Department for Environment, Food and Rural Affairs

Updated Outbreak Assessment #37

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

6 December 2022

Disease report

Since our last outbreak assessment on 07 November 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 35 new infected premises (IPs) confirmed with HPAI H5N1 in Great Britain, 25 in commercial poultry premises and 10 in non-commercial premises. There have been 108 HPAI H5 events detected in wild birds in Great Britain since our last assessment.

The **wild bird risk** across Great Britain is maintained at **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**.

Housing measures came into force across the whole of England on 7 November 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). These housing measures build on the strengthened biosecurity requirements of the Avian Influenza Prevention Zones (AIPZs) which were declared in England, Scotland, Wales, and Northern Ireland on 17 October 2022.

The Housing Order and AIPZ in England is additional to the AIPZ which was declared in Norfolk, Suffolk and parts of Essex on 27 September 2022, and the subsequent additional housing measures that came into force for Norfolk, Suffolk, and parts of Essex on 12 October 2022.

On 02 December, additional compulsory biosecurity and housing measures came into force across Wales, whereby keepers of poultry and captive birds are legally required to keep their birds housed or otherwise separated from wild birds. Keepers must also complete and act upon a bespoke biosecurity review of the premises where birds are kept.

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, Czech Republic, Denmark, France, Germany, Hungary, Italy, Moldova, the Netherlands, Norway, the Republic of Ireland and Russia. HPAI H5N1 events in non-poultry species, including wild

birds, have been reported by WOAH in Austria, Belgium, Denmark, France, Germany, Italy, North Macedonia, Norway, Poland, Portugal, the Republic of Ireland, Romania, Russia, Serbia and Montenegro, Slovenia, Spain, Sweden and Switzerland.

Situation assessment

Here, a HPAI H5 event refers to a report of HPAI H5 in poultry or a location with at least one HPAI H5 positive wild bird. Individual HPAI H5 positive wild birds are referred to as cases.

