Department for Environment, Food and Rural Affairs

Updated Outbreak Assessment #38

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

4 January 2023

Disease report

Since our last outbreak assessment on 6 December 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 15 new infected premises (IPs) confirmed with HPAI H5N1 in Great Britain, 9 in commercial poultry premises and 6 in non-commercial premises. There has been 74 HPAI H5 events 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, now with medium uncertainty,** and the risk to **poultry with suboptimal biosecurity** is maintained at **high, with low uncertainty**. The uncertainty was reduced from high to medium for poultry with stringent biosecurity following a decline in the number of confirmations in commercial premises with evidence of good biosecurity practice over several weeks. However, the number of commercial IPs confirmed weekly is still in line with a medium risk level (event occurs regularly).

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.

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, Poland and Spain. HPAI H5N1 events in non-poultry species, including wild birds, have been reported by WOAH in Belgium, Denmark,

France, Germany, Hungary, Iceland, Ireland, Italy, the Netherlands, Poland, Romania, Russia, Slovenia, Spain, Sweden and Switzerland. Additionally, a HPAI H5N5 event was reported in a wild bird in Norway.

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.

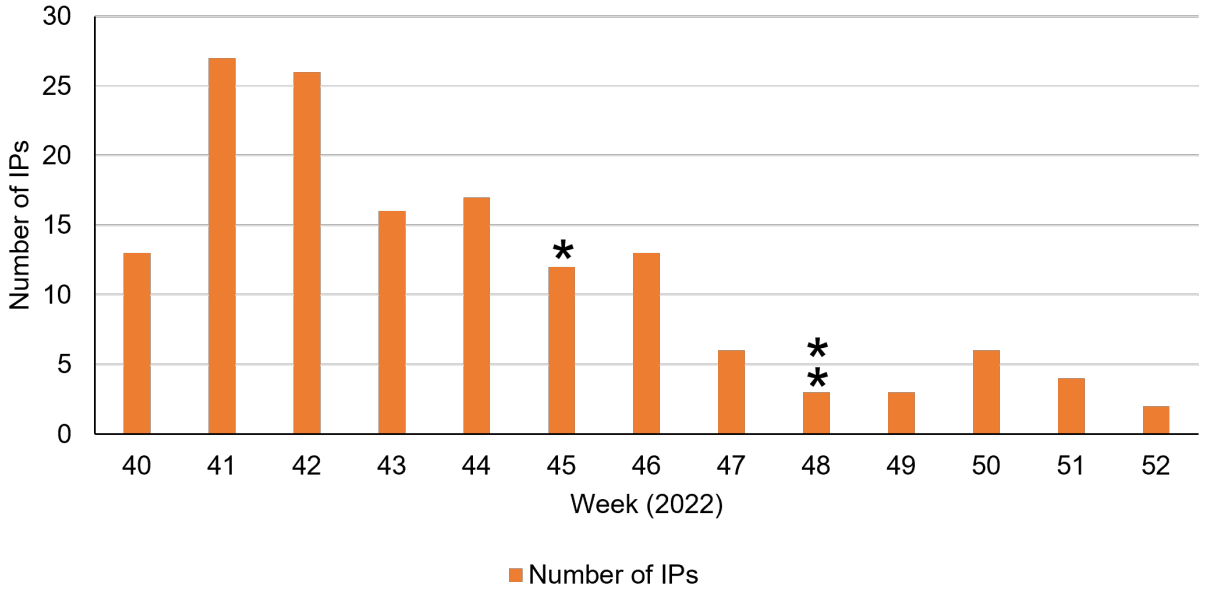
United Kingdom

Since our last report on 6 December 2022 to 4 January 2023, there have been 15 further confirmed IPs with HPAI H5N1 in poultry[1] and captive birds; 10 in England and 5 in Scotland (Map 1). These IPs comprise of 9 commercial premises (more than 50 birds) and 6 non-commercial premises (50 and fewer birds). Of the 9 commercial IPs, 2 were located in each of Norfolk (1 with chickens, 1 with ducks) and Suffolk (both with ducks), and there were single IPs in Aberdeenshire, Herefordshire, East Yorkshire, Perth (all with chickens) and North Yorkshire (mixed poultry).

