

Updated Outbreak Assessment #23

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

17 May 2021

Ref: VITT/1200 HPAI in the UK and Europe

Disease Report

Since our last report (on 29 April), there have been no new reports of HPAI H5 in wild birds and no new outbreaks of HPAI in poultry or in captive birds, in the **United Kingdom** (UK). In **Europe**, HPAI H5N8 continues to be reported in poultry with a batch of outbreaks reported by OIE in the south west of France; although weekly cases of HPAI H5 of varying subtypes, in wild birds in northern Europe, have decreased greatly since the peak in March.

Situation Assessment

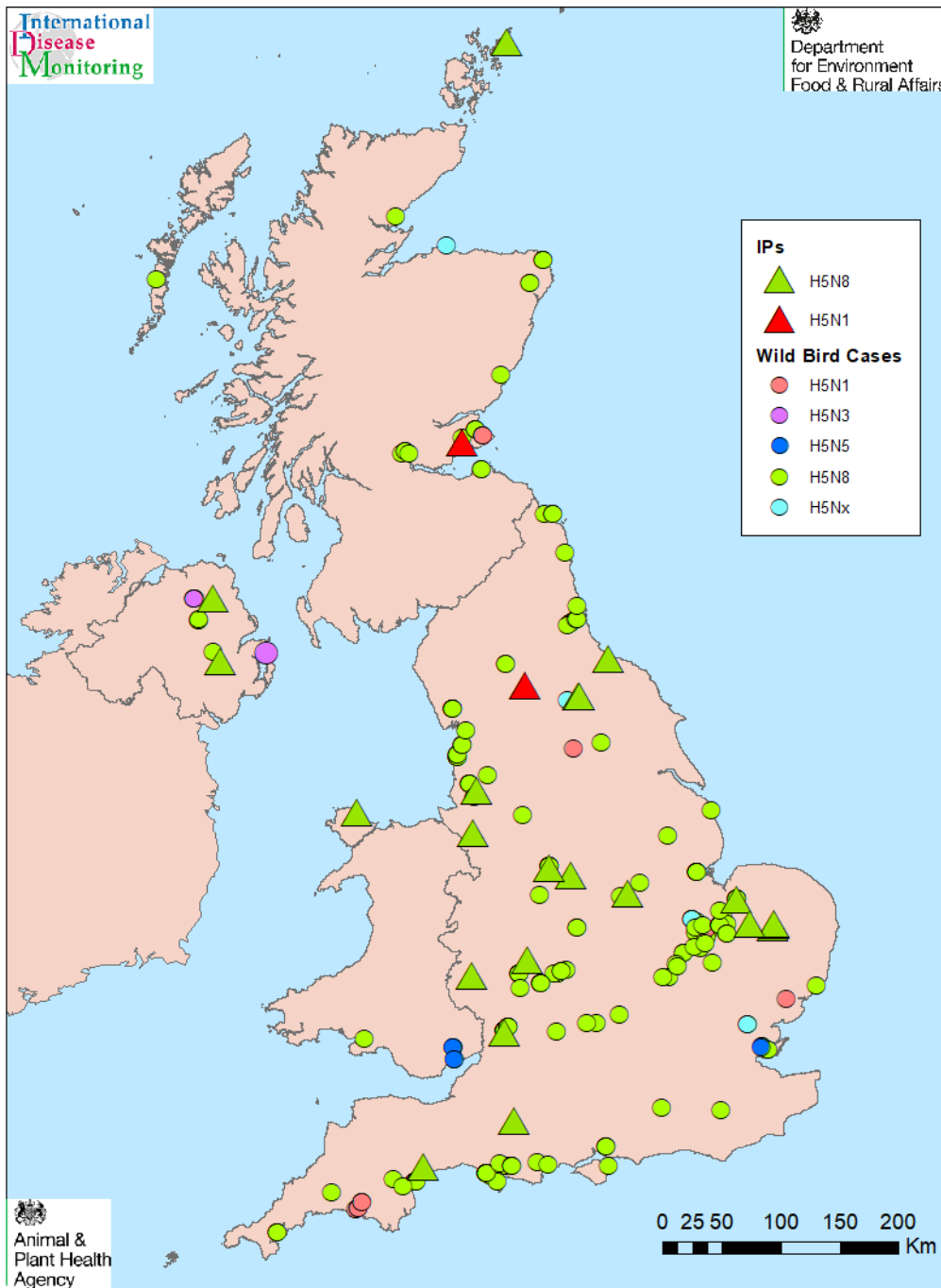
There have been no new outbreaks of HPAI H5 in poultry or in captive birds (to 13 May 2021) since the end of March, following the lifting of the housing order on the 31 March 2021 in GB; when a very large poultry population (~33 million birds) would have had access to outside ranges, and potentially to environmental contamination. There have been no new outbreaks in poultry in Northern Ireland since January.

