Department for Environment, Food and Rural Affairs

Updated Outbreak Assessment #40

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

15 March 2023

Disease report

Since our last outbreak assessment on 6 February, 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 7 new infected premises (IPs) confirmed with HPAI H5N1 in Great Britain. Of these, 2 were in commercial poultry premises and 5 were in non-commercial premises. There have been 53 HPAI H5 events in wild birds in Great Britain since our last assessment. However, numbers of both wild bird cases and IPs are decreasing.

The **wild bird risk** across Great Britain is lowered from **very high** to **high.** The risk to **poultry with stringent biosecurity** is lowered from **medium** to **low, 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.

On 2 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 H5N1 continues to be reported in domestic poultry and non-poultry species, including wild birds, although numbers of both wild bird cases and poultry IPs are decreasing. The World Organisation for Animal Health (WOAH) has reported outbreaks of HPAI H5N1 in domestic poultry in Belgium, Bulgaria, Czech Republic, Estonia, France, Germany, Hungary, Italy, Poland, Slovakia, Slovenia and Spain. HPAI H5N1 events in non-poultry species, including wild birds, have been reported by WOAH in Austria, Belgium, Czech Republic, Denmark, France, Germany, Hungary, Ireland, Italy, Norway, Poland, Romania, Russia, Slovakia, Slovenia, Spain, Sweden and Switzerland. There

were also 2 reports of HPAI H5Nx in Belgium. Of note in Europe is the over representation of black-headed gull cases in wild birds in Europe.

Situation assessment

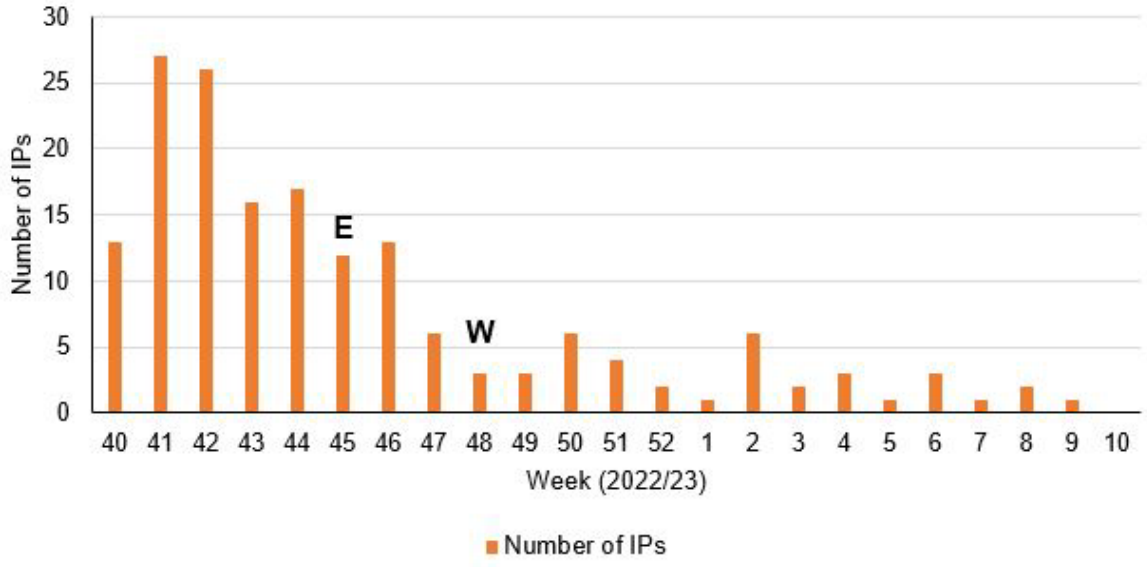
Here, a HPAI H5 event refers to a report of HPAI H5 in poultry or a location with at least one HPAI H5 positive wild bird. Individual HPAI H5 positive wild birds are referred to as cases.

United Kingdom

Since our last report on 6 February to 15 March 2023 there have been 7 further confirmed IPs with HPAI H5N1 in poultry[1] and captive birds. Of these, 4 were in England, 2 in Wales and 1 in Scotland (Map 1). These IPs comprise of 2 commercial premises (more than 50 birds) and 5 non-commercial premises (50 and fewer birds). The commercial IPs were located in Norfolk and Cumbria (both with chickens).

The 5 non-commercial IPs were comprised of 2 smallholder premises (between 10 and 50 birds) in Powys, both with mixed poultry species, and 3 backyard flocks (fewer than 10 birds). The backyard flocks were located in Cumbria (one with chickens and ducks, one with chickens) and Stirling (with chickens).

Figure 1. Number of IPs confirmed with HPAI H5N1 in Great Britain between week 40 2022 (start of October) and week 10 2023 (mid-March). Letters denote when housing measures were introduced across England (E) and Wales (W).