The 6 non-commercial IPs were comprised of 3 small holder premises with mixed species (between 10 and 50 birds), 1 in Angus, 1 in Fife and 1 in Surrey. The other 3 IPs were backyard holdings (fewer than 10 birds), 1 with mixed species in East Yorkshire, 1 with chickens in Shropshire and 1 with chickens in Moray.

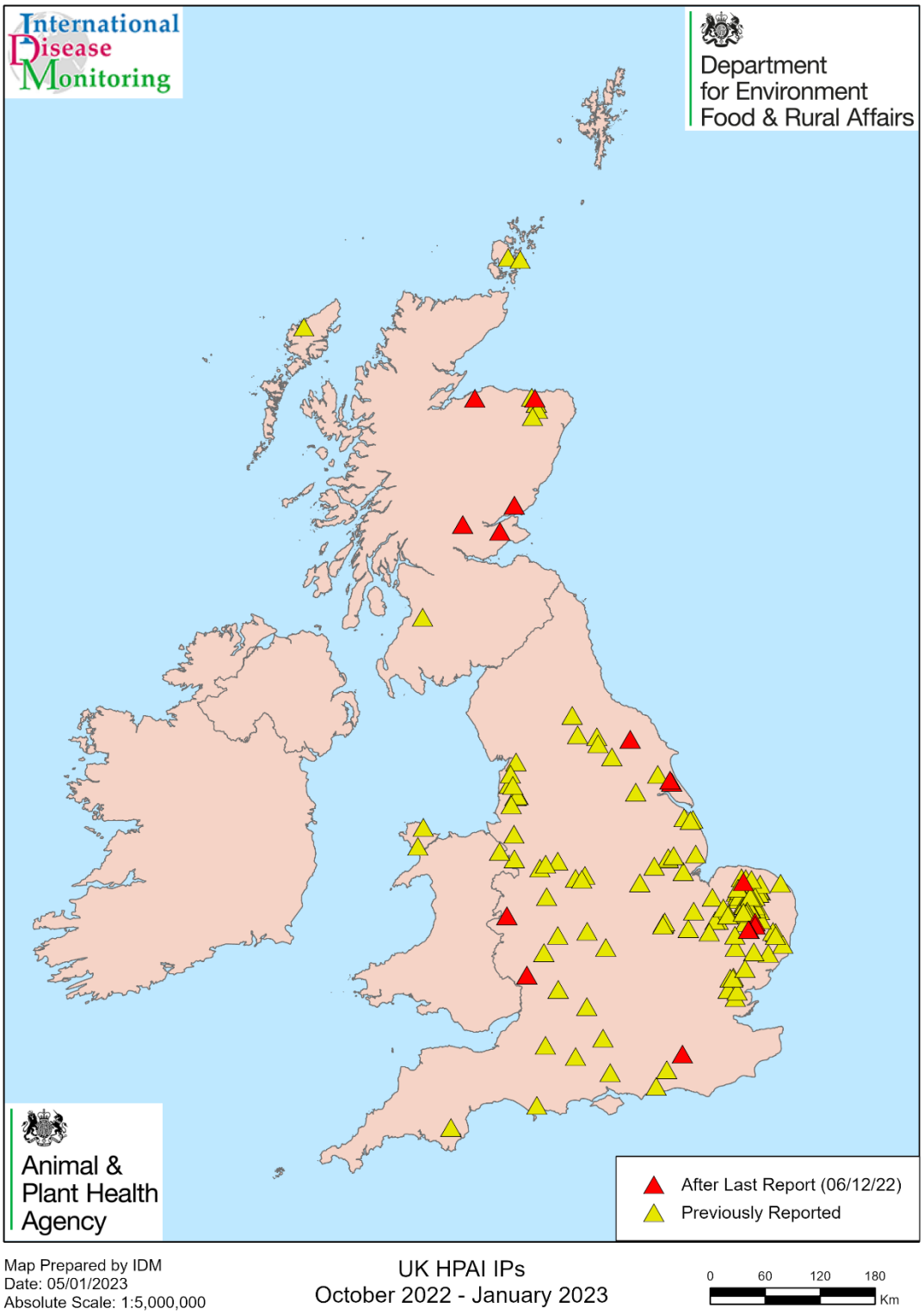
[1] According to the 2021 WOAH definition of poultry: Terrestrial Code Online Access - WOAH - World Organisation for Animal Health

Figure 1: Number of IPs confirmed with HPAI H5N1 in Great Britain between week 40 (start of October) and week 52 (end of December) 2022. Asterisks denote when housing measures were introduced across England (single) and Wales (double).