To 17 May 2021, there have been a total of 15 outbreaks of HPAI H5N8 in poultry confirmed on premises in England; one outbreak confirmed on a premises in Scotland; and one outbreak confirmed in Wales. There have also been three outbreaks of HPAI H5N8 in captive birds in England (Table 1), one outbreak of HPAI H5N1 in backyard chickens in England; and one outbreak of HPAI H5N1 in gamebirds in Scotland (Table 2).

To 17 May 2021, there have been two outbreaks of HPAI H5N8 in poultry confirmed on premises in Northern Ireland.

The total number of HPAI outbreaks in poultry and/or captive birds in the UK, to 17 May 2021, is 24.

Map 1: UK HPAI outbreaks in poultry and wild birds, by strain: November 2020 to 17 May 2021



Date: 17/05/2021
Map prepared by IDM

UK HPAI IPs and Wild Bird Cases (as of 17/05/21)

Table 1: Summary of confirmed outbreaks of HPAI H5N8 in poultry and captive birds in the UK to 17 May 2021

Date HPAI H5N8 confirmed	Location, County	Description	Status
HPAI H5N8 in Poultry			
3 November	Near Frodsham, Cheshire	Broiler breeder rearer chickens	All surveillance completed, zones lifted, premises remain under restriction as per OIE recommendations
10 November	Near Leominster, Herefordshire	Broiler breeder chickens	All surveillance completed, zones lifted, premises remain under restriction as per OIE recommendations
23 November	Near Melton Mowbray, Leicestershire	Poultry and captive birds	All surveillance completed, zones lifted, premises remain under restriction as per OIE recommendations
29 November	Near Northallerton, Hambleton, North Yorkshire	Rearing turkeys	All surveillance completed, zones lifted, premises remain under restriction as per OIE recommendations
01 December	Near Northallerton, Hambleton, North Yorkshire	Rearing turkeys	All surveillance completed, zones lifted, premises remain under restriction as per OIE recommendations
04 December	Near Attleborough, Breckland, Norfolk	Rearing turkeys	All surveillance completed, zones lifted, premises remain under restriction as per OIE recommendations
05 December	Near King's Lynn, Norfolk	Rearing turkeys	All surveillance completed, zones lifted, premises remain under restriction as per OIE recommendations

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Date HPAI H5N8 confirmed	Location, County	Description	Status
15 December	Near Willington, Derbyshire	Captive birds and poultry	All surveillance completed, zones lifted, premises remain under restriction as per OIE recommendations
19 December	Island of Sanday, Orkney Islands	Small commercial free range laying flock	All surveillance completed, zones lifted, premises remain under restriction as per OIE recommendations
19 December	Near Gillingham, North Dorset	Backyard poultry	All surveillance completed, zones lifted, premises remain under restriction as per OIE recommendations
20 December	Near Attleborough, Breckland, Norfolk	Commercial duck premises	All surveillance completed, zones lifted, premises remain under restriction as per OIE recommendations
28 December	Near Great Ellingham, Norfolk	Backyard poultry	All surveillance completed, zones lifted, premises remain under restriction as per OIE recommendations
28 December	Near Ickburgh, Norfolk	Commercial duck rearing premises	All surveillance completed, zones lifted, premises remain under restriction as per OIE recommendations
29 December	Near Aylesbeare, Devon	Backyard poultry	All surveillance completed, zones lifted, premises remain under restriction as per OIE recommendations
06 January	Ballymena, County Antrim	Commercial layer rearer premises	All surveillance completed, zones lifted, premises remain under restriction as per OIE recommendations

