began on 1 October 2022. From 1 October 2022, counting of disease outbreaks in domestic poultry and cases in wild birds in both the UK and Europe was restarted.

Across Europe, HPAI continues to be reported in domestic poultry and non-poultry species, including wild birds. The World Organisation for Animal Health (WOAH) has reported outbreaks of HPAI H5N1 in domestic poultry in Belgium, France, Germany, Italy, Norway and the Netherlands. Cases of HPAI H5N1 in non-poultry species, including wild birds, have been reported by WOAH in Belgium, the Faroe Islands, France, Germany, Iceland, Ireland, Italy, the Netherlands, Russia, Slovenia and Spain.

For the first time, HPAI H5N1 was maintained in bird populations over the summer months in Great Britain and this led to an increased number of confirmed IPs throughout September and October. In previous years, the risk of incursion for HPAI in wild birds in Great Britain was informed primarily by detections of HPAI in migratory wild birds in Northern Europe.

However, the wild bird events observed in Great Britain over the summer of 2022 and the rapidly changing situation in domestic poultry demonstrate the need to consider additional risk drivers.

The increased number of HPAI detections in resident wild waterfowl species, particularly at inland locations, increases the risk to poultry. Furthermore, migratory waterfowl are continuing to arrive in Great Britain at their wintering sites, with numbers of arrivals expected to peak in the coming weeks, which will increase infection pressure for wild birds.

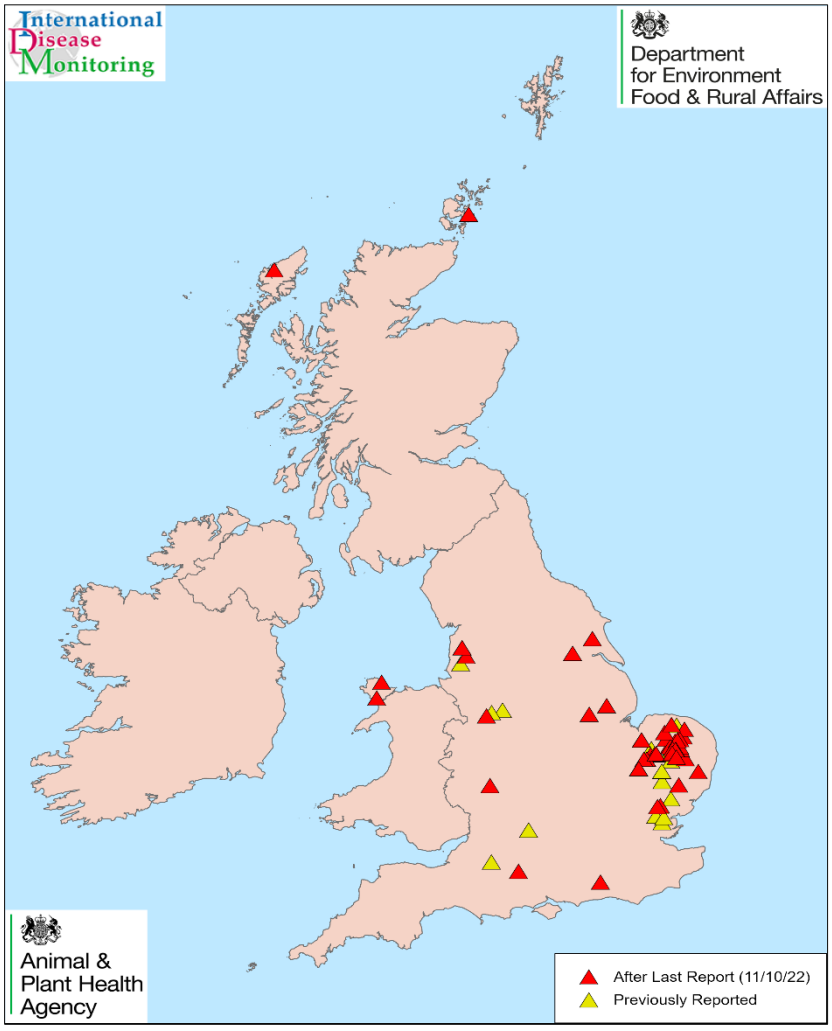
Therefore, the **wild bird risk** across Great Britain is increased from high to **very high.** The risk to **poultry with stringent biosecurity** is maintained at **medium, with high uncertainty** and the risk to **poultry with suboptimal biosecurity** is maintained at **high, with low uncertainty**.

