

Research Briefing

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Avian influenza



Summary

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Summary

What is avian influenza?

Avian influenza (AI or 'bird flu') is an infectious disease which mainly affects birds, including chickens, turkeys, pheasants, quail, ducks, and geese. It can also affect mammals, including humans. The UK Health Security Agency (UKHSA) has said the [risk to the general public's health from AI is very low](#).

The most serious type of AI, known as highly pathogenic avian influenza (HPAI), can cause symptoms in birds such as breathing difficulties and swelling and can lead to a bird's sudden death.

Is it the UK's worst ever outbreak?

The [2021-22 AI outbreak is the worst ever seen in the UK](#). For the first time, an outbreak has continued uninterrupted from one winter to the next. In 2022, infected wild birds were found over the summer months when normally there are no or very few cases. AI levels have now risen significantly, with wild birds moving around with the colder autumn weather and infecting more kept birds.

[Since October 2021, there have been 256 confirmed cases of the type of HPAI known as H5N1](#) in England. 136 of these cases have occurred since 1 October 2022. AI lives in aquatic birds and wild birds, meaning there is a reservoir of disease that is impossible to eradicate. HPAI viruses spread via faeces, water and contaminated materials and can exist in bird waste for several months. Domestic poultry are especially vulnerable, and AI can spread very rapidly in flocks.

Why is AI spreading so rapidly?

Scientists are not clear about the reasons why AI is spreading so rapidly and has been persistent since autumn 2021. Two leading theories are that [genetic mutations have increased the virus's ability to replicate](#) and spread more efficiently than previous strains. Another is that mutations have allowed the virus to infect a broader range of species. Some [animal welfare groups have said the dense stocking of poultry leaves flocks open](#) to the rapid spread of the virus after an initial infection.

Where disease is confirmed in kept birds, flocks may be culled to limit its spread. Between 1 October and 15 November 2022, approximately [3.4 million birds died or were culled for avian influenza control purposes](#) in the UK. Since 2021, [around 50 million AI infected birds have been culled across Europe](#). The outbreak has also had a significant impact on wild birds, [infecting more than 60 species](#) and causing a dramatic rise in deaths in the UK's globally significant seabird colonies.

What is the Government doing to stop the spread of AI?

The [Government's AI mitigation strategy](#) includes imposing Avian Influenza Prevention Zones (AIPZs) where keepers of birds must adopt improved biosecurity measures, such as washing equipment and keeping birds away from contact with wild birds. Managing AI is a devolved matter.

An [AIPZ was declared in October 2022 across Great Britain and in November in Northern Ireland](#). Subsequently, [an avian influenza housing order was introduced in England from 7 November](#). This is where keepers are required to house birds or use netting to separate them from contact with wild birds. An [avian housing order was also introduced in Northern Ireland from 28 November](#). [Housing measures come in across Wales from 2 December](#). [Scotland does not currently require birds to be housed](#) but is keeping this under review.

Where disease is confirmed in flocks, the UK Government and Devolved Administrations require poultry and bird keepers to take additional biosecurity precautions and can require flocks to be culled. The [Government pays compensation for healthy birds](#) from the start of culling. The Government relaxed marketing rules in England in October 2022 to allow poultry to be slaughtered early so [turkeys and other birds could be frozen and then sold in time for Christmas](#).

What are stakeholder and political views?

[Farmers are calling for more Government action on compensation for culled birds](#), particularly as only healthy birds are eligible for compensation. Delays in government vets attending premises can mean birds contract the disease before they can be culled.

[Animal welfare groups are concerned](#) that intensive farming is adding to the spread of AI and that mitigation measures worsen animal welfare through dense housing of birds and poor husbandry practices.

Opposition MPs have criticised the Government for not introducing a requirement for keepers to house their birds sooner.

1 Avian influenza

1.1 What is avian influenza?

Avian influenza (AI), or bird flu, is an infectious disease caused by the influenza A virus. It mainly affects birds, including chickens, turkeys, pheasants, quail, ducks, and geese, but can also affect mammals and humans.

Highly pathogenic avian influenza (HPAI) can cause symptoms such as breathing difficulties and swelling and can lead to the sudden death of an infected bird.¹ Some species of wild birds such as ducks, geese and swans may have HPAI and be infectious without showing symptoms. Birds infected with the less serious strain of bird flu, called low pathogenic avian influenza (LPAI) may not show clear signs of infection.²

1 What are the different types of avian influenza?

There are different types of avian influenza (AI). AI of the type HPAI H5N1, has been identified in significant numbers of birds in the UK in 2021-22. What does this mean?

Avian influenza type A viruses are divided into subtypes based on two proteins on the surface of the virus:

- Hemagglutinin (HA), of which there are 16 subtypes (H1-H16)
- Neuraminidase (NA), of which there are 9 subtypes (N1-N9)
- Many combinations of HA and NA proteins are possible (i.e., H5N1, H5N2, H7N2, H7N8, etc).

AI viruses are also classified into two groups based on their ability to produce disease in poultry: highly pathogenic avian influenza (HPAI) or low pathogenic avian influenza (LPAI).

- HPAI viruses cause high mortality in poultry and occasionally high death rates in certain species of wild birds.
- LPAI viruses can cause a variety of outcomes in poultry ranging from no apparent clinical signs to moderate death rates. LPAI viruses usually cause little to no signs in wild birds.

Source: US Geological Service, [What are the different types of avian influenza?](#) (accessed 29 November 2022)

¹ Defra, [Bird flu \(avian influenza\): how to spot it and report it](#), updated 4 November 2022

² Defra, [Bird flu \(avian influenza\): how to spot it and report it](#), updated 4 November 2022

Most subtypes of influenza A viruses reside in aquatic and wild birds. This reservoir of disease is impossible to eradicate.³ HPAI viruses can exist in bird waste for several months especially under high moisture and low temperature conditions. Domestic poultry are especially vulnerable, and the virus can rapidly cause epidemics in flocks. The disease can be spread via faeces, feathers and carcasses contaminating the water and food of kept birds.