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Date HPAI H5N8 confirmed	Location, County	Description	Status
12 January	Lisburn, County Antrim	Commercial layer	All surveillance completed, zones lifted, premises remain under restriction as per OIE recommendations
28 January	Near Amlwch, Isle of Anglesey, Wales	Game bird rearing premises	All surveillance completed, zones lifted, premises remain under restriction as per OIE recommendations
06 February	Near Redcar, Redcar and Cleveland	Commercial layer	All surveillance completed, zones lifted, premises remain under restriction as per OIE recommendations
27 March	Near Uttoxeter, East Staffordshire	Commercial broiler chickens	Protection Zone lifted and replaced with Surveillance Zone which is still in place, surveillance ongoing
HPAI H5N8 in Captive Birds			
20 November	Near Stroud, Gloucestershire	Captive birds	All surveillance and sampling on infected premises completed, zones lifted
13 December	Near Droitwich Spa, Worcestershire	Captive birds	No zones implemented
31 March	Near Skelmersdale, West Lancashire	Captive birds	No zones implemented

Table 2: Summary of confirmed outbreaks of HPAI H5N1 in poultry and captive birds in the UK to 17 May 2021.

Date HPAI H5N1 confirmed	Location, County	Description	Status
18 December	Near Hawes, Richmondshire, North Yorkshire	Backyard chickens	All surveillance completed, zones lifted, premises remain under restriction as per OIE recommendations
11 February	Near Glenrothes, Scotland	Game bird rearing and breeding premises	All surveillance completed, zones lifted, premises remain under restriction as per OIE recommendations

Since our last report on 29 April 2021, there have been no new positive HPAIV H5 cases in wild birds in GB or in Northern Ireland. In late December 2020, the threshold for testing wild birds in the passive surveillance scheme for avian influenza was increased in England from a single bird of a target species to three birds found in the same location. Any mass die-off events were however still tested. The threshold for testing in Wales and Scotland has remained at one bird of the target species throughout this period. From 1 March 2021, the sensitivity of the passive surveillance scheme in England for avian influenza in wild birds was increased back to the threshold of testing single dead wild birds.

Despite this increase in sensitivity, only 10 new positive cases of HPAIV H5 in wild birds (all from three site submissions) have been detected from the 478 carcasses submitted in GB since 1 March (to 12 May). These include three dead rooks (*Corvus frugilegus*) testing positive for HPAIV H5N1 in a rookery in Fife in early April, six pheasants with HPAIV H5N8 at a site in Staffordshire, and H5N1 in a Red Kite (*Milvus milvus*) in west Yorkshire in early March.

These rare findings are not unexpected in the tail of the epizootic and are consistent with the ongoing low risk of incursion in sedentary wild birds. The six HPAIV H5N8-positive pheasants were located at a shooting estate in Staffordshire, where multiple pheasants have now been estimated to have died.

Up to 17 May 2021, a total of 320 HPAI cases have been reported in wild birds in the UK (with no additional cases since the last report). The wild bird species involved are summarised in Table 3.. During the current outbreak, most UK wild bird cases were reported in England, with only a few in Scotland, Wales, and Northern Ireland.

For further details, please see the report (updated weekly) on findings of HPAI in wild birds in GB at: <https://www.gov.uk/government/publications/avian-influenza-in-wild-birds> and NI at: <https://www.daera-ni.gov.uk/articles/avian-influenza-ai#toc-11>

