European Commission

Annual Report

on surveillance for avian influenza in poultry and in wild birds in Member States of the European Union in 2014

Animal & Plant Health Agency

Health and Food Safety

Annual Report on surveillance for avian influenza in poultry and wild birds in Member States of the European Union in 2014

EUROPEAN UNION REFERENCE LABORATORY FOR AVIAN INFLUENZA

About the report

The work of EU Member States' veterinary administrations, veterinary laboratories and others (such as ornithologists, bird watching organisations and hunters) involved in the sampling, laboratory testing and gathering of data for the avian influenza surveys in poultry and wild birds is specifically acknowledged.

This report was prepared by the European Union Reference Laboratory for Avian Influenza, Animal and Plant Health Agency (formerly the Animal Health and Veterinary Laboratories Agency), Weybridge, Addlestone, Surrey, KT15 3NB, United Kingdom, according to its work programme.

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The European Commission is responsible for the evaluation and approval of Member States' avian influenza surveillance programmes in poultry and wild birds. For more information on this matter please consult the Commission's website on veterinary control, eradication and monitoring programmes:
http://ec.europa.eu/food/animal/diseases/index_en.htm
Please address specific queries to: SANTE-CONSULT-G5@ec.europa.eu

The European Commission collects the surveillance data from MS via an online reporting system and is responsible for the final revision of the annual report on surveillance for avian influenza in poultry in the European Union and its publication on the Commission's website:
http://ec.europa.eu/food/animal/diseases/controlmeasures/avian/eu_resp_surveillance_en.htm

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1 EXECUTIVE SUMMARY

Background
Avian Influenza (AI) is a highly contagious viral infection, which can affect all species of birds. Highly Pathogenic Avian Influenza (HPAI) viruses can spread rapidly, causing serious disease with high mortality in many bird species. To date all HPAI viruses have been of H5 or H7 subtypes. The on-going H5 HPAI epidemic has affected over 60 countries across Asia, Africa Europe and North America, resulting in the loss of hundreds of millions of birds and causing major socio-economic impacts. Recent events involving H7N9 LPAI virus in China highlight the value in surveillance of poultry for avian influenza in the absence of disease. Low Pathogenicity Avian Influenza (LPAI) viruses usually cause only mild disease in poultry however LPAI strains of haemagglutinin subtype H5 or H7 have the potential to mutate to HPAI viruses following introduction to poultry populations. Birds of the Orders Anseriformes and Charadriiformes are the major reservoirs for LPAI viruses. Although historically HPAI infection has been rarely observed in wild birds and almost exclusively in connection with poultry outbreaks, since the continuing outbreaks of H5 HPAI, wild birds have been implicated in the spread of some lineages of the virus. Infection of wild birds in Europe was observed with the newly introduced virus H5N8 HPAI in late 2014, when infection also occurred in poultry holdings in Germany, the Netherlands, the United Kingdom and Italy.

In 2003 the European Union (EU) introduced an annual serological survey in poultry to detect subclinical or prior infection with AI of subtypes H5 and H7 and complement early detection systems. Wild bird surveillance and the reporting of the results have been compulsory since 2005 in the EU.

Timing and mandate
The present survey was conducted between January and December 2014 according to Council Directive 2005/94/EC on Community measures to control avian influenza and guidelines laid down in Commission Decision 2010/367/EU.

Poultry survey participation
Twenty-eight Member States (MS) participated in the poultry survey in 2014. In addition, one non-MS country (Switzerland) undertook active serological surveillance for avian influenza in poultry in 2014 and submitted data for this report. Eleven MS followed a risk-based sampling approach in poultry (11 MS followed a risk-based sampling approach in 2013, and 10 in 2012). In total, 19,813 holdings were sampled, which compares to 25,220 holdings in 2013, 29,404 holdings in 2012, 29,806 in 2011, 29,484 in 2010, 35,016 in 2009, and 34,985 in 2008. The most frequently sampled poultry category in 2014 was Laying Hens (conventional and free-range), making up 29.4% of the total holdings sampled by EU MS, followed by Chicken Breeders (15.9%) and Backyard Flocks (13.7%). The least sampled poultry category was Ratites (0.7% of total EU holdings sampled), reflecting the low proportion of ratite holdings across the EU (0.05% of total holdings reported to the survey). Italy and the Netherlands sampled the most holdings among the MS; together they sampled 48.8% (9,667) of the total holdings sampled in 2014.

Poultry survey results
In the 2014 EU serological survey for avian influenza in poultry, evidence of previous infection with H5 or H7 avian influenza according to Directive 2005/94/EC was detected in 43 holdings (0.22% of total EU holdings sampled) across eight MS. Thirty-eight holdings were serologically positive for subtype H5 and five for subtype H7. The detection rate in Breeder Geese (10 H5/H7 seropositive holdings/208 sampled, 4.8%), Breeder Ducks (7 H5/H7 seropositive holdings/253 sampled, 2.8%) and Fattening Ducks (11 H5/H7 seropositive holdings/737 sampled, 1.5%) was greater than in the other poultry categories sampled across the EU.

Holdings seropositive for H5
In 2014, 38 holdings were serologically positive for subtype H5 (0.19% of total EU holdings sampled). This compares to 57 holdings seropositive for H5 in 2013 (0.23% of total EU holdings sampled), 40 in 2012 (0.14% of total EU holdings sampled), 50 in 2011 (0.17% of total EU holdings sampled) and 48 in 2010 (0.16% of total EU holdings sampled). Of the 38 poultry holdings reported to be H5 seropositive in 2014, 28 underwent follow-up testing for the presence of active infection, and seven of these (7/28, 25.0%) tested virologically positive (by PCR and virus isolation) for subtype H5.

Holdings seropositive for H7
In 2014, five holdings were serologically positive for subtype H7 (0.03% of total EU holdings sampled). This compares to six holdings seropositive for H7 in 2013 (0.02% of total EU holdings sampled), four in 2012 (0.01% of total EU holdings sampled), 15 in 2011 (0.05% of total EU holdings sampled) and 11 in 2010 (0.04% of total EU holdings sampled). Of the five poultry holdings reported to be H7 seropositive in 2014, all underwent follow-up testing for the presence of active infection and two of these (2/5, 40.0%) tested virologically positive (by PCR) for subtype H7.

Poultry survey summary
The poultry survey continues to improve knowledge on which sectors of the poultry industry are more likely to be infected by H5 or H7 avian influenza viruses (e.g. Breeder Ducks and Breeder Geese) and identified other sectors which are consistently less likely to be affected (e.g. Broilers (even those considered at heightened risk) and Turkey Breeders). The sampling regimes among MS are diverse with different degrees of targeting and testing frequencies. Hence differences in between-flock detection rates for poultry categories or MS need to be interpreted with great caution. In particular, those MS undertaking risk-based sampling may experience higher seropositive detection rates than those using representative sampling. The on-going review of the results of avian influenza surveillance, together with the global picture of avian influenza and scientific research in this field, will further improve AI disease prevention whilst ensuring development of resource efficient programmes consistent with the overall objectives.

The follow-up epidemiological investigations and further laboratory testing in response to the detection of seropositive holdings highlights the utility of the survey in providing early warning for presence of active infection in the apparent absence of clinical indicators. This mandatory programme is invaluable for the possible early detection of infection with AI viruses that may not otherwise be readily detected by scanning surveillance in poultry (e.g. H5N8 HPAI in domestic waterfowl). Notification to the European Commission and OIE follows detection of current infection with H5 or H7 avian influenza virus on any holdings as appropriate.

Wild bird survey participation
According to the guidelines (EC 2010), implementation of passive surveillance in wild birds (found dead, injured and live with clinical signs) is compulsory and hence EU co-financed. Data on active surveillance has only been included in the present report from MS that chose to submit data from their national surveys. A total of 5,683 wild birds, from 27 MS of the European Union and one Non-Member State (Switzerland) were collected and tested via passive surveillance during the 2014 survey. Highly pathogenic H5N8 virus was reported in Europe in late 2014 on multiple occasions in poultry and wild birds highlighting the changeable nature of the epidemiology of avian influenza viruses and value of surveillance of wild bird populations (EFSA 2014). There were no detections of HPAI (of any subtype i.e. H5N1 or H5N8) reported in wild birds in Europe in the preceding years from 2011 to 2013. This is in contrast to the situation seen in 2008, 2009 and 2010 when in each year, one MS (the United Kingdom, Germany and Bulgaria respectively) detected a single incident of H5N1 HPAI in wild birds. Only limited inferences can be made by direct comparisons of detections in different MS, species and years. The non-random nature of the sampling means that the proportion positive observed in a species, MS or time period cannot be assumed to be the true prevalence in the population sampled.

Wild bird survey results
In 2014, four cases of H5N8 HPAI were reported to this surveillance programme in wild birds, all sampled in Germany. These were one Mallard (*Anas platyrhynchos*) sampled by passive surveillance; and one Eurasian Teal (*Anas crecca*) and two Mallards (*Anas platyrhynchos*) sampled by active surveillance. LPAI viruses of subtypes H5 or H7 were detected in two wild birds sampled via passive surveillance in 2014; one Mute Swan (*Cygnus olor*) sampled in the Netherlands, and one Razorbill (*Alca torda*) sampled in the United Kingdom. Detection of H5N8 HPAI was also made in Eurasian Wigeon in the Netherlands in 2014, although not part of this surveillance programme and hence not reported further here.

Wild bird survey summary
There is evidence for the ability of wild birds to transfer H5 HPAI from one area to another over relatively large distances. However the exact role and particular species involved in the epidemiology of H5 HPAI is not clear. H5 HPAI is currently circulating in poultry in Asia, Africa and North America. The North African areas where H5N1 HPAI is endemic in poultry include wetlands on major waterbird migratory flyways where large numbers of birds will spend time before moving

into Europe, however to date there is no evidence for incursion of virus to the EU via this route. The virus clade or subfamily of H5 HPAI associated with infection in North Africa last occurred in Europe in 2009. There is substantive evidence for wild birds playing a role in the recent introduction of H5N8 HPAI to Europe (EFSA 2014, Verhagen *et al.* 2015), North America and parts of Asia. Further evolutionary events resulting in changes in the virus and increased knowledge of the role of wild birds illustrates the ongoing risk for further incursion of these viruses to the EU. The EU survey provides detection of AI incidents in wild birds, independent of outbreaks in poultry, illustrating the value and role of wild bird surveillance as a potential early detection and monitoring system for the presence of HPAI in the EU.

ABBREVIATIONS AND GLOSSARY

Table 1 Key to Member State abbreviations

Abb.	Country
AT	Austria
BE	Belgium
BG	Bulgaria
CY	Cyprus
CZ	Czech Republic
DE	Germany
DK	Denmark
EE	Estonia
EL	Greece
ES	Spain
FI	Finland
FR	France
HR	Croatia
HU	Hungary
IE	Ireland
IT	Italy
LT	Lithuania
LU	Luxembourg
LV	Latvia
MT	Malta
NL	Netherlands
PL	Poland
PT	Portugal
RO	Romania
SE	Sweden
SI	Slovenia
SK	Slovak Republic
UK	United Kingdom
CH*	Switzerland

*Non-EU MS

Table 2 Key to poultry category abbreviations

Poultry species and production categories included in the poultry survey, as referenced in Commission Decision 2010/367/EU (EC 2010).

Abb.	Category
CB	Chicken Breeders
LH	Conventional Laying Hens
FR LH	Free-range Laying Hens
B	Broilers (at heightened risk)
FT	Fattening Turkeys
TB	Turkey Breeders
FD	Fattening Ducks
BD	Breeder Ducks
FG	Fattening Geese
BG	Breeder Geese
BYF	Backyard Flocks
FGB-G	Farmed Game Birds (gallinaceous)
FGB-W	Farmed Game Birds (waterfowl)
R	Ratites
O	Others

ADNS: Animal Disease Notification System
http://ec.europa.eu/food/animal/diseases/adns/index_en.htm

AI: Avian Influenza as defined in Directive 2005/94/EC (EC 2006a)

EURL: European Union Reference Laboratory for Avian Influenza, Animal and Plant Health Agency-Weybridge

DG SANTE: Directorate General for Health and Food Safety, European Commission

EU: European Union

HPAI: Highly Pathogenic Avian Influenza

HPAIV: Highly Pathogenic Avian Influenza virus

LPAI: Low Pathogenicity Avian Influenza defined as LPAI caused by AI viruses of the H5 and H7 subtype according to Directive 2005/94/EC (EC 2006a)

LPAIV: Low Pathogenicity Avian Influenza virus of the H5 and H7 subtype

LPAIV of 'other subtype': Low Pathogenicity Avian Influenza virus of subtype other than H5 or H7

MS: Member State(s)

NUTS: Nomenclature of Units for Territorial Statistics. For example, at NUTS 3 level this refers to a region, district, county, municipal or unitary authority (depending on the MS).

PCR: Polymerase chain reaction is a laboratory methodology that acts through the amplification of specific viral nucleic acid from clinical specimens.

Positive poultry holding: For the purpose of this report a poultry holding is considered positive if at least one sample from that holding tested positive on either serology or PCR or viral isolation.

Poultry holding: A facility used for the rearing or keeping of breeding or productive poultry, as defined in Council Directive 2009/158/EC (EC 2009). For the purposes of avian influenza surveillance, this may include facilities that only contain poultry during certain months of the year (i.e. poultry do not need to be present all year round).

TS: Target species. Wild birds, in particular migratory water birds, that have been shown to be at a higher risk of becoming infected with, and transmitting the HPAI H5N1 virus, as referenced in Commission Decision 2010/367/EU (EC 2010).

VI: Virus isolation is a laboratory methodology that enables the propagation of infectious virus directly from clinical specimens.

VI NP: Virus isolation not performed

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2 INTRODUCTION

Avian Influenza (AI) is a highly contagious viral infection, which can affect all species of birds. Highly Pathogenic Avian Influenza (HPAI) viruses can spread rapidly, causing serious disease with high mortality in many bird species. The ongoing H5N1 HPAI epidemic has affected over 60 countries across Asia, Africa and Europe, resulting in the loss of hundreds of millions of birds and causing major socio-economic impacts.

Low Pathogenicity Avian Influenza (LPAI) can be any one of the haemagglutinin subtypes H1 to H16 and usually causes only mild disease in poultry. LPAI viruses of the H5 and H7 subtypes have the potential to mutate to highly pathogenic strains while circulating within domestic poultry populations.

Wild birds of the Orders Anseriformes and Charadriiformes are thought to be the major reservoirs for LPAI viruses. Historically HPAI infections have been rarely observed in wild birds and almost exclusively in connection with poultry outbreaks. However, during the H5N1 HPAI epidemic, wild birds have been implicated in the spread of the HPAI virus (EFSA 2006).

The Scientific Committee on Animal Health and Animal Welfare (SCAHAW 2000) recommended the implementation of serological surveys of poultry populations in MS in order to detect the presence of LPAI viruses of H5 and H7 subtypes.

Surveys for avian influenza in poultry and wild birds in MS were first carried out in 2003 under Commission Decision 2002/649/EC (EC 2002).

Wild bird surveillance and the reporting of the results became compulsory in the EU in 2005. Decision 2005/726/EC (EC 2005) laid down a first list of 'higher risk species'. Directive 2005/94/EC (EC 2006a) subsequently provided a better legal basis to carry out surveillance programmes in poultry and wild birds. Harmonised guidelines with more detailed requirements for wild bird surveillance were introduced in 2007 (EC 2007). These programmes were aimed at identifying the risk of introduction of AI viruses (LPAI and HPAI) into domestic poultry.

In 2006 and 2007, application of this system was demonstrated when H5N1 HPAI activity was relatively widespread in wild birds and incursions to poultry were limited and controlled (Hesterberg *et al*. 2009).

Since 2008 the number of detections of H5N1 HPAI in Europe has reduced. Clade 2.2 viruses and their derivatives appear to have disappeared from wild birds globally, while clade 2.3.2 viruses and their derivatives have been reported from wild birds more recently including in the EU (Bulgaria in 2010 and Bulgaria and Romania in 2015). Infection of wild birds in Europe was also observed with the newly introduced virus H5 HPAI clade 2.3.4.4 in late 2014, when infection also occurred in poultry holdings in Germany, the Netherlands, the United Kingdom and Italy. Wild birds have been implicated in bringing the H5 HPAI clade 2.3.4.4 virus to Europe (EFSA 2014; Verhagen *et al.* 2015). The most recent European Commission guidelines (EC 2010) on surveillance for avian influenza in wild birds (see below) includes a list of “Target Species” that incorporates knowledge of the number of detections of H5N1 HPAI in the EU surveillance programme and recent findings on the epidemiology of this virus in wild birds.

2.1 Objectives

2.1.1 Poultry

The objectives of the surveillance programme for avian influenza in poultry (as described in Commission Decision 2010/367/EU; EC 2010) are to inform the competent authority of circulating avian influenza virus with a view to controlling the disease in accordance with Directive 2005/94/EC (EC 2006a) by the annual detection through active surveillance for:

"(a) low pathogenicity avian influenza (LPAI) of subtypes H5 and H7 in gallinaceous birds (chickens, turkeys, guinea fowl, pheasants, partridges and quails) and ratites thereby complementing other existing early detection systems.

(b) LPAI of subtypes H5 and H7 and highly pathogenic avian influenza (HPAI) in domestic waterfowl (ducks, geese and mallards for re-stocking supplies of game)."

2.1.2 Wild Birds

The objective of EU wild bird AI surveillance, according to Commission Decision 2010/367/EU (EC 2010), is the timely detection of HPAI of the subtype H5N1 in wild birds in order to protect poultry in poultry holdings and safeguard veterinary public health. It is also stated that:

"(a) A risk-based surveillance (RBS) shall be implemented as a 'passive' surveillance system by laboratory investigation of moribund wild birds or birds found dead and it shall be specifically directed towards water bird species.

(b) Wild birds, in particular migratory water birds, that have been shown to be at a higher risk of becoming infected with, and transmitting the HPAI H5N1 virus, the 'target species' (TS), shall be specifically targeted.

(c) Areas close to the sea, lakes and waterways where birds were found dead; and in particular when these areas are in close proximity to poultry holdings, especially in areas where there is a high density of poultry holdings, shall be targeted.

(d) Close cooperation with epidemiologists and ornithologists and the competent authority for nature conservation shall be ensured in the preparation of the surveillance programme, assisting in species identification and optimising sampling adapted to the national situation.

(e) If the epidemiological situation for the HPAI H5N1 virus so requires, surveillance activities shall be enhanced by awareness raising and active searching and monitoring for dead or moribund wild birds, in particular for those belonging to TS. This could be triggered by the detection of the HPAI H5N1 virus in poultry and/or wild birds in neighbouring Member States and third countries or in countries which are linked via the movement of migratory wild birds, in particular those of TS, to the Member State concerned. In that case the specific migration patterns and wild bird species, which may vary in different Member States shall be taken into account."

2.2 Framework of Reporting

2.2.1 Poultry

Directive 2005/94/EC (EC 2006a) on Community measures to control avian influenza, introduced with Article 4, a new legal basis for the obligatory conduct of surveillance programmes in poultry populations, to detect infections with LPAI of H5 and H7 subtype. Surveillance must be carried out following harmonised guidelines which are laid down in 2010/367/EU (EC 2010).

The surveillance programmes of MS for 2014 were evaluated and approved for co-financing through Decision 2013/722/EU (EC 2013).

Details of the 2014 survey programmes for each MS are available on the SANTE website:
http://ec.europa.eu/food/animal/diseases/docs/adopted_2013_722_eu_en.pdf

Samples were tested in accordance with the Diagnostic Manual for avian influenza (EC 2006b).

Previous Annual Reports and more information on surveillance for avian influenza in poultry can be found at:

http://ec.europa.eu/food/animal/diseases/controlmeasures/avian/eu_resp_surveillance_en.htm

2.2.2 Wild Birds

In 2014 surveillance was performed according to the guidelines laid down in Commission Decision 2010/367/EU (EC 2010).

For 2014, the survey programmes of the MS were evaluated and approved for co-financing through the Decision 2013/722/EU (EC 2013).

Details of the 2014 survey programmes for each MS are available on the SANTE website:
http://ec.europa.eu/food/animal/diseases/docs/adopted_2013_722_eu_en.pdf

Samples were tested in accordance with the Diagnostic Manual for avian influenza (EC 2006b).

Previous Annual Reports and more information on surveillance for avian influenza in wild birds can be found at:
http://ec.europa.eu/food/animal/diseases/controlmeasures/avian/eu_resp_surveillance_en.htm

2.3 Structure of Report

This report provides information on the surveillance of poultry and wild birds undertaken by MS in 2013 and is structured as follows:

- The Executive Summary provides an outline of the main findings and conclusions that can be drawn from these.
- The Introduction gives information on the objectives and framework for the surveillance carried out by the MS and also provides links to the Commission Decisions on which the surveillance is based.
- The Results section contains information on the results of the 2014 poultry survey and wild bird passive surveillance activities, including sampling effort and test results in MS.
- The Discussion section provides a summary of the findings and information on their importance in relation to the objectives of the survey.
- The Methods section includes information on the survey design, data received from the MS and methods of analysis of the data.
- The Annexes contain additional detailed tables on the sampling effort and test results of the poultry and wild bird surveys, including sampling effort and test results of wild bird active surveillance data, voluntarily submitted by MS.

3 RESULTS

3.1 Poultry

3.1.1 Holdings sampled

All totals and overall proportions refer to 28 MS.

- In 2014, a total of 792,070 poultry holdings were reported from regions where sampling took place among all MS, and 19,813 (2.5%) of these were sampled by the MS in their approved surveillance programmes. This compares to 25,220 holdings sampled in 2013, 29,404 holdings sampled in 2012, 29,806 holdings sampled in 2011, 29,484 holdings sampled in 2010, 35,016 holdings sampled in 2009, and 34,985 holdings sampled in 2008.

- In addition, Switzerland submitted data for 101 holdings that were sampled as part of the 2014 EU Poultry Survey.

- Of the 28 MS undertaking AI surveillance in poultry in 2014, eleven MS (BE, BG, DE, DK, FI, FR, IT, LT, NL, RO and UK) carried out a risk-based sampling approach, as described in Commission Decision (EC 2010). For more information on the risk-based surveillance approaches used by these MS, please see Table 17. In 2013 (the third year when MS had the option of using risk-based sampling), the same 11 MS carried out a risk-based sampling approach.

- There was considerable variation in the number of poultry holdings sampled among MS, varying from 17 holdings in Estonia to 5,733 holdings in Italy. Eleven MS sampled more holdings in total when compared to 2013 (AT, BE, CZ, DE, EL, FI, HR, IE, LV, PT and SI), while 17 MS (BG, CY, DK, EE, ES, FR, HU, IT, LT, LU, MT, NL, PL, RO, SE, SK and UK) sampled fewer holdings in 2014. Some MS sampled individual holdings more than once during the period of the survey and hence the total reported number of holdings sampled during the survey exceeded the total number of holdings present for MS in certain poultry categories.

- Laying Hen holdings were sampled in all 28 MS. This category (conventional and free-range) was the most frequently sampled poultry category, making up 29.4% (5,832 of 19,813) of the total holdings sampled by EU MS in 2014, with the majority being sampled in Italy (1,766) and the Netherlands (1,603).