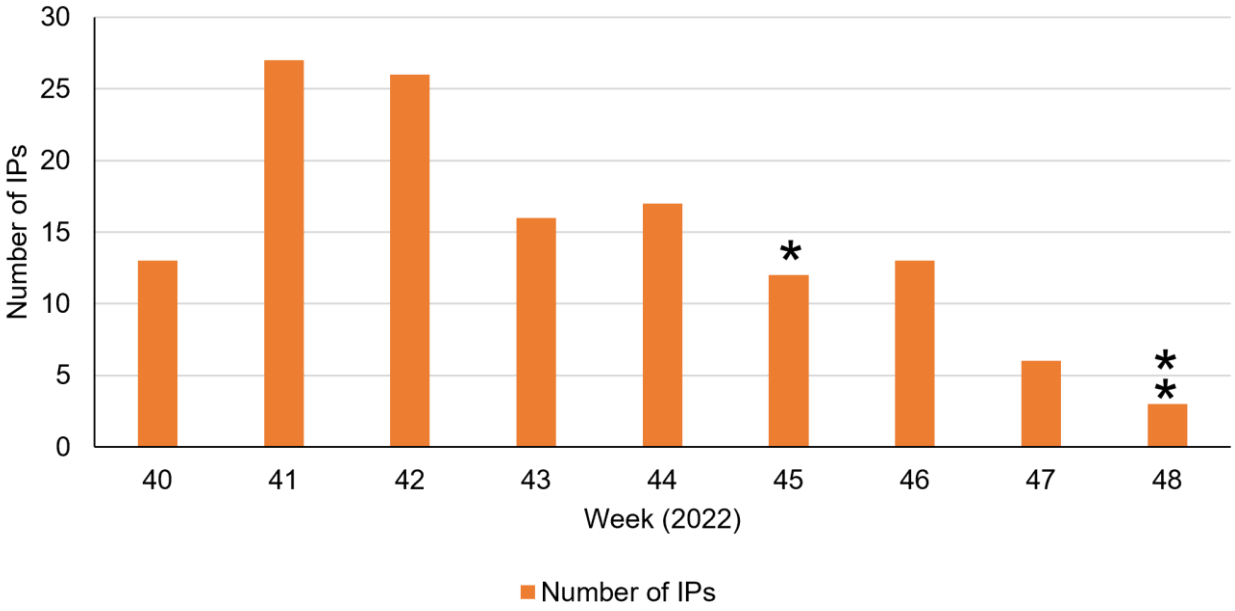
United Kingdom

Since our last report on 7 November 2022, and to 6 December 2022 at time of writing, there have been 35 further confirmed IPs with HPAI H5N1 in poultry[1] and captive birds; 31 in England, 3 in Scotland and 1 in Wales. These IPs comprise of 25 commercial premises (more than 50 birds) and 10 non-commercial premises (50 and fewer birds). Of the 25 commercial IPs, 4 were located in each of Norfolk (2 IPs with turkeys, 1 with chickens and 1 with mixed poultry) and Northamptonshire (all 4 IPs with turkeys), 3 were in each of Aberdeenshire (all with chickens), Derbyshire (2 with chickens, 1 with turkeys) and North Yorkshire (2 with turkeys, 1 with mixed poultry), 2 were in each of Lincolnshire (both with ducks) and Suffolk (1 with chickens, 1 with ducks). There were single IPs with turkeys in Cheshire, Coventry and Staffordshire, plus 1 IP with chickens in Worcestershire.

The 10 non-commercial IPs were comprised of 5 small holder premises (between 10 and 50 birds), 1 IP in each of Cheshire and West Sussex with mixed species, 1 IP in Dorset with geese, 1 IP in Gloucestershire with chickens and 1 IP in Hampshire with falcons. Three IPs were backyard holdings (fewer than 10 birds), one in each of Cheshire (ducks), Flintshire (mixed poultry) and Warwickshire (mixed poultry).

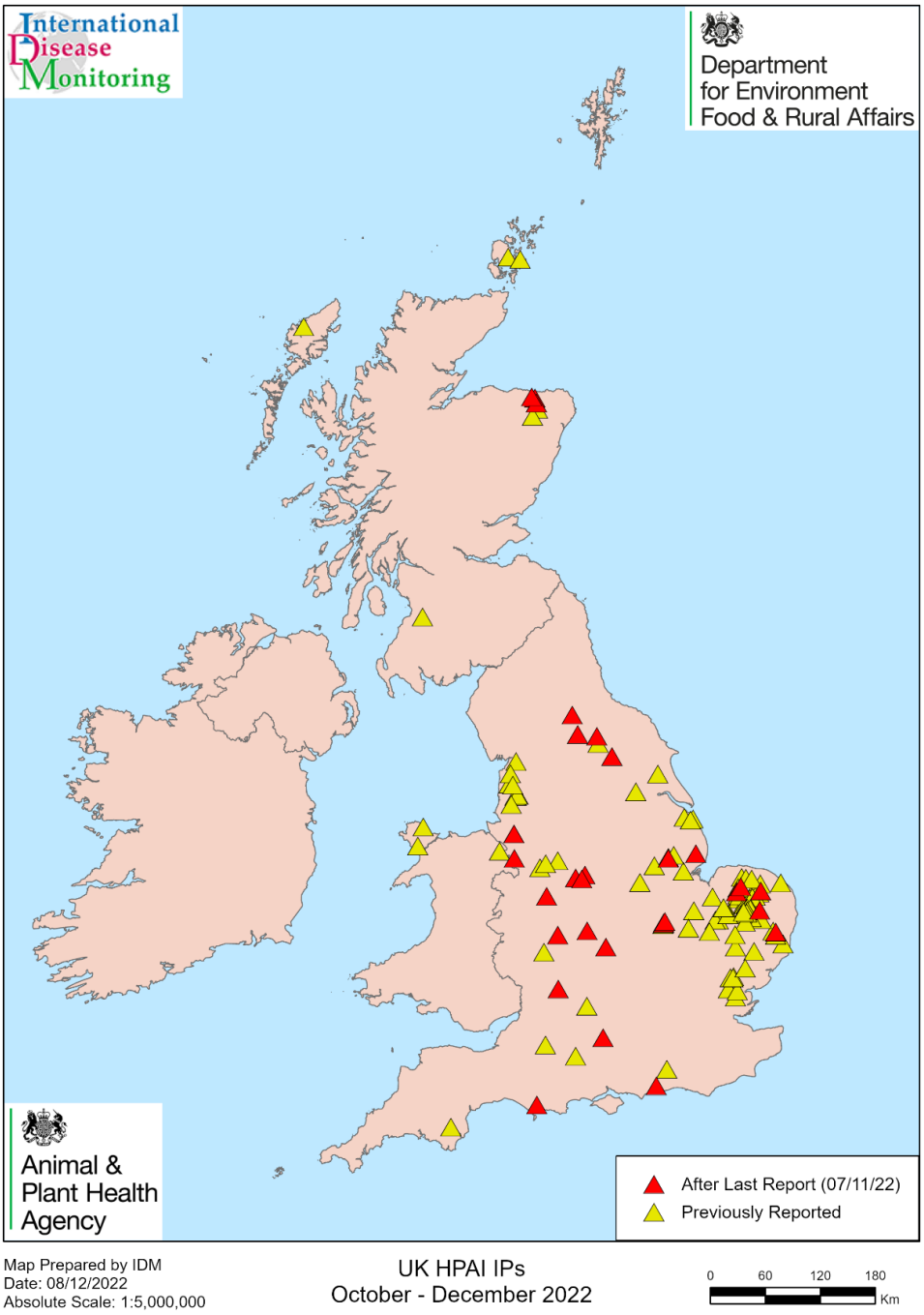
[1] According to the 2021 WOAH definition of poultry: Terrestrial Code Online Access - WOAH - World Organisation for Animal Health