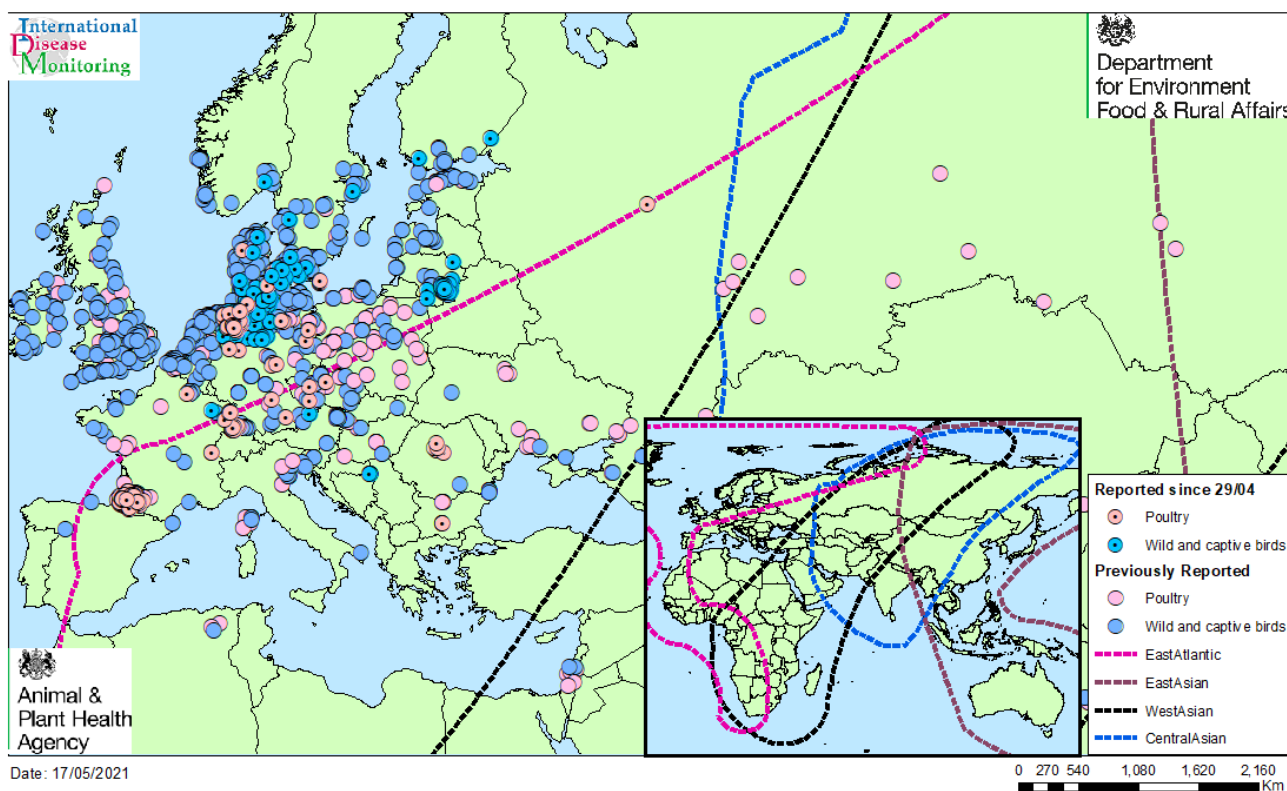
Table 3: Wild bird cases in England, Wales, and Scotland that have tested positive for HPAI H5N1, H5N5, H5N8 and H5Nx to 17 May 2021. Pathogenicity testing has not yet been completed for all samples.

Country & species	H5N1	H5N5	H5N8	H5N3	H5Nx	Grand Total
England	12	1	265		5	283
Black Swan			11			11
Brent Goose			6			6
Buzzard			4			4
Canada Goose	1		24			25
Common Buzzard	1		2			3
Great White Egret					1	1
Grey Heron			1			1
Greylag goose			8		2	10
Herring Gull			2			2
Kestrel			1			1
Lesser Black Backed Gull			1			1
Lesser Black headed Gull			1			1
Mixed Avian			1			1
Mute Swan	9	1	155			165
Peregrine Falcon			2			2
Pheasant			6			6
Pink footed goose			2			2
Red Kite	1		1			2
Shelduck			1			1
Sparrow Hawk			1			1
Unspecified			1			1
Unspecified Goose			1			1
Unspecified Swan			11			11
Whooper Swan			21		2	23
Wigeon			1			1
Wales		5	1			6
Little Grebe			1			1
Mute Swan		5				5
Scotland	3		18		1	22
Greylag goose			1			1
Mute Swan			7			7
Unspecified Swan			4			4
Whooper Swan			4			4
Knot					1	1
Red Knot			2			2

Country & species	H5N1	H5N5	H5N8	H5N3	H5Nx	Grand Total
Rook	3					3
Northern Ireland						9
Peregrine Falcon				1		1
Unspecified Swan			6			6
Whooper Swan			2			2
Grand Total	14	6	292	1	6	320

HPAI in Europe since 29 April 2021

Map 2: HPAI outbreaks (from OIE) in poultry, captive and wild birds across Europe, November 2020 to 17 May 2021



Highly pathogenic avian influenza in Poultry, Captive and Wild birds
 November 2020 - May 2021
 Overlay: migratory bird flyways

According to OIE, since our last report, a total of 148 HPAI H5 outbreaks have been reported on poultry premises across Europe (Table 4), (Map 2). The majority of these have been in backyard flocks, but there have been commercial outbreaks in Bulgaria (H5, one commercial outbreak), Czech Republic (H5N8, two commercial outbreaks), Denmark (H5N8, six commercial outbreaks), France (batch reporting of 41 outbreaks of H5N8 in commercial premises, affecting over 350,000 birds on 7 May), Germany (H5N8, 12

commercial outbreaks, 149,000 birds; and H5N1, five outbreaks, 39,000 birds), and Russia (H5N8, one commercial outbreak).