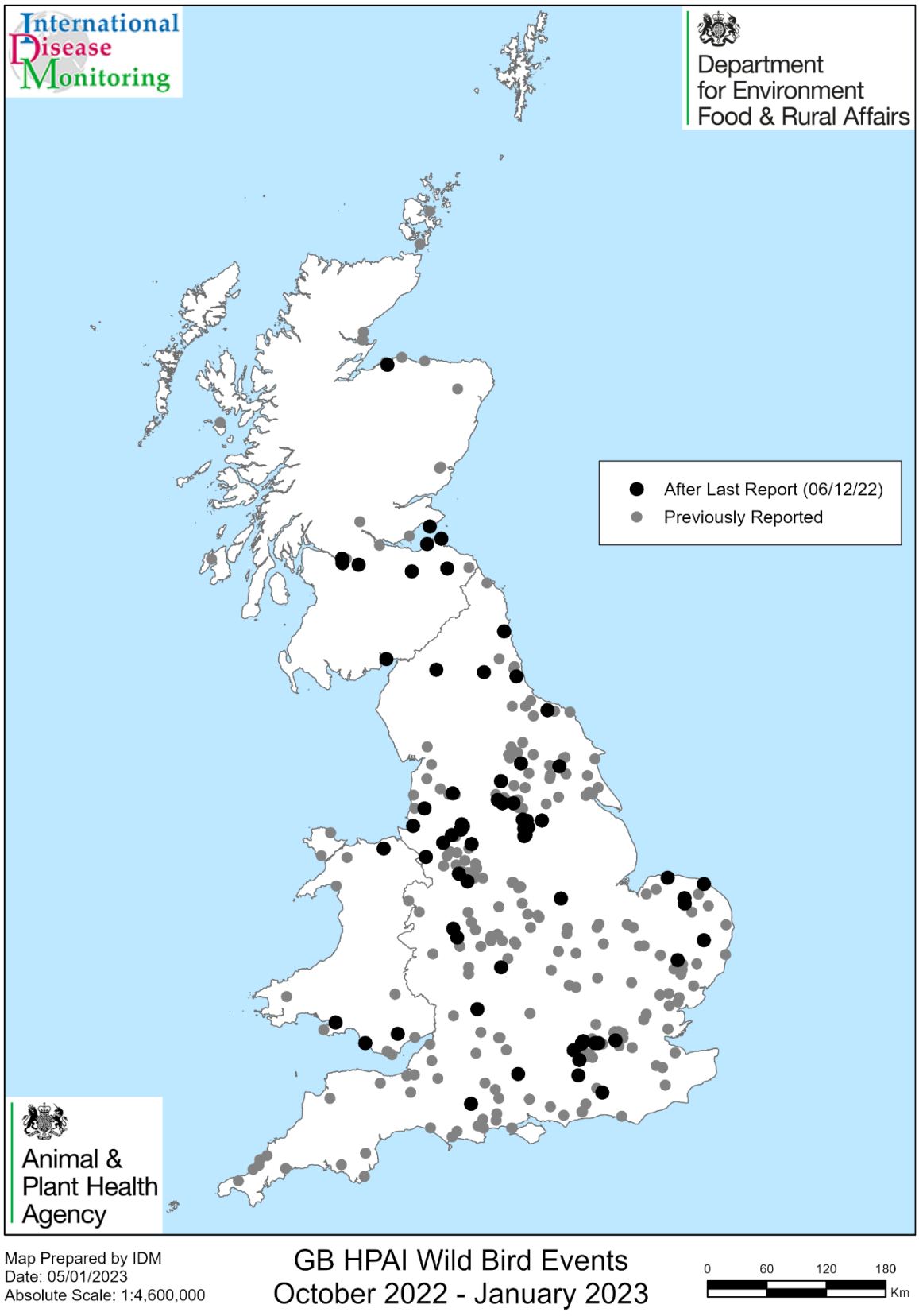
For further details, please see the reports on the latest situation regarding HPAI in domestic poultry and captive birds in England, Scotland, Wales and Northern Ireland.