- Twenty-four MS sampled Chicken Breeders (15.9% of total EU holdings sampled) and Fattening Turkeys and Turkey Breeders (13.0% of total EU holdings sampled); 20 MS sampled Fattening Ducks and Breeder Ducks (5.0% of total EU holdings sampled) and Farmed Game Birds (gallinaceous) and Farmed Game Birds (waterfowl) (6.2% of total EU holdings sampled); 17 MS sampled Fattening Geese and Breeder Geese (2.9% of total EU holdings sampled); 13 MS sampled Backyard Flocks (13.7% of total EU holdings sampled) and Ratites (0.7% of total EU holdings sampled); 12 MS sampled Broilers (at heightened risk) (5.3% of total EU holdings sampled); and ten MS sampled Other poultry flocks (7.7% of total EU holdings sampled) - further details are given in Section 3.1.3 (Poultry categories).

- The total number of poultry holdings (from regions where sampling took place) and the number sampled by MS, reported to the survey in 2014, are displayed by poultry category in Table 3.

Table 3 Number of poultry holdings sampled and total number of poultry holdings in regions where sampling took place, by poultry category across Member States, reported to the survey in 2014

The total number of poultry holdings (from regions where sampling took place) is displayed in parentheses.

	Number of poultry holdings sampled (total number of poultry holdings reported in regions where sampling took place)											
	Chicken Breeders	Conventional Laying Hens and Free-range Laying Hens	Broilers (at heightened risk)	Fattening Turkeys and Turkey breeders	Fattening Ducks and Breeder Ducks	Fattening Geese and Breeder Geese	Backyard Flocks	Farmed Game Birds (gallinaceous and waterfowl)	Ratites	Others	Total Holdings sampled and percentage of EU total	Total Holdings reported and percentage of EU total
AT	23 (85)	125 (1881)		57 (142)	26 (48)	59 (71)			16 (16)		306 1.54%	2,243 0.28%
BE	194 (191)	396 (257)		54 (42)	26 (22)	2 (4)		20 (20)		7 (9)	699 3.53%	545 0.07%
BG	6 (10)	50 (110)	1 (8)	2 (2)	52 (93)		102 (25,411)	4 (4)		31 (1,500)	248 1.25%	27,138 3.43%
CY	11 (9)	47 (40)	4 (3)	5 (5)			20 (1,247)	5 (5)			92 0.46%	1,309 0.17%
CZ		60 (132)		43 (35)	53 (31)	10 (10)		42 (27)			208 1.05%	235 0.03%
DE	1 (80)	190 (37,445)	7 (7)	139 (2,291)	118 (4,865)	37 (4,144)	21 (61,371)	5 (663)	4 (31)	245 (111,759)	767 3.87%	222,656 28.11%
DK	470 (465)	201 (133)	18 (17)	27 (44)	10 (57)	3 (27)		88 (209)			817 4.12%	952 0.12%
EE	1 (1)	15 (15)				1 (1)					17 0.09%	17 0.002%
EL	53 (94)	75 (450)	37 (42)	27 (40)				14 (19)	1 (2)	61 (108)	268 1.35%	755 0.10%
ES	98 (377)	126 (859)		75 (501)	40 (52)	10 (11)	27 (4,300)	399 (660)	38 (81)	104 (4,565)	917 4.63%	11,406 1.44%
FI	39 (61)	94 (340)		37 (39)	4 (5)	2 (3)		14 (17)	3 (3)		193 0.97%	468 0.06%
FR	60 (857)	107 (8,197)	83 (7,011)	108 (4,704)	115 (2,490)	36 (40)	44 (3,579)	64 (2,042)	2 (93)	65 (4,447)	684 3.45%	33,460 4.22%
HR	22 (60)	50 (156)		17 (91)	24 (82)	9 (9)	41 (314)	10 (13)		1 (1)	174 0.88%	726 0.09%
HU	56 (143)	70 (493)		82 (319)	107 (450)	126 (505)	498 (227,006)	46 (85)	4 (4)		989 4.99%	229,005 28.91%
IE	111 (103)	124 (203)	39 (35)	55 (107)	4 (8)	1 (2)					334 1.69%	458 0.06%
IT	392 (280)	1,766 (1,321)		1,474 (932)	114 (161)	33 (72)	624 (624)	318 (468)	28 (61)	984 (826)	5,733 28.94%	4,745 0.60%
LT		15 (15)		1 (1)						22 (22)	38 0.19%	38 0.005%
LU		8 (8)	4 (4)				4 (500)		2 (1)		18 0.09%	513 0.06%
LV	1 (1)	34 (82)					167 (3,212)				202 1.02%	3,295 0.42%
MT		35 (33)									35 0.18%	33 0.004%
NL	1,371 (1,031)	1,603 (895)	776 (168)	75 (53)	109 (92)						3,934 19.86%	2,239 0.28%
PL	62 (481)	113 (702)		66 (226)	107 (377)	179 (1,212)		37 (92)	33 (74)		597 3.01%	3,164 0.40%
PT	52 (82)	71 (145)	64 (241)	62 (156)	15 (16)		63 (237,000)	45 (76)	4 (4)	1 (1)	377 1.90%	237,721 30.01%
RO	69 (39)	180 (220)	7 (20)	23 (14)	4 (2)		1,016 (1,050)	17 (17)			1,316 6.64%	1,362 0.17%
SE	33 (33)	81 (320)	12 (35)	18 (18)	2 (3)	9 (9)		17 (23)	3 (3)		175 0.88%	444 0.06%
SI	8 (8)	59 (228)		43 (43)			92 (4,154)	6 (6)			208 1.05%	4,439 0.56%
SK	10 (13)	53 (128)		10 (14)	6 (16)	4 (8)		18 (22)	7 (8)		108 0.55%	209 0.03%
UK	11 (95)	84 (1,212)		84 (432)	54 (175)	58 (135)		68 (446)			359 1.81%	2,495 0.31%
Total holdings; % of EU total	**3,154 (4,599) 15.9%**	**5,832 (56,020) 29.4%**	**1,052 (7,591) 5.3%**	**2,584 (10,251) 13.0%**	**990 (9,045) 5.0%**	**579 (6,263) 2.9%**	**2,719 (569,768) 13.7%**	**1,237 (4,914) 6.2%**	**145 (381) 0.7%**	**1,521 (123,238) 7.7%**	**19,813**	**792,070**
CH		79 (1,544)		22 (83)							101	1,627

Percentages for the total number of poultry holdings sampled and total number of poultry holdings (from regions where sampling took place) are calculated as a percentage of the EU totals reported to the survey.

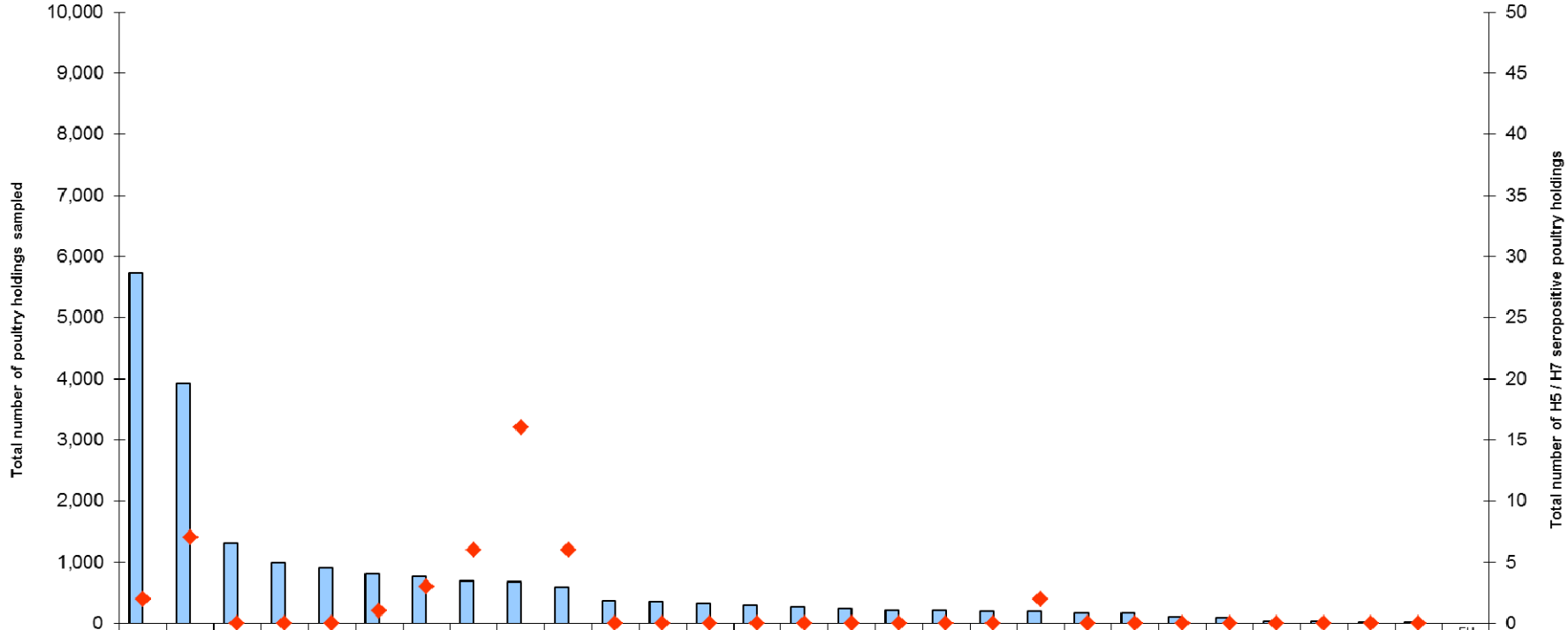
3.1.2 Laboratory results

A total of 43 poultry holdings tested serologically positive for previous exposure to AI virus subtypes H5 and H7 in 2014, 38 of subtype H5 and five of subtype H7. In addition, five holdings were reported as seropositive for influenza A virus subtype H9 (identification of subtypes other than H5 and H7 is not a compulsory requirement of the surveillance and will depend on the laboratory method used), and eight holdings were reported as seropositive for influenza A virus of undetermined subtype. Thirteen poultry holdings tested virologically positive (by PCR and in some cases by virus isolation as well) for influenza A virus. This included eight for subtype H5 (seven were also H5 seropositive and one was positive by PCR only for H5 (serology/virus isolation negative)), two for subtype H7 (which were also H7 seropositive), and three for influenza A with subtype undetermined (which were also seropositive for influenza A). In comparison, 63 holdings were found seropositive for H5 and H7 in 2013, 43 in 2012, 65 in 2011, 59 in 2010, 90 in 2009, and 72 in 2008.

The non-MS country Switzerland did not detect any positive poultry holdings in 2014, as was the case in 2013 and 2012.

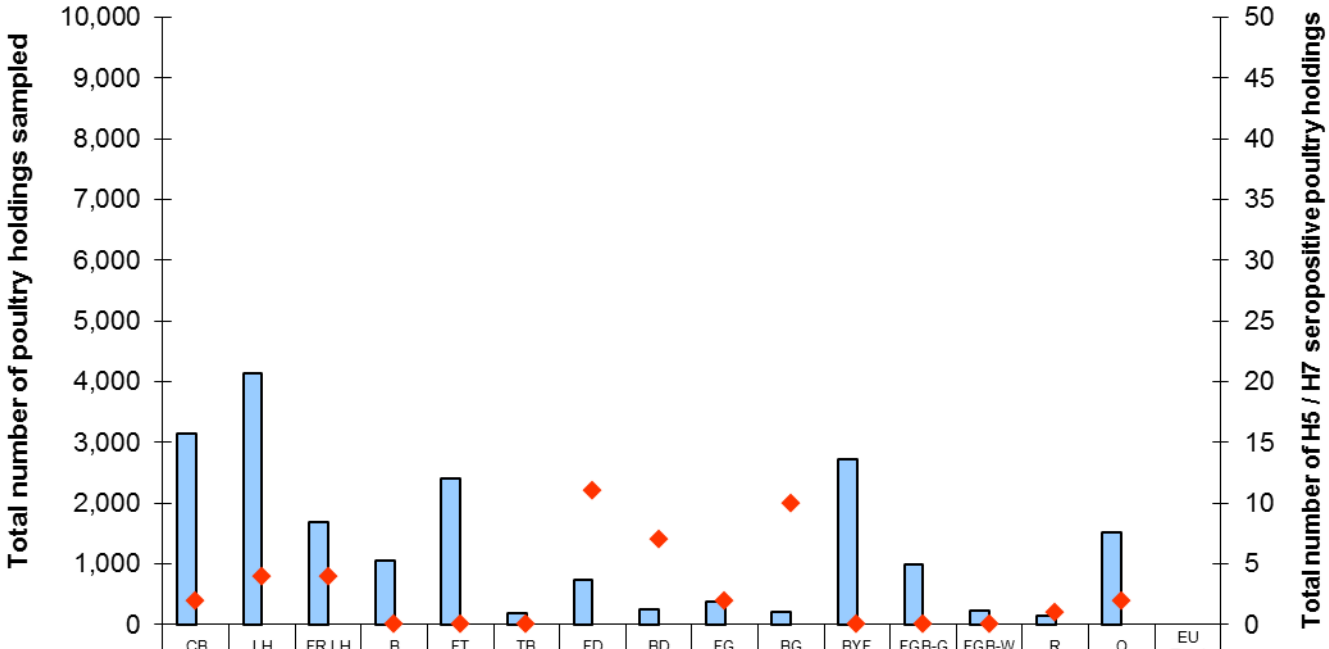
Overall, eight MS reported H5 or H7 seropositive poultry holdings in 2014: Belgium, Germany, Denmark, Finland, France, Italy, the Netherlands and Poland. Seven of these MS (BE, DE, FI, FR, IT, NL and PL) also reported H5 or H7 seropositive poultry holdings in 2013, as well as Ireland, Spain, Sweden and the United Kingdom. In addition, in 2014, Germany reported holdings that were seropositive for influenza A virus subtype H9, and Greece and Spain reported holdings that were seropositive for influenza A virus of undetermined subtype.

Figure 1 Total number of poultry holdings sampled and found seropositive for influenza A virus subtypes H5 and H7 by Member State reported to the survey in 2014



	IT	NL	RO	HU	ES	DK	DE	BE	FR	PL	PT	UK	IE	AT	EL	BG	CZ	SI	LV	FI	SE	HR	SK	CY	LT	MT	LU	EE	EU Total
Total number of poultry holdings sampled	5,733	3,934	1,316	989	917	817	767	699	684	597	377	359	334	306	268	248	208	208	202	193	175	174	108	92	38	35	18	17	19,813
Total number of poultry holdings (in regions where sampling took place)	4,745	2,239	1,362	229,005	11,406	952	222,656	545	33,460	3,164	237,721	2,495	458	2,243	755	27,138	235	4,439	3,295	468	444	726	209	1,309	38	33	513	17	792,070
Total number of H5 / H7 seropositive poultry holdings	2	7	0	0	0	1	3	6	16	6	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	43

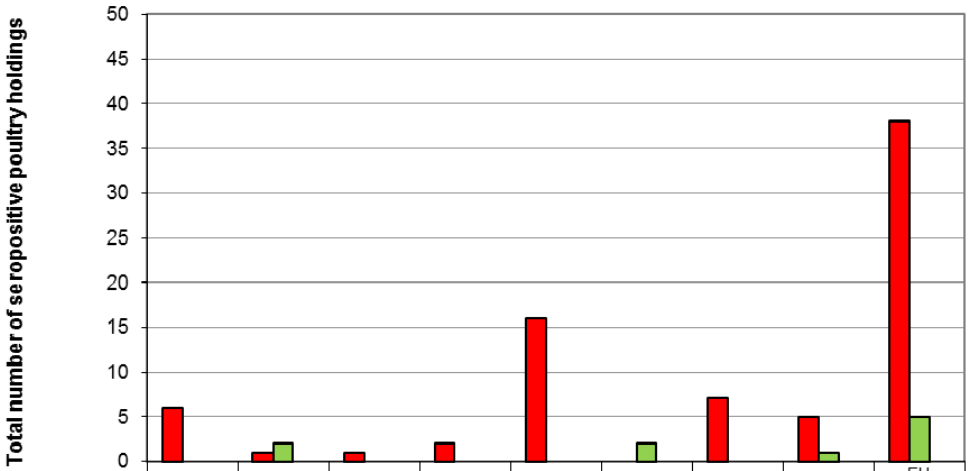
Figure 2 Total number of poultry holdings sampled and found seropositive for influenza A virus subtypes H5 and H7 by poultry category in Member States reported to the survey in 2014



	CB	LH	FR LH	B	FT	TB	FD	BD	FG	BG	BYF	FGB-G	FGB-W	R	O	EU Total
Total number of poultry holdings sampled	3,154	4,133	1,699	1,052	2,402	182	737	253	371	208	2,719	999	238	145	1,521	19,813
Total number of poultry holdings (in regions where sampling took place)	4,599	46,433	9,587	7,591	9,770	481	8,624	421	5,871	392	569,768	3,768	1,146	381	123,238	792,070
Total number of H5 / H7 seropositive poultry holdings	2	4	4	0	0	0	11	7	2	10	0	0	0	1	2	43

See Abbreviations and Glossary and Section 5.1.1 Survey Design for the abbreviations of poultry categories.

Figure 3 Total number of H5 and H7 serologically positive poultry holdings by Member State reported to the survey in 2014



	BE	DE	DK	FI	FR	IT	NL	PL	EU Total
H5 seropositive poultry holdings	6	1	1	2	16	0	7	5	38
H7 seropositive poultry holdings	0	2	0	0	0	2	0	1	5
H5/H7 seropositive poultry holdings	6	3	1	2	16	2	7	6	43

3.1.2.1 H5 avian influenza

In 2014, 38 poultry holdings (0.19% of total EU holdings sampled), from seven MS (BE, DE, DK, FI, FR, NL and PL), tested serologically positive for influenza A virus subtype H5. In addition, a PCR (only) H5 positive holding (serology/virus isolation negative) was reported from Italy. A high proportion of the H5 seropositive holdings (16/38, 42.1%) were found in France, which was also the case in 2013 (33/57, 57.9%) and 2012 (21/40, 52.5%). Of the 38 poultry holdings reported to be H5 seropositive in 2014, 28 underwent follow-up testing for the presence of active infection, and seven of these (7/28, 25.0%) tested virologically positive (by PCR and virus isolation) for subtype H5. For more information on the epidemiological follow-up investigations, please see Table 5.

The number of H5 seropositive poultry holdings detected in 2014 (n = 38, 0.19% of total EU holdings sampled) compares to 57 holdings found serologically positive for H5 in 2013 (0.23% of total EU holdings sampled), 40 in 2012 (0.14% of total EU holdings sampled), 50 in 2011 (0.17% of total EU holdings sampled), 48 in 2010 (0.16% of total EU holdings sampled), and 52 holdings in both 2009 and 2008 (0.15% of total EU holdings sampled in each year).

In 2014, a high proportion of the H5 seropositive holdings were Fattening Ducks (11/38, 28.9%), followed by Breeder Geese (9/38, 23.7%), and Breeder Ducks (7/38, 18.4%). Fewer H5 seropositive holdings were reported in Breeder Ducks in 2014 (7 H5 seropositive holdings/253 sampled, 2.8%), compared to 2013 (27 H5 seropositive holdings/233 holdings sampled, 11.6%) and 2012 (21 H5 seropositive holdings/247 holdings sampled, 8.5%), when the highest number of holdings seropositive for the H5 subtype were detected in this category.

3.1.2.2 H7 avian influenza

In 2014, five poultry holdings (0.03% of total EU holdings sampled) tested serologically positive for influenza A virus subtype H7. H7 seropositive holdings were reported from three MS, including Germany (2/5, 40.0%), Italy (2/5, 40.0%) and Poland (1/5, 20.0%). This differed to 2013 when the majority of H7 seropositive holdings (4/6, 66.7%) were reported from the Netherlands, with one holding also reported from Belgium and one from Spain, and 2012, when four H7 seropositive holdings were detected from four MS (one from each of IT, NL, PL and UK). Of the five poultry holdings reported to be H7 seropositive in 2014, all underwent follow-up testing for the presence of active infection and two of these (2/5, 40.0%) tested virologically positive (by PCR) for subtype H7. For more information on the epidemiological follow-up investigations, please see Table 5.

The number of H7 seropositive holdings detected in 2014 (n = 5, 0.03% of total EU holdings sampled) compares to six holdings seropositive for H7 in 2013 (0.02% of total EU holdings sampled), four in 2012 (0.01% of total EU holdings sampled), 15 in 2011 (0.05% of total EU holdings sampled), 11 in 2010 (0.04% of total EU holdings sampled), 38 in 2009 (0.11% of total EU holdings sampled), and 21 in 2008 (0.06% of total EU holdings sampled).

In 2014, H7 seropositive holdings were found in Conventional Laying Hens (2/5, 40.0%), Others (2/5, 40.0%), and Breeder Geese (1/5, 20.0%). In comparison, in 2013, H7 seropositive holdings were reported from Free-range Laying Hens (4/6, 66.7%), Chicken Breeders (1/6, 16.7%) and Conventional Laying Hens (1/6, 16.7%), while in 2012, one H7 seropositive holding was detected in each of the Free-range Laying Hen, Breeder Geese, Backyard Flocks and Farmed Game Birds categories.

3.1.2.3 Other LPAI subtypes

The identification of avian influenza subtypes other than H5 or H7 is not compulsory according to the surveillance guidelines (EC 2010) and the definition for avian influenza provided in Directive 2005/94/EC (EC 2006a). It will also depend on the laboratory method used. However, as part of the 2014 survey, five Fattening Turkey holdings from Germany were reported as seropositive for influenza A virus subtype H9. In addition, eight holdings were reported as seropositive for influenza A virus of undetermined subtype, including one Conventional Laying Hen holding from Greece, four Fattening Turkey holdings from Germany, and three Fattening Duck holdings from Spain (which were also PCR positive for influenza A virus).

In comparison, in 2013, one Others holding from Germany was reported as seropositive for influenza A virus subtype H9 (PCR/virus isolation negative). In addition, there were two Fattening Duck holdings from Spain that tested positive by PCR (only) for influenza A virus of undetermined subtype (one was serology negative/virus isolation not performed, while the other was serology/virus isolation negative). A further two holdings tested PCR positive for influenza A virus of undetermined subtype, including a Fattening Duck holding from Belgium and a Farmed Game Bird (waterfowl) holding from Sweden, both of which were also seropositive for subtype H5 (virus isolation negative). In 2012, three holdings were reported as positive for avian influenza subtypes other than H5 or H7, by serology and/or PCR/virus isolation. This included one Fattening Turkey holding from Germany, which was seropositive and PCR/virus isolation positive for H9, and two Fattening Duck holdings from Spain, one of which was positive by virus isolation for the H4 subtype (PCR positive for influenza A virus/serology negative), and the other which was positive by virus isolation for the H6 subtype (PCR/serology negative). In 2011, no holdings were reported to the survey as positive for avian influenza subtypes other than H5 or H7. In 2010, 16 holdings were reported as positive for other subtypes, including H6, H4 and H3, from two MS (BG and CZ). In 2009, other subtypes were detected from four MS (13 holdings) and in 2008 other subtypes were reported from six MS (20 holdings).

3.1.2.4 Summary

- A total of 43 poultry holdings tested positive for H5 or H7 subtypes by serological testing (0.22% of total EU holdings sampled), 38 for subtype H5 (0.19% of total EU holdings sampled) and five for subtype H7 (0.03% of total EU holdings sampled).

- A high proportion of H5 seropositive poultry holdings were found in France (16/38, 42.1%) and the poultry categories with the most detections were Fattening Ducks (11/38, 28.9%), followed by Breeder Geese (9/38, 23.7%), and Breeder Ducks (7/38, 18.4%).