Avian Influenza Prevention Zones (AIPZs) were declared in England, Scotland, Wales, and Northern Ireland on 17 October 2022. The AIPZ requires personnel working with poultry and hobbyists to take additional biosecurity measures.

The AIPZ in England is additional to the AIPZ which was declared in Norfolk, Suffolk and parts of Essex on 27 September 2022, following an increase in the number of HPAI IPs with domestic poultry in the region. Additional housing measures came into force for Norfolk, Suffolk, and parts of Essex on 12 October 2022. This means that all bird keepers in these areas (whether they have pet birds, commercial flocks or just a few birds in a backyard flock) are required by law to take a range of biosecurity precautions, including housing their birds (except in very specific circumstances).

As we head towards the winter months and the return of increasing numbers of wild waterfowl, we will continue to monitor HPAI events in wild birds across Europe as these migratory birds could be sources of new HPAI virus introduction to the UK.

Map 1: HPAI H5 outbreaks in domestic poultry[1] and captive birds across the United Kingdom, 01 to 24 October 2022



Situation assessment

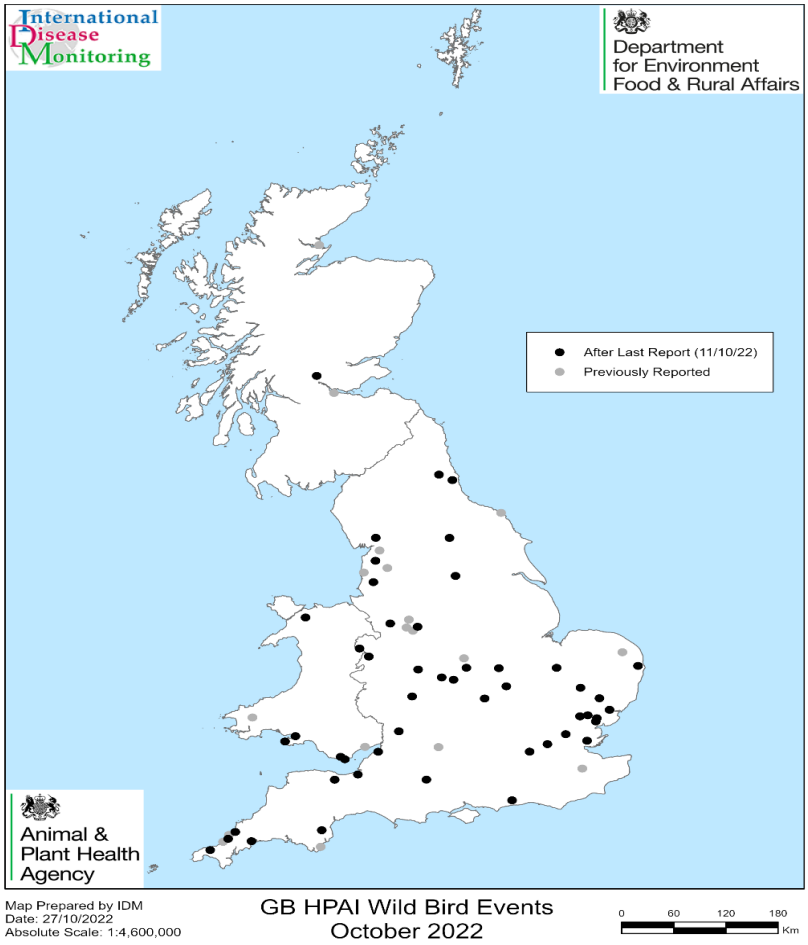
United Kingdom

Since our last report on 11 October 2022, there have been 48 further confirmed IPs with HPAI H5N1 in poultry and captive birds: 44 in England, 2 in Scotland and 2 in Wales. These IPs comprise of 39 commercial premises and nine non-commercial premises. Of the 44 commercial IP's:

- 27 were located in Norfolk (2 IPs with chickens, 12 with turkeys, and 6 with ducks)
- 2 were in Suffolk (one with turkeys, one with mixed poultry and captive birds)
- 2 were in Yorkshire (both with ducks)
- 2 in Lincolnshire (one with chickens, one with turkeys)
- one IP in each of: Argyll and Bute, Cambridgeshire, Cheshire, Essex, Lancashire, and West Sussex

The 9 non-commercial IPs were comprised of three small holder premises with mixed species, (one IP in Essex, and two IPs in Norfolk), three small holder premises with chickens (one in each of Lancashire, Wiltshire, and Anglesey). Three IPs were also confirmed in backyard holdings, one in each of Anglesey (turkeys), Worcestershire (chickens and ducks) and on the Orkney islands (chickens).

Map 2: Map showing the HPAI H5 positive findings in wild birds across Great Britain between 1 and 24 October 2022



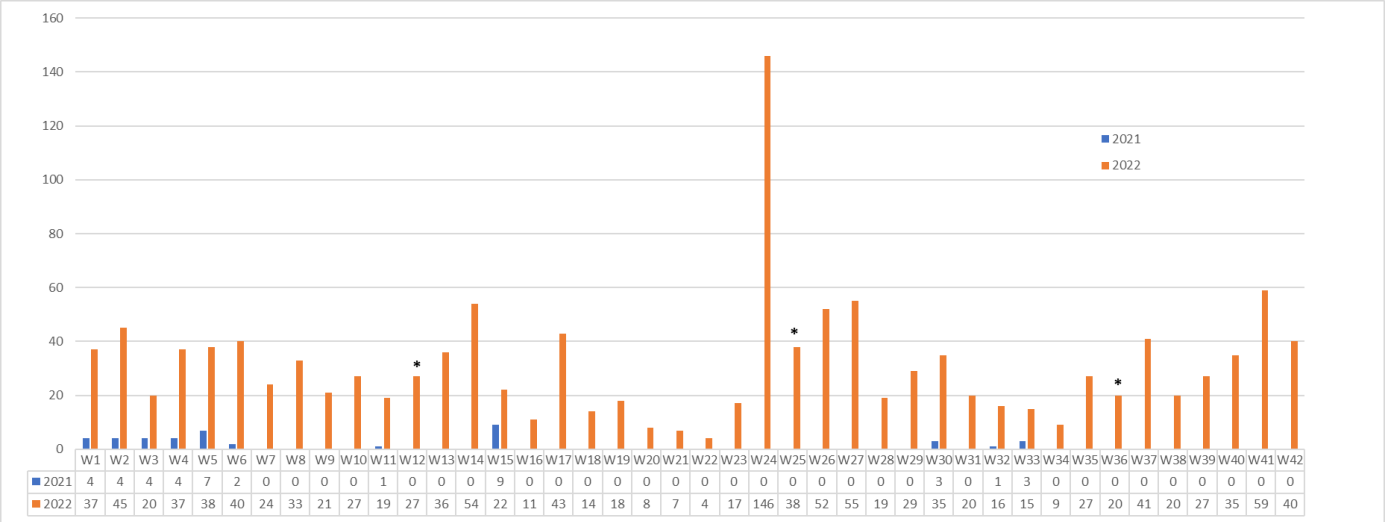
Wild birds

Between 11 and 24 October 2022, HPAI H5 has been detected in 105 wild birds in 47 separate locations in Great Britain, including 21 wild bird species (listed in Appendix 2), in 29 counties. Most of the findings were in England, however wild birds which were located in Scotland and Wales have also tested positive. As in previous weeks, findings have been at both coastal and inland locations, however the greatest number of findings were in 59 waterfowl.

These include the first reports of HPAI H5N1 in two migratory pink footed geese in Lancashire and a pintail duck in Gloucestershire. The other detections were in 7 seabirds, 22 pheasants, 5 rock doves and 10 raptors.

From 11 to 24 October 2022, there have been eight further cases for which the HPAI H5 genotype has been identified, but characterisation of neuraminidase (NA) subtype is in progress due to low viral loads in samples.