H5N1 is a type of HPAI that has been infecting wild and domesticated birds in significant numbers in 2022 in mainland Europe and the UK.⁴ The AI outbreak has had impacts on the poultry and kept bird industry and on the wild bird population.

1.2 Is avian influenza a risk to humans?

The World Health Organization publishes a regular summary and risk assessment on [influenza at the human-animal interface](#). Its risk assessment remains that "overall public health risk from currently known influenza viruses at the human-animal interface has not changed, and the likelihood of sustained human-to-human transmission of these viruses remains low".⁵

The [European Centre for Disease Prevention and Control \(ECDC\)](#) [published a fact sheet on avian influenza](#) in February 2022. It explained H5N1 has also infected mammals, including cats, pigs, and tigers, and has been shown to be transmissible to humans. However, the factsheet stated, "the virus remains poorly adapted to humans, and transmission from birds to humans is a rare event".⁶

The UK Health Security Agency (UKHSA) has said that avian influenza is primarily a disease of birds and the [risk to the general public's health is very low](#). The UKHSA said that:

Bird flu virus infections which cause disease in humans are very rare, but unfortunately when they do, they can cause serious disease and deaths. Bird flu infections in people from birds usually requires very close contact

³ World Health Organisation factsheet, [Influenza \(Avian and other zoonotic\)](#) (Accessed 22 November 2022)

⁴ Defra, [Updated Outbreak Assessment no. 36. Highly pathogenic avian influenza \(HPAI\) in the UK and Europe](#) (PDF), 7 November 2022

⁵ World Health Organization, [Influenza at the human-animal interface](#), 30 August 2022

⁶ European Centre for Disease Prevention and Control, [Zoonotic Influenza factsheet: H5N1, 17 February 2022](#)

with an infected bird so the risk to humans is currently considered very low.⁷

There have been no reported deaths in the UK from confirmed human cases of avian influenza (H5N1).⁸ The UKHSA notes there have been very few cases of H5N1 bird flu transmission to people recorded in the UK:

January 2022 was the first time H5 had been detected in a human in the UK when a single asymptomatic H5N1 infection was identified. This person who acquired the infection in the UK had very close, regular contact with many infected birds over a prolonged period. Currently there is no evidence that this strain detected in the UK can spread from person to person.⁹

However, the UKHSA has put measures in place to monitor individuals who have had “concerning exposures” to confirmed and suspected cases of avian influenza in birds and give preventative antiviral drugs to “reduce the chances of them becoming unwell.” It advises people not to touch any sick or dead birds they find.¹⁰

The Food Standards Agency (FSA) has advised that, based on the current scientific evidence, avian influenza poses a very low food safety risk for UK consumers. Properly cooked poultry and poultry products, including eggs, are safe to eat. Everyone should follow FSA’s [food safety and hygiene advice](#).¹¹

⁷ UK Health Security Agency blog, [An update on avian flu](#), 17 November 2022

⁸ World Health Organisation, [Cumulative number of confirmed human cases for avian influenza A\(H5N1\) reported to WHO, 2003-2022](#), (PDF) 5 October 2022

⁹ UK Health Security Agency blog, [An update on avian flu](#), 17 November 2022

¹⁰ UK Health Security Agency blog, [An update on avian flu](#), 17 November 2022

¹¹ UK Health Security Agency blog, [An update on avian flu](#), 17 November 2022

2 Avian influenza outbreak 2021-2022

2.1 The UK's largest AI outbreak

There have been outbreaks of AI in previous years as set out in the [Department for Environment, Food & Rural Affairs' \(Defra\)'s Notifiable Avian Disease Control Strategy for Great Britain](#) (PDF).¹² However, the UK is currently experiencing the largest outbreak of AI to date. Government data from 28 November 2022 shows there have been [256 confirmed cases of highly pathogenic avian influenza](#) (HPAI) H5N1 in England since October 2021, with 136 of these cases since 1 October 2022, the official start of the 2022-23 outbreak.¹³ The outbreak is the worst ever seen in the UK with a rapid escalation in the number of cases in commercial farms and backyard birds across England in particular.¹⁴ Significantly, the outbreak of AI in 2022 is a continuation of the outbreak of winter 2021-22: cases have been detected every month in 2022 in the UK.¹⁵

Scientists are not clear about the reasons why AI is spreading as rapidly and has been as persistent in 2021-22. The publication, Nature, reports a leading theory is [genetic mutations have increased the virus's ability to replicate](#) and spread more efficiently than previous strains could. Another is that mutations have allowed the virus to infect a broader range of species.¹⁶ Some welfare campaigners consider the dense stocking of poultry leave flocks open to rapid spread of the virus once a flock is initially infected.

Minister of State at the Department for Environment, Food and Rural Affairs, [Mark Spencer, told the House on 1 November 2022](#) that outbreaks of AI “continue to occur on an unprecedented scale”, and that October had seen a massive escalation in the number of cases” with some 91 cases of HPAI in poultry and captive birds in the UK. Of this number, 82 were in England with four in Scotland, four in Wales and one in Northern Ireland. This compared to a total of 158 cases in the year from October 2021 -September 2022, and to 26 cases for the winter of 2020-21.¹⁷

Government information on the prevalence of bird flu in England is updated regularly at: [Bird flu \(avian influenza\): latest situation in](#)

¹² Defra, [Notifiable Avian Disease Control Strategy for Great Britain](#) (PDF), updated June 2019

¹³ Defra news story, [Bird flu \(avian influenza\): latest situation in England](#), updated 26 November 2022

¹⁴ Defra news story, [Avian influenza: Housing order to be introduced across England](#), 31 October 2022

¹⁵ 88903 [on [Avian Influenza: Disease Control](#)], 21 November 2022

¹⁶ Nature, [Why is bird flu so bad right now](#), 21 October 2022

¹⁷ HC Deb 1 November 2022, [c804](#)

England. The Animal and Health Plant Agency also provides an up-to-date interactive map showing where control measures are in place.