Figure 1: Number of IPs confirmed with HPAI H5N1 in Great Britain between week 40 (start of October) and week 48 (start of December) 2022. Asterisks denote when housing measures were introduced across England (single) and Wales (double).



For further details, please see the reports on the latest situation regarding HPAI in domestic poultry and captive birds in England, Scotland, Wales and Northern Ireland.

Map 1: HPAI H5 outbreaks in poultry[1] and captive birds across the United Kingdom, 01 October to 06 December 2022.



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

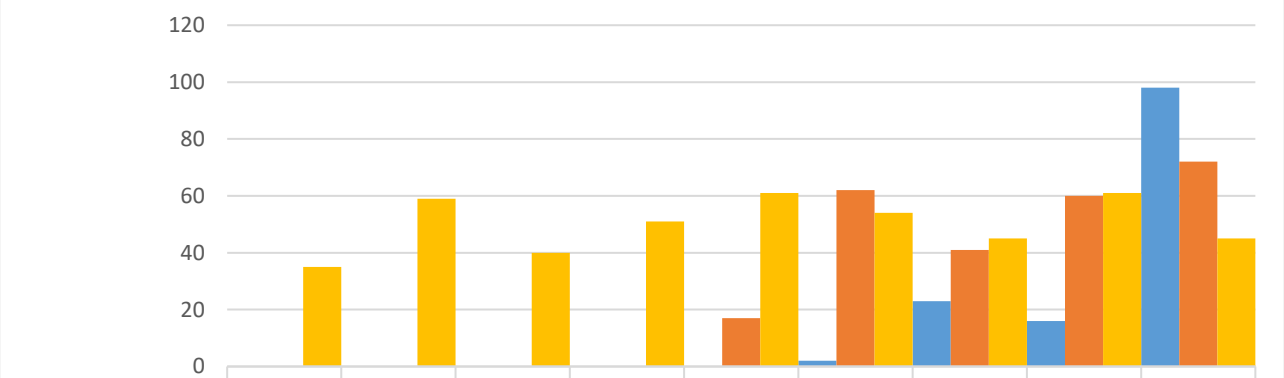
Map 2: Map showing the HPAI H5 positive findings in wild birds across Great Britain between 01 October and 06 December 2022.