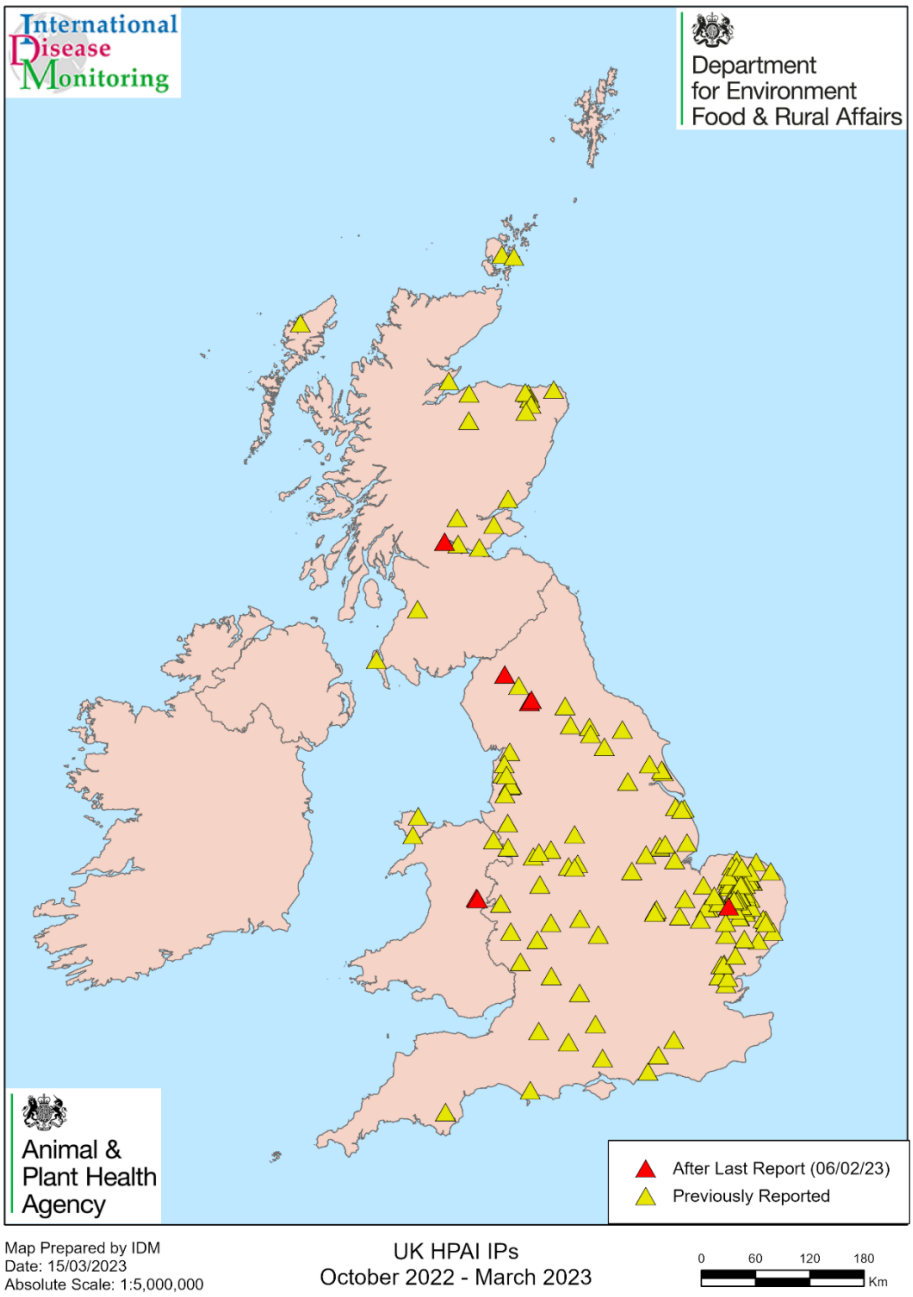


[1] According to the 2021 WOAH definition of poultry. Terrestrial Code Online Access - WOAH - World Organisation for Animal Health

Description of Figure 1. Bar chart showing the number of infected premises with HPAI H5N1 in Great Britain between the start of October 2022 and mid-March 2023. The number of infected premises has decreased in the last 4 weeks, with 1, 2, 1 and 0 premises confirmed, respectively.

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.