Although to date the highest number of cases of HPAI H5N1 have been confirmed at premises in various locations across England, cases have also been detected in Wales, Scotland, and Northern Ireland. Information is updated on the Scottish Government website,¹⁸ Welsh Government website,¹⁹ and for Northern Ireland, on the DAERA-NI website.²⁰

Defra's November assessment of the incidence of AI in the UK and Europe (PDF) notes:

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.²¹

Avian influenza in wild bird populations

According to the British Trust for Ornithology (BTO) the current AI outbreak was first identified in wild bird populations in October 2021. It had a significant impact in winter of 2021, then throughout Summer 2022 the disease “spread into our globally important colonies of nesting seabirds and is causing unprecedented levels of mortality”.²² It noted the outbreak in the UK was of particular concern because Britain and Ireland support one quarter of Europe’s breeding seabirds. The impact on the summer breeding seabird population in 2022 has been severe, as summarised by the Royal Society for the Protection of Birds (RSPB) in October, with high mortality and widespread prevalence:

The bird flu virus has had catastrophic effects on the UK’s breeding seabirds this summer, causing thousands of deaths and affecting the whole coast of the UK. Particularly badly affected were gannets, great skuas and terns. Overall, over sixty species of birds have tested positive, including six species of raptor.²³

Defra regularly publishes findings of HPAI in wild birds in Great Britain,²⁴ collated from wild bird reserve wardens and wild birds reported to Defra by members of the public. This data is not comprehensive as it only represents cases where birds have been collected, tested, and found to be positive for avian influenza. The data reports a small number of reports in most weeks in 2022, with the numbers rising significantly by

¹⁸ Scottish Government, Avian influenza (bird flu): how to spot and report the disease, updated 28 October 2022

¹⁹ Welsh Government, Avian influenza (bird flu): latest update, updated 27 November 2022

²⁰ Department for Agriculture, Environment and Rural Affairs, Bird Flu Alert webpages, updated 19 November 2022

²¹ Defra, Updated Outbreak Assessment no. 36. Highly pathogenic avian influenza (HPAI) in the UK and Europe (PDF), 7 November 2022

²² British Trust for Ornithology, Tackling the Challenge of Avian Influenza, 13 July 2022

²³ RSPB, Bird flu update from Islay, 11 October 2022

²⁴ APHA, Avian influenza in wild birds [Accessed 24 November 2022]

November to around 30 a week plus. These cases have been identified in a variety of species, mainly wildfowl, seabirds, and birds of prey.²⁵

Interaction of wild and captive birds

Defra's most recent of its [regular outbreak assessments](#), published on 7 November, explains why the outbreak in Autumn 2022 in poultry in the UK differs to previous years and the connection with prevalence in wild bird populations:

In autumn 2022, disease events in Great Britain started to occur in domestic poultry and wild birds at a much earlier point in time than in previous years, due to HPAI continuing to circulate in breeding birds, mainly seabirds, over the summer. This is different from previous epizootic years where HPAI virus entered Great Britain with the migratory waterbirds in the autumn. Many of the wild birds currently detected with HPAI H5 are resident waterbirds with fewer migratory species reported.²⁶

The presence in seabirds over the summer is not the only concern. The disease is also increasingly present in resident waterfowl species, rather than being imported by winter migrants. As a result, this year for the first time the disease has presented concurrently in domestic and wild populations rather than diseases in domestic poultry being preceded by confirmation of disease in wild birds.²⁷

International problem

Mainland Europe is also experiencing a significant AI outbreak. [The European Centre for Disease Prevention and Control \(ECDC\)](#) noted the 2021–2022 HPAI epidemic season is the largest so far observed in Europe, with an “unprecedented geographical extent reaching from Svalbard islands to South Portugal and Ukraine, affecting 37 European countries”.²⁸ HPAI outbreaks in poultry from June to September 2022 had led to “five-fold more infected premises than observed during the same period in 2021 and mostly distributed along the Atlantic coast”.²⁹

The United States of America is also experiencing a near-record outbreak of AI. As noted by the [US Centers for Disease Control and Prevention](#), since early 2022, more than 49 million birds in 46 states have either died because of bird flu virus infection or have been culled (killed) due to exposure to infected birds. This number is nearing the 50.5 million birds in 21 states that were affected by the largest bird flu outbreak that

²⁵ APHA, [Avian influenza in wild birds](#) (Accessed 24 November 2022)

²⁶ Defra, [Updated Outbreak Assessment no. 36. Highly pathogenic avian influenza \(HPAI\) in the UK and Europe \(PDF\)](#), 7 November 2022

²⁷ Defra, [Updated Outbreak Assessment no. 36. Highly pathogenic avian influenza \(HPAI\) in the UK and Europe \(PDF\)](#), 7 November 2022

²⁸ European Centre for Disease Prevention and Control, [Avian influenza overview June – September 2022](#), 30 September 2022

²⁹ European Centre for Disease Prevention and Control, [Avian influenza overview June – September 2022](#), 30 September 2022

occurred in 2015.³⁰ AI is also spreading in Asia, with reports, for example, of its spread in Japan at an “unusual pace”.³¹

The reasons for the rapid spread of AI this year are being investigated. Various factors could be key to driving the pace of spread globally, including the genotype (genetic constitution) of the variant in circulation since late 2021. The ECDC notes that scientists identified three new genotypes in summer 2022 in the viruses currently circulating in Europe.³² However, other factors could include the types of bird carrying the disease³³ and poultry farming conditions.³⁴