- H7 seropositive poultry holdings were detected in Conventional Laying Hens from Germany (2/5, 40%), Others holdings from Italy (2/5, 40.0%), and Breeder Geese from Poland (1/5, 20.0%).

- As in previous years, evidence of H5 infection was detected more frequently than H7. For example, in 2014, 38 H5 and five H7 seropositive holdings were reported (0.19% and 0.03% respectively of total EU holdings sampled). In 2013, 57 H5 and six H7 seropositive

poultry holdings were reported (0.23% and 0.02% respectively of total EU holdings sampled). In 2012, 40 H5 and four H7 seropositive holdings were reported (0.14% and 0.01% respectively of total EU holdings sampled). In 2011, 50 H5 and 15 H7 seropositive holdings were detected (0.17% and 0.05% respectively of total EU holdings sampled). In 2010, 48 H5 and 11 H7 seropositive holdings were reported (0.16% and 0.04% respectively of total EU holdings sampled). In 2009 there were 52 H5 and 38 H7 seropositive holdings (0.15% and 0.11% respectively of total EU holdings sampled) and in 2008 52 H5 and 21 H7 seropositive holdings were found (0.15% and 0.06% respectively of total EU holdings sampled).

Figure 4 Map of the intensity of sampling in the EU AI poultry survey and holdings testing serologically positive for H5 and H7 in 2014

The classification of intensity of surveillance is grouped by holdings sampled per 100km^2
Low: up to 10, Medium: 11 - 100, High: 101 - 500, Very high: >500

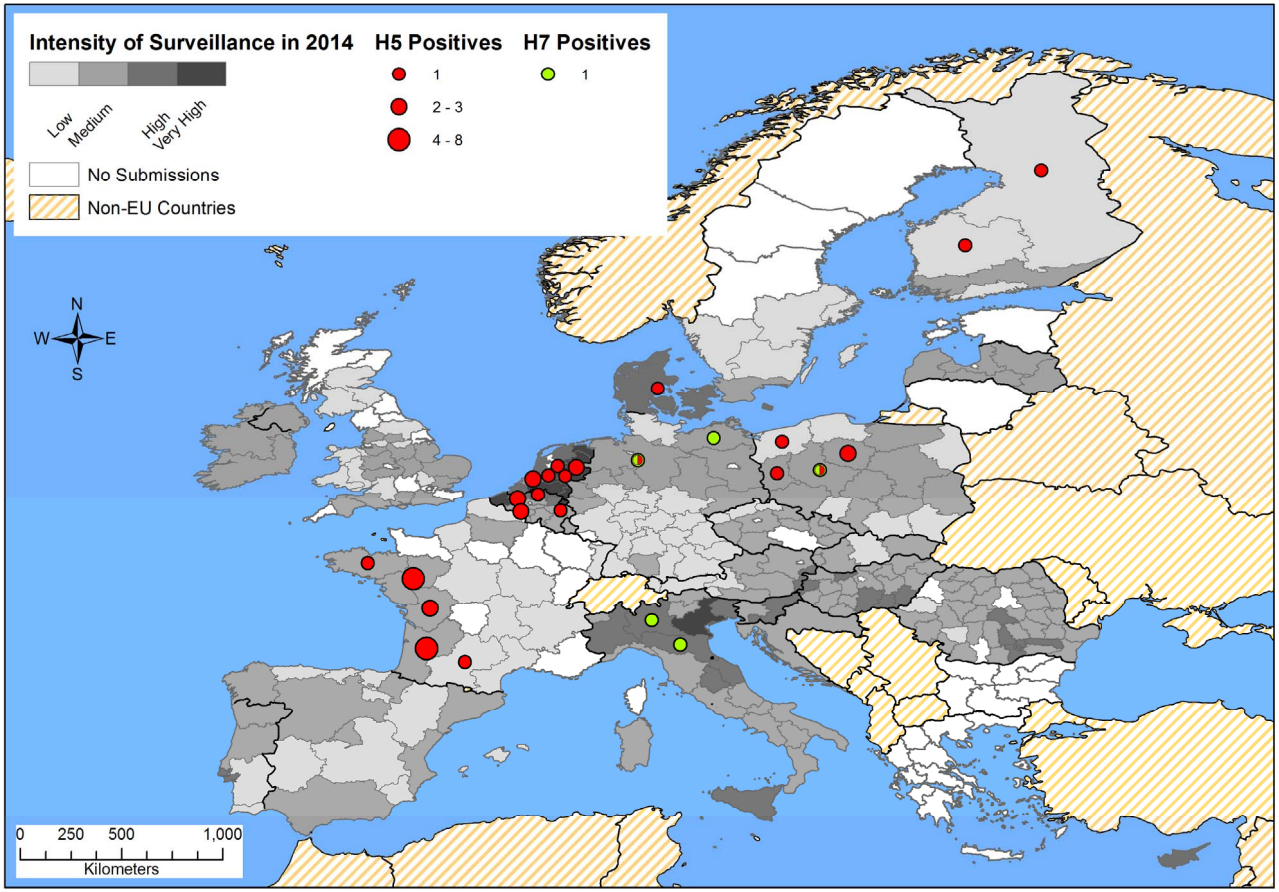


Table 4 Number of serological and virological H5 and H7 positive poultry holdings by Member State reported to the survey in 2014

MS	Total H5/H7 positive poultry holdings	Number of H5 seropositive poultry holdings	Number of H5 PCR/VI positive poultry holdings	Number of H7 seropositive poultry holdings	Number of H7 PCR/VI positive poultry holdings	Total poultry holdings sampled	Total poultry holdings reported (in regions where sampling took place)
AT	0	0	0	0	0	306	2,243
BE	6	6	0	0	0	699	545
BG	0	0	0	0	0	248	27,138
CY	0	0	0	0	0	92	1,309
CZ	0	0	0	0	0	208	235
DE	3	1	0	2	0	767	222,656
DK	1	1	0	0	0	817	952
EE	0	0	0	0	0	17	17
EL	0	0	0	0	0	268	755
ES	0	0	0	0	0	917	11,406
FI	2	2	0	0	0	193	468
FR	16	16	0	0	0	684	33,460
HR	0	0	0	0	0	174	726
HU	0	0	0	0	0	989	229,005
IE	0	0	0	0	0	334	458
IT	2	0	1	2	2	5,733	4,745
LT	0	0	0	0	0	38	38
LU	0	0	0	0	0	18	513
LV	0	0	0	0	0	202	3,295
MT	0	0	0	0	0	35	33
NL	7	7	7	0	0	3,934	2,239
PL	6	5	0	1	0	597	3,164
PT	0	0	0	0	0	377	237,721
RO	0	0	0	0	0	1,316	1,362
SE	0	0	0	0	0	175	444
SI	0	0	0	0	0	208	4,439
SK	0	0	0	0	0	108	209
UK	0	0	0	0	0	359	2,495
EU Total	43	38	8	5	2	19,813	792,070
CH	0	0	0	0	0	101	1,627

Notes on virological data and subtypes other than H5 or H7

DE: Five holdings were serologically positive for H9 (PCR/VI not performed). In addition, four holdings were serologically positive for influenza A virus (PCR/VI not performed).

EL: One holding was serologically positive for influenza A virus (PCR negative/VI not performed).

ES: Three holdings were seropositive and PCR positive for influenza A virus (VI negative).

IT: The two H7 seropositive holdings were also PCR positive for H7 (one was VI negative and the other was VI not performed). In addition, one holding was PCR (only) positive for H5 (serology/VI negative).

NL: The H5 seropositive holdings were also PCR/VI positive for H5.

Table 5 Information on epidemiological follow-up investigations at poultry holdings following a H5 or H7 seropositive result, reported to the survey in 2014.

H5 seropositive poultry holdings	Number of poultry holdings	% of total number of H5 seropositive poultry holdings
Following H5 seropositive result, epidemiological follow-up visit 'Done'	**28**	**73.7**
Done: H5 detected by virological testing	7	18.4
Done: No detection by virological testing	21	55.3
Following H5 seropositive result, epidemiological follow-up visit 'Not done'	**10**	**26.3**
Not done: Sampling at slaughter	1	2.6
Not done: Birds slaughtered/killed	7	18.4
Not done: Other reason (Samples for serological and virological testing collected at the same time)	2 (2)	5.3
Total number of H5 seropositive poultry holdings	**38**	

H7 seropositive poultry holdings	Number of poultry holdings	% of total number of H7 seropositive poultry holdings
Following H7 seropositive result, epidemiological follow-up visit 'Done'	**5**	**100**
Done: H7 detected by virological testing	2	40.0
Done: No detection by virological testing	3	60.0
Following H7 seropositive result, epidemiological follow-up visit 'Not done'	**0**	**0**
Total number of H7 seropositive poultry holdings	**5**	

3.1.3 Poultry categories

Tables 6a and 6b show the total number of poultry holdings sampled and the number found to be seropositive for subtypes H5 and H7 by poultry category reported to the survey in 2014 and 2013. The number of poultry holdings found serologically positive for subtypes H5 or H7 by poultry category across MS reported to the survey in 2014 is also displayed in Figure 5. This information is also shown in Table 7, along with the number of holdings sampled by poultry category across MS in 2014.

Descriptive results of the 2014 poultry survey by poultry category

Detailed tables displaying the number of poultry holdings reported (from regions where sampling took place), holdings sampled and holdings testing positive by poultry category across MS are shown in Section 7.1.1 Annex I.

3.1.3.1 Chicken Breeders

- Chicken Breeder holdings made up 15.9% of total holdings sampled in the EU in 2014. This compares to 21.9% in 2013 and 17.9% in 2012.

- Chicken Breeder holdings were sampled in 24 MS. This was similar to 2013 and 2012 when sampling was carried out in 22 MS and 21 MS respectively. The number of holdings sampled varied from one holding (DE, EE and LV) to 1,371 (NL).

- In 2014, two Chicken Breeder holdings from the Netherlands tested serologically and virologically (PCR and virus isolation) positive for influenza A virus subtype H5. In comparison in 2013, one Chicken Breeder holding from Spain tested serologically and virologically (PCR and virus isolation) positive for influenza A virus subtype H7, while in 2012 no Chicken Breeder positive holdings were reported to the survey.

3.1.3.2 Conventional Laying Hens and Free-range Laying Hens

- Overall, Laying Hen holdings (conventional and free-range combined) made up 29.4% of the total holdings sampled in the EU in 2014. Conventional holdings made up 20.9% of

the total holdings sampled, which was similar to 2013 (20.0%) and 2012 (20.7%). Free-range Laying Hen holdings made up 8.6% of the total holdings sampled, which compares to 10.1% in 2013 and 9.3% in 2012.

- Conventional Laying Hen holdings were sampled in all 28 MS. This compares with 27 MS in 2013 and 26 MS in 2012. The number of holdings sampled varied from four holdings (LU) to 1,573 (IT). A total of 19 MS sampled Free-range Laying Hens, plus Switzerland. This compares to 16 MS, plus Switzerland, in 2013 and 2012. The number of holdings sampled varied from three holdings (HR) to 756 (NL).

- In 2014, eight Laying Hen holdings were found to be seropositive for influenza A virus subtypes H5 or H7, including two H5 (which were also PCR and virus isolation positive for H5) and two H7 Conventional Laying Hen holdings, and four H5 (two were also PCR and virus isolation positive for H5) Free-range Laying Hen holdings. In addition, a further Conventional Laying Hen holding was seropositive for influenza A virus of undetermined subtype. In 2013, eight Laying Hen holdings were found to be seropositive for influenza A virus subtypes H5 or H7, including one H7 seropositive Conventional Laying Hen holding, and three H5 and four H7 seropositive Free-range Laying Hen holdings. In 2012, seven Laying Hen holdings were found to be seropositive for influenza A virus subtypes H5 or H7, including four H5 seropositive Conventional Laying Hen holding, and two H5 and one H7 seropositive Free-range Laying Hen holdings.

- Four MS detected H5 or H7 seropositive Laying Hen holdings in 2014; Germany in Conventional Laying Hens, Belgium and Denmark in Free-range Laying Hens, and the Netherlands in both Conventional and Free-range Laying Hens. In addition, one Conventional Laying Hen holding from Greece was seropositive for influenza A virus of undetermined subtype. In 2013 and 2012, three MS (BE, IT and NL) and four MS (DK, FI, IT and NL) respectively, reported H5 or H7 seropositive holdings from Laying Hens.

3.1.3.3 Broilers (at heightened risk)

- This category includes broilers when (i) they are kept in significant numbers in free-range production and (ii) they are considered to pose a higher risk of infection with avian influenza. In 2014, Broiler (at heightened risk) holdings made up 5.3% of total holdings sampled in the EU. This compares to 4.9% in 2013. In previous survey years, the Broiler poultry category was reported as Conventional Broilers and Free-range Broilers, and overall in 2012, it made up 4.5% of the total holdings sampled in the EU.

- Broilers (at heightened risk) were sampled in 12 MS. This compares to 15 MS that sampled Broilers (at heightened risk) in 2013 and 15 MS that sampled Broilers (conventional and free-range) in 2012. The number of holdings sampled varied from one holding (BG) to 776 (NL).

- No positive holdings were reported in this category in 2014. This was also the case in Broilers (at heightened risk) holdings in 2013 and Broiler holdings (conventional and free-range) in 2012.

3.1.3.4 Fattening Turkeys and Turkey Breeders

- Overall, Turkey holdings (Fattening and Breeder combined) made up 13.0% of the total holdings sampled in the EU in 2014. Fattening Turkey holdings made up 12.1% of the total holdings sampled in the EU in 2014, which is slightly more than in 2013 (10.2%) and 2012 (9.0%). Turkey Breeder holdings made up just 0.9% of total holdings sampled in the EU in 2014, which was similar to 2013 (0.7%) and 2012 (0.8%).

- Fattening Turkey holdings were sampled in 24 MS, plus Switzerland. This compares to 23 MS, plus Switzerland, in 2013, and 22 MS, plus Switzerland, in 2012. The number of holdings sampled varied from one holding (BG and LT) to 1,406 (IT). A total of 14 MS

sampled Turkey Breeder holdings, compared to 13 MS in 2013 and 12 MS in 2012. The number of holdings sampled varied from one holding (BG, CZ, DE, EL, HR and UK) to 68 (IT).

- In 2014, no Turkey (Fattening or Breeder) holdings were found to be seropositive for influenza A virus subtypes H5 or H7. However, five Fattening Turkey holdings were found to be seropositive for influenza A virus subtype H9 and a further four were seropositive for influenza A virus of undetermined subtype (all from DE). In 2013, no positive Turkey (Fattening or Breeder) holdings were detected, while in 2012, one Fattening Turkey holding from the Netherlands was seropositive (and PCR positive) for influenza A virus subtype H5 and one Fattening Turkey holding from Germany was seropositive (and PCR/virus isolation positive) for influenza A virus subtype H9.

3.1.3.5 Fattening Ducks and Breeder Ducks

- Overall, Duck holdings (Fattening and Breeder combined) made up 5.0% of the total holdings sampled in the EU in 2014. Fattening Duck holdings made up 3.7% of those sampled, which compares to 3.2% in 2013 and 2.9% in 2012. Breeder Ducks made up 1.3% of the total holdings sampled, compared to 0.9% in 2013 and 0.8% in 2012.

- Fattening Duck holdings were sampled in 20 MS, which was the same as in 2013 and 2012. The number of holdings sampled varied from two holdings (IE and SE) to 118 (DE). A total of 12 MS sampled Breeder Duck holdings, compared to 10 MS in 2013 and 13 MS in 2012. The number of holdings sampled varied from one holding (DK and SK) to 68 (NL).

- Overall, 18 Duck holdings were found to be seropositive for influenza A virus subtype H5 in 2014. This accounted for 41.9% (18/43) of all the H5/H7 seropositive holdings reported to the survey in 2014 and 47.4% (18/38) of the H5 seropositive holdings. Of the 18 H5 seropositive holdings, 11 were Fattening Duck holdings (one was also PCR positive for H5) and seven were Breeder Duck holdings. In addition, a further three Fattening Duck holdings were seropositive and PCR positive for influenza A virus of undetermined subtype. In comparison in 2013 and 2012, more Duck holdings were found to be seropositive for influenza A virus subtype H5. In 2013, 35 Duck holdings were found seropositive for H5, including eight H5 seropositive Fattening Duck holdings, and 27 H5 seropositive Breeder Duck holdings. In 2012, 28 Duck holdings were seropositive for H5, including seven H5 seropositive Fattening Duck holdings, and 21 H5 seropositive Breeder Duck holdings.

- Overall, Duck holdings found to be seropositive for influenza A virus subtype H5 were reported from four MS in 2014; Belgium, Germany and the Netherlands in Fattening Ducks, and France in both Fattening Ducks and Breeder Ducks. In addition, three Fattening Duck holdings from Spain were seropositive and PCR positive for influenza A virus of undetermined subtype. In 2013 and 2012, four MS (BE, FR, IE and UK) and three MS (BE, FR and UK) respectively, reported H5 seropositive holdings from Ducks.

3.1.3.6 Fattening Geese and Breeder Geese

- Overall, Geese holdings (Fattening and Breeder combined) made up 2.9% of the total holdings sampled in the EU in 2014. Fattening Geese holdings made up 1.9% of those sampled, which is comparable to 1.3% in 2013 and 1.2% in 2012. Breeder Geese made up 1.0% of the total holdings sampled, compared to 0.7% in 2013 and 0.5% in 2012.

- Fattening Geese were sampled in 13 MS, which compares to 12 MS in 2013 and 11 MS in 2012. The number of holdings sampled varied from one holding (EE) to 94 (PL). A total of nine MS sampled Breeder Geese holdings, compared to eight in 2013 and nine in 2012. The number of holdings sampled varied from one holding (IE) to 85 (PL).

- Overall, 12 Geese holdings were found to be seropositive for influenza A virus subtypes of H5 or H7, including two H5 seropositive Fattening Geese holdings, and nine H5 and one H7 seropositive Breeder Geese holdings. The detection rate in Breeder Geese (10 H5/H7 seropositive holdings/208 sampled, 4.8%) was the highest of the poultry categories surveyed in 2014, and was higher than the detection rate in Breeder Ducks in 2014 (7 H5/H7 seropositive holdings/253 sampled, 2.8%), which previously had the highest detection rates in the 2013 (27 H5/H7 seropositive holdings/233 sampled, 11.6%) and 2012 surveys (21 H5/H7 seropositive holdings/247 sampled, 8.5%). In 2013, six Geese holdings were found to be seropositive for influenza A virus subtype H5, including one Fattening Geese holding and five Breeder Geese holdings. In 2012, five Geese holdings were seropositive for influenza A virus subtypes H5 or H7, including one H5 seropositive Fattening Geese holding, and three H5 and one H7 seropositive Breeder Geese holdings.

- Three MS detected H5 or H7 seropositive Geese holdings in 2014; Finland in Fattening Geese, and France and Poland in Breeder Geese. In 2013 and 2012, three MS (FI, FR and PL) and four MS (CZ, FI, FR and PL) respectively, reported H5 or H7 seropositive holdings from Geese.

3.1.3.7 Backyard Flocks

- Backyard Flocks is the largest poultry category reported to the EU with 569,768 holdings reported in regions where sampling took place (71.9% of EU total), most of which (96.7%) were reported in Bulgaria, Germany, Hungary and Portugal. Backyard Flocks made up 13.7% of total holdings sampled in the EU in 2014, compared to 14.2% in 2013 (14.2%) and 19.4% in 2012.

- Backyard Flocks were sampled in 13 MS, which compares to 14 MS in 2013 and 12 MS in 2012. The number of holdings sampled varied from four holdings (LU) to 1,016 (RO). Three MS sampled the majority of Backyard Flock holdings, Romania (1,016, 37.4%), Italy (624, 22.9%) and Hungary (498, 18.3%). These MS also sampled a high proportion of the Backyard Flocks in previous years (although overall fewer holdings were sampled in 2014). In addition, Spain also used to sample a high number of Backyard Flocks. For example, in 2009 and 2010, Spain sampled 3,336 and 2,337 Backyard Flock holdings respectively, but this dropped to 301 in 2011, 64 in 2012, and just 21 in 2013 and 27 in 2014, reflecting the revision of the guidelines (EC 2010).

- In 2014, no positive Backyard Flock holdings were detected, unlike in 2013 and 2012. In 2013, three Backyard Flock holdings from Italy were seropositive for influenza A virus subtype H5 (two of these were also H5 PCR positive). In addition, another Backyard Flock holding from Italy was PCR (only) positive for the H5 subtype (serology negative/virus isolation not performed). A further Backyard Flock holding from Portugal tested PCR (only) positive for influenza A virus subtype H7 (serology/virus isolation negative). In 2012, one Backyard Flock holding from Italy was seropositive for influenza A virus subtype H5.

3.1.3.8 Farmed Game Birds (gallinaceous and waterfowl)

- In 2013 the Farmed Game Bird category was split into Farmed Game Birds (gallinaceous) and Farmed Game Birds (waterfowl), while in previous survey years it was reported as one combined category.

- Overall, Farmed Game Birds (gallinaceous and waterfowl) made up 6.2% of the total holdings sampled in the EU in 2014. Farmed Game Birds (gallinaceous) made up 5.0% of those sampled, which compares to 4.1% in 2013. Farmed Game Birds (waterfowl) made up 1.2% of the total holdings sampled, compared to 1.0% in 2013.

- Farmed Game Bird (gallinaceous) holdings were sampled in 20 MS, which compares to 21 MS in 2013. The number of holdings sampled varied from two holdings (DE) to 318 (IT). A total of 12 MS sampled Farmed Game Bird (waterfowl) (all of which also sampled gallinaceous holdings), compared to ten MS in 2013. The number of holdings sampled varied from one holding (SI) to 147 (ES).

- In 2014, no positive Farmed Game Bird (gallinaceous and waterfowl) holdings were detected, unlike in 2013 and 2012. In 2013, two Farmed Game Bird (waterfowl; duck) holdings, from two MS (SE and UK), were seropositive for influenza A virus subtype H5 (one was also PCR positive for influenza A virus). In 2012, one Farmed Game Bird holding, from the UK, was seropositive for influenza A virus subtypes H5 and H7.

3.1.3.9 Ratites

- Ratite holdings made up just 0.7% of total holdings sampled in the EU in 2014, which was the same in 2013 and 2012.

- Ratite holdings were sampled in 13 MS, which compares to 14 MS in 2013 and 15 MS in 2012. The number of holdings sampled varied from one holding (EL) to 38 (ES), although the majority of MS (9/13) sampled less than ten holdings. As in 2013 and 2012, three MS sampled the majority of Ratite holdings; Spain (38/145, 26.2%), Poland (33/145, 22.8%) and Italy (28/145, 19.3%).

- In 2014, one Ratite holding from PL was seropositive for influenza A virus subtype H5. In comparison in 2013, one Ratite holding from DE was seropositive (and PCR positive) for influenza A subtype H5, while in 2012 no positive Ratite holdings were reported to the survey.

3.1.3.10 Others

- Others holdings made up 7.7% of total holdings sampled in the EU in 2014, which compares to 6.0% in 2013 and 6.7% in 2012.

- Others holdings were sampled in ten MS in 2014, which is slightly more than in 2013 and 2012, when seven MS sampled Others holdings. The number of holdings sampled varied from one holding (HR and PT) to 984 (IT). As in 2013 and 2012, Italy sampled the majority of Others holdings (984/1521, 64.7%).