Map 1: HPAI H5 outbreaks in poultry[1] and captive birds across the United Kingdom, 1 October 2022 to 4 January 2023.



[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 which were confirmed between 1 October 2022 and 4 January 2023.

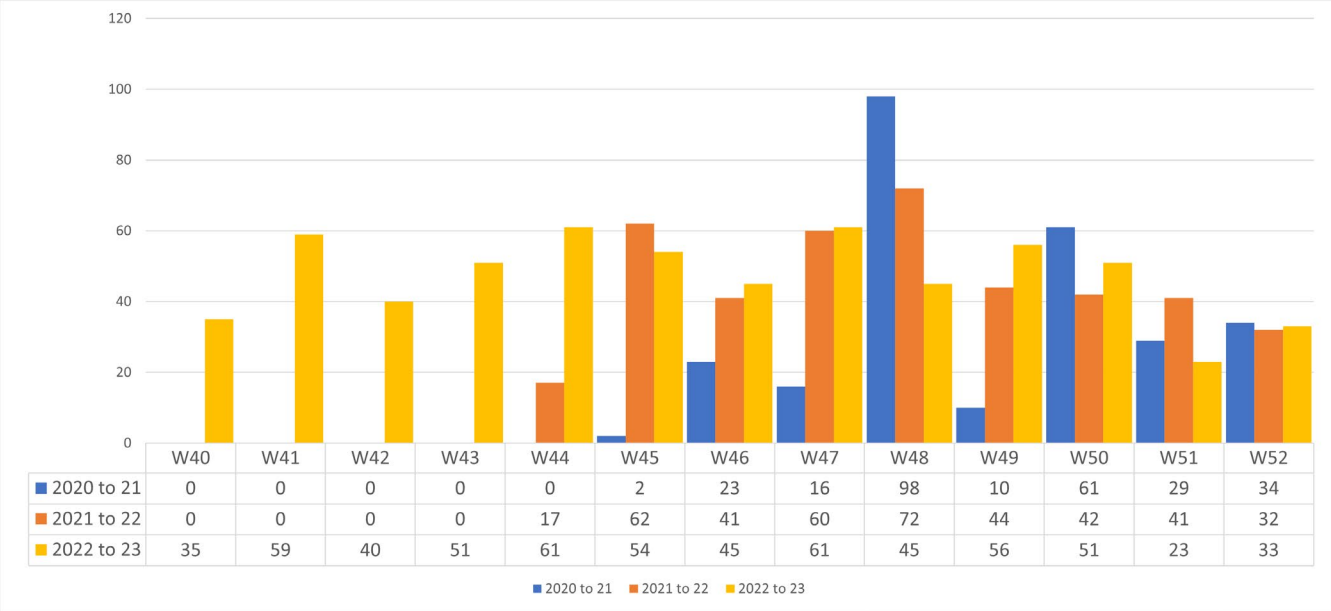


Wild birds

Between 6 December 2022 and 4 January 2023, HPAI H5 has been detected in 169 wild birds in 74 separate locations in Great Britain, including 23 wild bird species (listed in Appendix 1), in 42 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, HPAI-positive findings were widespread across Great Britain including both coastal and inland locations and the greatest number of findings were in waterbirds (118). The other detections occurred in a variety of species including pheasants and partridges (4), gulls (16), birds of prey (23), crows (2), pigeons/doves (5) and woodpecker (1).

From 6 December 2022 to 4 January 2023, there have been 4 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 52 (approximately the end of December).