Wild birds

Between 07 November and 06 December 2022, HPAI H5 has been detected in 239 wild birds in 108 separate locations in Great Britain, including 30 wild bird species (listed in Appendix 1), in 48 counties. Most of the findings were in England, however wild birds which were located in Scotland and Wales have also tested positive (see Appendix 1). As in previous weeks, findings have been at both coastal and inland locations, however the greatest number of findings were in waterbirds (162). The other detections were in seabirds (2), pheasants and partridges (13), gulls (19), birds of prey (33), crows (2) and pigeons/doves (6). Two birds could not be identified and are undergoing further analysis to determine the species.

From 07 November to 06 December 2022, there have been 8 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 2: Wild bird HPAI H5 positive cases* per week across Great Britain in each season: from week 40 (approximately the start of October) to week 48 (approximately the start of December).



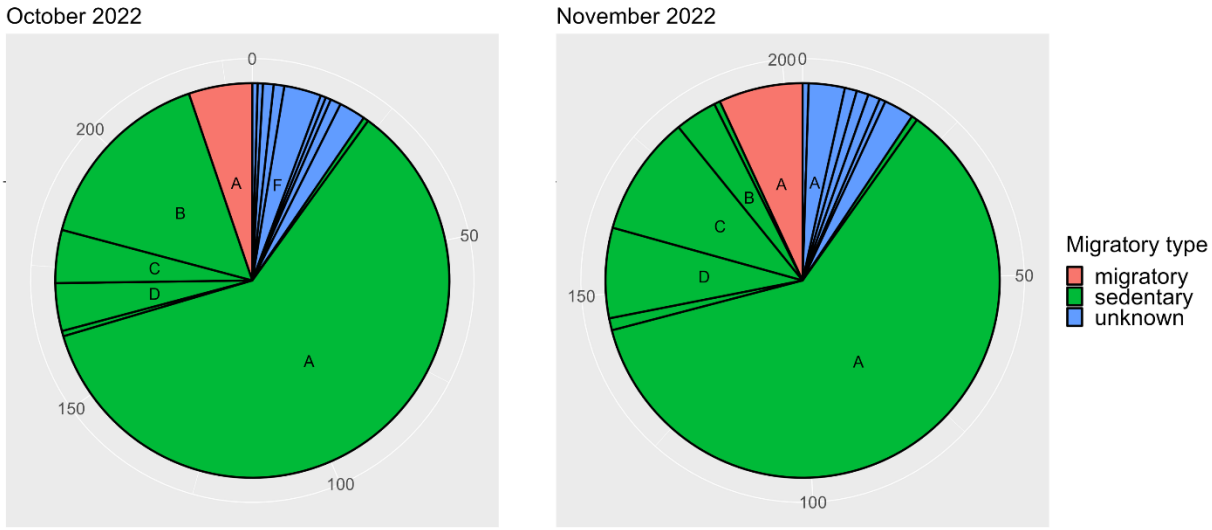
	W40	W41	W42	W43	W44	W45	W46	W47	W48
2020 to 21	0	0	0	0	0	2	23	16	98
2021 to 22	0	0	0	0	17	62	41	60	72
2022 to 23	35	59	40	51	61	54	45	61	45

*Note that the wild bird sampling strategy may vary between, and within, seasons. Between weeks 40 and 48, the threshold for collection of wild birds was three in 2020 and 2022, and one in 2021.

There continues to be a (compared to previous seasons) high number of detections observed in many indigenous waterbird species, plus detections observed in doves and pigeons, indicating a continued high infection pressure amongst resident bird species. There have been comparatively few detections in migratory birds so far this season (Figure 3), although these are not specifically targeted during surveillance. The vast

majority of migratory birds have now arrived in Great Britain, despite some delays due to milder temperatures, believed to be causing more stopovers during the journey across the continent. For further details, please see the report (updated weekly) on findings of HPAI in wild birds in Great Britain and Northern Ireland.