- In 2014, two Others (grower) holdings were seropositive and PCR positive for influenza A virus subtype H7. In addition, one Others (grower) holding was PCR (only) positive for influenza A virus subtype H5 (serology/virus isolation negative). In comparison, in 2013, seven Others holdings were seropositive for influenza A virus subtype H5 (three were also virologically positive for H5) and one was seropositive for influenza A virus subtype H9. In 2012, no H5/H7 seropositives were detected in Others holdings, although one Others holding was PCR and virus isolation positive (serology not performed) for influenza A virus subtype H5.

- In 2014 all the positive Others holdings were detected from Italy; this included the two seropositive and PCR positive H7 holdings and the H5 PCR (only) positive holding. In 2013 seropositive Others holdings were detected in Germany (H5 and H9) and Italy (H5), while in 2012 a PCR and virus isolation positive (serology not performed) H5 holding was reported from Italy.

3.1.3.11 Summary

- The most frequently sampled poultry category was Laying Hens (conventional and free-range), making up 29.4% of the total holdings sampled by EU MS in 2014, followed by Chicken Breeders (15.9%) and Backyard Flocks (13.7%). This was the same in 2013, while in 2012 Laying Hens (conventional and free-range) was the most sampled poultry category, followed by Backyard Flocks, and then Chicken Breeders.

- In 2014, there was an increase in the number of holdings sampled from Breeder Ducks (+8.6%), Fattening Geese (+10.1%), Breeder Geese (+18.9%) and Others (+0.5%), compared to 2013, while all other poultry categories saw a decrease in the number of holdings sampled in 2014. Overall there was a 21.4% decrease in the number of holdings sampled in 2014 compared to 2013.

- In 2014, the poultry category with the highest number of holdings positive for the H5 subtype by serology was Fattening Ducks (11/38, 28.9%), followed by Breeder Geese (9/38, 23.7), and Breeder Ducks (7/38, 18.4%). Interestingly fewer H5 seropositive holdings were detected in Breeder Ducks, compared to other survey years. For example, in 2013, the highest number of holdings positive for the H5 subtype by serology were detected in Breeder Ducks (27/57, 47.4%), followed by Fattening Ducks (8/57, 14.0%), and Others (7/57, 12.3%). In 2012, the highest number of holdings positive for H5 subtypes by serology was also Breeder Ducks (21/40, 52.5%), followed by Fattening Ducks (7/40, 17.5%), and Conventional Laying Hens (4/40, 10%).

- In 2014, the poultry categories with the highest number of holdings positive for the H7 subtype by serology were Conventional Laying Hens (2/5, 40.0%) and Others (2/5, 40.0%), followed by Breeder Geese (1/5, 20.0%). In comparison, in 2013, the poultry category with the highest number of holdings positive for the H7 subtype by serology were Free-range Laying Hens (4/6, 66.7%), followed by Chicken Breeders (1/6, 16.7%) and Conventional Laying Hens (1/6, 16.7%). In 2012, one H7 seropositive holding was detected in each of the Free-range Laying Hen, Breeder Geese, Backyard Flocks and Farmed Game Birds categories.

- In addition in 2014, one Conventional Laying Hen holding was seropositive for influenza A virus of undetermined subtype; five Fattening Turkey holdings were seropositive for influenza A virus subtype H9 and a further four Fattening Turkey holdings were seropositive for influenza A virus of undetermined subtype; three Fattening Duck holdings were seropositive and PCR positive for influenza A virus of undetermined subtype; and one Others holding was PCR (only) positive for influenza A virus subtype H5 (serology/virus isolation negative).

Table 6a Total number of H5 seropositive and sampled holdings reported to the survey in 2014 and 2013 by poultry category

Poultry category	2014 Seropositive / sampled	2013 Seropositive / sampled
Chicken Breeders	2 / 3,154[1]	0 / 5,524
Conventional Laying Hens and Free-range Laying Hens	6 / 5,832[2]	3 / 7,592
Broilers (at heightened risk)	0 / 1,052	0 / 1,235
Fattening Turkeys and Turkey Breeders	0 / 2,584[3]	0 / 2,759
Fattening and Breeder Ducks	18 / 990[4]	35 / 1,033
Fattening and Breeder Geese	11 / 579	6 / 512
Backyard Flocks	0 / 2,719	3 / 3,578
Farmed Game Birds (gallinaceous and waterfowl)	0 / 1,237	2 / 1,296
Ratites	1 / 145	1 / 177
Others	0 / 1,521[5]	7 / 1,514
EU Total	38 / 19,813	57 / 25,220

2014 notes on virological data and subtypes other than H5 or H7 (not shown in table)

[1]CB: The two H5 seropositive holdings were also PCR/VI positive for H5.

[2]LH/FR LH: Two LH and two FR LH H5 seropositive holdings were also PCR/VI positive for H5. In addition, one LH holding was serologically positive for influenza A virus (PCR negative/VI not performed).

[3]FT: Five holdings were serologically positive for H9 (PCR/VI not performed). In addition, four holdings were serologically positive for influenza A virus (PCR/VI not performed).

[4]FD: One H5 seropositive holding was also PCR/VI positive for H5. In addition, three holdings were seropositive and PCR positive for influenza A virus (VI negative).

[5]O: One holding was PCR (only) positive for H5 (serology/VI negative).

Table 6b Total number of H7 seropositive and sampled holdings reported to the survey in 2014 and 2013 by poultry category

Poultry category	2014 Seropositive / sampled	2013 Seropositive / sampled
Chicken Breeders	0 / 3,154	1 / 5,524
Conventional Laying Hens and Free-range Laying Hens	2 / 5,832[1]	5 / 7,592
Broilers (at heightened risk)	0 / 1,052	0 / 1,235
Fattening Turkeys and Turkey Breeders	0 / 2,584[2]	0 / 2,759
Fattening and Breeder Ducks	0 / 990[3]	0 / 1,033
Fattening and Breeder Geese	1 / 579	0 / 512
Backyard Flocks	0 / 2,719	0 / 3,578
Farmed Game Birds (gallinaceous and waterfowl)	0 / 1,237	0 / 1,296
Ratites	0 / 145	0 / 177
Others	2 / 1,521[4]	0 / 1,514
EU Total	5 / 19,813	6 / 25,220

2014 notes on virological data and subtypes other than H5 or H7 (not shown in table)

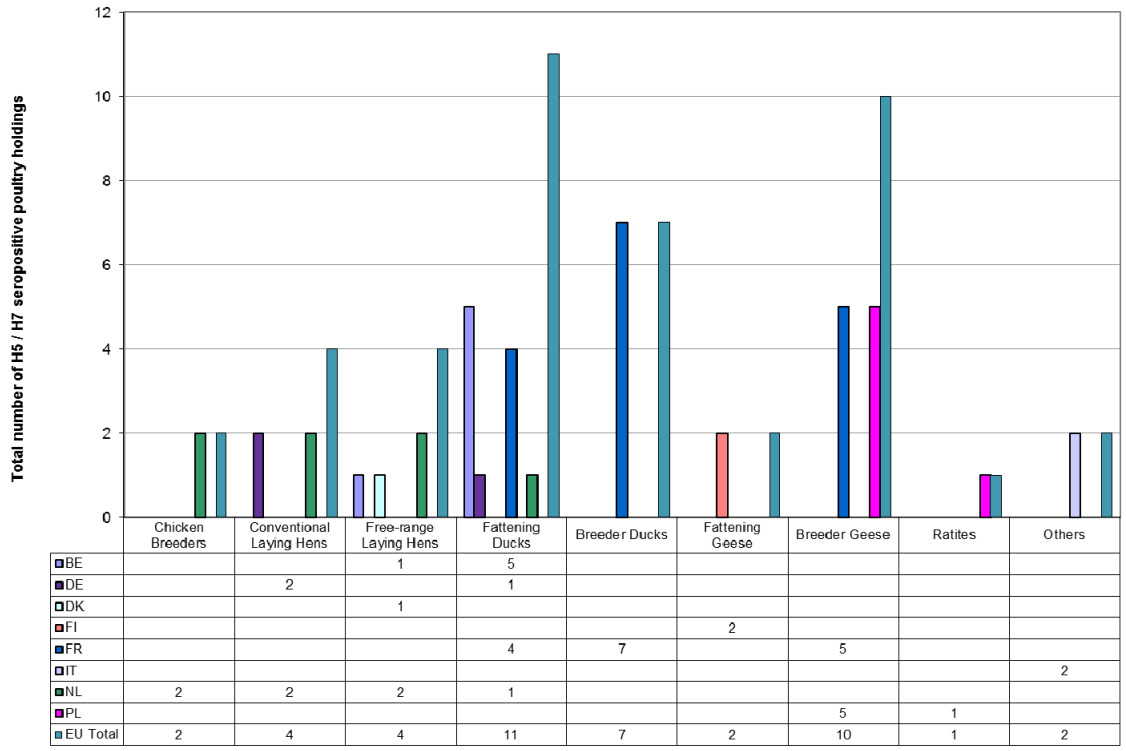
[1]LH: One holding was serologically positive for influenza A virus (PCR negative/VI not performed).

[2]FT: Five holdings were serologically positive for H9 (PCR/VI not performed). In addition, four holdings were serologically positive for influenza A virus (PCR/VI not performed).

[3]FD: Three holdings were seropositive and PCR positive for influenza A virus (VI negative).

[4]O: The two H7 seropositive holdings were also PCR positive for H7 (one was VI negative and the other was VI not performed).

Figure 5 Total number of poultry holdings found serologically positive for influenza A virus subtypes H5 and H7 by poultry category across Member States reported to the survey in 2014



	Chicken Breeders	Conventional Laying Hens	Free-range Laying Hens	Fattening Ducks	Breeder Ducks	Fattening Geese	Breeder Geese	Ratites	Others
BE			1	5					
DE		2		1					
DK			1						
FI						2			
FR				4	7		5		
IT									2
NL	2	2	2	1					
PL							5	1	
EU Total	2	4	4	11	7	2	10	1	2

Table 7 Total number of poultry holdings sampled and those found H5 or H7 seropositive by poultry category across Member States reported to the survey in 2014

The number of seropositive poultry holdings is displayed in parentheses.

Member States	Chicken Breeders	Conventional Laying Hens	Free-range Laying Hens	Broilers (at heightened risk)	Fattening Turkeys	Turkey Breeders	Fattening Ducks	Breeder Ducks	Fattening Geese	Breeder Geese	Backyard Flocks	Farmed Game Birds (gallinaceous)	Farmed Game Birds (waterfowl)	Ratites	Others	Total
AT	23	62	63		57		26		59					16		306
BE	194	207	189 (1)		54		26 (5)			2		20			7	699
BG	6	50		1	1	1	52				102	4			31	248
CY	11	22	25	4	5						20	5				92
CZ		53	7		42	1	32	21	3	7		31	11			208
DE	1	186 (2)	4	7	138	1	118 (1)		37		21	2	3	4	245	767
DK	470	31	170 (1)	18	27		9	1	3			74	14			817
EE	1	15							1							17
EL	53	50	25	37	26	1						14		1	61	268
ES	98	63	63		65	10	40		10		27	252	147	38	104	917
FI	39	61	33		31	6	4		2 (2)			11	3	3		193
FR	60	44	63	83	58	50	65 (4)	50 (7)		36 (5)	44	50	14	2	65	684
HR	22	47	3		16	1	17	7		9	41	8	2		1	174
HU	56	63	7		59	23	79	28	80	46	498	35	11	4		989
IE	111	112	12	39	55		2	2		1						334
IT	392	1,573	193		1,406	68	98	16	22	11	624	318		28	984 (2)	5,733
LT		15			1										22	38
LU		4	4	4							4			2		18
LV	1	34									167					202
MT		35														35
NL	1,371 (2)	847 (2)	756 (2)	776	75		41 (1)	68								3,934
PL	62	70	43		55	11	73	34	94	85 (4) 85 (1)		37		33 (1)		597
PT	52	55	16	64	62		13	2			63	43	2	4	1	377
RO	69	180		7	23		4				1,016	17				1,316
SE	33	58	23	12	16	2	2		9			12	5	3		175
SI	8	59			43						92	5	1			208
SK	10	53			4	6	5	1	4			18		7		108
UK	11	84			83	1	31	23	47	11		43	25			359
EU Total	3,154	4,133	1,699	1,052	2,402	182	737	253	371	208	2,719	999	238	145	1,521	19,813
Total H5/H7 seropositive holdings	2	4	4	0	0	0	11	7	2	10	0	0	0	1	2	43
% positive	0.06%	0.10%	0.24%	0%	0%	0%	1.49%	2.77%	0.54%	4.81%	0%	0%	0%	0.69%	0.13%	0.22%
CH			79		22											101

Seropositive H5 Seropositive H7

Notes on virological data and subtypes other than H5 or H7 (not shown in table)

DE: Five Fattening Turkey holdings were serologically positive for H9 (PCR/VI not performed). In addition, four Fattening Turkey holdings were serologically positive for influenza A virus (PCR/VI not performed).

EL: One Conventional Laying Hen holding was serologically positive for influenza A virus (PCR negative/VI not performed).

ES: Three Fattening Duck holdings were seropositive and PCR positive for influenza A virus (VI negative).

IT: The two H7 seropositive Others holdings were also PCR positive for H7 (one was VI negative and the other was VI not performed). In addition, one Others holding was PCR (only) positive for H5 (serology/VI negative).

NL: The H5 seropositive Chicken Breeder, Conventional Laying Hen, Free-range Laying Hen and Fattening Duck holdings were also PCR/VI positive for H5.

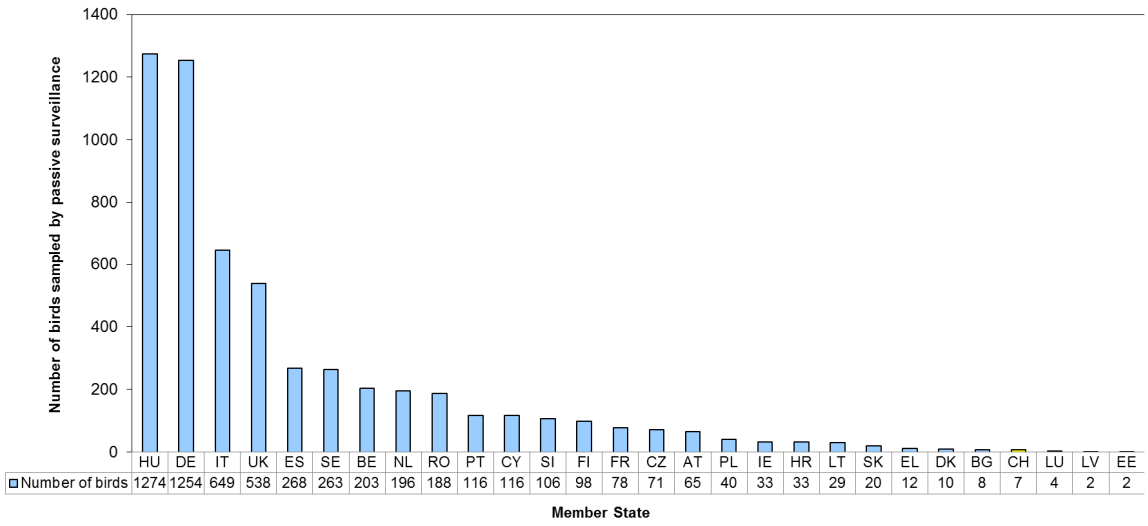
3.2 Wild Birds

3.2.1 Sampling by passive surveillance

3.2.1.1 Overview

Birds sampled by passive surveillance were reported as “found dead”, “injured” or “live with clinical signs". During 2014, 5,683 birds were sampled by passive surveillance. This includes 5,676 birds sampled by EU Member States (MS) as well as 7 birds sampled by Switzerland, the one contributing non-MS, Figure 6. Detailed information regarding the number of birds sampled by MS in each quarter is displayed in Annex 3 (section 7.2.1.3). In total 27 EU MSs submitted passive surveillance data for analysis in 2014. Malta did not submit passive surveillance data in 2014. The Member State with the highest number of birds tested by passive surveillance in 2014 was Hungary (n=1,274) and the next highest passive surveillance programme was carried out by Germany (n=1,254), which together contribute to 44.5% of the whole EU passive surveillance effort. Fifteen MS and Switzerland each sampled fewer than 100 dead or moribund birds throughout the year.

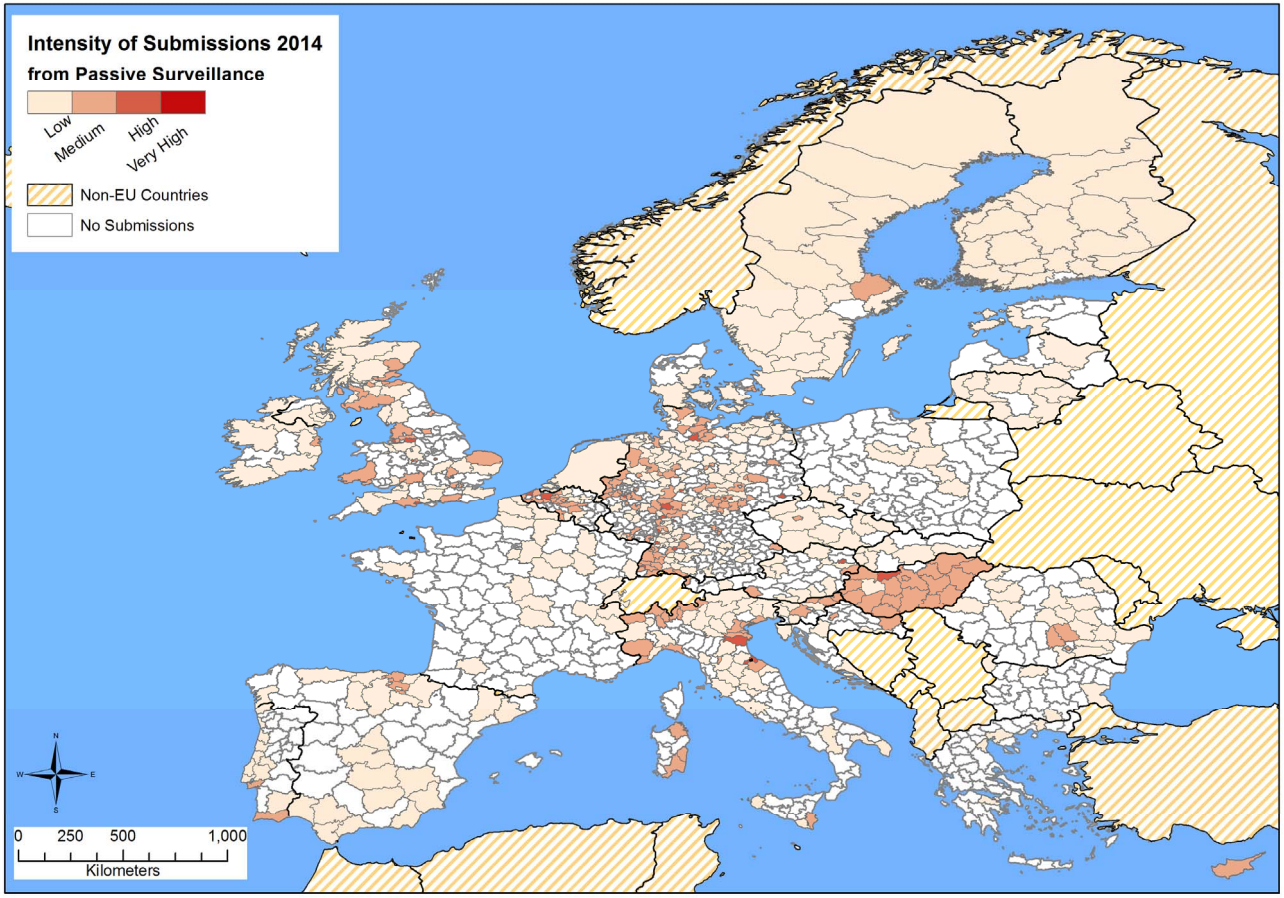
Figure 6 Total number of birds sampled by passive surveillance in 2014 by Member States – Non-MS data included



3.2.1.2 Geographical targeting

Figure 7 Map of the intensity of sampling by passive surveillance across Member States in 2014 – EU-data only

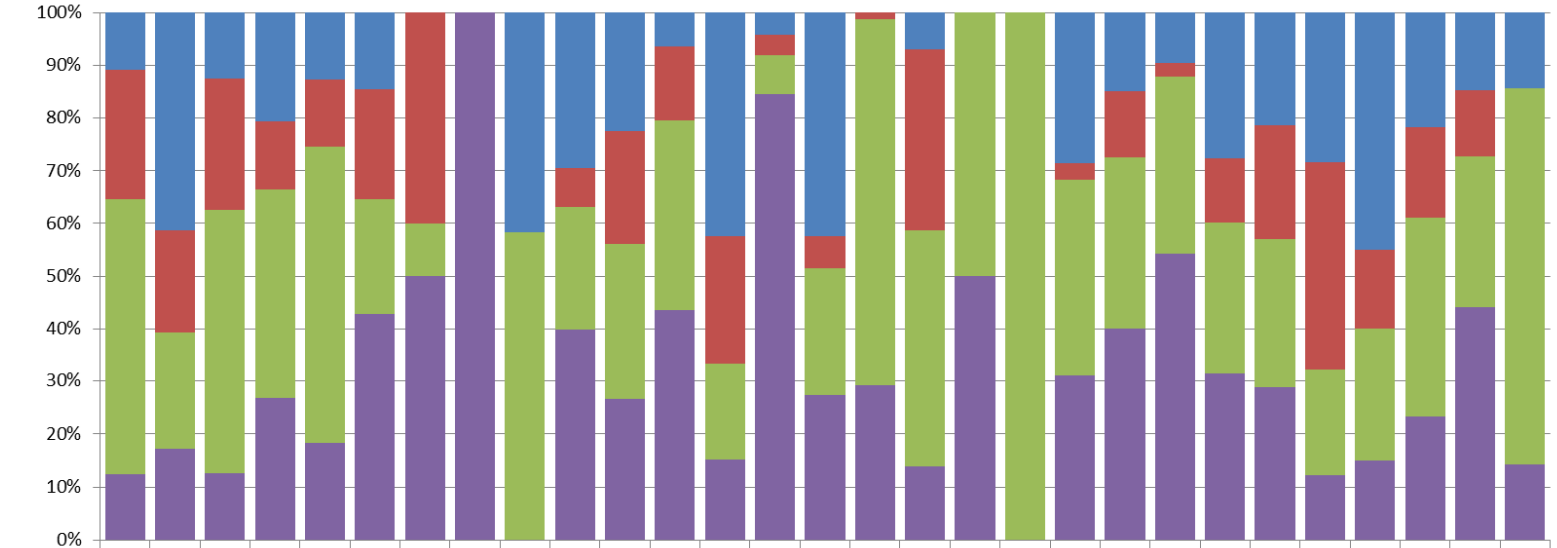
The classification of sampling intensity is grouped by number of submissions per 100 square kilometres.
Low: >0 and ≤25, Medium: >25 and ≤250, High: >250 and ≤2500, Very High: >2500



3.2.1.3 Seasonal targeting

Figure 8 displays the percentage of birds sampled by MSs in each quarter. For the EU overall, comprising data for all 27 MS submitting passive surveillance data, more surveillance was conducted in the winter months (1st and 4th quarters, 58.9%), than in the summer months (2nd and 3rd quarters, 41.1%). Temporal targeting of sampling varied greatly among MS. Some MS carried out the majority of their sampling in a single quarter; most notably Hungary conducted 84.5% of their passive surveillance in the 4th quarter (Oct-Dec). Estonia and Latvia conducted all of their passive surveillance in the fourth and third quarters respectively, however both member states submitted fewer than 10 birds. Other MS focused their surveillance efforts in the summer months (Apr-Sep), such as Austria (76.9%), Italy (70.7%) and Lithuania (79.3%), or in the winter months (Oct-Mar), such as Portugal (68.3%), Slovakia (60.0%) and Spain (69.4%). In other cases, the surveillance was relatively evenly distributed throughout the year, as was the case for Finland and Sweden (Figure 8).