Figure 1: Wild bird HPAI H5 positive cases per week across Great Britain: January to October 2021 and January to October 2022. Asterisks denote changes in surveillance sensitivity1. 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	W29	W30	W31	W32	W33	W34	W35	W36	W37	W38	W39	W40	W41	W42
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	0	3	0	1	3	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	29	35	20	16	15	9	27	20	41	20	27	35	59	40

[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 and subsequent increase in week 36.

The number of cases in sea birds observed over the summer has decreased throughout Autumn, likely due to breeding colonies dispersing to wintering sites. The increased number of detections observed in waterfowl in recent weeks, particularly in inland locations suggest a high infection pressure amongst resident bird species. For further details, please see the report (updated weekly) on findings of HPAI in wild birds in Great Britain and Northern Ireland.

Europe

Between 11 and 24 October 2022, there has been a total of 125 HPAI H5N1 events reported by the WOAH in domestic poultry and non-poultry including wild birds across Europe (see Table 2). Eighteen outbreaks were reported in domestic poultry in: 10 in France, 2 in Germany, 1 in Italy and 5 in the Netherlands.

107 events were reported in non-poultry or wild birds in: 16 in Belgium, 7 in the Faroe Islands, 40 in France, 1 in Germany, 8 in Iceland, 2 in Ireland, 8 in Italy, 3 in the Netherlands, 1 in Russia and 21 in Spain.

Table 2: Number of HPAI H5 events in domestic poultry (P) and wild birds (WB) since 1 October 2022 in Europe, excluding the UK, according to WOAH report date (WOAH, 2022)

Country	H5N1 (WB)	H5N1 (P)	Total
Belgium	26	3	29
Faroe Islands	7	0	7
France	41	18	57
Germany	12	6	18
Iceland	8	0	8
Ireland	2	0	2
Italy	8	1	9
Netherlands	3	12	15
Norway	1	1	2
Russia	1	0	1
Slovenia	1	0	1
Spain	32	0	32
Grand Total	142	41	183

Across Europe, the number of poultry IPs reported weekly by IZSVe is still low but gradually increasing; at just over 10 per week (see Figure 2). The weekly number of HPAI events in wild birds has remained the same over the past 3 weeks, with just over 40 cases in weeks 39 to 41.

Although the number of HPAI outbreaks in poultry and cases in wild birds reported per week across Europe is low compared with observations in recent weeks, there are a greater number of cases being reported overall, compared with week 40 in 2021, where fewer than 5 cases in wild birds were reported (see Figure 2).

Map 3: Map showing HPAI H5 events in domestic poultry and wild birds since 1 October 2022 in Europe according to WOAH report date (WOAH, 2022)