³⁰ US Centers for Disease Control and Prevention, [U.S. Approaches Record Number of Avian Influenza Outbreaks in Wild Birds and Poultry](#), 3 November 2022

³¹ The Japan Times, [Bird flu sweeps through Japan, spreading at unusual pace](#), 27 November 2022

³² European Centre for Disease Prevention and Control, [Avian influenza overview June – September 2022](#), 30 September 2022

³³ USGS Eureka Blog, [Avian Flu Outbreak 2022: Spreading Faster and Farther](#), 31 May 2022

³⁴ The Guardian, [Bird flu ‘an urgent warning to move away from factory farming’](#), 16 October 2020

3 How is the UK tackling avian influenza?

3.1 Avian influenza mitigation strategy

[Defra's Mitigation strategy for avian influenza in wild birds in England and Wales, published on 31 August 2022](#) sets out the Government's policy approach to help limit the spread of AI. The mitigation strategy aims to support the GB-wide approach to [AI control set out in the Notifiable Avian Disease \(NAD\) Control Strategy for Great Britain](#) (updated September 2019).

The latter strategy is based on the principles of:

- Reducing the likelihood of outbreaks of NAD by putting in place appropriate preventive measures;
- Ensuring such diseases are rapidly detected if incursion does occur;
- Taking preparatory measures to reduce the impact of such an incursion.

Two key elements in delivering the strategy's aims are monitoring and biosecurity measures.

3.2 Monitoring

AI is a notifiable disease, which means there is a [legal obligation to report incidences or suspected incidences to the Animal and Plant Health Agency \(APHA\)](#).

The Government monitors the international Notifiable Avian Disease (NAD) situation, publishing preliminary outbreak assessments upon notification of a disease outbreak from the EU or World Organisation for Animal Health. For outbreaks of NAD in an EU Member state, a country bordering the EU or a trading partner, more in-depth qualitative risk assessments may be carried out by the UK Government.

The Government's [Mitigation strategy for avian influenza in wild birds in England and Wales](#) explained that Defra and the Welsh Government aim to monitor the presence of avian influenza in the wild bird population to understand how the disease is distributed geographically and in different types of wild bird. This monitoring aims to:

- help government understand what the risk posed to and from poultry and other captive birds is and inform the requirements for instigating proactive infection prevention measures in kept birds;

- improve our scientific knowledge on what virus strains are currently circulating and how they are evolving, why some birds species are more resistant to avian influenza strains, developing models to predict how the viruses will evolve and spread in the future;
- inform risk mitigation measures in birds to reduce disease burden thereby protecting against zoonotic transmission occurring from animals to humans, and to prevent future spill overs of influenza with pandemic potential into humans; and
- understand the impact on wild bird species of conservation concern, which will inform future species recovery programmes and allow us to take action where possible, in accordance with international best practice and the latest evidence. In addition to understanding the risk to and from poultry from wild birds.³⁵

However, the scale of the 2021-22 AI outbreak has strained monitoring resources. The British Trust for Ornithology (BTO) set out in a [recent blog](#) that:

So far, positive cases of HPAI H5N1 have been confirmed in [61 bird species](#), including birds of prey and wildfowl as well as seabirds, so we may need to use data from a wide range of monitoring and surveillance schemes if we are to track the impacts across different bird populations.³⁶

David Holdsworth, [Chief Executive of the APHA told the Public Accounts Committee on 13 July 2022](#) that the APHA had had to deprioritise other work because of the AI outbreak:

we are currently assessing the latest avian influenza outbreak. [...] We have been able to cope, just, but by reducing our research programmes, slowing them down and impacting them.³⁷

3.3

Biosecurity measures

AI Prevention Zones (AIPZs)

Avian Influenza Prevention Zones have recently been put in place in parts or all of Great Britain in response to concerns over the heightened risk of AI. Defra Ministers or their Devolved Administration counterparts can issue Orders declaring AIPZs which set out the measures to be followed by all keepers of poultry and other birds in the geographical area specified in the notice (such as housing or netting all birds).

³⁵ Defra, [Mitigation strategy for avian influenza in wild birds in England and Wales](#), 31 August 2021

³⁶ Defra, [Mitigation strategy for avian influenza in wild birds in England and Wales](#), 31 August 2021

³⁷ Public Accounts Committee, [Inquiry into the Redevelopment of Defra's Animal Health Infrastructure. Oral evidence by the APHA, 13 July 2022, Q21](#) (PDF)

The [whole of GB was declared a protection zone in November 2021](#), by the Chief Veterinary Officers of England, Scotland, and Wales. In December 2021, the requirement was added that kept birds had to be housed or netted to minimise contact with wild birds. That housing [requirement ended in May 2022](#). The AIPZ remained in place but was lifted on 16 August 2022.

However, [AIPZs were reinstated in some areas such as Cornwall in summer 2022](#), followed by an [AIPZ order for the whole of the GB announced on 17 October 2022](#).³⁸ Defra's press notice said it was announcing the AIPZ in response to increased detections of the disease in wild birds and on commercial premises: "from midday on Monday 17 October, it will be a legal requirement for all bird keepers in Great Britain to follow strict biosecurity measures to help protect their flocks from the threat of avian flu".³⁹

The press notice added that:

Keepers with more than 500 birds will need to restrict access for non-essential people on their sites, workers will need to change clothing and footwear before entering bird enclosures and site vehicles will need to be cleaned and disinfected regularly to limit the risk of the disease spreading. Backyard owners with smaller numbers of poultry including chickens, ducks and geese must also take [steps](#) to limit the risk of the disease spreading to their animals.⁴⁰

Requirement to house or net captive birds and poultry

Defra announced that kept poultry within the AIPZ in England must be housed or [netted](#), (by covering outdoor runs with fine mesh netting) to keep them out of contact with wild birds, from 7 November.⁴¹