Figure 8 Proportion of all birds sampled by passive surveillance in 2014, by quarter and MS. Raw numbers of birds sampled by quarter and MS are shown in the table below – Non-MS data included



	AT	BE	BG	CY	CZ	DE	DK	EE	EL	ES	FI	FR	HR	HU	IE	IT	LT	LU	LV	NL	PL	PT	RO	SE	SI	SK	UK	EU	CH
Jan-Mar	7	84	1	24	9	183	0	0	5	79	22	5	14	53	14	0	2	0	0	56	6	11	52	56	30	9	117	839	1
Apr-Jun	16	39	2	15	9	260	4	0	0	20	21	11	8	50	2	8	10	0	0	6	5	3	23	57	42	3	92	706	0
Jul-Sep	34	45	4	46	40	273	1	0	7	62	29	28	6	95	8	451	13	2	2	73	13	39	54	74	21	5	204	1629	5
Oct-Dec	8	35	1	31	13	538	5	2	0	107	26	34	5	1076	9	190	4	2	0	61	16	63	59	76	13	3	125	2502	1

Figure 9 Proportion of birds sampled by passive surveillance in each quarter of 2014 for Member States – EU-data only

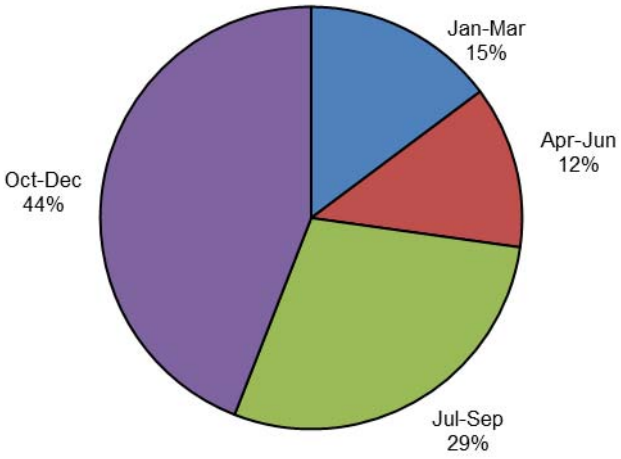
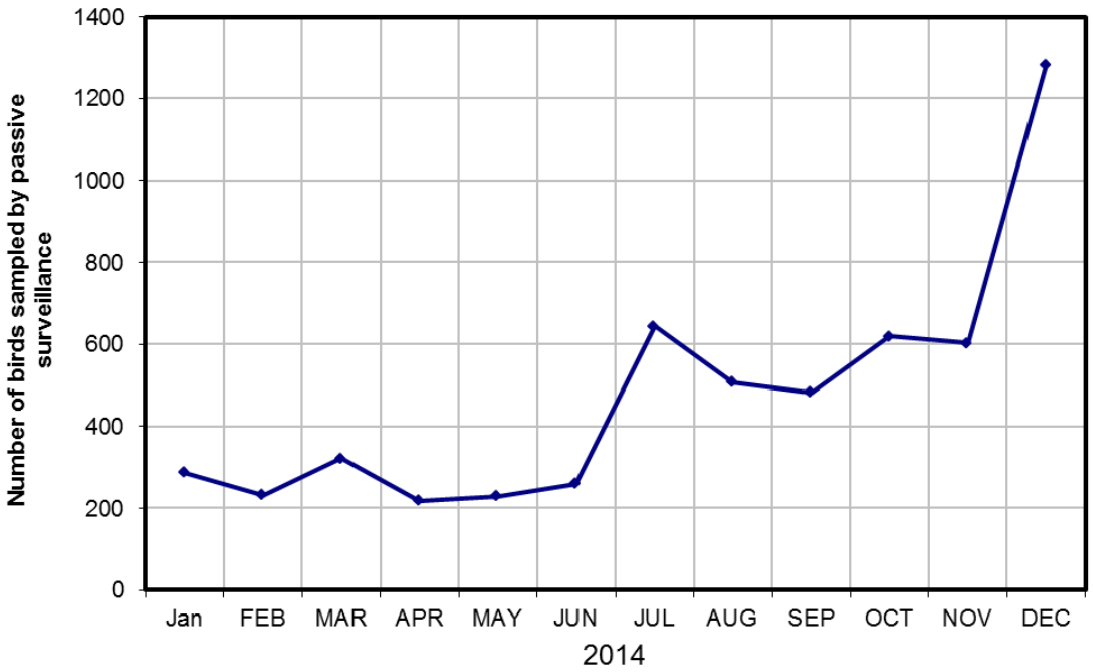


Figure 10 Temporal distribution of the total number of birds sampled by passive surveillance during 2014 – Non-MS data included



3.2.1.4 Targeting of bird species

In total 5,676 birds of 22 Orders and at least 253 species were sampled by passive surveillance in 2014, when considering data from MSs only. Table 8 displays the ten most frequently sampled Orders. As in 2006-2013, the Order in which most birds were sampled by passive surveillance was Anseriformes (ducks, geese and swans). In 2014, Passeriformes and Falconiformes were the second and third most commonly sampled Orders, respectively. This is similar to previous years, where Passeriformes and Falconiformes have been in the top five most commonly sampled Orders since 2006.

Table 9 displays the top 15 species sampled by passive surveillance in 2014. The species was reported as unknown for 31 (0.5%) of the 5,676 birds sampled, a comparable level to 2013 (n=42, 0.7%). In 2014, Mallards (*Anas platyrhynchos*) (n=785), Common Pheasants (*Phasianus colchicus*) (n=496) and Mute Swans (*Cygnus olor*) (n=274) were the most frequently sampled species, as was the case in both 2012 and 2013. Six of the 12 most frequently sampled species in 2014 (excluding genus aggregates) were classed as Target Species (TS). Table 9 also indicates that the top 15 species account for over half of all birds tested by passive surveillance in 2014 (n=3,002/5,683, 52.8%).

Table 8 Wild bird Orders most frequently sampled in 2014 – Non-MS data included

Order	Number sampled
Anseriformes	1,684
Passeriformes	1,027
Falconiformes	601
Galliformes	559
Charadriiformes	534
Columbiformes	518
Strigiformes	200
Ciconiiformes	181
Gruiformes	143
Pelecaniformes	74
Total (Top 10 Orders only)	**5,521**

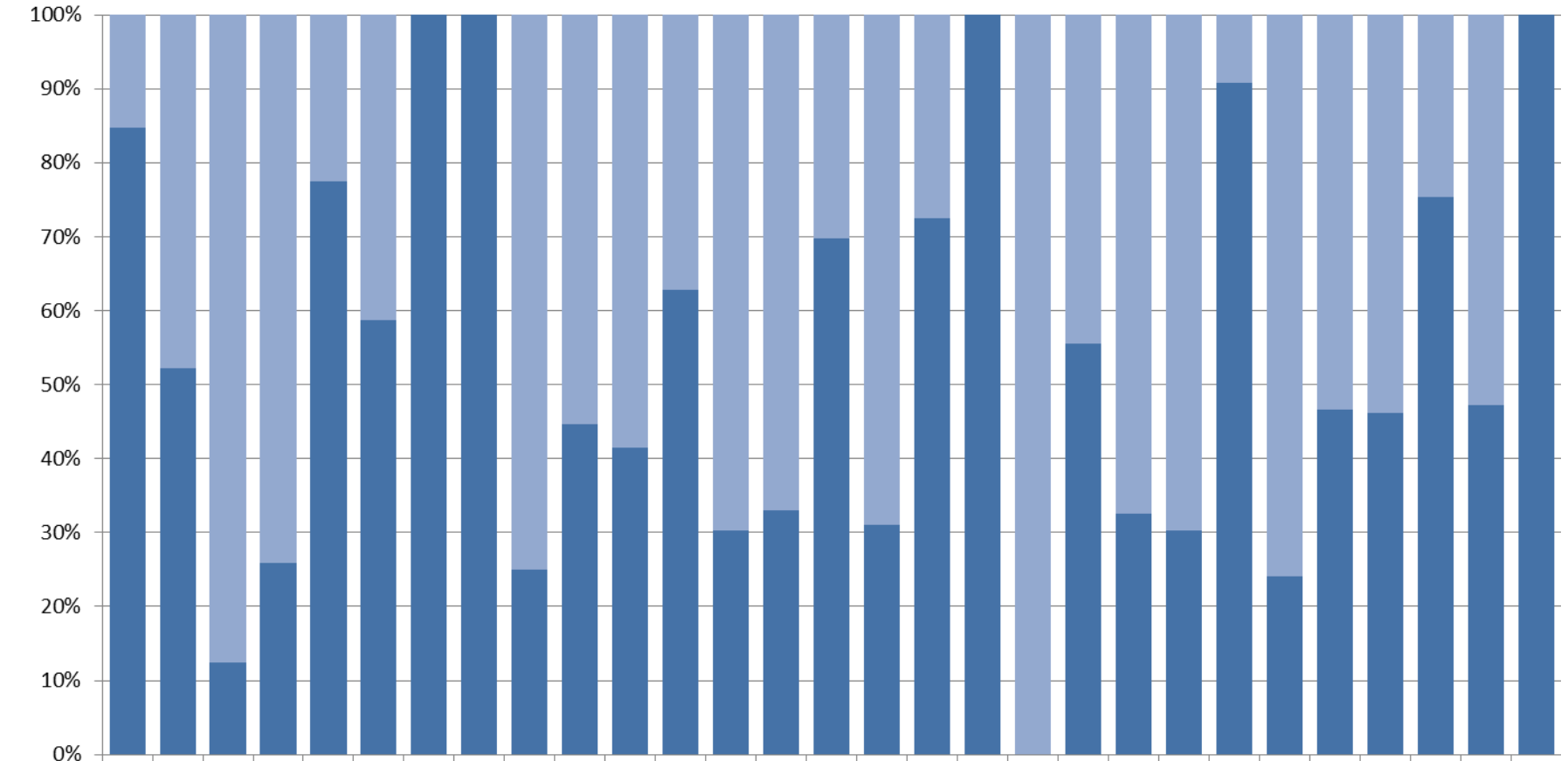
Table 9 Wild bird species most frequently sampled in 2014 – Non-MS data included

Species	Number sampled
Anas platyrhynchos	**785**
Phasianus colchicus	496
Cygnus olor	**274**
Columba livia	147
Buteo buteo	**142**
Larus argentatus	139
Columba sp.	138
Turdus merula	118
Pica pica	**117**
Cygnus sp.	**117**
Anas sp.	111
Falco tinnunculus	**111**
Streptopelia decaocto	106
Garrulus glandarius	104
Cygnus cygnus	**97**
Total (top 15 species only)	**3,002**

Target species indicated with bold text.

Figure 11 Proportion of TS and non-TS sampled by passive surveillance in 2014, by Member State – Non-MS data included

Raw numbers of birds sampled in each category are shown in the table below. Figure 11 includes birds identified at species level only (figure excludes birds identified to the genus or family level).



	AT	BE	BG	CY	CZ	DE	DK	EE	EL	ES	FI	FR	HR	HU	IE	IT	LT	LU	LV	NL	PL	PT	RO	SE	SI	SK	UK	EU	CH
non-TS	9	97	7	83	16	401	0	0	9	125	58	29	23	853	10	423	8	0	1	80	27	78	16	198	56	7	107	2721	0
TS	50	106	1	29	55	570	10	2	3	101	41	49	10	421	23	191	21	2	0	100	13	34	158	63	49	6	327	2435	7

When considering the EU data only, 47.2% of birds sampled by passive surveillance and identified to species level in 2014 were from the target species list.

3.2.2 H5 Highly Pathogenic Avian Influenza Positives

3.2.2.1 Overview of HPAI results

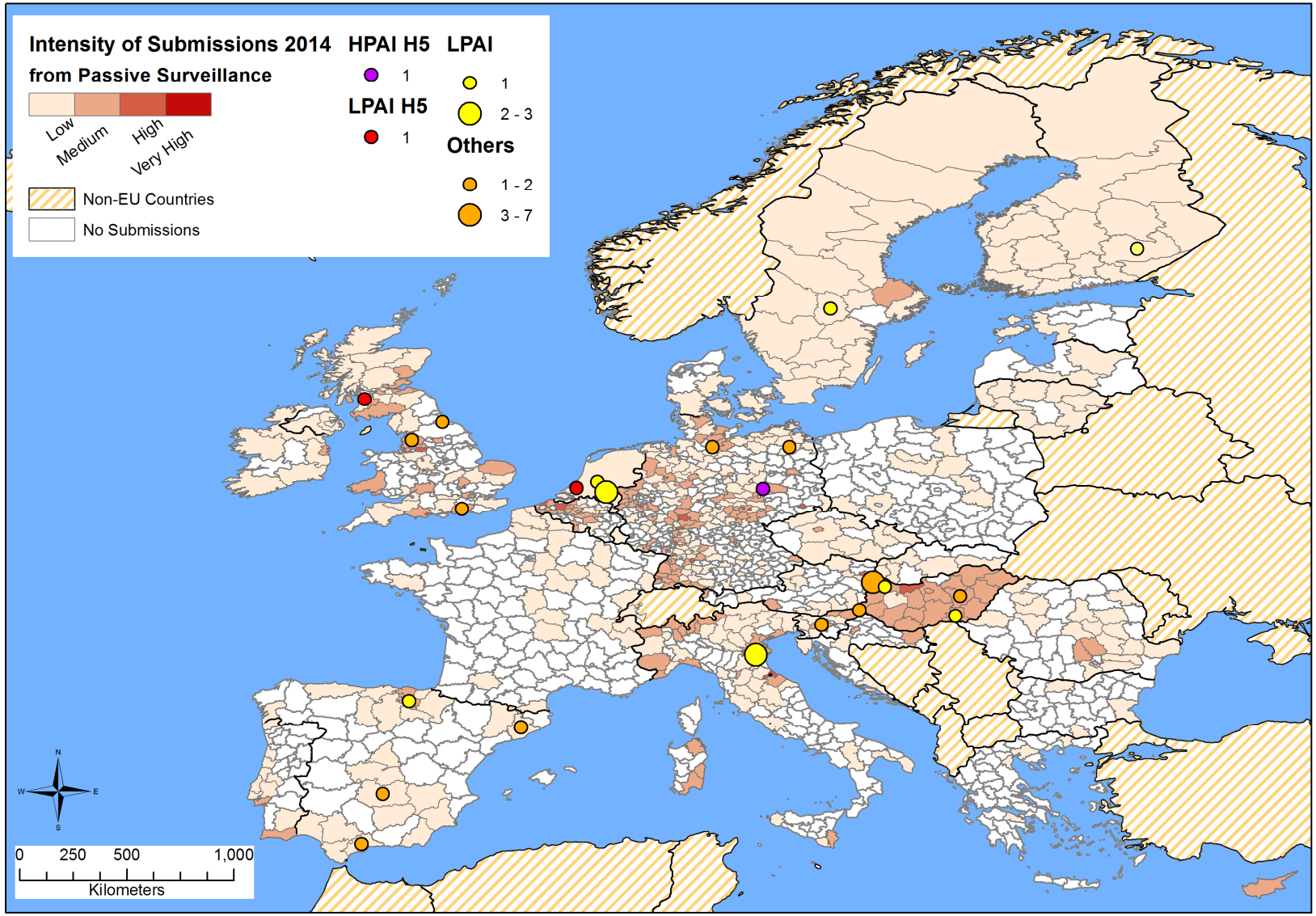
In December 2014, highly pathogenic avian influenza (HPAI) of subtype H5N8, was reported by passive surveillance in one Mallard (*Anas platyrhynchos*) 'found dead' in Germany. This was the first detection of H5N8 HPAI clade 2.3.4.4 reported via passive surveillance in a wild bird in Europe. The situation in 2014 is in contrast to 2011-2013 when no HPAI was reported in wild birds in the EU. In 2010 HPAI H5N1 (clade 2.3) was detected by passive surveillance in a Common Buzzard 'found dead' in Bulgaria. In winter 2014, three additional H5N8 HPAI detections were made by active surveillance in Germany; see Annex 4 (section 7.2.2) for more details on 2014 active surveillance data.

3.2.2.2 Geographical distribution of HPAI results

Figure 12 displays the location of the H5N8 HPAI detection in a wild bird in Germany. Germany sampled 1,254 wild birds by passive surveillance in 2014. The map also shows the location of H5 LPAI and other LPAI findings in wild birds, discussed in section 3.2.3.1 (Geographical distribution of LPAI results).

Figure 12 Intensity of sample submission from passive surveillance and distribution of H5N8 HPAI incident and H5 LPAI detections in wild birds in EU MS in 2014 – EU-data only.

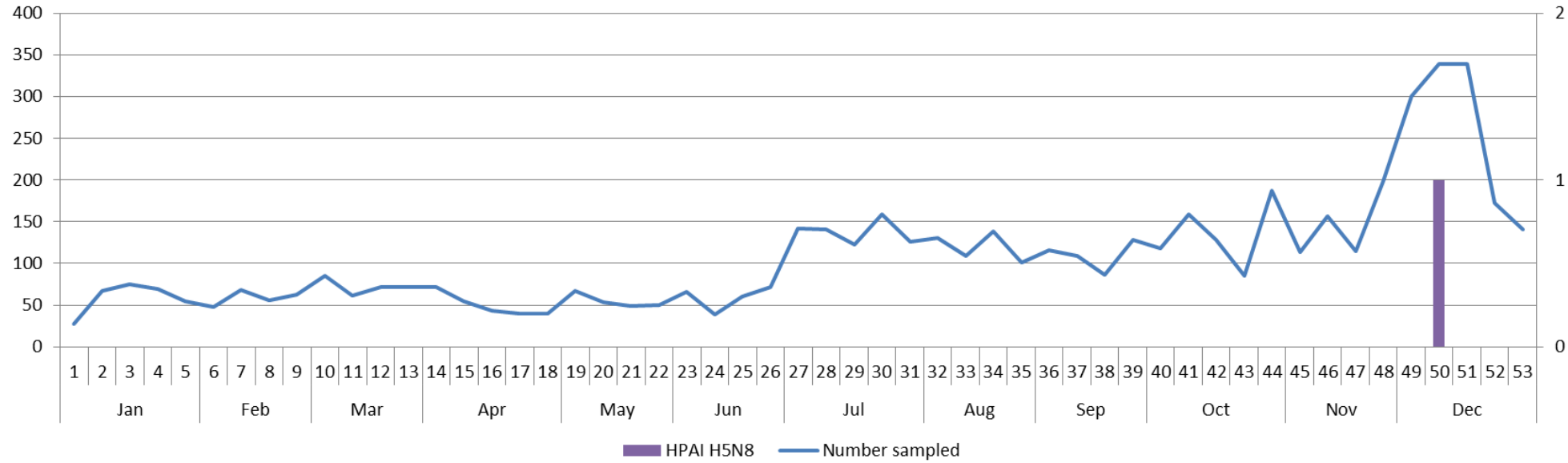
The classification of sampling intensity is grouped by number of submissions per 100 square kilometres.
Low: >0 and ≤25, Medium: >25 and ≤250, High: >250 and ≤2500, Very High: >2500



3.2.2.3 Temporal pattern of H5N8 HPAI wild bird incidents

The timing of the H5N8 HPAI incident in a wild bird in Germany is presented in Figure 13, as well as the number of birds tested by passive surveillance by week in the EU in 2014.

Figure 13 Number of H5N8 HPAI incidents in wild birds and number of wild birds sampled by passive surveillance in the EU by week in 2014 – Non-MS data included.



Each week has been assigned to the month in which most days fell.

3.2.2.4 Order and species of birds affected by H5N8 HPAI infections

Table 10 shows the Order of birds in which the H5N8 HPAI case was found in 2014 and the percentage of birds from this Order testing positive. Anseriformes was the only Order in which H5N8 HPAI was detected in the EU in 2014 (including detections made through active surveillance activities, Annex 4, Section 7.2.2).

Table 10 Number of birds tested and number positive for H5N8 HPAI by Order – (Data from EU MS only)

Order	Total number tested	Number positive for H5 HPAI	Percentage of birds testing positive
Anseriformes	1,684	1	0.06%

For passive surveillance, the only species positive for H5N8 HPAI in 2014 was a Mallard (*Anas platyrhynchos*). Table 11 below displays the total number of Mallards reported as tested through passive surveillance activities in the EU in 2014. Overall, 0.13% of Mallards tested positive for H5N8 HPAI. Detailed information regarding the number of birds tested by MS for bird species that tested positive for H5N8 HPAI or LPAI H5 and all target species is displayed in Annex 3, Section 7.2.1.4.

Table 11 Number of birds tested and number positive for H5N8 HPAI by Species – (Data from EU MS only)

Species	Total number tested	Number positive for H5N1 HPAI	Percentage of birds testing positive
Anas platyrhynchos	785	1	0.13%

3.2.3 Low Pathogenicity Avian Influenza Positives

This section describes detections of LPAI detected by passive surveillance, particularly focusing on 'H' subtypes H5 and H7.

As some virus-positive birds were reported with virus pathotype "unknown", "pending", "missing" etc., birds that tested positive on PCR or virus isolation are reported in four groups in this section:

1) 'LPAI H5' are birds positive for LPAI subtype H5.

2) 'LPAI H7' are birds positive for LPAI subtype H7.

3) 'LPAI other' are birds reported as LPAI of other, or unspecified, 'H' subtypes.

4) 'Other Positives' are birds positive for influenza A by PCR or Virus isolation but were not reported as either LPAI or HPAI.

3.2.3.1 Overview of LPAI results

In 2014, 33 birds tested positive for LPAI when considering MSs passive surveillance data. There were no positive birds detected in Switzerland, the only reporting non-MS.

There were two H5 LPAI positives detected by passive surveillance in 2014. One detection was made in in the United Kingdom in a Razorbill (*Alca torda*), whilst the other detection was made in the Netherlands in a Mute Swan (*Cynus olor*). LPAI H7 was not detected by passive surveillance in 2014.

LPAI of other subtypes (LPAI Other) were detected in 11 birds from six MSs; Finland (1), Hungary (2), Italy (2), the Netherlands (4), Spain (1) and the United Kingdom (1). "Other Positives" were detected in 20 birds from six MSs; Austria (7), Germany (2), Hungary (2), Slovenia (2), Spain (3) and the United Kingdom (4).

Table 12 indicates the total number and proportion of wild birds testing positive for LPAI H5, LPAI other and "Other Positives" by Member State, when considering passive surveillance data only. A

very low proportion of birds tested positive for LPAI H5 by passive surveillance in 2014 (0.04%). This is similar to findings in previous years: 2013 (0.05%), 2012 (0.05%), 2011 (0.04%) and 2010 (0.07%).

There have been no, or very low numbers of detections of LPAI H7 by passive surveillance in recent years: 2012-2014 (none), 2011 (0.01%), 2010 (none).