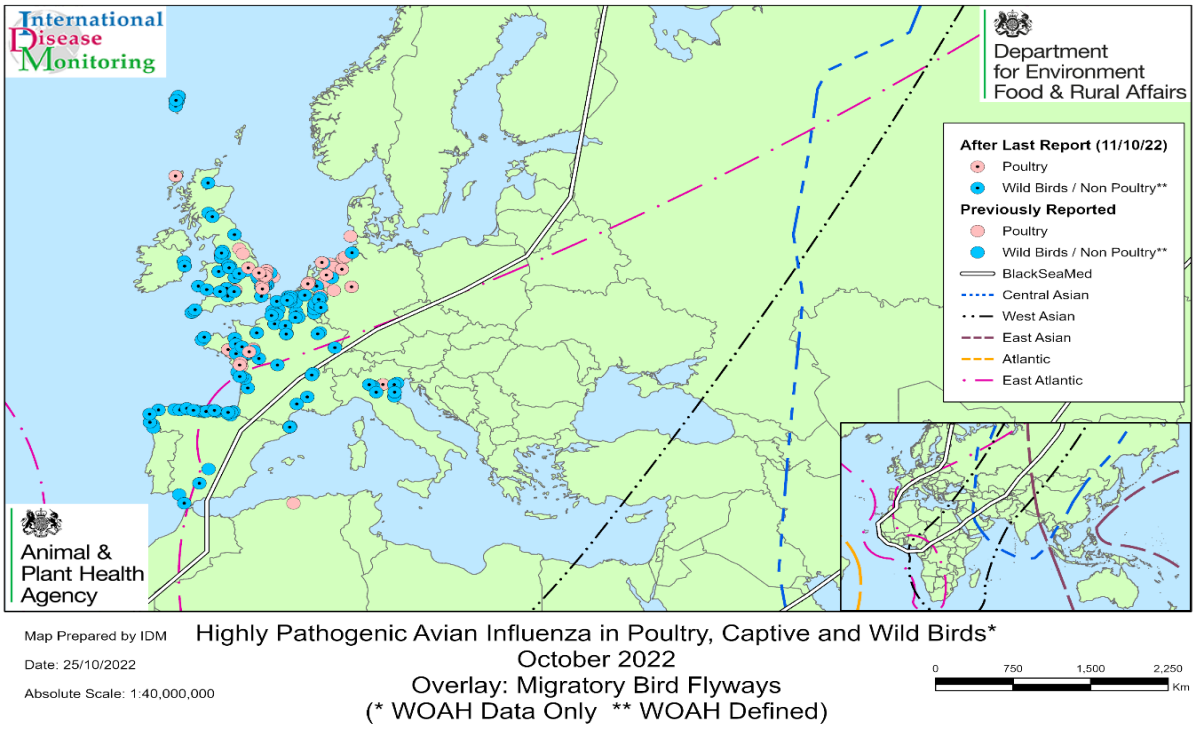
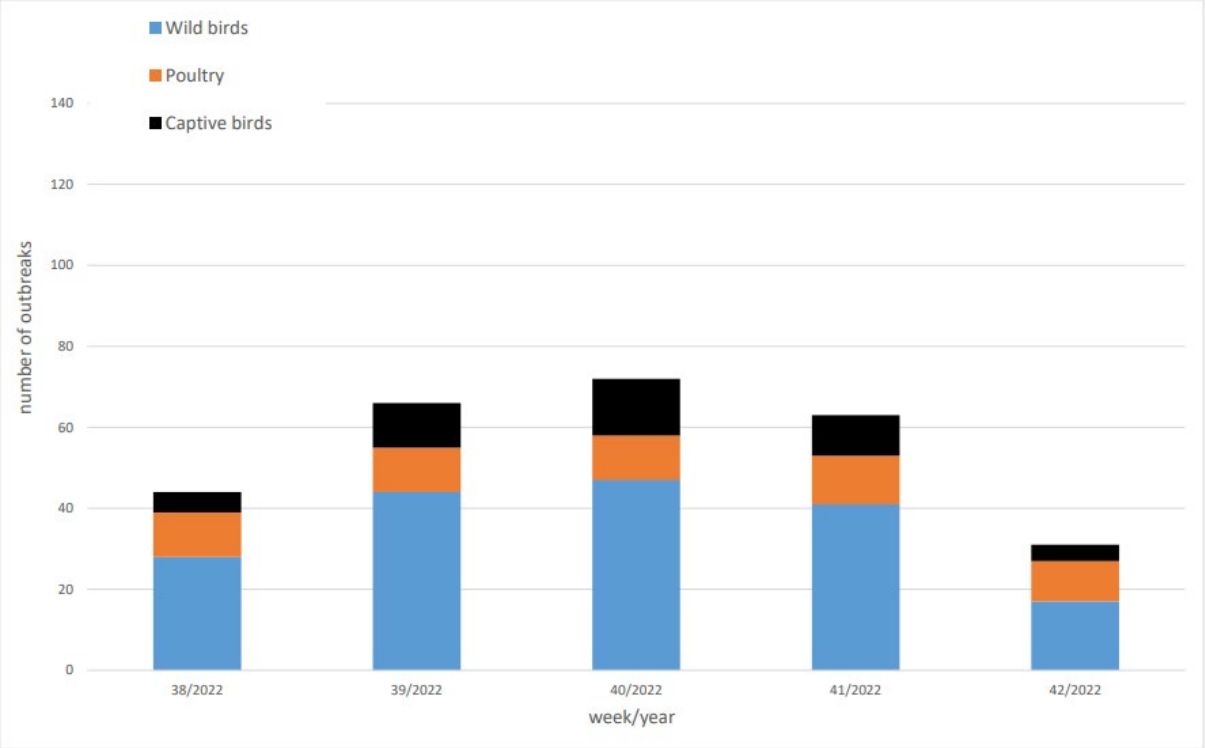


Figure 2: Number of HPAI positive events reported in poultry, captive, and wild birds in Europe between 19 September and 21 October 2022 (IZSVe, 2022)



Implications for Great Britain

Following the maintenance of HPAI H5N1 in breeding seabirds over the summer months in Great Britain and north-west Europe, disease events in Great Britain have started to occur in domestic poultry and wild birds at a much earlier point in time than in previous years. This is different to previous years where HPAI has generally not been detected in wild birds in the summer months but reappears following the introduction of virus by migratory waterbirds in the autumn.