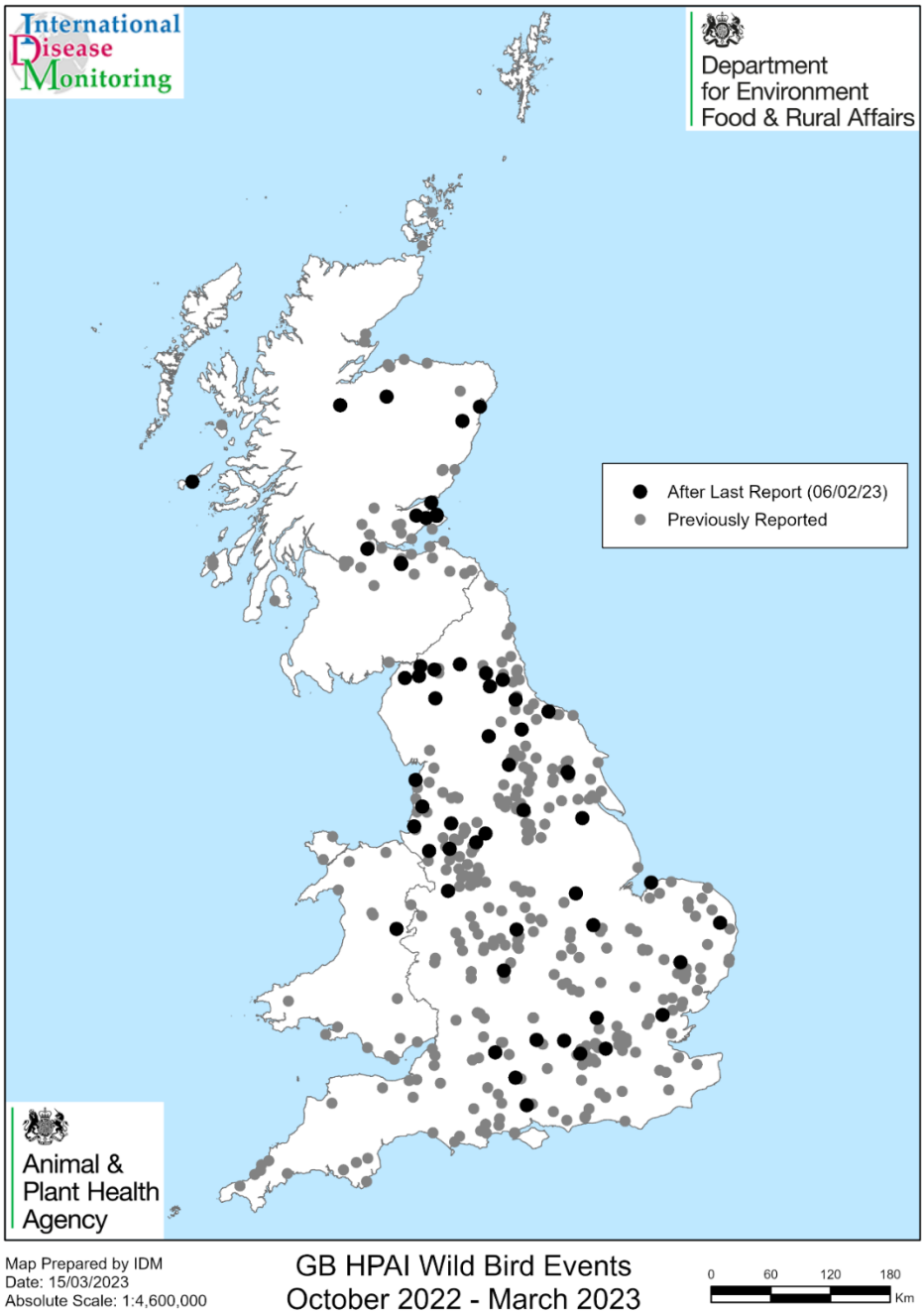
Map 1. HPAI H5 outbreaks in poultry[1] and captive birds across the United Kingdom, 1 October 2022 to 15 March 2023.



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

Description of Map 1. Across the United Kingdom, there have been outbreaks of HPAI H5N1 confirmed in Stirling, Cumbria, Powys and Norfolk.

Map 2. Map showing the HPAI H5 positive findings in wild birds across Great Britain which were confirmed between 1 October 2022 and 15 March 2023.



Description of Map 2. Across Great Britain, wild birds have been confirmed with HPAI H5 in widespread locations including coastal and inland parts of England, Scotland and Wales.

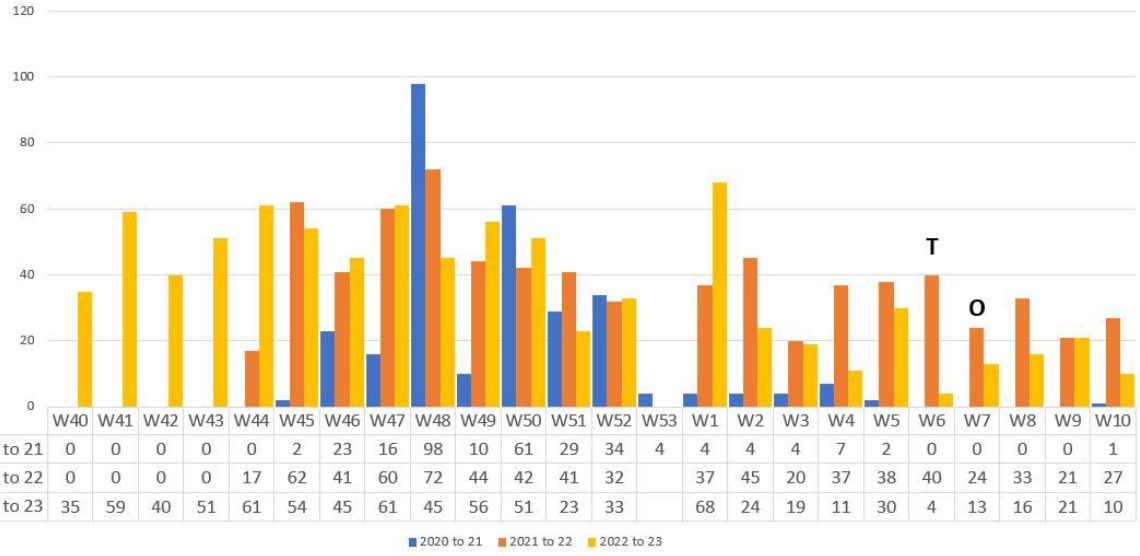
Wild birds

Between 6 February and 15 March 2023, HPAI H5 has been detected in 72 wild birds in 53 separate locations in Great Britain, including 13 wild bird species (listed in Appendix 1), in 33 counties. Most of the findings were in England (51) with 20 wild bird cases located in Scotland and 1 was in Wales (see Appendix 1). As in previous weeks, HPAI-positive

findings were widespread across Great Britain including both coastal and inland locations. There was a slightly higher number of findings in waterbirds (37) than birds of prey (32), with 2 detections in gulls and a single detection in a carrion crow.