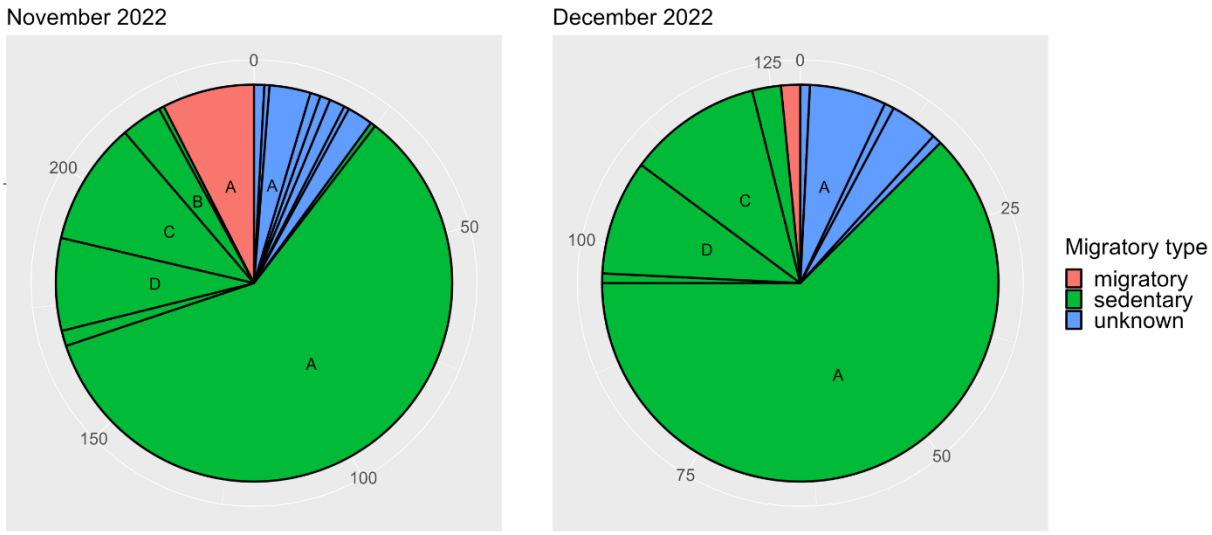
	W40	W41	W42	W43	W44	W45	W46	W47	W48	W49	W50	W51	W52
2020 to 21	0	0	0	0	0	2	23	16	98	10	61	29	34
2021 to 22	0	0	0	0	17	62	41	60	72	44	42	41	32
2022 to 23	35	59	40	51	61	54	45	61	45	56	51	23	33

*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 have been relatively few detections in migratory birds so far this season compared with detections in indigenous species (Figure 3), although migratory birds are not specifically targeted during surveillance. Total numbers of migrating wild water birds (ducks, geese, and some swan species) will now have peaked in GB and the majority of

wintering water birds have now arrived. 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 November and December 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