Most of the recent wild bird cases in Europe are in north-western Europe (and the Iberian Peninsula), running along the English Channel through the northern coast of France and Belgium into the Netherlands and northern Germany. The presence of HPAI in wild birds in northern Europe at this time of year is of concern as a potential source of infection for ducks, geese and swans migrating west to Great Britain, many of them flying through the Baltics and west through the Netherlands to Great Britain.

Many geese and swans will be currently flying into the UK via Norway, Svalbard, Iceland and off Greenland (for example, Jan Mayen Island), including whooper swans, Greenland barnacle geese, pink-footed geese. Also, Greenland white-fronted geese from Greenland and Iceland, and Solway Barnacle geese from Svalbard. Some of these locations, such as Norway and Iceland, have reported HPAI H5N1 in wild birds and poultry this month.

In addition, HPAI H5N1 was circulating in wild geese and ducks in North America during the 2021 to 2022 winter and spring, with potential for carriage of H5N1 virus to their breeding sites in north-west Greenland where, over the summer, mixing may have occurred with light-bellied brent geese which will currently be returning to their wintering sites around the island of Ireland. Auks infected with H5N1 were detected in Canada north of Hudson Bay (Coat's Island) this summer, although it is not known if H5N1 was carried as far north as western Greenland.

It is important to note that current outbreaks of HPAI H5N1 in the USA are of no relevance to Great Britain because birds do not fly across the Atlantic. Also, wild birds in north America only move north-south between Greenland and Canada and the USA in spring and autumn, with Greenland the potential mixing point.

Residual infectivity from affected seabird colonies 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 in the UK. These geese 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 the next few weeks.

The recent increase in outbreaks in domestic poultry in Great Britain reported herein are occurring concurrently with increasing numbers of cases in wild birds, particularly in waterfowl species. Whereas in previous years, confirmation of disease in wild birds has preceded the first outbreaks to occur in domestic poultry, this is not the case at present.

These unprecedented events may in part be due to spill-over of infection from breeding seabirds to resident wild water birds at inland sites, which are more likely to come into contact with poultry than seabirds. This therefore recouples the risk to poultry with that in wild birds, which was previously considered uncoupled when infection was circulating solely in seabirds.

The arrival of migratory waterfowl in Great Britain is now well underway, and although it is currently unclear whether migratory birds are arriving with HPAI or whether they are infected upon arrival, the resultant increase in bird population numbers will support rapid virus amplification, increase infection pressure in the environment, and therefore increase the spread of infection.

Since our last report, 2 migratory pink footed geese and a migratory pintail duck have been found to be HPAI H5N1 positive.

Furthermore, HPAI H5 detections in wild birds and poultry have been reported in France, Germany, and the Netherlands, all of which have driven increases in the risk to wild birds in Great Britain in previous years. HPAI H5N1 continues to be the dominant strain reported across Europe. For these reasons, the national risk level for HPAI H5 in wild birds is raised from high to **very high**.

In view of the continuing poultry outbreaks in both the UK and north-west Europe, the risk of infection of poultry in Great Britain with sub-optimal biosecurity is maintained at **high,** with **low uncertainty**. Furthermore, the risk of infection of poultry in Great Britain with stringent biosecurity is maintained at **medium,** with **high uncertainty**.

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 infection pressure in wild birds is anticipated to increase in the coming months. The ongoing wild bird infection pressure will likely expose any weaknesses that exist, even where biosecurity is good.

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.

Since the beginning of October and the start of the 2022 to 2023 HPAI outbreak season, there have been 146 confirmed cases of HPAI H5 in wild birds in Great Britain, spanning a range of waterfowl, seabirds, and raptors.