Figure 3: HPAI H5-positive wild birds detected in October and November (as of 28 November) 2022, grouped by bird type and migratory status



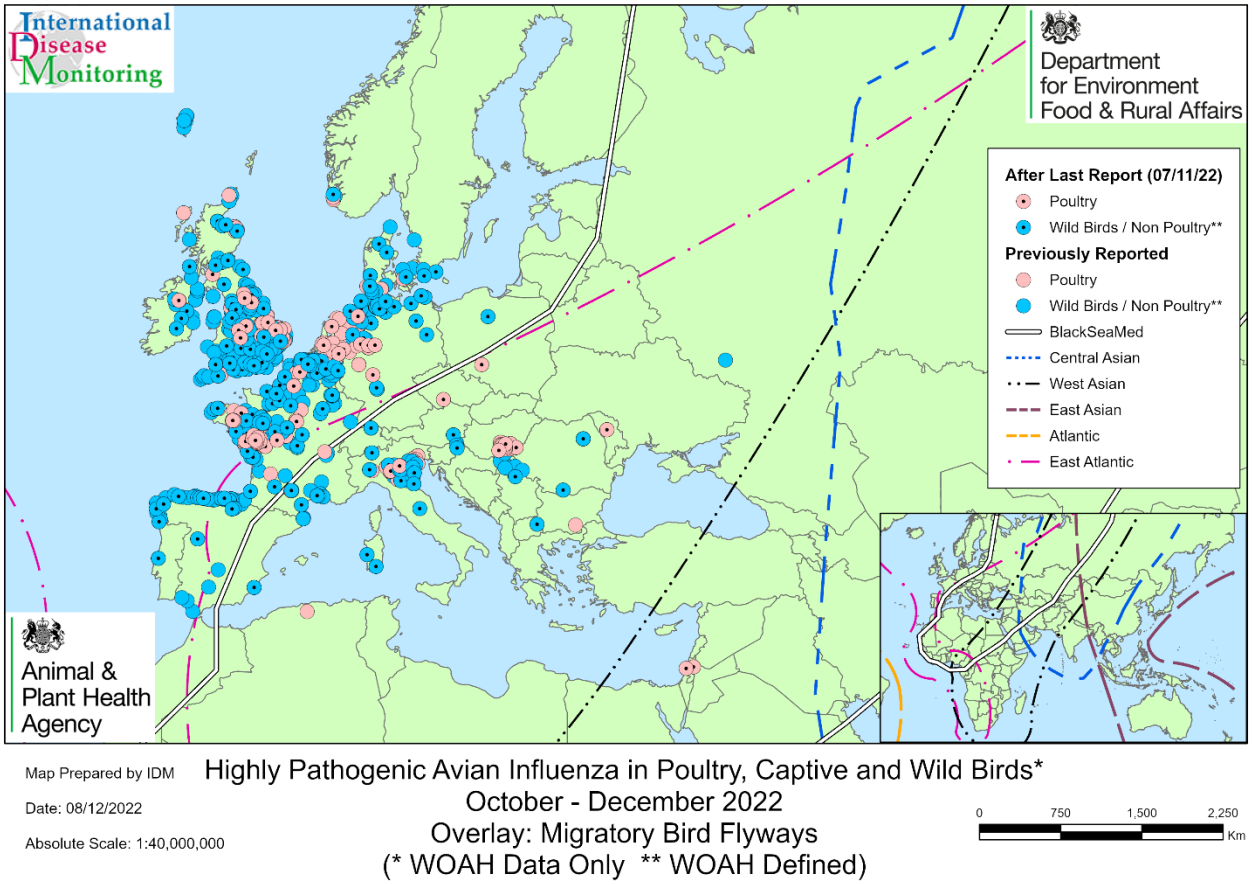
A: ducks, geese and swans
B: pheasants and partridges
C: kites, hawks and eagles
D: gulls and terns
E: pigeons and doves
F: gannets

*Threshold for segment labelling was ≥5 birds of that type

Throughout October and November 2022, the vast majority of HPAI H5-positive wild birds have been waterbirds, most of which have been sedentary species, though migratory waterbird species have been detected across both months (Figure 3). The relative proportion of migratory waterbirds is small compared to that of sedentary waterbirds, however it should be noted that some species of waterbirds (Mallard ducks for example) may also show migratory behaviour, albeit less clearly understood than for species such as barnacle geese and pink footed geese.