Table 12 Total number and proportion of wild birds testing positive by passive surveillance for LPAI H5, other LPAI subtypes and other positives during 2014 – Non-MS data included

Member State	Number of birds sampled	Number of H5 LPAI detections	LPAI H5 (proportion of total sampled)	Number of LPAI other detections	LPAI other (proportion of total sampled)	Number of "Other positives" detections	"Other positives" (proportion of total sampled)
AT	65	-	-	-	-	7	10.8%
DE	1,254	-	-	-	-	2	0.2%
ES	268	-	-	1	0.4%	3	1.1%
FI	98	-	-	1	1.0%	-	-
HU	1,274	-	-	2	0.2%	2	0.2%
IT	649	-	-	2	0.3%	-	-
NL	196	1	0.5%	4	2.0%	-	-
SE	263	-	-	1	0.4%	-	-
SI	106	-	-	-	-	2	1.9%
UK	538	1	0.2%	-	-	4	0.7%
EU Total	**4,711**	**2**	**<0.1%**	**11**	**0.2%**	**20**	**0.4%**

H7 was not detected by passive surveillance in 2014.

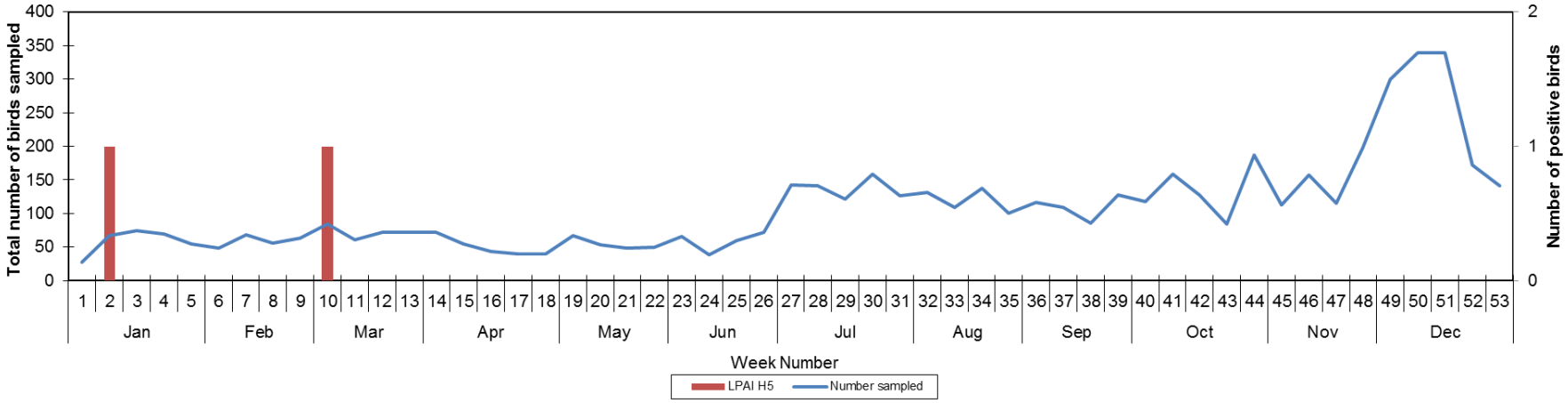
3.2.3.2 Geographical distribution of LPAI H5 detections

In 2014, LPAI H5 detections were made in the Netherlands and the United Kingdom, Figure 12 (Section 3.2.2.2).

3.2.3.3 Temporal distribution of LPAI H5 detections

Figure 14 displays the calendar week of LPAI H5 detections by MS. In Figure 14 the first and last weeks are incomplete as 2014 did not begin on a Monday; both the first and the last weeks are four days long. In 2014 the two LPAI H5 detections were made in late winter and spring at a time when sampling intensity was relatively low.

Figure 14 Number and week of detection of LPAI H5 positive wild birds detected through passive surveillance in 2014 – EU-data only



Each week has been assigned to the month in which most days fell.

3.2.3.4 Order and species of positive wild birds

LPAI H5 was detected in Anseriformes and Charadriiformes. “Other Positives”, including other LPAI positives were also detected in Passeriformes and Strigiformes, Table 13.

Table 13 AI detected through passive surveillance, by wild bird Order in EU Member States in 2014 – EU-data only

Order	Total sampled	LPAI H5 positives	Other LPAI positives	"Other positives" Pathotype undetermined
Anseriformes	1,684	1	7	15
Passeriformes	1,027	-	1	-
Charadriiformes	534	1	3	4
Strigiformes	200	-	-	1

In 2014 most observations of avian influenza were made in Mallards (*Anas platyrhynchos*) (n=11/785).

In total, 16 species tested positive for AI (excluding HPAI) in 2014, Table 14. Of these, seven species belong to the Order Anseriformes, seven belong to Charadriiformes, and one was from each of Passerifirmes and Strigiformes.

Table 14 LPAI detected through passive surveillance, by wild bird species in EU Member States in 2014 – EU-data only

Species	Total sampled	LPAI H5 positives	Other LPAI positives	"Other positives" Pathotype undetermined
Alca torda	24	1	-	-
Anas crecca	**32**	**-**	**-**	**3**
Anas platyrhynchos	**785**	**-**	**3**	**8**
Anas querquedula	**1**	**-**	**-**	**1**
Anas sp.	111	-	4	-
Athene noctua	48	-	-	1
Cygnus cygnus	**97**	**-**	**-**	**1**
Cygnus olor	**274**	**1**	**-**	**1**
Larus argentatus	139	-	2	-
Larus argentatus argentatus	15	-	-	1
Larus argentatus cachinnans	16	-	-	1
Larus canus	**28**	**-**	**1**	**-**
Larus fuscus	58	-	-	1
Sterna albifrons	1	-	-	1
Tadorna tadorna	12	-	-	1
Turdus sp.	20	-	1	-

Target species indicated with bold text.

Further details regarding sampling and results for Target-Species and other species by individual MS can be found in Annex 3 (section 7.2.1). Observations of LPAI H5, detected through passive surveillance, were made in a similar number of genera in 2014 as previous years. All detections occurred in dabbling ducks (*Anas sp.*) in 2013, whilst in 2012, LPAI H5 detections by passive surveillance were made in dabbling ducks (*Anas sp.*) and one night heron (*Nycticorax sp.)*.

3.3 Poultry and Wild Bird Survey Results by Member State

Table 3 shows the number of poultry holdings sampled and the total number of holdings (from regions where sampling took place) by poultry category across MS reported to the survey in 2014. In addition, Table 7 shows the number of poultry holdings sampled and the number of seropositive H5 and H7 holdings by poultry category across MS in 2014. Furthermore, for wild birds, Figure 6 shows the number of birds sampled by passive surveillance and Table 12 and section 3.2.2.1 show the number of AI detections across MS in 2014.

Descriptive results relating to individual Member State's programmes

Poultry: The total number of poultry holdings (from regions where sampling took place) reported for each poultry category per MS is given in parentheses in the text below. Where the number of sampled holdings exceeds the total number of holdings reported, holdings are assumed to have been sampled more than once. For more information on how the poultry data were processed, including the definition of a poultry holding and how the total number of poultry holdings figure (from regions where sampling took place) was calculated, please refer to the Methods Section 5.1. Details are also given below on the number of influenza A virus positive poultry holdings (including H5, H7 and other subtypes) detected in each MS.

Wild Birds: The total number of wild birds sampled as a result of passive surveillance is reported, including the number of H5, H7 or other H subtypes detected through passive surveillance.

Austria

Poultry:

- Austria carried out surveillance using a representative sampling approach.
- Test results from holdings sampled were reported from Chicken Breeders, Conventional Laying Hens, Free-range Laying Hens, Fattening Turkeys, Fattening Ducks, Fattening Geese, and Ratites.
- 23 Chicken Breeder holdings were sampled (85 total).
- 62 Conventional Laying Hen holdings were sampled (767 total).
- 63 Free-range Laying Hen holdings were sampled (1,114 total).
- 57 Fattening Turkey holdings were sampled (142 total).
- 26 Fattening Duck holdings were sampled (48 total).
- 59 Fattening Geese holdings were sampled (71 total).
- 16 Ratite holdings were sampled (16 total).
- Austria reported from eight regions. The number of regions sampled varied across poultry categories.
- **No positive holdings were reported in 2014, which was also the case in 2013 and 2012.**

Wild Birds:

- 65 wild birds were sampled by passive surveillance.
- **There were no positive H5 or H7 detections in wild birds sampled by passive surveillance in 2014.**

- **Three Eurasian Teal (*Anas crecca*), two Mallards (*Anas platyrhynchos*), one Common Shelduck (*Tadorna tadorna*) and one Gargany (*Anas querquedula*) tested positive for Influenza A of unknown pathotype, where the H subtype was not H5 or H7.**

Belgium

Poultry:

- Belgium carried out surveillance using a risk-based sampling approach.
- Test results from holdings sampled were reported from Chicken Breeders, Conventional Laying Hens, Free-range Laying Hens, Fattening Turkeys, Fattening Ducks, Breeder Geese, Farmed Game Birds (gallinaceous), and Others.
- 194 Chicken Breeder holdings were sampled (191 total).
- 207 Conventional Laying Hen holdings were sampled (163 total).
- 189 Free-range Laying Hen holdings were sampled (94 total).
- 54 Fattening Turkey holdings were sampled (42 total).
- 26 Fattening Duck holdings were sampled (22 total).
- Two Breeder Geese holdings were sampled (four total).
- 20 Farmed Game Bird (gallinaceous) holdings were sampled (20 total).
- Seven Other holdings were sampled (nine total).
- Belgium reported from ten regions. The number of regions sampled varied by poultry category.
- **Positive holdings were reported in 2014, which was also the case in 2013 and 2012.**
- **In 2014, six holdings were reported as positive. One Free-range Laying Hen holding and five Fattening Duck holdings tested serologically positive for influenza A virus subtype H5.**
- *In 2013, three holdings were reported as positive. One Conventional Laying Hen holding tested serologically positive for influenza A virus subtype H7. Two Fattening Duck holdings tested serologically positive for influenza A virus subtype H5 (one was also PCR positive for influenza A virus).*
- *In 2012, two Fattening Duck holdings were reported as serologically positive for influenza A virus subtype H5.*

Wild Birds:

- 203 wild birds were sampled by passive surveillance.
- **There were no positive H5 or H7 detections in wild birds sampled by passive surveillance in 2014.**

Bulgaria

Poultry:

- Bulgaria carried out surveillance using a risk-based sampling approach.
- Test results from holdings sampled were reported from Chicken Breeders, Conventional Laying Hens, Broilers (at heightened risk), Fattening Turkeys, Turkey Breeders, Fattening Ducks, Backyard Flocks, Farmed Game Birds (gallinaceous), and Others.
- Six Chicken Breeder holdings were sampled (ten total).
- 50 Conventional Laying Hen holdings were sampled (110 total).
- One Broiler (at heightened risk) holding was sampled (eight total).
- One Fattening Turkey holding was sampled (one total).
- One Turkey Breeder holding was sampled (one total).
- 52 Fattening Duck holdings were sampled (93 total).
- 102 Backyard Flock holdings were sampled (25,411 total).
- Four Farmed Game Bird (gallinaceous) holdings were sampled (four total).
- 31 Other holdings were sampled (1,500).
- Bulgaria reported from 28 regions. The number of regions sampled varied by poultry category.
- **No positive holdings were reported in 2014, which was also the case in 2013 and 2012.**

Wild Birds:

- Eight wild birds were sampled by passive surveillance.
- **There were no positive H5 or H7 detections in wild birds sampled by passive surveillance in 2014.**

Croatia

Poultry:

- Croatia carried out surveillance using a representative sampling approach.
- Test results from holdings sampled were reported from Chicken Breeders, Conventional Laying Hens, Free-range Laying Hens, Fattening Turkeys, Turkey Breeders, Fattening Ducks, Breeder Ducks, Breeder Geese, Backyard Flocks, Farmed Game Birds (gallinaceous), Farmed Game Birds (waterfowl), and Others.
- 22 Chicken Breeder holdings were sampled (60 total).
- 47 Conventional Laying Hen holdings were sampled (138 total).
- Three Free-range Laying Hen holdings were sampled (18 total).
- 16 Fattening Turkey holdings were sampled (76 total).

- One Turkey Breeder holding was sampled (15 total).
- 17 Fattening Duck holdings were sampled (53 total).
- Seven Breeder Duck holdings were sampled (29 total).
- Nine Breeder Geese holdings were sampled (nine total).
- 41 Backyard Flock holdings were sampled (314 total).
- Eight Farmed Game Bird (gallinaceous) holdings were sampled (11 total).
- Two Farmed Game Bird (waterfowl) holdings were sampled (two total).
- One Other holding was sampled (one total).
- Croatia reported as one region.
- **No positive holdings were reported in 2014, which was also the case in 2013.**

Wild Birds:

- 33 wild birds were sampled by passive surveillance.
- **There were no positive H5 or H7 detections in wild birds sampled by passive surveillance in 2014.**

Cyprus

Poultry:

- Cyprus carried out surveillance using a representative sampling approach.
- Test results from holdings sampled were reported from Chicken Breeders, Conventional Laying Hens, Free-range Laying Hens, Broilers (at heightened risk), Fattening Turkeys, Backyard Flocks, and Farmed Game Birds (gallinaceous).
- 11 Chicken Breeder holdings were sampled (nine total).
- 22 Conventional Laying Hen holdings were sampled (27 total).
- 25 Free-range Laying Hen holdings were sampled (13 total).
- Four Broiler (at heightened risk) holdings were sampled (three total).
- Five Fattening Turkey holdings were sampled (five total).
- 20 Backyard Flock holdings were sampled (1,247 total).
- Five Farmed Game Bird (gallinaceous) holdings were sampled (five total).
- Cyprus reported as one region.
- **No positive holdings were reported in 2014, which was also the case in 2013 and 2012.**

Wild Birds:

- 116 wild birds were sampled by passive surveillance.

- **There were no positive H5 or H7 detections in wild birds sampled by passive surveillance in 2014.**

Czech Republic

Poultry:

- The Czech Republic carried out surveillance using a representative sampling approach.
- Test results from holdings sampled were reported from Conventional Laying Hens, Free-range Laying Hens, Fattening Turkeys, Turkey Breeders, Fattening Ducks, Breeder Ducks, Fattening Geese, Breeder Geese, Farmed Game Birds (gallinaceous), and Farmed Game Birds (waterfowl).
- 53 Conventional Laying Hen holdings were sampled (125 total).
- Seven Free-range Laying Hen holdings were sampled (seven total).
- 42 Fattening Turkey holdings were sampled (34 total).
- One Turkey Breeder holding was sampled (one total).
- 32 Fattening Duck holdings were sampled (16 total).
- 21 Breeder Duck holdings were sampled (15 total).
- Three Fattening Geese holdings were sampled (three total).
- Seven Breeder Geese holdings were sampled (seven total).
- 31 Farmed Game Bird (gallinaceous) holdings were sampled (22 total).
- 11 Farmed Game Bird (waterfowl) holdings were sampled (five total).
- The Czech Republic reported from 13 regions. The number of regions sampled varied by poultry category.
- **No positive holdings were reported in 2014, as was the case in 2013, but not 2012.**
- *In 2012, one Breeder Geese holding tested serologically positive for influenza A virus subtype H5.*

Wild Birds:

- 71 wild birds were sampled by passive surveillance.
- **There were no positive H5 or H7 detections in wild birds sampled by passive surveillance in 2014.**

Denmark

Poultry:

- Denmark carried out surveillance using a risk-based sampling approach.
- Test results from holdings sampled were reported from Chicken Breeders, Conventional Laying Hens, Free-range Laying Hens, Broilers (at heightened risk), Fattening Turkeys,

Fattening Ducks, Breeder Ducks, Fattening Geese, Farmed Game Birds (gallinaceous), and Farmed Game Birds (waterfowl).

- 470 Chicken Breeder holdings were sampled (465 total).
- 31 Conventional Laying Hen holdings were sampled (23 total).
- 170 Free-range Laying Hen holdings were sampled (110 total).
- 18 Broiler (at heightened risk) holdings were sampled (17 total).
- 27 Fattening Turkey holdings were sampled (44 total).
- Nine Fattening Duck holdings were sampled (56 total).
- One Breeder Duck holding was sampled (one total).
- Three Fattening Geese holdings were sampled (27 total).
- 74 Farmed Game Bird (gallinaceous) holdings were sampled (171 total).
- 14 Farmed Game Bird (waterfowl) holdings were sampled (38 total).
- Denmark reported as one region.
- **Positive holdings were reported in 2014, as was the case in 2012, but not 2013.**
- **In 2014, one Free-range Laying Hen holding tested serologically positive for influenza A virus subtype H5.**
- *In 2012, one Free-range Laying Hen holding tested serologically positive for influenza A virus subtype H5.*

Wild Birds:

- 10 wild birds were sampled by passive surveillance.
- **There were no positive H5 or H7 detections in wild birds sampled by passive surveillance in 2014.**

Estonia

Poultry:

- Estonia carried out surveillance using a representative sampling approach.
- Test results from holdings sampled were reported from Chicken Breeders, Conventional Laying Hens, and Fattening Geese.
- One Chicken Breeder holding was sampled (one total).
- 15 Conventional Laying Hen holdings were sampled (15 total).
- One Fattening Geese holding was sampled (one total).
- Estonia reported from one region.
- **No positive holdings were reported in 2014, which was also the case in 2013 and 2012.**

Wild Birds:

- Two wild birds were sampled by passive surveillance.
- **There were no positive H5 or H7 detections in wild birds sampled by passive surveillance in 2014.**

Finland

Poultry:

- Finland carried out surveillance using a risk-based sampling approach.
- Test results from holdings sampled were reported from Chicken Breeders, Conventional Laying Hens, Free-range Laying Hens, Fattening Turkeys, Turkey Breeders, Fattening Ducks, Fattening Geese, Farmed Game Birds (gallinaceous), Farmed Game Birds (waterfowl), and Ratites.
- 39 Chicken Breeder holdings were sampled (61 total).
- 61 Conventional Laying Hen holdings were sampled (294 total).
- 33 Free-range Laying Hen holdings were sampled (46 total).
- 31 Fattening Turkey holdings were sampled (31 total).
- Six Turkey Breeder holdings were sampled (eight total).
- Four Fattening Duck holdings were sampled (five total).
- Two Fattening Geese holdings were sampled (three total).
- 11 Farmed Game Bird (gallinaceous) holdings were sampled (14 total).
- Three Farmed Game Bird (waterfowl) holdings were sampled (three total).
- Three Ratite holdings were sampled (three total).
- Finland reported from four regions. The number of regions sampled varied by poultry category.
- **Positive holdings were reported in 2014, which was also the case in 2013 and 2012.**
- **In 2014, two Fattening Geese holdings tested serologically positive for influenza A virus subtype H5.**
- *In 2013, one Fattening Geese holding tested serologically positive for influenza A virus subtype H5.*
- *In 2012, two holdings were reported as positive. One Conventional Laying Hen holding and one Fattening Geese holding tested serologically positive for influenza A virus subtype H5.*

Wild Birds:

- 98 wild birds were sampled by passive surveillance.
- **There were no positive H5 or H7 detections in wild birds sampled by passive surveillance in 2014.**

- **One Mew Gull (*Larus canus*) was found positive for LPAI virus subtype H13 in 2014.**

France

Poultry:

- France carried out surveillance using a risk-based sampling approach.
- Test results from holdings sampled were reported from Chicken Breeders, Conventional Laying Hens, Free-range Laying Hens, Broilers (at heightened risk), Fattening Turkeys, Turkey Breeders, Fattening Ducks, Breeder Ducks, Breeder Geese, Backyard Flocks, Farmed Game Birds (gallinaceous), Farmed Game Birds (waterfowl), Ratites, and Others.
- 60 Chicken Breeder holdings were sampled (857 total).
- 44 Conventional Laying Hen holdings were sampled (1,585 total).
- 63 Free-range Laying Hen holdings were sampled (6,612 total).
- 83 Broiler (at heightened risk) holdings were sampled (7,011 total).
- 58 Fattening Turkey holdings were sampled (4,421 total).
- 50 Turkey Breeder holdings were sampled (283 total).
- 65 Fattening Ducks holdings were sampled (2,348 total).
- 50 Breeder Duck holdings were sampled (142 total).
- 36 Breeder Geese holdings were sampled (40 total).
- 44 Backyard Flock holdings were sampled (3,579 total)
- 50 Farmed Game Bird (gallinaceous) holdings were sampled (1,280 total).
- 14 Farmed Game Bird (waterfowl) holdings were sampled (762 total).
- Two Ratite holdings were sampled (93 total).
- 65 Other holdings were sampled (4,447).
- France reported from 14 regions. The number of regions sampled varied by poultry category.
- **Positive holdings were reported in 2014, which was also the case in 2013 and 2012.**
- **In 2014, 16 holdings were reported as positive. Four Fattening Duck holdings, seven Breeder Duck holdings and five Breeder Geese holdings tested serologically positive for influenza A virus subtype H5.**
- *In 2013, 33 holdings were reported as positive. Five Fattening Duck holdings, 24 Breeder Duck holdings and four Breeder Geese holdings tested serologically positive for influenza A virus subtype H5.*
- *In 2012, 21 holdings were reported as positive. Five Fattening Duck holdings, 14 Breeder Duck holdings and two Breeder Geese holdings tested serologically positive for influenza A virus subtype H5.*

Wild Birds:

- 78 wild birds were sampled by passive surveillance.
- **There were no positive H5 or H7 detections in wild birds sampled by passive surveillance in 2014.**

Germany

Poultry:

- Germany carried out surveillance using a risk-based sampling approach.
- Test results from holdings sampled were reported from Chicken Breeders, Conventional Laying Hens, Free-range Laying Hens, Broilers (at heightened risk), Fattening Turkeys, Turkey Breeders, Fattening Ducks, Fattening Geese, Backyard Flocks, Farmed Game Birds (gallinaceous), Farmed Game Birds (waterfowl), Ratites, and Others.
- One Chicken Breeder holding was sampled (80 total).
- 186 Conventional Laying Hen holdings were sampled (37,001 total).
- Four Free-range Laying Hen holdings were sampled (444 total).
- Seven Broiler (at heightened risk) holdings were sampled (seven total).
- 138 Fattening Turkey holdings were sampled (2,284 total).
- One Turkey Breeder holding was sampled (seven total).
- 118 Fattening Duck holdings were sampled (4,865 total).
- 37 Fattening Geese holdings were sampled (4,144 total).
- 21 Backyard Flock holdings were sampled (61,371 total).
- Two Farmed Game Bird (gallinaceous) holding was sampled (653 total).
- Three Farmed Game Birds (waterfowl) holdings were sampled (ten total).
- Four Ratite holdings were sampled (31 total).
- 245 Other holdings were sampled (111,759 total).
- Germany reported from 28 regions. The number of regions sampled varied by poultry category.
- **Positive holdings were reported in 2014, which was also the case in 2013 and 2012.**
- **In 2014, 12 holdings were reported as positive. Two Conventional Laying holdings tested serologically positive for influenza A virus subtype H7. Nine Fattening Turkey holdings tested serologically positive for influenza A virus; five were serologically positive for the H9 subtype and four were of undetermined subtype. One Fattening Duck holding tested serologically positive for influenza A virus subtype H5.**
- *In 2013, seven holdings were reported as positive. One Ratite holding tested serologically and PCR positive for influenza A virus subtype H5. Six Other holdings tested serologically positive for influenza A virus; five were serologically positive for the H5 subtype (with one*

also PCR and virus isolation positive for H5); and one was serologically positive for the H9 subtype.