The risk of HPAI H5 infection in wild birds in Great Britain is increased from high to **very high**. There is currently a high infection pressure from wild birds, which will be further bolstered by the arrival of migratory waterfowl, plus environmental conditions favouring virus survival during the coming cooler winter months.

The risk of exposure of poultry across Great Britain where biosecurity is suboptimal is maintained at **high** (with low uncertainty) while the risk to poultry in Great Britain where biosecurity is stringent is maintained at **medium** (with high uncertainty).

Avian Influenza Prevention Zones (AIPZs) were declared in England, Scotland, Wales, and Northern Ireland on 17 October 2022. Housing measures came into force for Norfolk, Suffolk, and parts of Essex on 12 October 2022 following the regional AIPZ declared in Norfolk, Suffolk and parts of Essex on 27 September 2022.

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, particularly as the onset of cold and wet weather begins. 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 call 03000 200 301
- in Wales, call 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 Defra Wild bird Helpline (Telephone: 03459 33 55 77 and select option 7):

- three 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.

Appendix 1: Current poultry[1] and captive bird premises with High Pathogenicity Avian Influenza (HPAI) H5N1 in Great Britain between 1 October and 24 October 2022.

Outbreak Number	Date HPAI H5N1 confirmed	Location, County	Description
1	1 October 2022	Near Bury St Edmunds, Suffolk	Small holder mixed species
2	1 October 2022	Near Attleborough, Norfolk	Commercial laying ducks
3	1 October 2022	Near Attleborough, Norfolk	Commercial turkeys and geese
4	3 October 2022	Near Kidsgrove, Staffordshire	Small holder mixed species
5	4 October 2022	Near Babergh, Suffolk	Commercial mixed species
6	4 October 2022	Near Faringdon, Oxfordshire	Commercial geese
7	5 October 2022	Near Attleborough, Norfolk	Commercial broiler chickens
8	6 October 2022	Near Mundford, Norfolk	Commercial geese
9	7 October 2022	Near Kelvedon, Essex	Commercial turkeys and geese
10	7 October 2022	Near Attleborough, Norfolk	Commercial fattening ducks

Outbreak Number	Date HPAI H5N1 confirmed	Location, County	Description
11	7 October 2022	Near Frome, Somerset	Small holder mixed species
12	7 October 2022	Near Cheddleton, Staffordshire	Small holder chickens
13	8 October 2022	Near Bury St Edmunds, Suffolk	Backyard chickens
14	8 October 2022	Near Maldon, Essex	Commercial turkeys
15	9 October 2022	Near Maldon, Essex	Commercial mixed species
16	9 October 2022	Near Witham, Essex	Small holder mixed species
17	9 October 2022	Near Ormskirk, Lancashire	Captive bird premises
18	9 October 2022	Near Attleborough, Norfolk	Commercial ducks
19	10 October 2022	Near Munford, Norfolk	Commercial mixed species
20	10 October 2022	Near Munford, Norfolk	Commercial ducks
21	10 October 2022	Near Attleborough, Norfolk	Commercial turkeys
22	10 October 2022	Near Holt, Norfolk	Commercial fattening turkeys
23	11 October 2022	Near Soham, Cambridgeshire	Commercial mixed poultry

Outbreak Number	Date HPAI H5N1 confirmed	Location, County	Description
24	11 October 2022	Near Watlington, Norfolk	Commercial turkeys
25	11 October 2022	Near Dereham, Norfolk	Commercial turkeys
26	11 October 2022	Near Attleborough, Norfolk	Commercial turkeys
27	11 October 2022	Near Attleborough, Norfolk	Commercial chickens
28	11 October 2022	Near Kirkham, Lancashire	Smallholder chickens
29	12 October 2022	Near Sleaford, Lincolnshire	Commercial turkeys
30	12 October 2022	Na h-Eileanan an Iar, Scotland	Commercial chickens
31	12 October 2022	Near Witham, Essex	Smallholder mixed poultry
32	12 October 2022	Near Attleborough, Norfolk	Commercial turkeys
33	13 October 2022	Near Kelvedon, Essex	Commercial chickens
34	13 October 2022	Near Mundford, Norfolk	Commercial ducks
35	14 October 2022	Orkney, Scotland	Backyard chickens