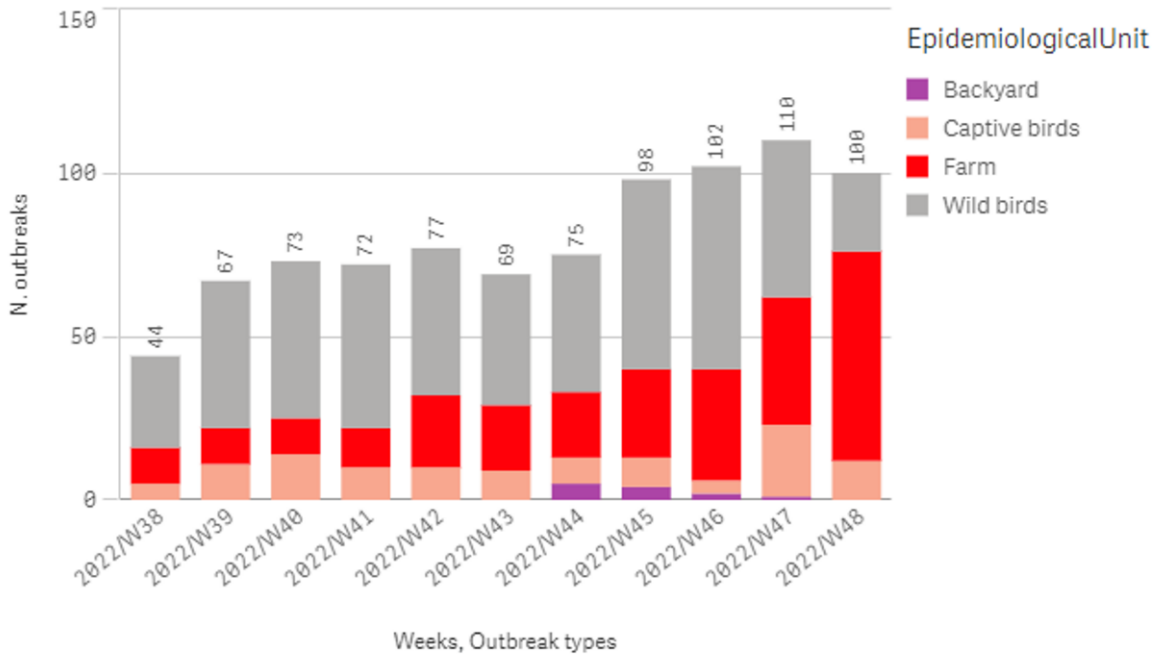
Europe

Map 3: Map showing HPAI H5 events in domestic poultry and wild birds in Europe reported by WOAH between 01 October and 06 December 2022 (WOAH, 2022).



Between 07 November and 06 December 2022, there has been a total of 299 HPAI H5N1 events reported by the WOAH in domestic poultry and non-poultry including wild birds across Europe. Of these, 129 outbreaks were reported in domestic poultry in: Belgium (1), Czech Republic (1), Denmark (1), France (46), Germany (6), Hungary (45), Italy (20), Moldova (1), the Netherlands (4), Norway (1), the Republic of Ireland (2) and Russia (1). 170 events were reported in non-poultry/wild birds in: Austria (1), Belgium (29), Denmark (5), France (50), Germany (28), Italy (21), North Macedonia (1), Norway (3), Poland (1), Portugal (1), Republic of Ireland (3), Romania (4), Russia (2), Serbia and Montenegro (2), Slovenia (2), Spain (13), Sweden (2) and Switzerland (2).

Figure 4: Weekly outbreaks of HPAI in poultry and captive birds and cases in wild birds reported across Europe between late September and early December 2022 (IZSVe, 2022)



The number of outbreaks of HPAI in poultry farms each week across Europe has increased over the last 4 weeks, however the number of cases in wild birds appears to have decreased over the same time period. It is important to note that wild bird surveillance methods may differ between countries and may contribute to the variability in the number of wild birds reported each week.