Housing of birds is not currently required across the Welsh AIPZ but will come into force from 2 December 2022.⁴² Welsh farmers have been calling for this measure.⁴³

In Northern Ireland, the Department for Agriculture, Environment and Rural Affairs has imposed housing requirements from 28 November 2022, introducing a [new AIPZ Order](#).⁴⁴

Keepers in Scotland are not currently required to house their birds. However, the Scottish Government says that "this is being kept under

³⁸ Defra press release, [Avian influenza: Prevention Zone declared across Great Britain](#), 17 October 2022

³⁹ Defra press release, [Avian influenza: Prevention Zone declared across Great Britain](#), 17 October 2022

⁴⁰ Defra press release, [Avian influenza: Prevention Zone declared across Great Britain](#), 17 October 2022

⁴¹ Defra, [Avian influenza: Housing order to be introduced across England](#), 31 October 2022

⁴² Welsh Government, [Avian influenza \(bird flu\): latest update](#), updated 27 November 2022

⁴³ BBC News, [Bird flu: Farmer wants Welsh government housing order](#), 11 November 2022

⁴⁴ DAERA, [Bird Flu Alert webpages](#), accessed 22 November 2022

constant review”.⁴⁵ Some Scottish MPs have called for housing measures to be imposed now.⁴⁶ Full details on the mandatory measures applied within the [AIPZ in Scotland can be found in this declaration](#).

Protection and Surveillance Zones

Where AI is confirmed in poultry or other captive birds at a premises, 3km Protection and 10km Surveillance Zones are declared around the premises to prevent the spread of disease beyond the area around the infected unit. Keepers of poultry or other captive birds kept within a Protection Zone or Surveillance Zone (or temporary control zones or other low pathogenic restricted zones) must comply with the biosecurity requirements declared specifically for such zones.⁴⁷

The [APHA has an interactive avian influenza disease zone map](#) showing which zones currently apply across Great Britain.

Defra’s [Avian influenza \(bird flu\): cases and disease control zones in England](#) webpage sets out rules applying in a disease zone. Broadly, these require people who keep birds to:

- follow the biosecurity rules to [prevent bird flu and stop it spreading](#);
- keep a record of anyone that transports or markets poultry or poultry eggs (there are exemptions for table eggs);
- follow the [rules for marking, sourcing, cutting, transporting, and storing fresh meat and meat products](#);
- comply with any biosecurity rules imposed by a veterinary inspector;
- not [organise or attend bird gatherings](#) (including bird fairs, markets, shows, sales, exhibitions, and some premises used for dealing or internet sales);
- not release game birds.

Defra’s guidance for 3km protection zones and 3km temporary control zones says that poultry and other captive birds must be housed, must not be moved on or off premises without a licence, and poultry meat must not be moved inside or outside the zone unless certain rules are followed. Various records must be kept, for example of poultry or eggs leaving the premises except for sale.⁴⁸

⁴⁵ Scottish Government, [Avian influenza \(bird flu\) outbreaks](#), updated 27 November 2022

⁴⁶ Avian Influenza, HC Deb 1 November 2022, [c811](#)

⁴⁷ Defra, [Notifiable Avian Disease \(NAD\) Control Strategy for Great Britain](#), updated September 2019

⁴⁸ Defra, [Notifiable Avian Disease \(NAD\) Control Strategy for Great Britain](#), updated September 2019

Game birds

Game birds are usually released in late summer ahead of the [shooting season](#), which typically runs from late summer to the end of January. [Defra's guidance](#) says that game birds cannot be released into disease control zones or areas with housing measures. Once game birds have been released, they are classed as wild birds for avian flu rules. The person who released the game birds is no longer classed as the keeper of the birds.⁴⁹

On 10 August 2022, [the Guardian reported](#) that the virus had been detected at least nine times in wild and farmed pheasants in England, Wales, and Scotland since early 2021.⁵⁰ In September, highly pathogenic avian influenza was found in pheasants released for shooting, prompting a [statement from the Game and Wildlife Conservation Trust](#):

Recent isolated cases of highly pathogenic avian influenza (HPAI) in released pheasants highlights the importance of good biosecurity and vigilance amongst all those involved in game management. It is important to remember that HPAI is spread by wild birds and there is no evidence to suggest the origin of any outbreaks to date is released gamebirds.⁵¹

The [RSPB called for a moratorium](#) on game bird releases in August. It stated that transmission between pheasants and wild birds had not yet been fully investigated and a moratorium was needed to limit the “the catastrophic impacts of this outbreak on our wild birds”.⁵²

Advice to the public and keepers of birds

Defra sets out information on its [Avian influenza \(bird flu\)](#) webpages to advise the public on what to do if AI is suspected (updated 4 November 2022). This notes that Avian influenza (AI) is a [notifiable animal disease](#). It advises how people in GB can report suspected cases. It notes that those keeping 50 or more birds must [register poultry](#), even if only kept as pets, so they may be contacted during an outbreak. Poultry includes chickens, ducks, turkeys, geese, pigeon (bred for meat), partridge, quail, guinea fowl and pheasants.⁵³

⁴⁹ Defra guidance, [Bird flu: rules if you keep game birds](#), 4 November 2022

⁵⁰ The Guardian, [Calls to ban gamebird release to avoid 'catastrophic' avian flu outbreak](#), 10 August 2022

⁵¹ Game and Wildlife Conservation Trust, Extra vigilance [crucial as game shoots fall victim to avian flu](#), 23 September 2022

⁵² RSPB news release, [RSPB calls for immediate moratorium on release of gamebirds in UK countryside](#), 10 August 2022

⁵³ Defra, [Bird flu \(avian influenza\): how to spot it and report it](#), updated 4 November 2022

3.4

Culling

The Government has powers to cull (kill) birds to control the spread of avian influenza.