- *In 2012, one Fattening Turkey holding tested serologically and virologically (PCR and virus isolation) positive for influenza A virus subtype H9.*

Wild Birds:

- 1,254 wild birds were sampled by passive surveillance.
- **In 2014, one Mallard (*Anas platyrhynchos*) was found positive for HPAI H5N8 AI virus by passive surveillance. Two Mallards (*Anas platyrhynchos*) and one Eurasian Teal (*Anas crecca*) were also found to be carrying HPAI H5N8 by active surveillance activities in 2014.**

Greece

Poultry:

- Greece carried out surveillance using a representative sampling approach.
- Test results from holdings sampled were reported from Chicken Breeders, Conventional Laying Hens, Free-range Laying Hens, Broilers (at heightened risk), Fattening Turkeys, Turkey Breeders, Farmed Game Birds (gallinaceous), Ratites, and Others.
- 53 Chicken Breeder holdings were sampled (94 total).
- 50 Conventional Laying Hen holdings were sampled (372 total).
- 25 Free-range Laying Hen holdings were sampled (78 total).
- 37 Broiler (at heightened risk) holdings were sampled (42 total).
- 26 Fattening Turkey holdings were sampled (38 total).
- One Turkey Breeder holding was sampled (two total).
- 14 Farmed Game Bird (gallinaceous) holdings were sampled (19 total).
- One Ratite holding was sampled (two total).
- 61 Other holdings were sampled (108 total).
- Greece reported from 12 regions. The number of regions sampled varied by poultry category.
- **Positive holdings were reported in 2014, unlike in 2013 and 2012.**
- **In 2014, one Conventional Laying Hen holding tested serologically positive for influenza A virus of undetermined subtype.**

Wild Birds:

- 12 wild birds were sampled by passive surveillance.
- **There were no positive H5 or H7 detections in wild birds sampled by passive surveillance in 2014.**

Hungary

Poultry:

- Hungary carried out surveillance using a representative sampling approach.
- Test results from holdings sampled were reported from Chicken Breeders, Conventional Laying Hens, Free-range Laying Hens, Fattening Turkeys, Turkey Breeders, Fattening Ducks, Breeder Ducks, Fattening Geese, Breeder Geese, Backyard Flocks, Farmed Game Birds (gallinaceous), Farmed Game Birds (waterfowl), and Ratites.
- 56 Chicken Breeder holdings were sampled (143 total).
- 63 Conventional Laying Hen holdings were sampled (486 total).
- Seven Free-range Laying Hen holdings were sampled (seven total).
- 59 Fattening Turkey holdings were sampled (293 total).
- 23 Turkey Breeder holdings were sampled (26 total).
- 79 Fattening Duck holdings were sampled (419 total).
- 28 Breeder Duck holdings were sampled (31 total).
- 80 Fattening Geese holdings were sampled (435 total).
- 46 Breeder Geese holdings were sampled (70 total).
- 498 Backyard Flock holdings were sampled (227,006 total).
- 35 Farmed Game Bird (gallinaceous) holdings were sampled (71 total).
- 11 Farmed Game Birds (waterfowl) holdings were sampled (14 total).
- Four Ratite holdings were sampled (four total).
- Hungary reported from 19 regions. The number of regions sampled varied across poultry categories.
- **No positive holdings were reported in 2014, which was also the case in 2013 and 2012.**

Wild Birds:

- 1,274 wild birds were sampled by passive surveillance.
- **There were no positive H5 or H7 detections in wild birds sampled by passive surveillance in 2014.**
- **Three Mallards (*Anas platyrhynchos*) tested positive for Influenza A virus: one was LPAI subtype H6, one was LPAI subtype H9, and the pathogenicity and virus H subtype could not be determined for the third Mallard.**

Ireland

Poultry:

- Ireland carried out surveillance using a representative sampling approach.

- Test results from holdings sampled were reported from Chicken Breeders, Conventional Laying Hens, Free-range Laying Hens, Broilers (at heightened risk), Fattening Turkeys, Fattening Ducks, Breeder Ducks, and Breeder Geese.
- 111 Chicken Breeder holdings were sampled (103 total).
- 112 Conventional Laying Hen holdings were sampled (106 total).
- 12 Free-range Laying Hen holdings were sampled (97 total).
- 39 Broiler (at heightened risk) holdings were sampled (35 total).
- 55 Fattening Turkey holdings were sampled (107 total).
- Two Fattening Duck holdings were sampled (five total).
- Two Breeder Duck holdings were sampled (three total).
- One Breeder Geese holding was sampled (two total).
- Ireland reported from two regions.
- **No positive holdings were reported in 2014, as was the case in 2012, but not 2013.**
- *In 2013, one Fattening Duck holding tested serologically positive for influenza A virus subtype H5.*

Wild Birds:

- 33 wild birds were sampled by passive surveillance.
- **There were no positive H5 or H7 detections in wild birds sampled by passive surveillance in 2014.**

Italy

Poultry:

- Italy carried out surveillance using a risk-based sampling approach.
- Test results from holdings sampled were reported from Chicken Breeders, Conventional Laying Hens, Free-range Laying Hens, Fattening Turkeys, Turkey Breeders, Fattening Ducks, Breeder Ducks, Fattening Geese, Breeder Geese, Backyard Flocks, Farmed Game Birds (gallinaceous), Ratites, and Others.
- 392 Chicken Breeder holdings were sampled (280 total).
- 1,573 Conventional Laying Hen holdings were sampled (1,121 total).
- 193 Free-range Laying Hen holdings were sampled (200 total).
- 1,406 Fattening Turkey holdings were sampled (877 total).
- 68 Turkey Breeder holdings were sampled (55 total).
- 98 Fattening Duck holdings were sampled (151 total).
- 16 Breeder Duck holdings were sampled (ten total).

- 22 Fattening Geese holdings were sampled (65 total).
- 11 Breeder Geese holdings were sampled (seven total).
- 624 Backyard Flock holdings were sampled (624 total).
- 318 Farmed Game Bird (gallinaceous) holdings were sampled (468 total).
- 28 Ratite holdings were sampled (61 total).
- 984 Other holdings were sampled (826 total).
- Italy reported from 21 regions. The number of regions sampled varied by poultry category.
- **Positive holdings were reported in 2014, which was also the case in 2013 and 2012.**
- **In 2014, three Other (grower) holdings were reported as positive. Two were serologically and PCR positive for influenza A virus subtype H7 and one was PCR (only) positive for influenza A virus subtype H5 (serology/virus isolation negative).**
- *In 2013, seven holdings were reported as positive. One Free-range Laying Hen holding tested serologically positive for influenza A subtype H5 (PCR/virus isolation not performed). Four Backyard Flock holdings were reported positive for influenza A virus subtype H5; one was serologically positive for H5 (PCR/virus isolation not performed), two were serologically and PCR positive for H5 (virus isolation not performed), and one was PCR (only) positive (serology negative/virus isolation not performed). In addition, two Other holdings tested serologically and virologically positive for influenza A virus subtype H5 (one was PCR/virus isolation positive for H5, while the other was PCR positive for H5/virus isolation not performed).*
- *In 2012, eight holdings were reported as positive. Three Conventional Laying Hen holdings and one Free-range Laying Hen holding tested serologically positive for influenza A virus subtype H5. One Fattening Duck holding was PCR positive for the H5 subtype (serology/virus isolation not performed). Two Backyard Flock holdings were reported positive for influenza A virus; one was PCR positive for the H5 subtype (serology/virus isolation not performed); and one was serologically positive for the H7 subtype. In addition, one Others (Dealer) holding was PCR and virus isolation positive for the H5 subtype (serology not performed).*

Wild Birds:

- 649 wild birds were sampled by passive surveillance.
- **There were no positive H5 or H7 detections in wild birds sampled by passive surveillance in 2014.**
- **One European Herring Gull (*Larus argentatus*) tested positive for LPAI subtype H13.**

Latvia

Poultry:

- Latvia carried out surveillance using a representative sampling approach.
- Test results from holdings sampled were reported from Chicken Breeders, Conventional Laying Hens, and Backyard Flocks.
- One Chicken Breeder holding was sampled (one total).
- 34 Conventional Laying Hen holdings were sampled (82 total).

- 167 Backyard Flock holdings were sampled (3,212 total).
- Latvia reported from five regions. The number of regions sampled varied by poultry category.
- **No positive holdings were reported in 2014, which was also the case in 2013 and 2012.**

Wild Birds:

- Two wild birds were sampled by passive surveillance.
- **There were no positive H5 or H7 detections in wild birds sampled by passive surveillance in 2014.**

Lithuania

Poultry:

- Lithuania carried out surveillance using a risk-based sampling approach.
- Test results from holdings sampled were reported from Conventional Laying Hens, Fattening Turkeys, and Others.
- 15 Conventional Laying Hen holdings were sampled (15 total).
- One Fattening Turkey holding was sampled (one total).
- 22 Other holdings were sampled (22 total).
- Lithuania reported from 13 regions. The number of regions sampled varied by poultry category.
- **No positive holdings were reported in 2014, which was also the case in 2013 and 2012.**

Wild Birds:

- 29 wild birds were sampled by passive surveillance.
- **There were no positive H5 or H7 detections in wild birds sampled by passive surveillance in 2014.**

Luxembourg

Poultry:

- Luxembourg carried out surveillance using a representative sampling approach.
- Test results from holdings sampled were reported from Conventional Laying Hens, Free-range Laying Hens, Broilers (at heightened risk), Backyard Flocks, and Ratites.
- Four Conventional Laying Hen holdings were sampled (four total).
- Four Free-range Laying Hen holdings were sampled (four total).
- Four Broiler (at heightened risk) holdings were sampled (four total).

- Four Backyard Flock holdings were sampled (500 total).
- Two Ratite holdings were sampled (one total).
- Luxembourg reported from one region.
- **No positive holdings were reported in 2014, which was also the case in 2013 and 2012.**

Wild Birds:

- Four wild birds were sampled by passive surveillance.
- **There were no positive H5 or H7 detections in wild birds sampled by passive surveillance in 2014.**

Malta

Poultry:

- Malta carried out surveillance using a representative sampling approach.
- Test results from holdings sampled were reported from Conventional Laying Hens.
- 35 Conventional Laying Hen holdings were sampled (33 total).
- Malta reported from one region.
- **No positive holdings were reported in 2014, which was also the case in 2013 and 2012.**

Wild Birds:

- No wild birds were sampled by passive surveillance.

The Netherlands

Poultry:

- The Netherlands carried out surveillance using a risk-based sampling approach.
- Test results from holdings sampled were reported from Chicken Breeders, Conventional Laying Hens, Free-range Laying Hens, Broilers (at heightened risk), Fattening Turkeys, Fattening Ducks, and Breeder Ducks.
- 1,371 Chicken Breeder holdings were sampled (1,031 total).
- 847 Conventional Laying Hen holdings were sampled (455 total).
- 756 Free-range Laying Hen holdings were sampled (440 total).
- 776 Broiler (at heightened risk) holdings were sampled (168 total).
- 75 Fattening Turkey holdings were sampled (53 total).
- 41 Fattening Duck holdings were sampled (37 total).

- 68 Breeder Duck holdings were sampled (55 total).

- The Netherlands reported from 12 regions. The number of regions sampled varied by poultry category.

- **Positive holdings were reported in 2014, which was also the case in 2013 and 2012.**

- **In 2014, seven holdings were reported as positive. Two Chicken Breeder holdings, two Conventional Laying Hen holdings, two Free-range Laying Hen holdings and one Fattening Duck holding tested serologically positive for influenza A virus subtype H5. They were also all virologically (PCR and virus isolation) positive for influenza A virus subtype H5.**

- *In 2013, six Free-range Laying Hen holdings were reported as positive. Two were serologically and virologically (PCR and virus isolation) positive for influenza A virus subtype H5 and four were serologically and virologically (PCR and virus isolation) positive for influenza A virus subtype H7.*

- *In 2012, two holdings were reported as positive. One Free-range Laying Hen holding tested serologically and PCR positive for influenza A virus subtype H7. Also one Fattening Turkey holding tested serologically and PCR positive for influenza A virus subtype H5.*

Wild Birds:

- 196 wild birds were sampled by passive surveillance.

- **One Mute Swan (*Cygnus olor*) tested positive for LPAI H5N2 by passive surveillance in 2014.**

- **Two Dabbling Ducks (*Anas sp.,*) tested positive for LPAI; one of subtype H3 and one of subtype H11.**

Poland

Poultry:

- Poland carried out surveillance using a representative sampling approach.

- Test results from holdings sampled were reported from Chicken Breeders, Conventional Laying Hens, Free-range Laying Hens, Fattening Turkeys, Turkey Breeders, Fattening Ducks, Breeder Ducks, Fattening Geese, Breeder Geese, Farmed Game Birds (gallinaceous), and Ratites.

- 62 Chicken Breeder holdings were sampled (481 total).

- 70 Conventional Laying Hen holdings were sampled (622 total).

- 43 Free-range Laying Hen holdings were sampled (80 total).

- 55 Fattening Turkey holdings were sampled (215 total).

- 11 Turkey Breeder holdings were sampled (11 total).

- 73 Fattening Duck holdings were sampled (337 total).

- 34 Breeder Duck holdings were sampled (40 total).

- 94 Fattening Geese holdings were sampled (982 total).

- 85 Breeder Geese holdings were sampled (230 total).
- 37 Farmed Game Bird (gallinaceous) holdings were sampled (92 total).
- 33 Ratite holdings were sampled (74 total).
- Poland reported from 16 regions. The number of regions sampled varied by poultry category.
- **Positive holdings were reported in 2014, which was also the case in 2013 and 2012.**
- **In 2014, six holdings were reported as positive. Five Breeder Geese holdings tested serologically positive for influenza A virus; four were serologically positive for the H5 subtype and one was serologically positive for the H7 subtype. In addition, one Ratite holding tested serologically positive for influenza A virus subtype H5.**
- *In 2013, one Breeder Geese holding tested serologically positive for influenza A virus subtype H5.*
- *In 2012, one Breeder Geese holding tested serologically positive for influenza A virus subtype H7.*

Wild Birds:

- 40 wild birds were sampled by passive surveillance.
- **There were no positive H5 or H7 detections in wild birds sampled by passive surveillance in 2014.**

Portugal

Poultry:

- Portugal carried out surveillance using a representative sampling approach.
- Test results from holdings sampled were reported from Chicken Breeders, Conventional Laying Hens, Free-range Laying Hens, Broilers (at heightened risk), Fattening Turkeys, Fattening Ducks, Breeder Ducks, Backyard Flocks, Farmed Game Birds (gallinaceous), Farmed Game Birds (waterfowl), Ratites, and Others.
- 52 Chicken Breeder holdings were sampled (82 total).
- 55 Conventional Laying Hen holdings were sampled (127 total).
- 16 Free-range Laying Hen holdings were sampled (18 total).
- 64 Broiler (at heightened risk) holdings were sampled (241 total).
- 62 Fattening Turkey holdings were sampled (156 total).
- 13 Fattening Duck holdings were sampled (14 total).
- Two Breeder Duck holdings were sampled (two total).
- 63 Backyard Flock holdings were sampled (237,000 total).
- 43 Farmed Game Bird (gallinaceous) holdings were sampled (74 total).
- Two Farmed Game Bird (waterfowl) holdings were sampled (two total).

- Four Ratite holdings were sampled (four total).
- One Other holding was sampled (one total).
- Portugal reported from seven regions. The number of regions sampled varied by poultry category.
- **No positive holdings were reported in 2014, as was the case in 2012, but not 2013.**
- *In 2013, one Backyard Flock holding tested PCR positive for influenza A virus subtype H7 (serology/virus isolation negative).*

Wild Birds:

- 116 wild birds were sampled by passive surveillance.
- **There were no positive H5 or H7 detections in wild birds sampled by passive surveillance in 2014.**

Romania

Poultry:

- Romania carried out surveillance using a risk-based sampling approach.
- Test results from holdings sampled were reported from Chicken Breeders, Conventional Laying Hens, Broilers (at heightened risk), Fattening Turkeys, Fattening Ducks, Backyard Flocks, and Farmed Game Birds (gallinaceous).
- 69 Chicken Breeder holdings were sampled (39 total).
- 180 Conventional Laying Hen holdings were sampled (220 total).
- Seven Broiler (at heightened risk) holding was sampled (20 total).
- 23 Fattening Turkey holdings were sampled (14 total).
- Four Fattening Duck holdings were sampled (two total).
- 1,016 Backyard Flock holdings were sampled (1,050 total).
- 17 Farmed Game Bird (gallinaceous) holdings were sampled (17 total).
- Romania reported from 43 regions. The number of regions sampled varied by poultry category.
- **No positive holdings were reported in 2014, which was also the case in 2013 and 2012.**

Wild Birds:

- 188 wild birds were sampled by passive surveillance.
- **There were no positive H5 or H7 detections in wild birds sampled by passive surveillance in 2014.**

Slovak Republic

Poultry:

- The Slovak Republic carried out surveillance using a representative sampling approach.
- Test results from holdings sampled were reported from Chicken Breeders, Conventional Laying Hens, Fattening Turkeys, Turkey Breeders, Fattening Ducks, Breeder Ducks, Fattening Geese, Farmed Game Birds (gallinaceous), and Ratites.
- Ten Chicken Breeder holdings were sampled (13 total).
- 53 Conventional Laying Hen holdings were sampled (128 total).
- Four Fattening Turkey holdings were sampled (eight total).
- Six Turkey Breeder holdings were sampled (six total).
- Five Fattening Duck holdings were sampled (14 total).
- One Breeder Duck holding was sampled (two total).
- Four Fattening Geese holdings were sampled (eight total).
- 18 Farmed Game Bird (gallinaceous) holdings were sampled (22 total).
- Seven Ratite holdings were sampled (eight total).
- Slovak Republic reported from four regions. The number of regions sampled varied by poultry category.
- **No positive holdings were reported in 2014, which was also the case in 2013 and 2012.**

Wild Birds:

- 20 wild birds were sampled by passive surveillance.
- **There were no positive H5 or H7 detections in wild birds sampled by passive surveillance in 2014.**

Slovenia

Poultry:

- Slovenia carried out surveillance using a representative sampling approach.
- Test results from holdings sampled were reported from Chicken Breeders, Conventional Laying Hens, Fattening Turkeys, Backyard Flocks, Farmed Game Birds (gallinaceous), and Farmed Game Birds (waterfowl).
- Eight Chicken Breeder holdings were sampled (eight total).
- 59 Conventional Laying Hen holdings were sampled (228 total).
- 43 Fattening Turkey holdings were sampled (43 total).
- 92 Backyard Flock holdings were sampled (4,154 total).

- Five Farmed Game Bird (gallinaceous) holdings were sampled (five total).
- One Farmed Game Bird (waterfowl) holding was sampled (one total).
- Slovenia reported from two regions.
- **No positive holdings were reported in 2014, which was also the case in 2013 and 2012.**

Wild Birds:

- 106 wild birds were sampled by passive surveillance.
- **There were no positive H5 or H7 detections in wild birds sampled by passive surveillance in 2014.**
- **One Little Owl (*Athene noctura*) and one Mute Swan (*Cygnus olor*) tested PCR positive for Influenza A virus, pathotype unknown and H subtype not H5 or H7.**

Spain

Poultry:

- Spain carried out surveillance using a representative sampling approach.
- Test results from holdings sampled were reported from Chicken Breeders, Conventional Laying Hens, Free-range Laying Hens, Fattening Turkeys, Turkey Breeders, Fattening Ducks, Fattening Geese, Backyard Flocks, Farmed Game Birds (gallinaceous), Farmed Game Birds (waterfowl), Ratites, and Others.
- 98 Chicken Breeder holdings were sampled (377 total).
- 63 Conventional Laying Hen holdings were sampled (737 total).
- 63 Free-range Laying Hen holdings were sampled (122 total).
- 65 Fattening Turkey holdings were sampled (491 total).
- Ten Turkey Breeder holdings were sampled (ten total).
- 40 Fattening Duck holdings were sampled (52 total).
- Ten Fattening Geese holdings were sampled (11 total).
- 27 Backyard Flock holdings were sampled (4,300 total).
- 252 Farmed Game Bird (gallinaceous) holdings were sampled (518 total).
- 147 Farmed Game Bird (waterfowl) holdings were sampled (142 total).
- 38 Ratite holdings were sampled (81 total).
- 104 Other holdings were sampled (4,565 total).
- Spain reported from 17 regions. The number of regions sampled varied by poultry category.
- **Positive holdings were reported in 2014, which was also the case in 2013 and 2012.**

- **In 2014, three Fattening Duck holdings tested serologically and PCR positive for influenza A virus of undetermined subtype.**

- *In 2013, three holdings were reported as positive. One Chicken Breeder holding tested serologically and virologically (PCR and virus isolation) positive for influenza A virus subtype H7. In addition, two Fattening Duck holdings tested PCR positive for influenza A virus (one was serology negative/virus isolation not performed, while the other was serology/virus isolation negative).*

- *In 2012, two Fattening Duck holdings were reported as positive for influenza A virus. One was positive by virus isolation for the H4 subtype (PCR positive for influenza A virus/serology negative); and one was positive by virus isolation for the H6 subtype (PCR/serology negative).*

Wild Birds:

- 268 wild birds were sampled by passive surveillance.

- **There were no positive H5 or H7 detections in wild birds sampled by passive surveillance in 2014.**

- **One Thrush (*Turdus sp.*) tested positive for LPAI, H subtype not H5 or H7. One Lesser Black-backed Gull (*Larus fuscus*) tested positive for Influenza A virus of unknown pathogenicity, but the H subtype was not H5 or H7. Additionally, one Mallard (*Anas platyrhynchos*) and one Caspian Gull (*Larus cachinnans*) tested PCR positive for Influenza A virus, but both the H subtype and pathogenicity could not be determined for these wild birds.**

Sweden

Poultry:

- Sweden carried out surveillance using a representative sampling approach.

- Test results from holdings sampled were reported from Chicken Breeders, Conventional Laying Hens, Free-range Laying Hens, Broilers (at heightened risk), Fattening Turkeys, Turkey Breeders, Fattening Ducks, Fattening Geese, Farmed Game Birds (gallinaceous), Farmed Game Birds (waterfowl), and Ratites.

- 33 Chicken Breeder holdings were sampled (33 total).

- 58 Conventional Laying Hen holdings were sampled (237 total).

- 23 Free-range Laying Hen holdings were sampled (83 total).

- 12 Broiler (at heightened risk) holdings were sampled (35 total).

- 16 Fattening Turkey holdings were sampled (16 total).

- Two Turkey Breeder holdings were sampled (two total).

- Two Fattening Duck holdings were sampled (three total).

- Nine Fattening Geese holdings were sampled (nine total).

- 12 Farmed Game Bird (gallinaceous) holdings were sampled (18 total).

- Five Farmed Game Bird (waterfowl) holdings were sampled (five total).

- Three Ratite holdings were sampled (three total).

- Sweden reported from seven regions. The number of regions sampled varied by poultry category.

- **No positive holdings were reported in 2014, which was also the case in 2012, but not 2013.**

- *In 2013, one Farmed Game Bird (waterfowl; mallard) holding tested serologically positive for influenza A virus subtype H5. It was also PCR positive for influenza A virus.*

Wild Birds:

- 263 wild birds were sampled by passive surveillance.

- **There were no positive H5 or H7 detections in wild birds sampled by passive surveillance in 2014.**

- **One Mallard (*Anas platyrhynchos*) was reported as PCR positive for LPAI, H subtype not H5 or H7.**

United Kingdom

Poultry:

- The United Kingdom carried out surveillance using a risk-based sampling approach.

- Test results from holdings sampled were reported from Chicken Breeders, Conventional Laying Hens, Fattening Turkeys, Turkey Breeders, Fattening Ducks, Breeder Ducks, Fattening Geese, Breeder Geese, Farmed Game Birds (gallinaceous), and Farmed Game Birds (waterfowl).