Table 4: Total number of outbreaks in poultry across Europe 29 April – 17 May 2021 (from OIE)

Country	Strain				Grand Total
	H5	H5N1	H5N5	H5N8	
Bulgaria	3				3
Czech Republic				4	4
Denmark				10	10
France				76	76
Germany		7	1	41	49
Romania				5	5
Russia				1	1
Grand Total	3	7	1	137	148

In wild birds, a total of 147 further cases of HPAI H5 have been reported since our last report across Europe (Table 5).

Table 5: Total number of outbreaks in wild birds in Europe 29 April – 17 May 2021 (from OIE)

Country	Strain					Grand Total
	H5N1	H5N3	H5N4	H5N5	H5N8	
Austria					1	1
Croatia					1	1
Denmark	2	1		5		8
Finland					2	2
France					1	1
Germany	11	1	7	3	63	85
Lithuania					40	40
Norway					1	1
Russia					1	1
Sweden				3	4	7
Grand Total	13	2	7	11	114	147

The main concentration of wild bird cases continues to be in north-western Europe, with relatively few in southern or central Europe. The 10 May report from the EU Reference Laboratory which is based on ADNS data, suggests that the number of wild bird cases (all HPAI H5 sub-types) reported has continued to decrease steeply week on week over the last few weeks, from the peak at the beginning of March (IZSve, 2021). It is thought that this may be due to migratory birds moving back eastwards to their breeding grounds, but with some continual spread through sedentary bird species, such as raptors and mute swans. According to reports from the Friedrich Loeffler Institute, there have been 53 reports of wild birds positive for HPAI in Germany (mostly in the north) between 29 April

and 14 May (FLI, 2021). This is down from the 92 cases reported in the previous month (29 March to 15 April).

Implications for the UK

The detection of four HPAI H5 subtypes (H5N8, H5N1, H5N5 and H5N3) in the same epidemic event is unparalleled in the UK. All these viruses are genetically closely related through their H5 haemagglutinin gene, which is the key viral gene influencing pathogenesis, host range, transmission, and host immunity. Continued alteration to circulating viruses following co-infection and genetic reassortment in wild birds is not unexpected. Although to date, the viruses characterised have been of high sequence identity across isolates of the same subtype, further genetic variation at genome level may occur, and so accurate genetic assessment of all emerging cases is required. Surveillance within the disease control zones continues, and results of investigations will be published in a comprehensive epidemiological report.

The dynamic of the epizootic in wild birds has changed as winter has progressed into spring. At this current late stage of the outbreak (i.e. late spring), almost all of the eastbound migrant wildfowl have now left the UK. The risk for the UK is now considered to be the residual infectivity in the environment from wild bird faeces, and the risk from those sedentary UK wild bird species still harbouring infection. In terms of subsequent spill over of HPAI virus from wild birds to poultry, stringent biosecurity is of key importance in reducing the risk; both for free range and housed poultry. Higher environmental temperatures, together with increasing sunlight intensities and longer hours of daylight, will all help to reduce environmental levels of HPAI virus, and its associated risks, during the spring.

The numbers of wild bird cases reported in Europe have continued to decrease in recent weeks (IZSve 2021); with weekly cases at around eight last week, and 20 the week before, in comparison to the peak of around 200 cases per week in early March. This is also well below the autumn 2020 peak of ~160 per week. Wild birds (and in particular the sedentary species), will not be flying west from continental Europe to the UK at this time of year. While there has been a significant second peak in wild bird cases in countries in northern Europe and in the Baltic this year, this has not been seen in the UK. or in the Republic of Ireland (IZSve 2021).

Following confirmation of cases of both HPAI H5N8 and H5N1, and also low pathogenicity avian influenza (LPAI) H5N2 and H5N3, in poultry, the UK is no longer free from notifiable avian influenza under the World Organisation for Animal Health (OIE) rules.

Where disease is confirmed, measures are put in place in accordance with Council Directive 2005/94/EC. The EU will put safeguard measures in place, meaning that no trade with the EU in live poultry or poultry products will be permitted from disease control zones.