From 6 February to 15 March 2023, there have been four further cases for which the HPAI H5 genotype has been identified, with characterisation of neuraminidase (NA) subtype in progress.

Figure 2. Wild bird HPAI H5 positive cases[a] per week across Great Britain in each season from week 40 (approximately the start of October) to week 10 (approximately the middle of March). Letters denote change in carcass collection threshold for geese and swans from 5 to 3 (T) in England and from 3 to 1 (O) across Great Britain.



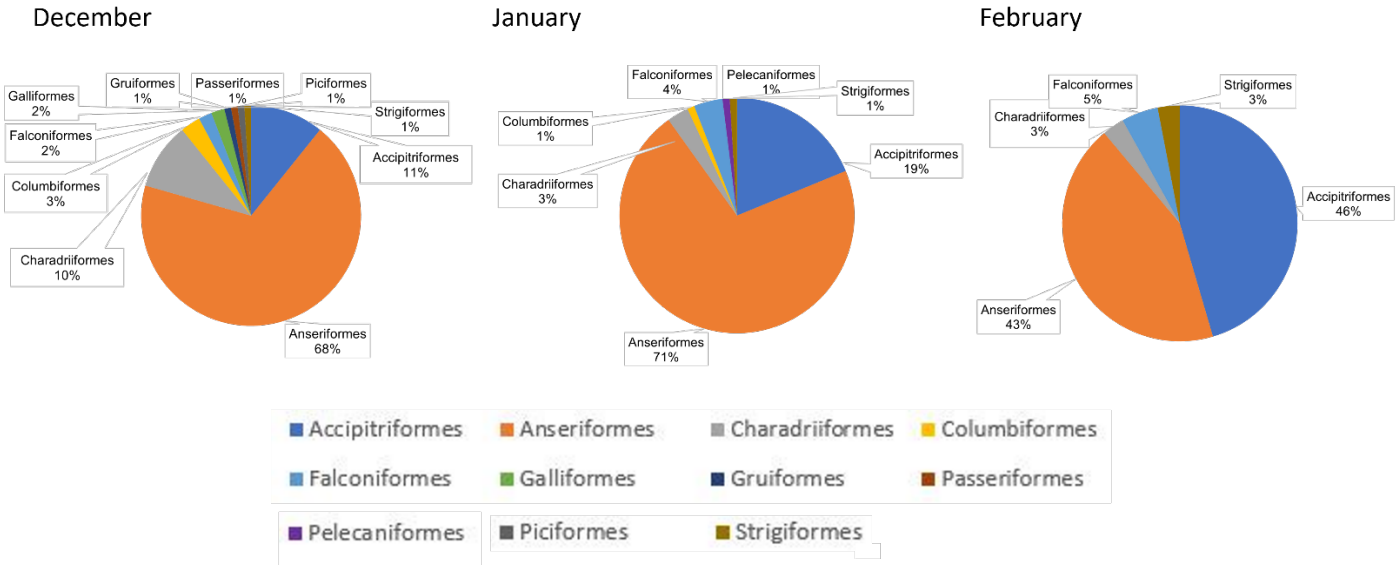
	W40	W41	W42	W43	W44	W45	W46	W47	W48	W49	W50	W51	W52	W53	W1	W2	W3	W4	W5	W6	W7	W8	W9	W10
2020 to 21	0	0	0	0	0	2	23	16	98	10	61	29	34	4	4	4	4	7	2	0	0	0	0	1
2021 to 22	0	0	0	0	17	62	41	60	72	44	42	41	32		37	45	20	37	38	40	24	33	21	27
2022 to 23	35	59	40	51	61	54	45	61	45	56	51	23	33		68	24	19	11	30	4	13	16	21	10

[a]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 3 in 2020 and 2022, and 1 in 2021.

Description of Figure 2. Over the last 4 weeks, the number of wild birds detected with HPAI H5 in Great Britain was 13, 16, 21 and 10, respectively. Overall, the number of detections in wild birds has shown a decreasing trend since the peak of 68 detections in week 1 of 2023.

While the number of wild bird positives reported weekly across Great Britain increased gradually between weeks 6 and 9 of 2023 (Figure 2), this is likely an observed effect of the carcass collection threshold change from 5 geese and swans to 3, then to 1 in England (threshold is now also 1 in Scotland and Wales). The number of wild bird detections observed in week 10 has dropped sharply. Recent weather changes involving snow and ice may have led to fewer members of the public being able to go out and find dead wild birds, which may explain the seemingly sharp decrease in the number of detections. 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 December 2022, January and February 2023, grouped by order.



Description of Figure 3. In December 2022 and January 2023, the vast majority (68% and 71%, respectively) of wild birds testing positive with HPAI H5 in Great Britain were Anseriformes, whereas in February 2023 43% of positive wild birds were Anseriformes. The proportion of Accipitriformes has increased across the 3 months (11% in December 2022, 19% in January 2023 and 46% in February 2023).