Implications for Great Britain

In autumn 2022, disease events in Great Britain were detected in domestic poultry and in wild birds much earlier in the season than in previous years (see Figure 2 for wild bird cases) due to the unprecedented and sustained circulation of HPAI virus (HPAIV) in Great Britain's breeding birds, mainly seabirds, over the summer. This is different from previous epizootic years where HPAIV H5 entered Great Britain with the migratory waterbirds from Eastern Europe and Siberia in the autumn. Most of the wild bird HPAIV H5 detections currently are resident waterbirds (mute swans, Canada geese, gulls) with fewer migratory waterbird species reported to date than in previous years, although this may change in the coming weeks. Similar species findings are reported in wild bird cases from western Europe. However, Italy is now reporting cases in Eurasian teal and Eurasian wigeon, which are migratory waterbirds.

According to ornithological experts, most migratory waterbirds have now arrived in Great Britain, although some Greenland species (such as Greenland white-fronted geese) may have stopped over for longer in Iceland this season due to the mild weather. These

species populations are relatively small compared to the large numbers of wigeon, teal, brent geese and pink-footed geese which have mostly all arrived. Therefore, the additional impact on poultry IPs from the migratory birds should by now have been seen to some extent. Since HPAIV H5 was already circulating in the “more resident” waterbird species in Great Britain prior to the arrival of the migratory birds, the role of the migrants in the introduction of the virus this year may be less significant than in previous years. Their role in maintaining the virus and spreading it within Great Britain over the winter remains to be determined. The current cold weather in western Europe may bring further migratory birds in from continental Europe where spread in wild birds is ongoing (see Figure 4).

Most of the recent wild bird events in Europe are in north-western Europe (and the Iberian Peninsula), running along the English Channel through the north-western corner of France and Belgium into the Netherlands and northern Germany (see map 3). There is also a cluster of wild bird cases in north-east Italy. The ongoing presence of HPAIV in wild birds in north-western Europe in mid-December is of less concern to Great Britain than it was a couple of months ago as a potential source of infection for ducks, geese and swans migrating west to Great Britain, because most of those birds have now arrived in Great Britain. However, cold weather in Continental Europe together with current north-easterly winds from the Arctic could encourage more birds to move west into Great Britain. Most of those geese and swans that fly into the UK via Norway, Svalbard, Iceland and off Greenland, including whooper swans, Greenland barnacle geese, pink-footed geese will also have arrived in Great Britain by mid-December.

Residual infectivity from those affected seabirds at coastal sites in southern and eastern England from late summer and autumn could still serve as a source of infection for the dark-bellied brent geese and pink-footed geese which overwinter in the UK. However, there is no evidence for this yet. It also remains to be seen whether the seabirds returning to their colonies around Great Britain in the February/March will be exposed to residual infectivity from last summer, hence reigniting the spread within breeding seabirds.

The overall infection pressure from wild birds on poultry in Great Britain is undoubtedly still very high given the ongoing levels of wild bird detections and the high environmental viral loadings which will remain infectious for prolonged periods, particularly with the current cold weather in Great Britain. For these reasons, the national risk level for HPAI H5 in wild birds is maintained at **very high**.

The number of poultry IPs in Great Britain has declined each week since our last report (Figure 1). This may reflect the implementation of the housing order in England and Wales and the removal of Christmas turkey flocks due to slaughter. New IPs, however, are still occurring weekly and from a risk assessment perspective, the current risk levels to poultry cannot be reduced while the wild bird risk is still at very high. Therefore, the risk of infection of poultry in Great Britain with sub-optimal biosecurity is maintained at **high,** with **low uncertainty**. 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 may

increase further in the coming weeks with the cold weather in Continental Europe. The ongoing wild bird infection pressure will expose any weaknesses that exist, even where a good biosecurity plan is in place. If this plan is not properly implemented, and there are biosecurity breaches (such as poor maintenance of buildings) exposure of housed poultry to virus could occur resulting in infection.

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 1 October 2022, there have been 500 confirmed cases of HPAI H5 in wild birds in Great Britain, spanning a range of waterfowl, seabirds, and birds of prey.