Outbreak Number	Date HPAI H5N1 confirmed	Location, County	Description
36	14 October 2022	Near Leigh Sinton, Worcestershire	Backyard chickens and duck
37	14 October 2022	Near Wyndmonham, Norfolk	Commercial chickens
38	14 October 2022	Near Hingham, Norfolk	Commercial chickens
39	15 October 2022	Near Dereham, Norfolk	Commercial chickens
40	15 October 2022	Near Attleborough, Norfolk	Smallholder mixed poultry
41	15 October 2022	Near Fakenham, Norfolk	Smallholder mixed poultry
42	16 October 2022	Anglesey, Wales	Backyard turkeys
43	16 October 2022	Near Needham, Suffolk	Commercial captive birds
44	16 October 2022	Near Audlem, Cheshire	Commercial gamebirds
45	16 October 2022	Near Wymondham, Norfolk	Commercial turkeys
46	16 October 2022	Near Feltwell, Norfolk	Commercial turkeys
47	17 October 2022	Near Mileham, Norfolk	Commercial chickens
48	18 October 2022	Near Mundford, Norfolk	Commercial ducks

Outbreak Number	Date HPAI H5N1 confirmed	Location, County	Description
49	18 October 2022	Near Dereham, Norfolk	Commercial ducks
50	18 October 2022	Near Feltwell, Norfolk	Commercial turkeys
51	18 October 2022	Near Billinghurst, West Sussex	Commercial chickens
52	18 October 2022	Near Dereham, Norfolk	Commercial turkeys
53	19 October 2022	Near Dereham, Norfolk	Commercial ducks
54	19 October 2022	Near Wymondham, Norfolk	Commercial chickens
55	19 October 2022	Near Beverley, Yorkshire	Commercial ducks
56	19 October 2022	Near Leyland, Lancashire	Commercial chickens
57	20 October 2022	Near Mundford, Norfolk	Commercial chickens
58	20 October 2022	Near Great Moulton, Norfolk	Commercial ducks
59	21 October 2022	Near Attleborough, Norfolk	Commercial chickens
60	21 October 2022	Near Weston Longville, Norfolk	Commercial turkeys
61	21 October 2022	Near Halesworth, Suffolk	Commercial turkeys

Outbreak Number	Date HPAI H5N1 confirmed	Location, County	Description
62	22 October 2022	Near Goole, Yorkshire	Commercial ducks
63	22 October 2022	Near Aylsham, Norfolk	Commercial turkeys
64	22 October 2022	Near Woodhall Spar, Lincolnshire	Commercial chickens
65	23 October 2022	Anglesey, Wales	Smallholder chickens
66	23 October 2022	Near Longham, Norfolk	Commercial turkeys
67	23 October 2022	Near Swannington, Norfolk	Commercial chickens
68	23 October 2022	Near Amesbury, Wiltshire	Smallholder chickens
69	23 October 2022	Near Cranworth, Norfolk	Commercial turkeys
70	23 October 2022	Near Thetford, Norfolk	Commercial chickens

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

Appendix 2: 2022 to 2023 HPAI season; Wild bird species in Great Britain that have tested positive for HPAI H5 between 1 and 24 October 2022

Region and species	Total number of birds testing positive
England (below)	124
Canada Goose	23
Greylag Goose	24
Herring Gull	2
Mute Swan	22
Pink footed Goose	2
Unspecified Swan	1
Common Buzzard	4
Red Kite	1
Pheasant	19
Barnacle Goose	1
Mallard Duck	1
Black headed Gull	3
Sparrowhawk	2
Common Gull	1
Tawny Owl	1
Gannet	7
Razorbill	1
Rock Dove	5
Lesser black-backed Gull	1
Crow	1
Pintail Duck	1
Peregrine falcon	1
Wales (below)	19
Greylag Goose	3

Region and species	Total number of birds testing positive
Mute Swan	7
Pheasant	3
Mallard Duck	2
Hen Harrier	1
Gannet	2
Lesser black-backed gull	1
Scotland (below)	3
Mute Swan	1
Hen Harrier	1
Osprey	1
Grand Total	146

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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)

- WOAH (2022) WAHIS (woah.org)

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

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