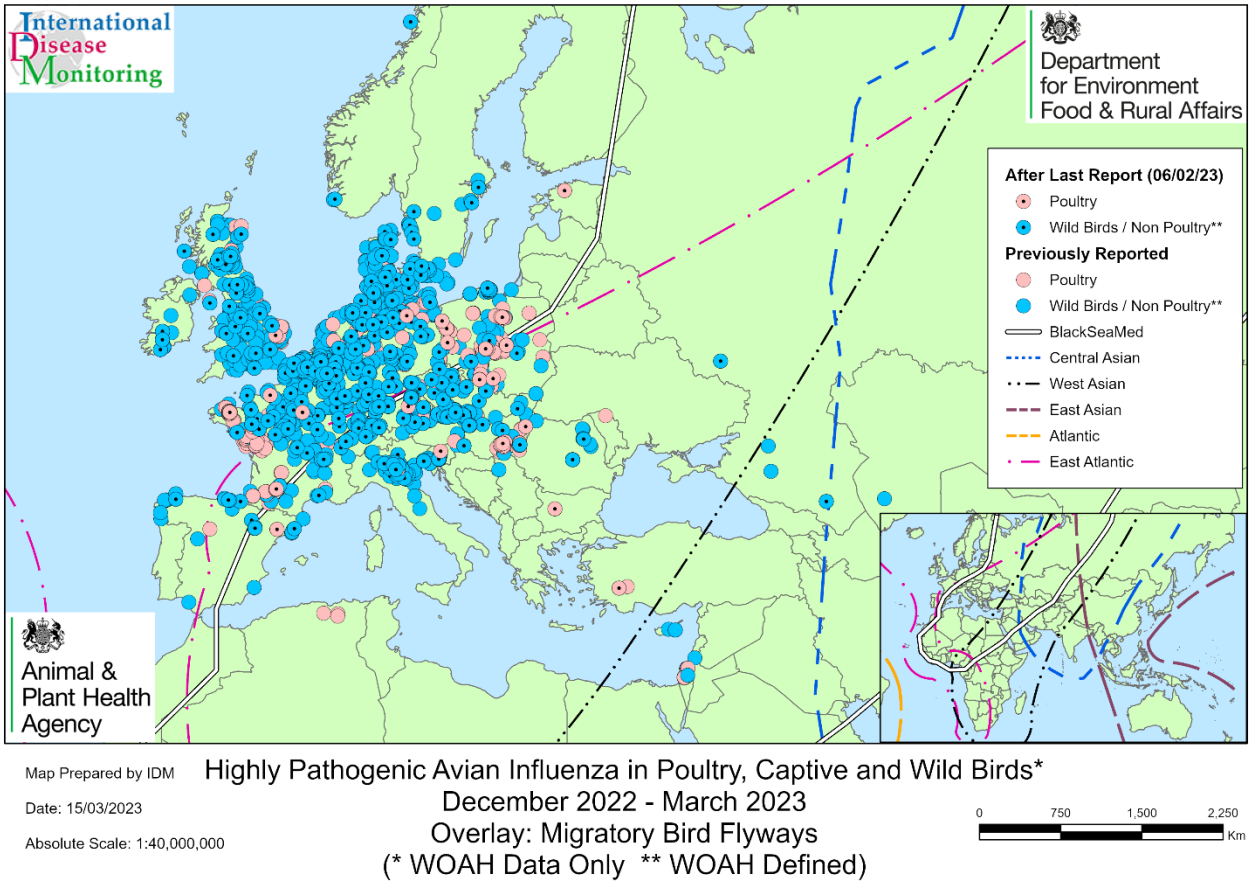
Throughout December (2022), January and February (2023), the vast majority of HPAI H5-positive wild birds have been Anseriformes, though in February, the proportion of HPAI-positive Accipitriformes birds showed a sizeable increase (46% in February versus 19% in January, Figure 3). While the proportion of Charadriiformes was 10% in December 2022, this figure has decreased to 3% in both January and February (Figure 3). The overall number of different orders of birds testing positive with HPAI has shown a decreasing trend between December (10), January (7) and February (5). It is important to note that these figures are based on passive surveillance of found dead birds and as such, may be affected by several factors including frequency of visiting areas with dead birds, as well as the size and location of carcasses.

Non-avian wildlife

Since 6 February, there have been 10 further positive HPAI H5N1 detections in non-avian wildlife from Great Britain. Of these 10 cases, 7 were collected after 1 October 2022 and 3 were retrospectively tested samples from September 2022. The positive detections collected since 1 October comprise of a red fox in Perth and Kinross, a Eurasian otter in Shropshire, a harbour porpoise in East Yorkshire, 2 common dolphins in Pembrokeshire and Devon and 2 grey seals in Cornwall (for map see Appendix 2). The 3 retrospectively tested mammals were all grey seals from Cornwall. For further details and for previously reported detections in non-avian wildlife from retrospective testing, please see the report on findings of HPAI in non-avian wildlife in Great Britain.