The risk of HPAI H5 infection in wild birds in Great Britain is maintained at **VERY HIGH**. There is currently a very high infection pressure on poultry from wild birds. This is mainly from the more resident waterbird species in Great Britain and there have been relatively few HPAI H5 positive migratory waterbirds reported so far, although this may change as the winter progresses. Temperature conditions favouring increased virus survival during the current cold weather will prolong survival of residual virus infectivity in the environment with implications for fomite transmission to poultry, even though they are housed, through poor biosecurity, or where there are biosecurity breaches.

Although the number of IPs has fallen weekly, the infection pressure from both wild birds and residual environmental infectivity remains very high. Therefore, 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).

Additional housing measures came into force across England on 7 November 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. These housing measures build on the strengthened biosecurity requirements of the Avian Influenza Prevention Zones (AIPZs) which were declared in England, Scotland, Wales, and Northern Ireland on 17 October 2022.

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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 with the onset of cold and wet weather. **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. Contact:

- 03000 200 301 in England
- 0300 303 8268 in Wales
- your local field services office in Scotland

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 online (https://www.gov.uk/guidance/report-dead-wild-birds) or to the Defra wild bird helpline on 03459 33 55 77:

- 1 or more dead birds of prey (such as an owl, hawk or buzzard)
- 3 or more dead birds that include at least 1 gull, swan, goose or duck
- 5 or more dead wild birds of any species

It is advisable that you do not touch these birds.

Appendix 1: 2022-2023 HPAI season; Wild bird species in Great Britain that have tested positive for HPAI H5 between 01 October and 06 December 2022

Region and species	Total number of birds testing positive since last assessment (07 November to 06 December 2022)	Total number of birds testing positive since 01 October 2022
England (below)	208	430
Black Swan	1	1
Canada Goose	35	111
Great White Egret	1	1
Grey Heron		1
Greylag Goose	30	67
Herring Gull	1	4
Kestrel	3	4
Mute Swan	60	90
Pink footed goose	4	7
Unspecified Goose	1	1
Unspecified Swan	1	2
Whooper swan	7	13
Common Buzzard	13	19
Red Kite	1	2
Pheasant	8	31
Curlew	1	1

Region and species	Total number of birds testing positive since last assessment (07 November to 06 December 2022)	Total number of birds testing positive since 01 October 2022
Barnacle goose	1	3
Mallard duck	2	4
Unspecified Duck	1	1
Black Headed Gull	5	12
Sparrowhawk	8	10
Wood Pigeon	3	3
Common Gull	0	1
Tawny Owl	1	3
Gannet	0	7
Razorbill	0	1
Little Egret	1	1
Rock Dove	2	7
Lesser black-backed gull	0	1
Crow	0	1
Pintail duck	0	1
Peregrine	2	4
Unidentified Avian	2	2
Barn Owl	2	2

Region and species	Total number of birds testing positive since last assessment (07 November to 06 December 2022)	Total number of birds testing positive since 01 October 2022
Red Legged Partridge	1	1
Goosander	1	1
Red Breasted Goose	2	2
Fantail Dove	1	1
Unspecified Bird of Prey	1	1
Domestic Goose	1	1
Other Crow	2	2
Unlisted Goose	2	2
Wales (below)	2	31
Canada Goose	1	1
Greylag Goose	0	5
Mute Swan	1	9
Pheasant	0	9
Mallard duck	0	2
Guillemot	0	1
Hen Harrier	0	1
Gannet	0	2
Lesser black-backed gull	0	1

Region and species	Total number of birds testing positive since last assessment (07 November to 06 December 2022)	Total number of birds testing positive since 01 October 2022
Scotland (below)	29	39
Greylag Goose	1	1
Herring Gull	5	5
Mute Swan	3	5
Common Buzzard	2	2
Pheasant	4	4
Barnacle goose	4	4
Guillemot	1	1
Hen Harrier	0	1
Unspecified Gull	5	6
Common Gull	3	4
Fulmar	0	1
Osprey	0	1
Unspecified Tern	0	3
Red-throated Diver	1	1
Grand Total	**239**	**500**

Authors

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- Dr Lauren Perrin

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.

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