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

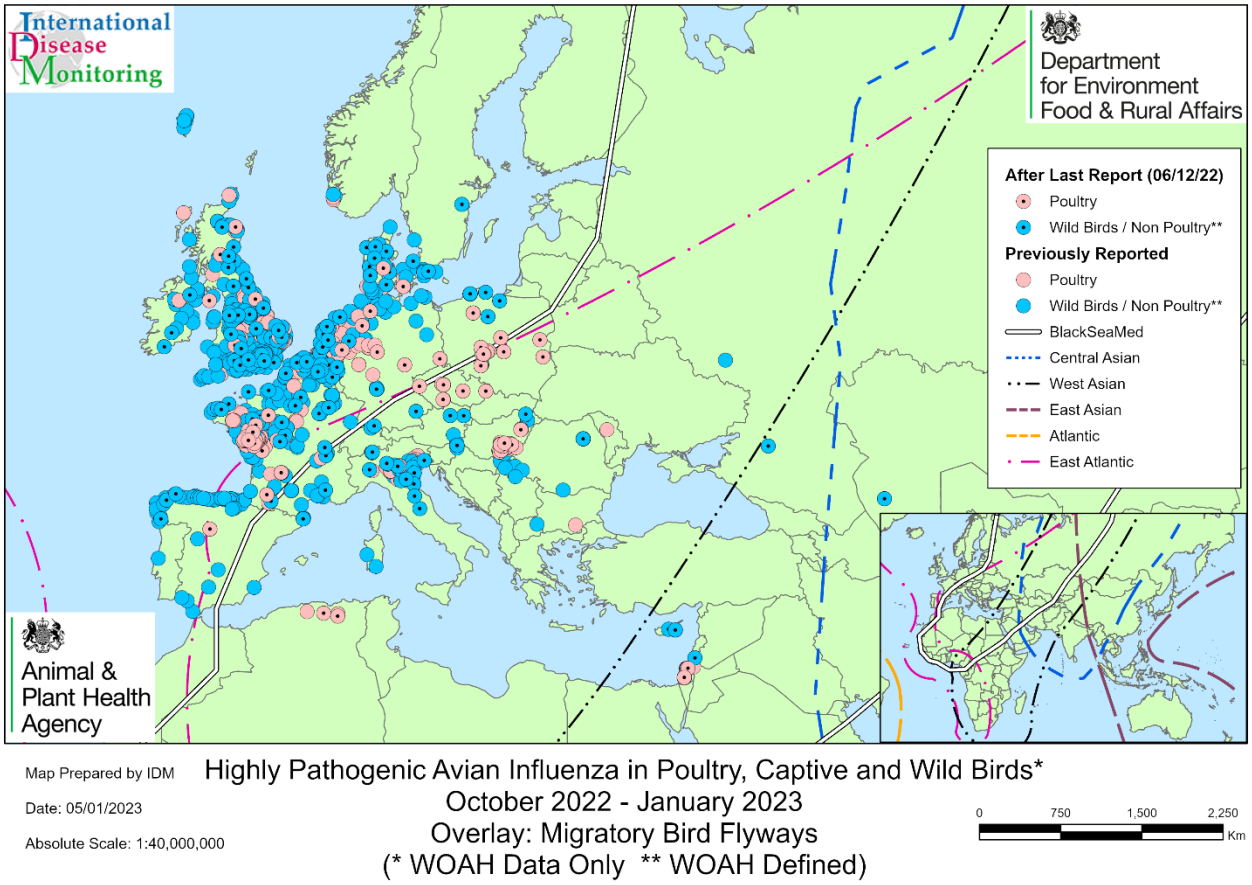
Throughout November and December 2022, the vast majority of HPAI H5-positive wild birds have been waterbirds, most of which have been sedentary species, though migratory waterbird species have been detected across both months, albeit with fewer detections in December compared with November (Figure 3). 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.

Non-avian wildlife

Following retrospective testing of non-avian wildlife carcasses for HPAI, there have been 8 positive detections in non-avian wildlife species from Great Britain (for map see Appendix 2). These positive detections comprised of 4 Eurasian otters and 4 red foxes, from which samples were collected between 7 December 2021 and 1 September 2022. For further details, please see the report on findings of HPAI in non-avian wildlife in Great Britain.