Europe

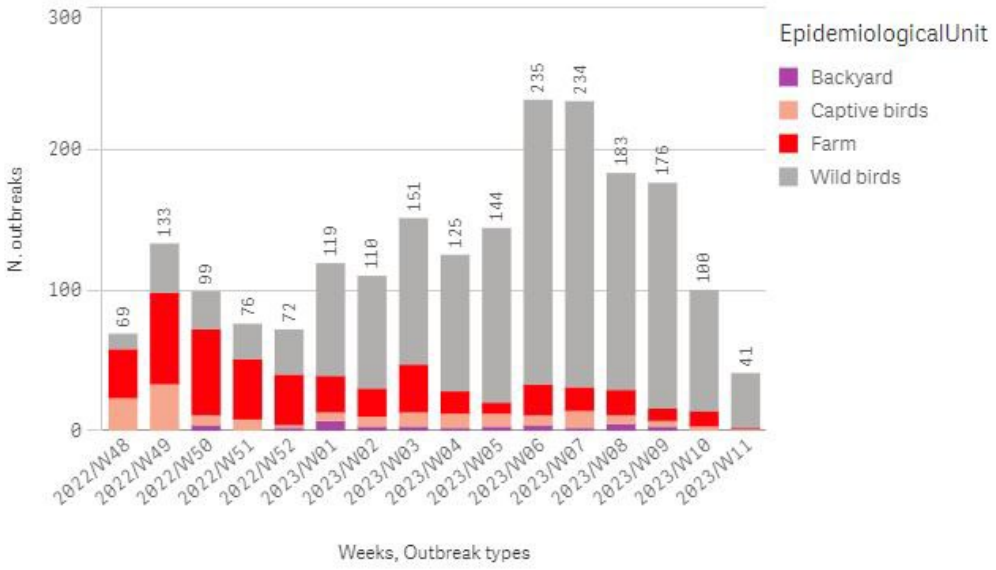
Map 3. Map showing HPAI H5 events in domestic poultry and wild birds in Europe reported by WOAH between 1 December 2022 and 15 March 2023 (WOAH, 2023).



Description of Map 3. Over the last 4 weeks, HPAI H5 events in poultry, captive and wild birds have been widely reported across Europe by the WOAH.

Between 6 February and 15 March 2023, there have been a total of 690 HPAI H5N1 events reported by the WOAH in domestic poultry and non-poultry including wild birds across Europe. A total of 87 outbreaks of HPAI H5N1 were reported in domestic poultry in Belgium (1), Bulgaria, (1), Czech Republic (1), Estonia (1), France (23), Germany (6), Hungary (26), Italy (3), Poland (22), Slovakia (1), Slovenia (1) and Spain (1). 603 HPAI H5N1 events were reported in non-poultry/wild birds in Austria (26), Belgium (89), Czech Republic (25), Denmark (19), France (96), Germany (160), Hungary (14), Ireland (5), Italy (58), Norway (4), Poland (17), Romania (5), Russia (2), Slovakia (3), Slovenia (8), Spain (9), Sweden (12) and Switzerland (51). There were also 2 cases of HPAI H5Nx, both reported in wild birds in Belgium.

Figure 4. Weekly outbreaks of HPAI in poultry and captive birds and cases in wild birds reported across Europe between December 2022 and mid-March 2023 (IZSVe, 2023)



Description of Figure 4. The number of outbreaks of HPAI H5 in poultry and captive birds and cases in wild birds reported across Europe has decreased over the last 4 weeks, with report totals of 183, 176, 100 and 41 for weeks 8, 9, 10 and 11 of 2023, respectively.

The number of outbreaks of HPAI in poultry farms each week across Europe has shown a generally decreasing trend over the last 4 weeks, with around 20 outbreaks in weeks 7 and 8, then dropping to around 10 outbreaks in week 9 and a slight increase of around 15 in week 10. The number of cases in wild birds also appears to have decreased, with around 200 cases reported in week 7, dropping to around 150 in weeks 8 and 9, then dropping to fewer than 100 cases reported in week 10. Since 6 February 2023, over 60% of the HPAI detections in wild birds across continental Europe were in black headed gulls, although the number of these detections is also decreasing (IZSVe, 2023). 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

The numbers of migratory waterbirds (ducks, geese and swans) that over-winter in Great Britain peaked in December and January. Most will have departed Great Britain by late March or early April on their outward migration to their breeding grounds in northern Europe and Russia, and some have already left. The migrant waterbirds may have played some role in maintaining the virus over the winter although the small proportion of positive cases in migrant species compared to resident wild bird species suggests this is relatively small. This raises the question of how much their imminent departure will contribute to reducing the risk to poultry. Certainly their departure will reduce the number of susceptible birds at winter aggregation sites and lower the number of wild birds shedding virus within Great Britain. Of greater importance in reducing HPAI prevalence in wild birds may be the general dispersion of wild birds (and resident birds in particular) from their wintering areas

where they gather and aggregate at wetland sites and surrounding fields, this month as the resident wild birds move to their more remote breeding sites across the country. For example, it is not uncommon to see around a hundred mute swans feeding in the same field in southern England in the winter months. These will disperse this month. At their breeding sites the birds are dispersed and bird to bird contacts are greatly reduced for most species so reducing transmission of HPAI compared to at the winter gathering sites. Indeed, the waterbirds become more territorial driving away birds of related species. Most resident GB waterbird species that breed in UK do not breed together in large numbers, the exception being seabirds around the coast. The seabirds are currently returning to their breeding colonies. It remains to be seen what effect the return of seabirds to their breeding colonies in March/April has on virus transmission within those species. The increase in day length and ambient temperatures in the coming weeks will reduce survival of the HPAI H5N1 virus in the environment although circulation of virus in waterbirds may be maintained until their spring dispersal in March/April.