When a case of highly pathogenic avian influenza is confirmed, the APHA carries out [three key measures](#) at the infected premises:

- Culling of all poultry and other captive birds at the infected premises;
- Disposal of all carcasses, eggs, and other contaminated material; and
- Initial cleaning and disinfection of the infected premises.

Defra said that from 1 October to 15 November 2022, approximately 3.4 million birds died or were culled by the Government for avian influenza control purposes in the UK. This compared to some 20 million birds slaughtered for human consumption per week.⁵⁴

On 21 November 2022, Defra Minister Mark Spencer said that between 1 and 17 November 2022, 832,400 birds had been culled by the Government for disease control purposes at premises where AI had been confirmed in poultry or other captive birds. Defra figures show that this compared, for example, to 91,900 in January 2022 and 6,028 in May 2022.⁵⁵

Compensation for culled birds

[Government compensation is provided](#) where animals or birds must be culled to control the spread of some animal diseases, such as avian influenza. Whether the payments are made for healthy or diseased birds depends on the type of disease. For avian influenza, payments are only provided for healthy stock that are required to be culled. Furthermore, compensation is not payable for voluntarily culled birds.

On [28 October, the Government announced a new package of measures for AI and guidance on how compensation would be calculated](#). Compensation would be payable from the outset of planned culling, rather than at the end.⁵⁶ Defra's press notice stated that:

Under the new plans, the Government will alter the existing bird flu compensation scheme allowing compensation to be paid to farmers from

⁵⁴ PQ 86469 [on [Avian Influenza: disease control](#)], 24 November 2022,

⁵⁵ PQ 88903 [on [Avian Influenza: Disease Control](#) with [attached table of data](#)] 21 November 2022. Note: these figures are subject to change due to ongoing depopulation activities and the outcomes of final audits.

⁵⁶ Defra, [New package of measures announced to support poultry industry with bird flu](#), 28 October 2022

the outset of planned culling rather than at the end. This will allow us to provide swifter payments to help stem any cash flow pressures and give earlier certainty about entitlement to compensation. The payments better reflect the impact of outbreaks on farmers.⁵⁷

Defra processed payments of £2.48 million in compensation, as at 21 November 2022, for birds culled since 1 October 2022.⁵⁸

APHA vets must attend premises and identify the presence of AI. Waiting times for APHA vets can result in more healthy birds getting infected and dying. This reduces the compensation, which is only given for culled healthy stock. [Speaking in the House of Lords](#), Lord Benyon, Minister of State in Defra, recognised that the APHA had a shortage of vets:

We are trying to ensure that we get to farms as quickly as possible: they are visited within 24 hours in all but a very few cases, which allows an assessment to be made on which birds are dead and which of those can result in the farmer being compensated. The number of vets is constantly under review. We have a shortage of vets in the Animal and Plant Health Agency, but we have surged those numbers by using vets from the wider population to try to assist us.⁵⁹

3.5

Vaccination

Vaccines to prevent avian influenza have been developed. However the [World Organisation for Animal Health stated](#) that while vaccination may be recommended under certain conditions, it should “not be considered [alone] a sustainable solution to control avian influenza”.⁶⁰

The UK Government’s policy is that the vaccination of poultry and most captive birds against avian influenza is not currently permitted. Vaccination is not a routine control measure and is a practice restricted by [legislation](#).⁶¹

Vaccination of zoo birds is permitted in England subject to meeting eligibility criteria and receiving authorisation. Only zoos or collections holding a current [zoo licence](#) can apply for an authorisation to vaccinate. Vaccination of zoo birds against avian influenza is currently not permitted in Scotland or Wales.⁶²

⁵⁷ Defra, [New package of measures announced to support poultry industry with bird flu](#), 28 October 2022

⁵⁸ PQ 87857 [on [Avian Influenza: compensation](#)], 21 November 2022

⁵⁹ HC Deb 1 November 2022, [c380](#)

⁶⁰ World Organisation for Animal Health, [Avian Influenza webpages](#), accessed 27 November 2022

⁶¹ GOV.UK, [Avian Influenza \(bird flu\) vaccination](#), updated 27 January 2021

⁶² GOV.UK, [Avian Influenza \(bird flu\) vaccination](#), updated 27 January 2021

The [Government stated that there are disadvantages relating to currently available avian influenza vaccines](#).⁶³ These include the capacity for some vaccinated birds to transmit the virus, the potential for the virus to mutate and make a vaccine less effective, the practical limitations of injecting each bird, the difficulty of differentiating infected from vaccinated birds and the unproven efficacy of vaccines in some species such as ducks, geese, and game birds.⁶⁴

Furthermore, Defra notes that vaccinated birds cannot be traded or moved within the UK unless permitted by Defra and the relevant devolved administration. Trade or movement within EU member states will only be allowed after specific authorisation from the destination member state. Vaccinated birds will not be eligible for release during their lifetimes.⁶⁵

[Defra Minister Mark Spencer told the House on 1 November that vaccination would be the “route out” of AI](#) but that:

We need to work with our colleagues across the European Union so that birds and products exported for food will be accepted into their marketplace, as well as keeping conversations open with retailers to ensure they are also happy.⁶⁶

⁶³ GOV.UK, [Avian Influenza \(bird flu\) vaccination](#), updated 27 January 2021

⁶⁴ GOV.UK, [Avian Influenza \(bird flu\) vaccination](#), updated 27 January 2021

⁶⁵ GOV.UK, [Avian Influenza \(bird flu\) vaccination](#), updated 27 January 2021

⁶⁶ HC Deb 1 November 2022, [c809](#)