Europe

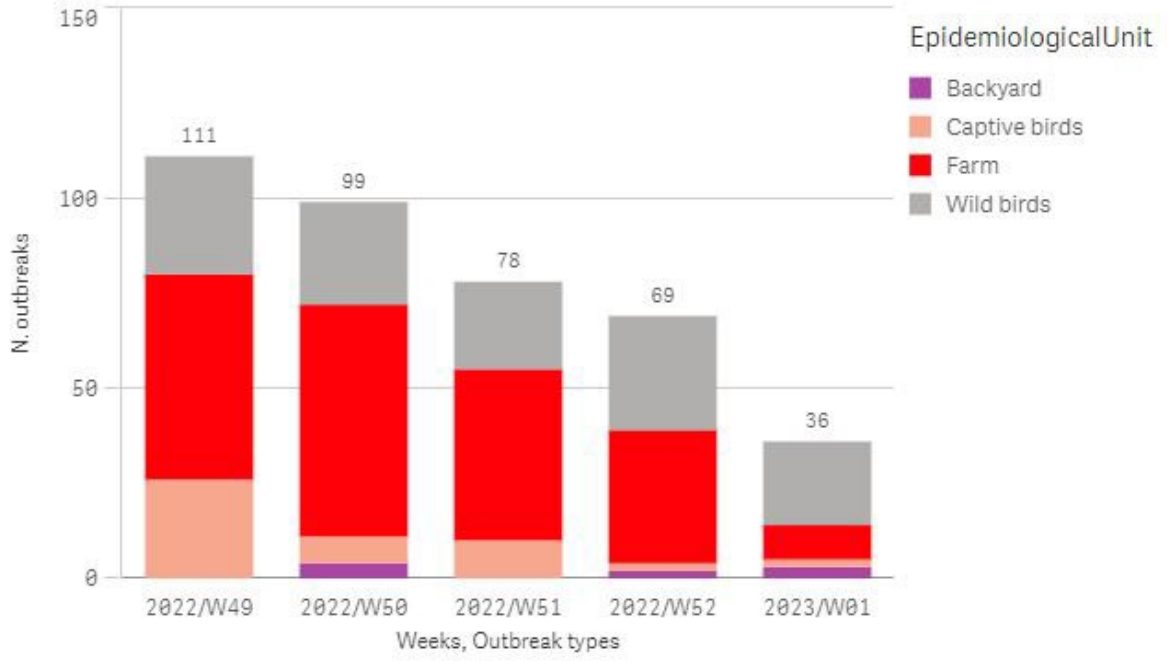
Map 3: Map showing HPAI H5 events in domestic poultry and wild birds in Europe reported by WOAH between 1 October 2022 and 4 January 2023 (WOAH, 2023).



Between 6 December 2022 and 4 January 2023, there has been a total of 288 HPAI H5N1 events and 1 H5N5 event reported by the WOAH in domestic poultry and non-poultry including wild birds across Europe. Of these, 182 outbreaks of HPAI H5N1 were reported in domestic poultry in: Belgium (2), Czech Republic (5), Denmark (1), France (109), Germany (2), Hungary (45), Italy (1), Poland (16) and Spain (1). 106 HPAI H5N1 events were reported in non-poultry/wild birds in: Belgium (10), Denmark (10), France (22), Germany (2), Hungary (1), Iceland (5), Ireland (1), Italy (9), the Netherlands (23), Poland (6), Romania (5), Russia (1), Slovenia (1), Spain (4), Sweden (4) and Switzerland (2). There was also 1 HPAI H5N5 event involving a wild great black backed gull (Larus marinus) in Norway.

One of the reports for non-poultry in France concerned a domestic cat which was euthanised at a premises in the Nouvelle-Aquitaine region, which had previously been reported with an outbreak of HPAI H5N1.

Figure 4: Weekly outbreaks of HPAI in poultry and captive birds and cases in wild birds reported across Europe between late November 2022 and early January 2023 (IZSVe, 2022)



The number of outbreaks of HPAI in poultry farms each week across Europe has decreased over the last 4 weeks, with around 60 outbreaks in week 50 (2022) and fewer than 10 in week 1 (2023), as of 4 January. The number of cases in wild birds appears to have decreased slightly over the same time period, with around 25 cases in week 50 (2022) and 20 in week 1 (2023), as of 4 January. 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

According to ornithological experts, most migratory waterbirds will have arrived by the end of the year in Great Britain. Even those Greenland species (such as Greenland white-fronted geese) that may have stopped over for longer in Iceland this season due to the mild weather will have moved south with the recent cold northerly winds. Therefore, the additional impact on poultry IPs from the migratory ducks, geese and swans should by now have been seen. 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 have been 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.

Most of the recent wild bird events in Europe are in north-western Europe 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 an ongoing cluster of wild bird cases in north-east Italy. The ongoing presence of HPAIV in wild birds in north-

western Europe in early January is of less concern to Great Britain than it was three months ago as a potential source of infection for ducks, geese and swans migrating west to Great Britain, because most, if not all, of those birds have now arrived in Great Britain.

Residual infectivity from those affected seabirds at coastal sites in southern and eastern England from late summer and autumn does not appear to have served as a source of infection for the dark-bellied brent geese and pink-footed geese which overwinter in the UK. It now remains to be seen whether the seabirds returning to their colonies around Great Britain in 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 low temperatures in winter 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 generally declined week on week since week 41 (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,** now with **medium uncertainty**. It remains to be seen whether a second peak in IPs will occur in Great Britain or indeed how long into the spring that new IPs will be reported. 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 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 642 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. 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 medium 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.