Wild bird cases increased in continental Europe from early January peaking at around 200 cases per week in the second week of February (Figure 4) and have steadily decreased through February and into March. In Europe wild bird cases were across much of central and eastern Europe and not just in north-western Europe as earlier in the winter (see map 3). There is an ongoing cluster of wild bird cases in north-east Italy although no more cases in central Italy. The ongoing presence of HPAIV in wild birds in north-western Europe in mid-March is of little concern to Great Britain compared to four months ago as a potential source of infection. The recent cold spell in Great Britain only served to delay the departure of some of the overwintering birds and did not bring more ducks, geese and swans in from Europe.

The overall infection pressure within wild bird populations in Great Britain is reducing (Figure 2), despite slight increases in the number of detections per week over the last few weeks due to collection threshold changes. The number of detections per week has dropped substantially since the beginning of January (68 detections in week 1 versus 10 detections in week 10), indicating an overall decrease in infection pressure. In addition, as daylight hours lengthen in the summer months, the increased ultraviolet (UV) exposure will contribute to reducing the amount of residual virus in the environment. For these reasons, the national risk level for HPAI H5 in wild birds is lowered from **very high** to **high**.

The number of poultry IPs in Great Britain has generally declined week on week since the peaks of 27 and 26 in the second and third weeks of October (Figure 1). While this may in part reflect the implementation of the housing order in England and Wales and the removal of Christmas turkey flocks due to seasonal slaughter, the concurrent reduced number of detections observed in wild birds is indicative of an overall reduced infection pressure. Notably, Scotland did not implement a housing order and a similar trend of reduced IP confirmations and wild bird detections has been observed. While new IPs are still occurring regularly, the numbers confirmed per week have been consistently low at 1 or 2 for the last 4 weeks, with no IPs confirmed in week 10. Therefore, risk of infection of poultry in Great Britain with stringent biosecurity is lowered from **medium** (with low uncertainty) to **low** with **high uncertainty**. The risk of infection of poultry in Great Britain

with sub-optimal biosecurity is maintained at **high,** with **low uncertainty**. It remains to be seen how long into the spring that new IPs will continue to occur. 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. 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, albeit at a decreasing rate.

Since 1 October 2022, there have been 865 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 lowered from **VERY HIGH** to **HIGH**. There is currently a high infection pressure on poultry from wild birds. While lengthening daylight hours and increased UV intensity will favour a reduction in environmental virus contamination, temperature conditions favouring increased virus survival, particularly during the recent cold weather will prolong survival of residual virus infectivity in the environment. This presents opportunities for fomite transmission to poultry, even though they are housed, through poor biosecurity, or where there are biosecurity breaches.

The number of IPs has reduced substantially since the peak in mid-October and the infection pressure from wild birds and residual environmental infectivity is beginning to reduce. Therefore, the risk of exposure of poultry across Great Britain where biosecurity is stringent is lowered from **MEDIUM** to **LOW** (with high uncertainty), while the risk to poultry in Great Britain where biosecurity is suboptimal is maintained at **HIGH** (with low 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 2 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 review 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) 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 15 February 2023

Region and species	Total number of birds testing positive with HPAI H5 since last assessment (6 February 2023)	Total number of birds testing positive with HPAI H5 since 1 October 2022
England	**51**	**708**
Black Swan	0	1
Canada Goose	3	171
Great White Egret	0	1
Grey Heron	0	1
Greylag Goose	5	112
Herring Gull	0	6
Kestrel	0	6
Mute Swan	3	142
Pink footed goose	11	27
Unspecified Goose	0	5
Unspecified Swan	0	2
Whooper swan	0	15
Common Buzzard	19	70
Red Kite	0	2
Pheasant	0	31
Curlew	0	1