Public Health England has confirmed that the risk to public health is very low (H5N5, H5N1) to low (H5N8) for the three HPAI strains detected and characterised to date in GB, and the Food Standards Agency has said that avian influenza does not pose a food safety risk for UK consumers.

International Trade

All outbreaks have been reported to the OIE to provide the necessary transparency required for maintaining international trade. Although the UK has temporarily lost its OIE country freedom status from HPAI, it is applying effective regionalisation as well as compartmentalisation, in order to maintain safe trade from unaffected populations of high value, and high biosecurity, commercial poultry. This is supported by the ongoing surveillance, as well as the safeguards applied via the APHA Centre for International Trade, and the rigorous and standardised certification process by Official Veterinarians.

Conclusion

The wild bird infection pressure is rapidly decreasing in the UK. The migratory wild waterfowl population is significantly reduced compared to the winter peaks, with the majority of migratory water bird species having now departed the UK; and the frequency of wild bird HPAI cases is now greatly reduced in the UK, compared to the autumn. Bridging species (sedentary birds) may still play a role in fomite spread, but this is also decreasing as environmental contamination decreases. Therefore, the risk of HPAI H5 incursion in wild birds remains at **LOW**. Although two sites with HPAI H5 positive wild birds were reported in April, compared to just one in March, the continued sporadic cases of HPAI H5 in wild birds in March and April is consistent with a low risk of infection in wild birds in the UK.

Given the continuing decrease in wild bird infection pressure, and the likely decreasing levels of environmental contamination, the risk of HPAI H5 exposure to poultry and captive birds across the whole GB is now reduced from medium to **LOW** (with **HIGH** uncertainty) **where biosecurity is sub-optimal**, and maintained at **LOW** (but now with **MEDIUM** uncertainty) **where stringent biosecurity measures** are applied.

This is consistent with the fact that no poultry outbreaks have occurred since the lifting of the housing order on 31 March 2021 in GB, which gave a large poultry population (~33 million birds) access to outside ranges. However, even stringent biosecurity does not eliminate all risk, and some exposure to poultry could occur given residual contamination in the environment. The risk to poultry is expected to reduce further still during May as seasonal increases in temperature and day length further reduce the levels of environmental contamination, and as infection levels reduce in UK breeding bird species.

An Avian Influenza Prevention Zone (AIPZ) was declared in [England](#), [Scotland](#) and [Wales](#) at 5pm on 11 November 2020. The AIPZ was revoked at midday on 15th May 2021.

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It is particularly important that stringent adherence to biosecurity measures is maintained when the AIPZ is lifted, so as to prevent disease being introduced to poultry and captive birds, through contaminated fomites and environmental exposure.

If you keep poultry (including game birds or as pets), you should follow our biosecurity best practice advice, which can be found here: <https://www.gov.uk/guidance/avian-influenza-bird-flu#biosecurity-advice> . Remain vigilant for any signs of disease in your flock and report any signs of avian influenza to Defra Rural Services Helpline on 03000 200 301. Further information is available here: <https://www.gov.uk/guidance/avian-influenza-bird-flu> including updated biosecurity advice for poultry keepers for England; <https://gov.wales/avian-influenza> for Wales and; <http://gov.scot/avianinfluenza> for Scotland.

The OIE/FAO International Reference Laboratory/UK National Reference Laboratory at Weybridge has the necessary ongoing proven diagnostic capability for these strains of virus, whether low or high pathogenicity AI, and continually monitors changes in the virus. We will continue to report on any updates on the situation in Europe and, in particular, any changes in disease distribution or wild bird movements which may increase the risk to the UK.

We ask that the public use Defra's national telephone helpline (Tel: 03459 33 55 77 – please select option 7) to report findings of any single dead bird of prey, gull or wildfowl species (particularly wild geese, wild ducks, swans), or five or more of any other species found dead in the same location and at the same time.

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References

All outbreaks and cases were taken from the World Organisation for Animal Health (OIE). *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 (OIE).*

<https://www.daera-ni.gov.uk/articles/avian-influenza-ai>

<https://www.gov.uk/guidance/avian-influenza-bird-flu#trade-import-and-export-issues>

IZSve (2021) <https://www.izsvenezie.com/reference-laboratories/avian-influenza-newcastle-disease/europe-update/>

FLI (2021) <https://www.fli.de/de/aktuelles/tierseuchengeschehen/aviaere-influenza-ai-gefluegelpest/karten-zur-klassischen-gefluegelpest/>



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