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

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 where permitted under housing orders, such as fully netted enclosures and runs in England and Wales and fenced enclosures and ranges in Scotland where there is currently an AIPZ but no housing order in place, 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. This could be via direct contact with wild birds (getting in to housing or on the range in Scotland where there is currently no housing order in place) or indirect contact, such as contact with contaminated feed, water, bedding, equipment, vermin or clothing including footwear of people in contact with infected birds or contaminated environment including flood water. 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 1 October 2022 and 4 January 2023

Region and species	Total number of birds testing positive with HPAI H5 since last assessment (6 December 2022)	Total number of birds testing positive with HPAI H5 since 1 October 2022
England	**142**	**545**
Black Swan	0	1
Canada Goose	36	142
Great White Egret	0	1
Grey Heron	0	1
Greylag Goose	19	85
Herring Gull	1	5
Kestrel	2	5
Mute Swan	36	121
Pink footed goose	0	7
Unspecified Goose	4	5
Unspecified Swan	0	2
Whooper swan	1	14
Common Buzzard	13	31
Red Kite	0	2
Pheasant	1	31
Curlew	0	1

Region and species	Total number of birds testing positive with HPAI H5 since last assessment (6 December 2022)	Total number of birds testing positive with HPAI H5 since 1 October 2022
Barnacle goose	0	3
Mallard duck	1	5
Black Headed Gull	8	16
Sparrowhawk	4	12
Wood Pigeon	2	4
Common Gull	0	1
Tawny Owl	0	3
Gannet	0	7
Razorbill	0	1
Little Egret	0	1
Rock Dove	3	10
Lesser black-backed gull	0	1
Crow	0	1
Pintail duck	0	1
Peregrine	1	5
Unidentified Avian	0	2
Barn Owl	1	2
Red Legged Partridge	0	1

Region and species	Total number of birds testing positive with HPAI H5 since last assessment (6 December 2022)	Total number of birds testing positive with HPAI H5 since 1 October 2022
Goosander	0	1
Red Breasted Goose	0	2
Fantail Dove	0	1
Unspecified Bird of Prey	0	1
Other Crow	2	2
Unlisted Goose	3	3
Unspecified Pheasant	3	3
Shoveler	0	1
Greater Spotted Woodpecker	1	1
Wales	**6**	**37**
Canada Goose	2	3
Greylag Goose	0	5
Mute Swan	1	10
Common Buzzard	1	1
Pheasant	0	9
Mallard duck	0	2
Guillemot	0	1
Hen Harrier	0	1

Region and species	Total number of birds testing positive with HPAI H5 since last assessment (6 December 2022)	Total number of birds testing positive with HPAI H5 since 1 October 2022
Moorhen	1	1
Gannet	0	2
Lesser black-backed gull	0	1
Unspecified Bird of Prey	1	1
Scotland	**21**	**60**
Greylag Goose	1	2
Herring Gull	4	9
Mute Swan	4	9
Pink footed goose	2	2
Unspecified Goose	2	2
Common Buzzard	0	2
Pheasant	0	4
Barnacle goose	3	7
Guillemot	0	1
Hen Harrier	0	1
White Fronted Goose	2	2
Unspecified Gull	0	6
Common Gull	1	5

Region and species	Total number of birds testing positive with HPAI H5 since last assessment (6 December 2022)	Total number of birds testing positive with HPAI H5 since 1 October 2022
Fulmar	0	1
Lesser black-backed gull	2	2
Osprey	0	1
Unspecified Tern	0	3
Red-throated Diver	0	1
Grand Total	**169**	**642**

Appendix 2: Non-avian wildlife species in Great Britain that have tested positive for HPAI H5N1. Retrospective testing was performed on samples collected between 7 December 2021 and 1 September 2022

Authors

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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 (2023) Department of Agriculture, Environment and Rural Affairs Avian influenza information page
- IZSVe (2023) EURL Avian Flu Data Portal (izsvenezie.it)
- WOAH (2023) 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.