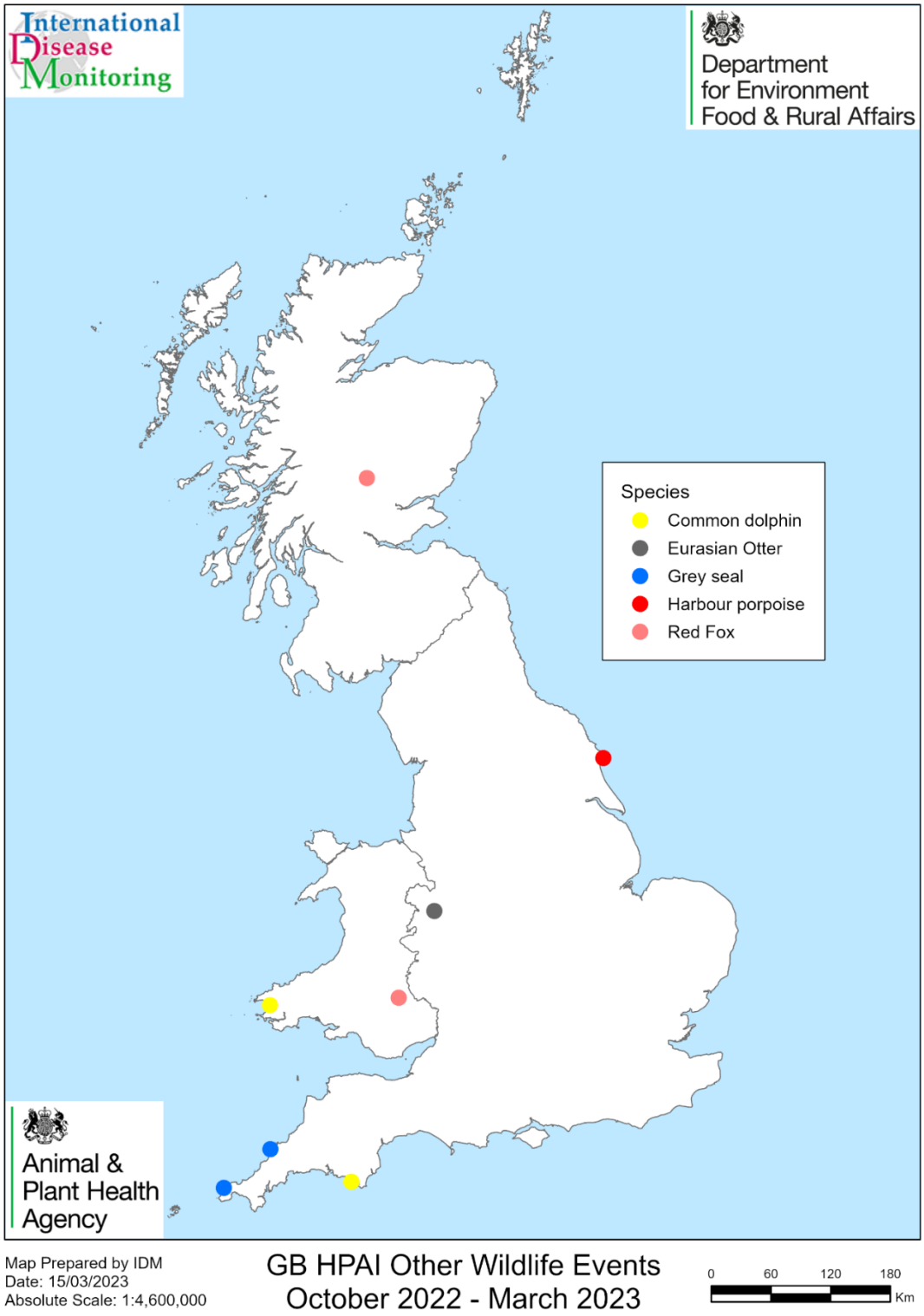
Region and species	Total number of birds testing positive with HPAI H5 since last assessment (6 February 2023)	Total number of birds testing positive with HPAI H5 since 1 October 2022
Barnacle goose	0	3
Mallard duck	0	5
Black Headed Gull	2	19
Sparrowhawk	2	19
Wood Pigeon	0	4
Common Gull	0	1
Tawny Owl	0	6
Gannet	0	7
Carrion Crow	1	1
Razorbill	0	1
Little Egret	0	1
Rock Dove	0	10
Lesser black-backed gull	0	1
Crow	0	1
Pintail duck	0	1
Peregrine	3	12
Unidentified Avian	0	2
Barn Owl	0	2

Region and species	Total number of birds testing positive with HPAI H5 since last assessment (6 February 2023)	Total number of birds testing positive with HPAI H5 since 1 October 2022
Red Legged Partridge	0	1
Goosander	0	1
Red Breasted Goose	0	2
Fantail Dove	0	1
Unspecified Bird of Prey	1	2
Other Crow	0	2
Unlisted Goose	0	3
Unspecified Pheasant	0	3
Shoveler	0	1
Greater Spotted Woodpecker	0	1
Dove Pigeon	0	1
Teal	1	1
Scotland	**20**	**117**
Greylag Goose	0	4
Herring Gull	0	10
Mute Swan	0	14
Pink footed goose	11	21
Unspecified Goose	0	3

Region and species	Total number of birds testing positive with HPAI H5 since last assessment (6 February 2023)	Total number of birds testing positive with HPAI H5 since 1 October 2022
Whooper swan	0	2
Common Buzzard	3	8
Pheasant	0	4
Barnacle goose	3	19
Black Headed Gull	0	1
Sparrowhawk	1	2
Guillemot	0	1
Hen Harrier	0	1
White Fronted Goose	0	2
Unspecified Gull	0	6
Common Gull	0	5
Fulmar	0	1
Lesser black-backed gull	0	2
Osprey	0	1
Unspecified Tern	0	3
Barn Owl	0	1
Red-throated Diver	0	1
Unspecified Heron	0	1

Region and species	Total number of birds testing positive with HPAI H5 since last assessment (6 February 2023)	Total number of birds testing positive with HPAI H5 since 1 October 2022
Ringed Plover	0	1
Unknown Buzzard	2	3
Wales	**1**	**40**
Canada Goose	0	3
Greylag Goose	0	5
Mute Swan	0	10
Common Buzzard	1	4
Pheasant	0	9
Mallard duck	0	2
Guillemot	0	1
Hen Harrier	0	1
Moorhen	0	1
Gannet	0	2
Lesser black-backed gull	0	1
Unspecified Bird of Prey	0	1
Grand Total	**72**	**865**

Appendix 2. Non-avian wildlife species in Great Britain that have tested positive for HPAI H5 between 1 October 2022 and 15 March 2023.



Description of Appendix 2. Since 1 October 2022, HPAI H5 has been detected in Perth and Kinross (red fox), Shropshire (Eurasian otter), East Yorkshire (harbour porpoise), Pembrokeshire (common dolphin), Devon (common dolphin) and Cornwall (2 grey seals).

Authors

- Dr Lorna Freath
- Dr Paul Gale
- Dr Sonny Bacigalupo
- Dr Lauren Perrin
- Anthony Pacey

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.