4

Opposition Party views

The Labour Party has expressed concerns about delays in implementing new biosecurity measures, particularly to require the housing of poultry. Having been removed in May 2022 as a requirement during the 2021-22 outbreak, it was reinstated from 7 November 2022 in England. On 1 November, during a debate in the House on AI, [Shadow Minister Daniel Zeichner](#) said that the decision to mandate housing “should have been made weeks ago, as the devastating impact on the wild bird population has been known for months and the impact on producers has been getting worse and worse week by week”. He also asked about Defra’s discussions with the devolved governments on introducing similar restrictions since “with the imminent return of more migratory birds, we could rapidly see this spreading further across the four nations”.⁶⁷

Daniel Zeichner also asked about the cost of the compensation scheme, noting that:

the real complaint has been about the inability of the Animal and Plant Health Agency to move quickly enough when incidents are reported, and that is [Defra’s] responsibility. We know what the problem is: the shortage of vets and the lack of catchers and cullers. The vets went back to Spain and Portugal, but his Department had no plan or capacity to deal with a new crisis, and now we have one. Can the Minister tell us what the vacancy rates are at the APHA? Just how short is the agency? And if everyone there is working on avian flu, as they need to be, what effect is that having on issuing the dreaded export certificates that all our exporters now need?⁶⁸

He asked about the impact on food supplies, for example on turkey supplies for Christmas given that the disease affected turkeys and geese “much more severely”.⁶⁹

During the debate, Pete Wishart (SNP) welcomed the swifter payments possible under the change to the Government’s compensation scheme. However, he questioned whether the housing of birds should be seen as a “silver bullet” to tackle AI:

The Scottish chief veterinary officer has said that the housing of birds should not be seen as a silver bullet, and the Minister will be aware that we are not following the example of England on the mandatory housing of birds at this stage. Does he agree that the housing of birds is not a silver bullet? What further measures can be put in place, short of the housing of birds?⁷⁰

In response to Daniel Zeichner’s concerns that housing requirements came too late, Mark Spencer, the Minister, said that Wales, where the

⁶⁷ HC Deb 1 November 2022, [c806](#)

⁶⁸ HC Deb 1 November 2022, [c806](#)

⁶⁹ HC Deb 1 November 2022, [c806](#)

⁷⁰ HC Deb 1 November 2022, [c807](#)

Labour party is in control, had also not moved to require housing at that stage, and that:

We are announcing [housing measures] before the Welsh Administration. We are actually working quite closely with the devolved Administrations. We have taken this decision now because we are following the most up-to-date science and veterinary advice. We are led by the science and by our veterinary advisers. It is fair to say that the housing order has a twofold impact on the spread of avian influenza, whereas biosecurity can have a 44-fold impact on the spread, which is why our focus has been completely on biosecurity.⁷¹

The Minister considered that the “Defra vets service” had capacity to “deal with this challenge” and that food supply networks were robust enough “to ensure we have turkeys for Christmas”.

On vaccines, the Minister said that:

The advice I have been given is that the current vaccines are not as effective against the current strain of European bird flu as we would have hoped. Vaccines are available for birds kept in zoos that do not enter the food chain but, because of trade deals, there is a challenge with vaccinated birds entering the food chain. We are having conversations and working as closely as possible with our colleagues in Europe, who face the same challenges, to find a way forward.⁷²

Separately, Opposition Defra Spokesman, Daniel Zeichner, has referred to the potential for scientific developments to help eradicate bird diseases. He noted during debate on the [Genetic Technology \(Precision Breeding\) Bill](#) that the use of genetic editing techniques by scientists could be “hugely beneficial” in tackling diseases such as avian influenza by helping to breed animals resistant to the disease. However, he cautioned that the “public would not want to see gene editing used to allow animals to be kept in poorer, more crowded, stressful conditions by making them resistant to the diseases that would otherwise result”.⁷³ The Government has said that its planned reforms to the regulation of genetically edited organisms could help tackle animal diseases such as avian influenza. [Defra’s factsheet](#) on the [Genetic Technology \(Precision Breeding\) Bill 2021-22](#), notes that the use of precision breeding techniques such as gene editing could help develop animals resistant to diseases.⁷⁴

⁷¹ HC Deb 1 November 2022, vol 721, [c806](#)

⁷² HC Deb 1 November 2022, vol 721, [c806](#)

⁷³ HC Deb, 31 October 2022, [c679](#)

⁷⁴ Defra, [Genetic Technology \(Precision Breeding\) Bill Factsheet 1 – Overview](#), May 2022

5 Stakeholder views

5.1 Global scale of the AI outbreak

Scientists have expressed concerns about the virulence and prevalence of AI strains across Europe and globally in this current outbreak of AI. An [article published in the journal Nature on 26 May 2022](#) explained that:

Since October (2021), the H5N1 strain has caused nearly 3,000 outbreaks in poultry in dozens of countries. More than 77 million birds have been culled to curb the spread of the virus, which almost always causes severe disease or death in chickens. Another 400,000 non-poultry birds, such as wild birds, have also died in 2,600 outbreaks — twice the number reported during the last major wave, in 2016–17.

Researchers say that the virus seems to be spreading in wild birds more easily than ever before, making outbreaks particularly hard to contain. Wild birds help to transport the virus around the world, with their migration patterns determining when and where it will spread next. Regions in Asia and Europe will continue to see large outbreaks, and infections could creep into currently unaffected continents such as South America and Australia.⁷⁵

5.2 Farmers' and supply chain views

The poultry industry and National Farmers' Union (NFU) [have previously reiterated to farmers the Government's approaches to mitigating AI, in particular the need to be vigilant on biosecurity](#).⁷⁶

