NatureScot
Scotland's Nature Agency

**NatureScot**

**SCIENTIFIC ADVISORY COMMITTEE**

**INFORMATION PAPER**

# AVIAN INFLUENZA IN WILD BIRDS WINTER 2021-2022

## Purpose

1. This paper provides an update on the outbreak of Avian Influenza (AI) in wild birds in Scotland over the winter of 2021/22.

## Action

1. **The Committee is asked to note the detail presented.**

## Preparation

1. The paper was written by Nick Goldsmith, Rae McKenzie, Kate Campbell and Alastair MacGugan. It is sponsored by Des Thompson.

## Background

1. Reports of AI usually increase as the autumn bird migration starts. In 2021 the first autumn reports of wild birds testing positive for HPAI H5N1 began during the week of 23rd October. The outbreak accelerated within the poultry sector with an Avian Influenza Prevention Zone (AIPZ) coming into force across Great Britain on the 3 November 2021. This was extended to include housing measures across the UK on the 29 November 2021.
2. HPAI H5N1 infected premises continue to be identified across the UK and Europe. As of 15 February 2022, there have been 93 premises infected with HPAI H5N1 within the UK: six in Scotland, three in Wales, six in Northern Ireland and 78 in England. Four of the six Scottish cases occurred in Dumfries and Galloway. In the same period, the GB wild bird surveillance scheme has detected the virus in 656 wild birds across Great Britain, 140 of which were in Scotland, across 18 species. A large majority of these birds were located in Dumfries and Galloway, but were also found in locations as geographically diverse as Aberdeenshire and Skye.
3. There have been no further outbreaks, within the poultry sector, of HPAI H5N1 in Scotland since 22 January 2022 (as of 15 February 2022), and all Protection and Surveillance Zones have been lifted. Despite the lifting of the Protection and Surveillance Zones, the risk of HPAI H5N1 to poultry and wild birds remains unchanged and the UK-wide Avian Influenza Prevention Zone (AIPZ) remains in place requiring keepers to house their birds and apply strict biosecurity practices on their premises
4. The [*Scientific Task Force on Avian Influenza and Wild Birds statement on: H5N1 Highly Pathogenic Avian Influenza in poultry and wild birds*](https://www.unep-aewa.org/sites/default/files/Scientific_Task_Force_Avian_Influenza_and_Wild_Birds_Statement_21Jan2022.pdf) provides a useful summary of the onset of avian influenza throughout the Autumn/Winter 2021/22 across Europe in particular.

## Surveillance strategy

1. The public can contact the DEFRA GB helpline if they find a single dead wild waterfowl, a single dead bird of prey, or five or more dead wild birds of any other species (including gulls) at the same place at the same time. Only some of the birds reported will be collected and tested by APHA [in line with DEFRA and APHA stipulation](https://www.gov.uk/guidance/avian-influenza-bird-flu)s. Members of the public contacting NatureScot were also directed to the DEFRA website and helpline.
2. This passive surveillance strategy implemented through SG/APHA is designed to simply provide intelligence on how the disease is distributed geographically and in different species of birds. The primary purpose is to inform the national AI risk Assessment, not to provide quantitative data on the spread of AI across wild birds.

## Svalbard Barnacle on the Solway

1. The Svalbard barnacle goose population breed in Svalbard and winter in and around the Solway Firth feeding on both merse land and agricultural fields, some of which are supported by the Solway Barnacle Goose Management Scheme (SBGMS) overseen by NatureScot. The [population estimate in 2020/21](https://monitoring.wwt.org.uk/our-work/goose-swan-monitoring-programme/species-accounts/svalbard-barnacle-goose/) was 39,700 birds. The full autumn migration had completed before the first reports of birds dying with HPAI H5N1 confirmed.
2. A collaborative network of wildlife organisations undertook searches of the merse and foreshore and reported carcass numbers collectively on an informal basis. Analysis of this information indicates the peak deaths so far have been reported during November/December 2021 with fewer new carcasses reported as being found into 2022. As of 2 February 2022 a total of 4,618 Svalbard barnacle have been found dead. This represents approximately 11.6 %[[1]](#footnote-1) of the Svalbard barnacle population reported deceased. The confirmed carcasses counted are known to not represent the full extent of the deaths as tides and predation remove and disturb dead birds. In addition the merse and foreshore is a huge area and unable to be surveyed completely.
3. Counts of geese in fields are taken by contractors each year to support payments on the SBGMS for farmers in the NatureScot scheme. Interim data collected suggests that 15,698 geese are present on farmland north of the Solway in February 2022. A year ago this figure was 26,408. Peak numbers were seen during the November 2021 count and totalled 32,604 which was at an equivalent level to last year at that time. The full extent of the impact on the population is unlikely to be fully understood until the birds return to the Solway in the autumn 2022 and the annual census is completed.
4. The Solway Barnacle Goose Scheme does not employ lethal scaring. There is however the recourse to licence lethal scaring for damage to agriculture. As the impact on the population is unknown, NatureScot early on in the outbreak suspended one licence and refused a second licence to shoot Svalbard barnacles on agricultural fields. NatureScot offered the affected farmers a contribution towards non-lethal scaring equipment to protect spring grass. As the greatest risk from disturbance is on the feeding fields, NatureScot is assessing any application for a licence to shoot pinkfooted geese to prevent damage to agriculture very carefully in order to minimise issues with barnacles on the feeding fields.
5. It is not understood why the Svalbard barnacles became so affected by HPAI H5N1. APHA are hoping to undertake a longitudinal study on the genomics of the virus within the barnacles to better understand the genetics behind this outbreak and possible pathways of infection. At this stage, the handling at the flyway level assessment for the Svalbard population has been to keep other Range States informed of the developing situation through the European Goose Management Platform (EGMP) and through informal contact with Norwegian colleagues.