However, farmers are concerned about the level of AI in 2022, and its impact on the poultry sector over the past year, with millions of birds needing to be culled. The [NFU has said that the economic impact of AI on poultry farmers is "devastating"](#).⁷⁷ The [poultry industry is reported to be very concerned about the current level of AI](#) with the prospect of culling of flocks at affected sites and the impact on commercial production, for example of turkeys for Christmas. In October 2022, Defra announced a package of measures aimed at supporting the poultry sector. This included allowing payments for culled birds to be paid from the start of culling and a relaxation of marketing rules. Following consultation with the Food Standards Agency, Defra said that:

an easement to marketing rules is also being introduced in England. The measures mean that farmers who breed turkeys, geese or ducks for their

⁷⁵ Nature, [Why unprecedented bird flu outbreaks sweeping the world are concerning scientists](#), 26 May 2022

⁷⁶ NFU Online, [Avian Influenza: Lessons learnt from 2020-21](#), accessed 22 November 2022

⁷⁷ NFU, [Avian Influenza briefing for MPs and Peers](#), November 2022 [pdf]

meat will have the option to slaughter their flocks early and to freeze these products, which can then be defrosted and sold to consumers between the period 28 November and 31 December 2022. This option will give farmers certainty over business planning.⁷⁸

Egg production is also a concern with AI adding to pressures on costs for egg suppliers, because where there is a confirmed outbreak all the birds in the affected area are destroyed. [The Independent noted that AI is not the only cause for egg shortages](#) being reported by supermarkets, some of which are rationing their customers' egg purchases. However, AI is:

compounding existing shortages caused by producers cutting back on output or leaving the industry due to increased costs, with [Russia's invasion of Ukraine](#) driving up farmers' energy bills along with the cost of chicken feed, hens and packaging. Demand for eggs is also up as consumers seek out cheaper sources of protein to offset [soaring food bills](#).⁷⁹

Defra Secretary of State, Terese Coffey, said that, with nearly 40 million egg laying hens available, she was "confident we can get through this supply difficulty in the short term".⁸⁰

Compensation scheme

Some farmers have criticised the Government's compensation scheme. [Mark Williams, Chief Executive of the British Egg Industry Council, claimed it was "unfair to the poultry sector](#), where only healthy birds, at the time of culling are paid for. This virus shows that if there is any delay in culling, it can result in fewer birds alive, and less compensation".⁸¹ The NFU has called for government compensation to be agreed at the time of disease confirmation (by reference to the number of healthy and suspected birds condemned for culling) and paid in a timely manner. The NFU considers that Defra's recent policy change announcement to pay compensation at the start of culling "does not go far enough".⁸²

Research

The NFU has welcomed a recent announcement of £15 million from the Biotechnology and Biosciences Research Council and Defra to fund research headed by the APHA into containing AI outbreaks.⁸³ The Government's press notice states that it is hoped that the eight-strong

⁷⁸ Defra news release, [New package of measures announced to support poultry industry with bird flu](#), 28 October 2022

⁷⁹ The Independent, [Why is there an egg shortage? Reason UK supermarkets are limiting egg sales amid reports of bird flu](#), 16 November 2022

⁸⁰ Defra media blog, [Further reports of egg shortages](#), 17 November 2022

⁸¹ Poultry News, Comment: The avian flu compensation system is unfair to the poultry industry, 10 January 2022

⁸² NFU, [Avian Influenza briefing for MPs and Peers](#), November 2022 [pdf]

⁸³ NFU online, [Government provides funding for avian influenza research – NFU online](#), 20 June 2022

consortium, “will be able to find new ways to contain future outbreaks”.⁸⁴ However, the NFU has called for “greater Government investment and urgency” in research and development of an AI vaccine.⁸⁵

5.3 Animal welfare groups

Intensive farming of birds can provide ideal conditions for outbreaks of avian flu variants and [experts claim](#) that ‘spillovers’ of disease between livestock and wildlife are increasing with the growth in intensive farming methods.⁸⁶ [The Wildlife Trusts have called](#) for a new approach to poultry farming, stating:

Intensive units that house thousands of hens and other domestic birds in barns are known to exacerbate the problem of contagious diseases, by providing ideal conditions for emerging pathogens to develop, which can then spread to wild birds.⁸⁷

Animal welfare campaigners are also concerned that AI’s long-term prevalence is leading to poultry kept indoors for extended periods and undermining the free-range sector. As [reported in the Independent](#), Peter Stevenson, chief policy adviser at the animal welfare campaign group Compassion in World Farming, said that the current AI figures are “shocking,” and could also undermine the move away from caged hens and towards free-range egg production. He said that:

This current outbreak is going on much longer than normal. The government and the industry love to scapegoat wild birds,” but he added that intensive farms had been the “root cause” with poorly maintained and cramped conditions in Chinese farms providing a breeding ground for the pathogen.

Under UK regulations, farmers are only able to label eggs as “free range” if the birds live outside for at least 40 weeks a year. Peter Stevenson reportedly said that if flocks must be brought indoors, “it’s going to undermine that sector and discourage farmers from converting to free range”.⁸⁸

Defra Minister Mark Spencer addressed the issue of free-range egg labelling on 1 November. He said that:

The law currently allows 16 weeks from the second a bird is housed, before eggs may no longer be called free-range. We have a while before

⁸⁴ Defra press notice, [UK’s top scientists join forces to battle bird flu outbreaks](#), 20 June 2022.

⁸⁵ NFU online, [Government provides funding for avian influenza research – NFU online](#), 20 June 2022

⁸⁶ The Guardian, [Bird flu ‘an urgent warning to move away from factory farming’](#), 16 October 2020

⁸⁷ Wildlife Trusts, [More action needed to combat – and cope with – avian flu](#), 24 August 2022

⁸⁸ The Independent, [Nearly 3 million birds culled as UK grapples with ‘unprecedented’ wave of bird flu](#), 15 September 2022

the end of that 16-week period, when eggs would have to be labelled as barn-reared. That can be done with a simple label to say the eggs are barn-reared, rather than free-range.⁸⁹

⁸⁹ HC Deb 1 November 2022, [c809](#)

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