## Greenland Barnacle

1. Greenland barnacle geese are a separate population to the Svalbard barnacle geese and the two populations rarely mix. They breed in Greenland and winter on Scottish islands and in Ireland. There is significant movement around the wintering locations post and pre migration. The population totals c.72,000 birds, around 35,000 of which winter on Islay.
2. The current situation (as of 10/02/2022) is that avian influenza was confirmed in 5 Greenland barnacle geese in Donegal, RoI, at the end of January 2022. A further 40 birds were observed sick or dead at the same location on 2 February and it is believed that there are more dead on the roosts on offshore islands.
3. The current HRA of the Islay Sustainable Goose Management Strategy considers impacts on all Special Protection Areas (SPAs) across the Greenland barnacle goose range, including those in other parts of Scotland and in Ireland. There are 30 SPAs outwith Islay that could potentially be affected by the delivery of the Islay strategy (which details an adaptive population management approach for the island), of which 8 are in Scotland and 22 are in the Republic of Ireland. It concludes that, due to the movement of geese across the range, shooting on Islay will have a Likely Significant Effect on all SPAs classified for Greenland barnacle geese. The HRA has not taken into account cumulative impacts of possible die-off as a result of disease so requires a review. In the current situation, where there is an unknown level of die off in part of the population, it would be difficult to conclude no Adverse Impact on Site Integrity.
4. A further five licences to shoot barnacle geese to prevent serious agricultural damage in Uist have been suspended, for the same reasons set out above.
5. At a flyway level, we are communication with other range states through the EGMP and through direct contact with counterparts in Ireland and Iceland. A verbal update on the Greenland barnacle goose situation was provided to EGMP representatives at a meeting on 9 February 2022. We are looking at how the population model for Greenland barnacle geese can help us consider future population and management scenarios should avian influenza impact significantly on the Greenland barnacle goose population.
6. We are currently offering some additional funding to support farmers to carry out non-lethal scaring to reduce damage to spring grass.

## Impact on other species

1. Currently it would appear that the impact on species other than Svalbard barnacles is limited. [*NOTE: As of 17 February 2022 there have been reports, as of yet unquantified, of pinkfooted carcasses occurring on the Solway. This would be in line with pinkfooted geese moving north from the Wash/Norfolk etc and mixing more with the Svalbard barnacles*]. Caution is required in assessing the impact of carcass searches across years due to variance in effort. Notwithstanding, [APHA have recorded 121 cases](https://www.gov.uk/government/publications/avian-influenza-in-wild-birds) of approximately 17 different species throughout Scotland that returned positive results (up to 11/02/2022). 29 of the 121 confirmed cases are of Barnacle Geese. The second most reported species is Buzzard with 25 confirmed cases.
2. Within the Solway region carcasses/deceased birds of approximately 35 species have been reported to NatureScot. Species from all foraging guilds have been reported deceased including gulls, waders, both diving and dabbling ducks and raptors. In total 4949 birds have been reported, 93 % of carcasses have been barnacle geese. The second most numerous reported species from the Solway region is pink-footed goose. The 98 carcasses found represent approximately 0.9 %[[2]](#footnote-2) of the Solway population

## Next Steps

1. NatureScot, key SG Animal Health and APHA staff will come together in late spring for a wash up/lessons learnt meeting. The key areas for discussion will be:
   * Relative public health risks and further wild transmission risks of leaving carcasses in situ as per current APHA advice.
   * Ability to articulate the transmission risks associated with different wild bird species and their movement. (Current risk is articulated in terms of risk to poultry)
   * Ability to articulate how different forms of disturbance can impact on transmission rates and birds suffering from avian influenza.
   * Have an update on work that is considering the epidemiology of the Solway outbreak.
   * Review the general NatureScot response and agree approaches for future outbreaks.
   * Consider specific plan amendments where outbreaks occur on the islands.

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1. Based on last year’s total population of 39,700 (see para 10) [↑](#footnote-ref-1)
2. Count data taken from WeBS. [↑](#footnote-ref-2)