- 11 Chicken Breeder holdings were sampled (95 total).

- 84 Conventional Laying Hen holdings were sampled (1,212 total).

- 83 Fattening Turkey holdings were sampled (378 total).

- One Turkey Breeder holding was sampled (54 total).

- 31 Fattening Duck holdings were sampled (84 total).

- 23 Breeder Duck holdings were sampled (91 total).

- 47 Fattening Geese holdings were sampled (112 total).

- 11 Breeder Geese holdings were sampled (23 total).

- 43 Farmed Game Bird (gallinaceous) holdings were sampled (284 total).

- 25 Farmed Game Birds (waterfowl) holdings were sampled (162 total).

- The UK reported from 24 regions. The number of regions sampled varied by poultry category.

- **No positive holdings were reported in 2014, unlike in 2013 and 2012.**

- *In 2013, four holdings were reported as positive. Three Breeder Duck holdings and one Farmed Game Bird (waterfowl; duck) holding tested serologically positive for influenza A virus subtype H5.*

- *In 2012, eight holdings were reported as positive. Seven Breeder Duck holdings tested serologically positive for influenza A virus subtype H5. Also one Game Bird (Duck) holding tested serologically positive for influenza A virus subtypes H5 and H7.*

Wild Birds:

- 538 wild birds were sampled by passive surveillance.
- **One Razorbill (*Alca torda*) sampled by passive surveillance was reported as PCR positive for LPAI H5 (N subtype not determined) in 2014.**
- **One Little Tern (*Sterna albifrons*), one Mallard (*Anas platyrhynchos*) and one Whooper Swan (*Cygnus cygnus*) tested positive for Influenza A virus, pathotype and H subtype not determined.**

Non-EU countries

Switzerland

Poultry:

- Switzerland carried out surveillance using a representative sampling approach.
- Test results from holdings sampled were reported from Free-range Laying Hens and Fattening Turkeys.
- 79 Free-range Laying Hen holdings were sampled (1,544 total).
- 22 Fattening Turkey holdings were sampled (83 total).
- Switzerland reported from six regions. The number of regions sampled varied by poultry category.
- **No positive holdings were reported in 2014, which was also the case in 2013 and 2012.**

Wild Birds:

- Seven wild birds were sampled by passive surveillance.
- **There were no positive H5 or H7 detections in wild birds sampled by passive surveillance in 2014.**

4 DISCUSSION

4.1 Poultry

In 2014 active surveillance for avian influenza in poultry holdings was carried out in 28 MS according to Directive 2005/94/EC (EC 2006a). In addition, one non-MS, Switzerland (CH), submitted data for this report. Eleven MS applied a risk-based sampling approach according to guidelines of Commission Decision 2010/367/EC (EC 2010), eleven MS used a risk-based approach in 2013 and ten in 2012.

A total of 19,813 holdings were sampled, which compares to: 25,220 holdings in 2013, 29,404 in 2012, 29,806 in 2011, 29,484 in 2010, 35,016 in 2009, and 34,985 in 2008. The most frequently sampled poultry category in 2014 was Laying Hens (conventional and free-range), making up 29.4% of the total holdings sampled by EU MS, followed by Chicken Breeders (15.9%) and Backyard Flocks (13.7%). The least sampled poultry category was Ratites (0.7%), reflecting the low proportion of ratite holdings across the EU (0.05% of total holdings reported to the survey). The number of holdings sampled by each MS varied from 17 holdings in Estonia to 5,733 holdings in Italy. Italy and the Netherlands sampled the most holdings among the MS, together sampling 48.8% (9,667) of the total holdings sampled in 2014. There was an increase in the number of holdings sampled from Breeder Ducks (+8.6%), Fattening Geese (+10.1%), Breeder Geese (+18.9%) and Others (+0.5%), compared to 2013, while all other poultry categories saw a decrease in the number of holdings sampled in 2014. Overall there was a 21.4% decrease in the number of holdings sampled in 2014 compared to 2013.

In 2014, evidence of previous infection with H5 or H7 avian influenza was detected in 43 holdings, which is 0.22% of total EU holdings sampled. This is a lower proportion than in 2013, when 63 of 25,220 were serologically positive for H5 or H7 (0.25% of holdings sampled). In 2014, detection of antibodies to avian influenza, H5 and H7 subtypes, occurred in Chicken Breeders, Conventional Laying Hens, Free-range Laying Hens, Fattening Ducks, Breeder Ducks, Fattening Geese, Breeder Geese, Ratites and Others. Most detections of antibodies to subtype H5 infection were in Fattening Ducks (11/38, 28.9%), followed by Breeder Geese (9/38, 23.7%), and Breeder Ducks (7/38, 18.4%). Antibodies to the H7 subtype were detected in Conventional Laying Hens (2/5, 40.0%), Others (2/5, 40.0%), and Breeder Geese (1/5, 20.0%).

In 2014, 38 holdings were found positive for subtype H5 by serological testing (0.19% of total EU holdings sampled). This compares to 57 holdings seropositive for H5 in 2013 (0.23% of total EU holdings sampled), 40 in 2012 (0.14% of total EU holdings sampled), 50 in 2011 (0.17% of total EU holdings sampled), 48 in 2010 (0.16% of total EU holdings sampled), and 52 holdings in both 2009 and 2008 (0.15% of total EU holdings sampled in each year). Of the 38 poultry holdings reported to be H5 seropositive in 2014, 28 underwent follow-up testing for the presence of active infection, and seven of these (7/28, 25.0%) tested virologically positive (by PCR and virus isolation) for subtype H5. In comparison in 2013, eight of 39 H5 seropositive holdings (20.5%) that underwent follow-up testing, tested positive for subtype H5 by PCR or virus isolation.

In 2014, five holdings were found positive for subtype H7 by serological testing (0.03% of total EU holdings sampled). This compares to six holdings seropositive for H7 in 2013 (0.02% of total EU holdings sampled), four in 2012 (0.01% of total EU holdings sampled), 15 in 2011 (0.05% of total EU holdings sampled), 11 in 2010 (0.04% of total EU holdings sampled), 38 in 2009 (0.11% of total EU holdings sampled), and 21 in 2008 (0.06% of total EU holdings sampled). Of the five poultry holdings reported to be H7 seropositive in 2014, all underwent follow-up testing for the presence of active infection and two of these (2/5, 40.0%) tested virologically positive (by PCR) for subtype H7. In comparison in 2013, five of six H7 seropositive holdings (83.3%) that underwent follow-up testing, tested positive for subtype H7 by PCR or virus isolation.

Overall, eight MS reported H5 or H7 seropositive poultry holdings in 2014: Belgium, Germany, Denmark, Finland, France, Italy, the Netherlands and Poland. Seven of these MS (BE, DE, FI, FR, IT, NL and PL) also reported H5 or H7 seropositive poultry holdings in 2013, as well as Ireland, Spain, Sweden and the United Kingdom. A high proportion of the H5 seropositive holdings were detected in France (16/38, 42.1%), while H7 seropositive holdings were detected from Germany (2/5, 40.0%), Italy (2/5, 40.0%), and Poland (1/5, 20.0%). In addition, in 2014,

Germany reported holdings that were seropositive for influenza A virus subtype H9, and Greece and Spain reported holdings that were seropositive for influenza A virus of undetermined subtype.

The detection rate of H5/H7 seropositive holdings in 2014 was highest in Breeder Geese (10 seropositives/208 holdings sampled, 4.8%), followed by Breeder Ducks (7 seropositives/253 holdings sampled, 2.8%), and Fattening Ducks (11 seropositives/737 holdings sampled, 1.5%). These categories have also had a high rate of detection in previous years, with Breeder Ducks having the highest detection rates in the 2013 (27 H5/H7 seropositive holdings/233 holdings sampled, 11.6%) and 2012 surveys (21 H5/H7 seropositive holdings/247 holdings sampled, 8.5%). The high rate of detections in these categories may be due to the following factors: ducks and geese are less likely to show clinical signs than other poultry species so infection is less likely to have been detected earlier by passive surveillance, while in other species clinical disease due to AI may lead to earlier detection. The breeder category birds tend to have a longer lifespan than birds of other poultry categories and therefore a longer time period over which they could be exposed to the virus. Ducks and geese are also frequently kept outdoors and therefore may have a higher probability of contact with wild birds, either directly or indirectly, and hence possibly a greater risk of exposure to AI virus.

The sampling regimes among MS and poultry categories are diverse with different degrees of targeting and testing frequencies, varying numbers of samples collected in each flock and likely variance of within-flock seroprevalence at the time of sampling. Hence differences in between-flock detection rates for poultry categories or MS need to be interpreted with great caution. In particular, those MS undertaking risk-based sampling may experience higher seropositive detection rates than those using representative sampling.

Infection with LPAI in any poultry species, and even HPAI in domestic ducks and geese, can result in only mild clinical signs and may not be detected by poultry keepers and veterinary practitioners. Serological surveillance has greatest value in these situations and particularly at the current time given the recent increased HPAI activity globally. In addition to the value of serological surveillance for poultry health, recent events involving H7N9 LPAI virus in China highlight the potential value for public health in surveillance for avian influenza in the absence of disease. A positive PCR or virus isolation result indicates that active infection is present on the holding and potential for transmission exists. Such a test result will lead to the implementation of measures and restrictions in accordance with Council Directive 2005/94/EC (EC 2006a).

The current guidelines on surveillance in poultry for the EU surveillance programme encourage a risk-based approach. Criteria and risk factors suggested for incorporation include those associated with virus introduction into poultry holdings due to direct or indirect exposure to wild birds and also those for virus spread within the poultry holding and between poultry holdings, as well as the consequences (impact) of the spread of avian influenza between poultry holdings. It is recognised that to carry out risk-based surveillance incorporating such risk factors, an evidence-base applicable to the individual Member State is required. If insufficient evidence is available to develop a risk-based surveillance plan, then representative sampling is recommended as in previous years. While the move towards risk-based surveillance by Member States has been limited to date, greater uptake should be facilitated by access to outputs from the EU project RISKSUR (http://www.fp7-risksur.eu/project) which aims to provide tools for designing more efficient animal health surveillance systems including risk-based sampling.

4.2 Wild Birds

Avian influenza (AI) is a highly contagious viral infection, which can affect all species of birds. Highly pathogenic avian influenza (HPAI) can spread rapidly causing serious disease with high mortality in many poultry species. To date all HPAI viruses have been of H5 or H7 subtypes of influenza A. Since 2005, the on-going H5N1 HPAI epizootic has affected over 60 countries across Asia, Africa Europe and North America, resulting in the loss of hundreds of millions of domestic poultry and major socio-economic impacts. Historically HPAI infection has rarely been observed in wild birds, and nearly always in connection with poultry outbreaks. However, since the current H5N1 HPAI epizootic, wild birds have been implicated in the spread of this virus and more recently with other H5 HPAI subtypes in Asia, Europe and North America.

The EU guidelines on surveillance for avian influenza in wild birds published in 2010 (EU 2010) focus the objective of the surveillance to the timely detection of H5N1 HPAI and do not include baseline surveillance for LPAI H5 or H7. The guidelines state that a risk-based design should be implemented via passive surveillance i.e. moribund wild birds or birds found dead, particularly those on the target species list (see Annex 6, section 7.2.4). Formulation of this list incorporated data on the number of detections of H5N1 HPAI in the EU surveillance programme from 2005 – 2009 and recent findings on the epidemiology of this virus in wild birds. The list is kept under continuous review.

The detection of H5N1 HPAI in wild birds not associated with outbreaks in poultry illustrates the value of wild bird surveillance in the early detection of the presence of H5N1 HPAI in a country (e.g. Hesterberg *et al.* 2009). Detections of such infections in wild birds require the implementation of control measures, which include investigations on poultry holdings to detect possible virus introduction, increasing vigilance and reinforcement of biosecurity measures amongst the poultry sector, especially free-range poultry (EC 2006a). There is also broader value through the possibility to detect other H5 HPAI subtypes in wild birds that potentially provide early warning of increased risk for poultry incursion in a region or MS.

As in previous years, surveillance programmes in 2014 were variable between MS with respect to a number of parameters including: sample size, temporal pattern, and differential targeting of species and areas. Therefore only limited inferences can be made by direct comparisons of detections in different MS, species and seasons. The non-random nature of the sampling means that the proportion positive observed in a species, Member State or time period cannot be assumed to be the true prevalence in the population sampled. The efficacy of passive surveillance is problematic to measure as detection relies on birds dying and being found. A large amount of time and resources may be spent in patrolling a reserve, or the public may frequently observe a particular area, but if mortalities are not observed and reported to the appropriate veterinary authority then dead birds will not be tested for AI. Hence passive surveillance may be effective even when only a relatively small number of birds are tested.

A total of 5,683 wild birds, from 27 Member States of the European Union and one non-MS (Switzerland) were tested as a result of passive sampling programmes during the 2014 survey. As in 2011, 2012 and 2013, and in contrast to the period 2006-2010, H5N1 HPAI was not reported in wild birds. However H5N8 HPAI (clade 2.3.4.4) was detected via passive surveillance in 2014 in the EU, and also via active surveillance (although results of active surveillance not available in this report). Indeed detections of clade 2.3.4.4 H5 HPAI viruses have been made repeatedly in apparently healthy waterfowl in Europe, Asia and North America. These findings highlight the complex and changeable nature of the epidemiology of avian influenza and the potential role for active and passive surveillance in wild birds in Europe in the future (EFSA 2014).

The proportion of all wild birds sampled by passive surveillance that yielded any AI virus was 0.60% (n=34/5,683) in 2014, which is similar to previous years at around 0.29-2.96%. For HPAI H5N8 detected by passive surveillance, the proportion of wild birds testing positive was 0.02% (n=1/5,683); whilst the proportion testing positive for LPAI H5 or LPAI H7 was 0.04% (n=2/5,683), which is very similar to recent years (0.06% in 2011, 0.05% in 2012 and 0.05% in 2013).

LPAI viruses of subtype H5 were detected in two birds, one from the Netherlands and one from the United Kingdom. There were no detections of LPAI H7 by passive surveillance in 2014. It is pertinent to note here that H5 or H7 LPAI infection is highly unlikely to result in significant morbidity or mortality in most wild birds exposed in nature, while H5N1 HPAI can be fatal to many wild bird species.

5 METHODS

5.1 Poultry

5.1.1 Survey design

A ‘poultry holding', as defined in Council Directive 2009/158/EC (EC 2009), is a facility used for the rearing or keeping of breeding or productive poultry. For the purposes of avian influenza surveillance, this may include facilities that only contain poultry during certain months of the year (i.e. poultry do not need to be present all year round).

MS sampled holdings and submitted data for some or all of the following poultry categories:

- Chicken Breeders (CB)
- Conventional Laying Hens (LH) and Free-range Laying Hens (FR LH)
- Broilers (at heightened risk) (B)
- Fattening Turkeys (FT)
- Turkey Breeders (TB)
- Fattening Ducks (FD)
- Breeder Ducks (BD)
- Fattening Geese (FG)
- Breeder Geese (BG)
- Backyard Flocks (BYF)
- Farmed Game Birds (gallinaceous) (FGB-G) and Farmed Game Birds (waterfowl) (FGB-W)
- Ratites (R)
- Others (O)

Where the survey design was based upon **representative sampling,** the required number of holdings to be sampled for specified poultry categories was determined according to Tables 15 and 16 below.

Table 15 Number of holdings to be sampled of each poultry category (except turkey, duck and goose holdings)

Number of holdings per poultry category per Member State	Number of holdings to be sampled
Up to 34	All
35–50	35
51-80	42
81-250	53
>250	60

Note: The number of holdings to be sampled is defined to ensure the identification of at least one infected holding if the prevalence of infected holdings is at least 5%, with a 95% confidence interval.

Table 16 Number of turkey, duck and goose holdings to be sampled

Number of holdings per poultry category per Member State	Number of holdings to be sampled
Up to 46	All
47-60	47
61-100	59
101-350	80
>350	90

Note: The number of turkey, duck and goose holdings to be sampled is defined to ensure the identification of at least one infected holding if the prevalence of infected holdings is at least 5%, with a 99% confidence interval.

Where the survey design was based upon **risk-based surveillance**, the following criteria and risk factors would be considered:

- Criteria and risk factors for virus introduction into poultry holdings due to direct or indirect exposure to wild birds in particular those of identified 'target species' for HPAI H5N1 detection (EC 2010):

  (a) The location of the poultry holding in proximity to wet areas, ponds, swamps, lakes, rivers or sea shores where migratory wild water birds may gather.

  (b) The location of the poultry holding in areas with a high density of migratory wild birds, in particular of those birds that are characterised as 'target species'.

  (c) The location of poultry holding in proximity to resting and breeding places of migratory wild water birds, in particular where these areas are linked through migratory birds' movements to areas where HPAI H5N1 is known to occur in wild birds or poultry.

  (d) Poultry holdings with free range production, or poultry holdings where poultry or other captive birds are kept in the open-air in any premises in which contact with wild birds cannot be sufficiently prevented.

  (e) Low biosecurity level in the poultry holding, including the method of storage of feed and the use of surface water.

- Criteria and risk factors for virus spread within the poultry holding and between poultry holdings, as well as the consequences (impact) of the spread of avian influenza from poultry to poultry and between poultry holdings:

  (a) The presence of more than one poultry species in the same poultry holding, in particular the presence of domestic ducks and geese together with other poultry species.

  (b) The type of poultry production and the poultry species on the holding for which surveillance data have shown an increased detection rate of avian influenza infection in the Member State, such as duck holdings and poultry intended for re-stocking supplies of game (in particular farmed Mallards).

  (c) The location of the poultry holding in areas with high densities of poultry holdings.

(d) Trade patterns, including imports and related intensity of movements, both direct and indirect, of poultry and other factors including vehicles, equipment and persons.

(e) The presence of long lived poultry categories and multi-age groups of poultry on the holding (such as layers).

In addition, in terms of targeting of populations at risk:

- The level of targeting must reflect the number and local weighting of risk factors present on the poultry holding.
- The competent authority may consider other risk factors in its assessment in designing its surveillance design, which must be duly indicated and justified in their surveillance programme.
- Broilers should only be included when: (i) they are kept in significant numbers in free range production and (ii) they are considered to pose a higher risk of infection with avian influenza.
- Backyard Flocks generally play a minor role in virus circulation and spread and sampling them is resource intensive; however, in certain Member States Backyard Flocks may pose a higher risk of avian influenza due to their presence in significant numbers, their proximity to commercial poultry holdings, involvement in local/regional trade and other criteria and risk factors.

Table 17 shows the criteria and risk factors considered by Member States following a risk-based surveillance approach in their 2014 programmes, according to the guidelines of Commission Decision 2010/367/EU (EC 2010).

5.1.2 Laboratory testing

Samples were tested in accordance with the Diagnostic Manual for avian influenza, which lays down the procedures for confirmation and differential diagnosis of avian influenza (EC 2006b).

All positive serological findings must then be followed up at the poultry holding by epidemiological investigations and further sampling for testing by virological methods, in order to determine if active infection of avian influenza virus is present on the poultry holding.

Table 17 Criteria and risk factors considered by Member States following a risk-based surveillance approach in their 2014 poultry survey programme

Member State	Geographical				Demographic	Production Type	Biosecurity	Trade	Timing of Sampling	Reactive Sampling	Epidemiology	Location Explicitly Defined	Sampling difference between risk strata
	Proximity to waterbodies	Proximity to high density areas of migratory wild birds	Proximity to resting and breeding areas of migratory wild birds	Others	Densely populated poultry areas	Free-text	Presence of poultry holdings where poultry or other birds are kept in the open air in premises in which contact with wild birds cannot be sufficiently prevented.	Free-text	Free-text	Free-text			
BE		✓			✓	Free-Range holdings; Turkey, ducks and geese are considered most at risk; Distance between poultry holdings	✓					YES	
BG		✓	✓	Increased sampling on Romanian border					Sampling to coincide with seasonal production		Previous outbreak in 4 regions in 2006, these regions are included in risk strata	YES	
DE		✓			✓								
DK	Additional risk areas are defined as areas 3 km from the coastal line and around large lakes.					Game birds for restocking explicitly mentioned		When poultry and game birds are traded, they have to prove they have been tested within the preceding three months for poultry and two months for game birds				YES	Indoor Laying hens sampled in high risk areas only; Doubled frequency in breeding flocks (Hens, Ducks and Geese) in high risk area
FI				The poultry business in Finland is concentrated in the province of Western Finland.However, the aim is to include farms also from other parts of the country		The type of poultry production and the poultry species on the holding, such as duck holdings and poultry intended for re-stocking supplies of game.						NO	
FR	✓	✓				Free Range holdings; Holdings supplying non-EU approved abattoirs; More sampling of holdings with Chickens; Turkeys; Ducks and Geese; Game birds; Laying Hens	✓				Samples will be taken from game birds (pheasants, partridges and mallards) and waterfowl which have shown stronger serological prevalence in previous surveys.	NO	

Member State	Geographical				Demographic	Production Type	Biosecurity	Trade	Timing of Sampling	Reactive Sampling	Epidemiology	Location Explicitly Defined	Sampling difference between risk strata
	Proximity to waterbodies	Proximity to high density areas of migratory wild birds	Proximity to resting and breeding areas of migratory wild birds	Others	Densely populated poultry areas	Free-text	Presence of poultry holdings where poultry or other birds are kept in the open air in premises in which contact with wild birds cannot be sufficiently prevented.	Free-text	Free-text	Free-text			
IT	✓	✓	✓		✓	Production type and biosecurity of commercial holdings of susceptible species (presence on the holding of categories of poultry with a long productive life, of different ages and of different species);	✓	Flows and types			Risk factors for introduction and spread of previous epidemics	YES	Sampling in defined High Risk Areas: Turkey broilers; Breeding quail; Breeding ducks and geese; fattening ducks and geese; breeding flocks and laying hen flocks; ostriches; other birds bred for meat (excluding broilers and quail); Wild game Sampling in defined Low Risk Areas : fattening and breeding ducks and geese; breeding turkeys and broilers; breeding chicken; laying hens, both those kept indoors and free range; breeding wild game
LT	✓	✓	✓			Free Range Holdings	✓						
NL	✓	✓	✓		✓		✓	Flows and types: Breeders have extra testing		Contiguous and contact testing on seropositives		YES	Turkey holdings sampled 3 times more frequently, free range holdings samples 4 times more frequently. Pre-movement sampling.
RO	✓	✓				Presence of multiple species; Backyard Flocks; all holdings with game birds, quail and ratites will be sampled. Increased sampling in holdings with turkeys, ducks and geese			Sampling to coincide with seasonal production for commercial holdings, all year round for backyard flocks	Increased sampling in local areas where necessary. i.e. increased sampling in Danube area where wild birds can gather if poultry production is high in those areas			
UK	✓	✓			✓	Free-Range holdings; Mixed Poultry species holding, where one of the species is waterfowl					Minimum flock sizes for sampling	YES	Samples only taken from defined risk area

5.1.3 Data and data processing

The poultry data presented in the report are restricted to data that were collected in 2014 under Decisions 2010/367/EU (EC 2010) and (EC 2013).

MS submitted data to the EC database in a standardised format, containing laboratory testing information and more detailed information on the positive holdings found for each poultry category. The data submitted by MS were extracted from the EC database and checked and analysed by the EURL. The standardised format for submission of data ensured that in the majority of MS the data were complete and could be analysed effectively.

The total number of holdings for each poultry category in a MS was calculated using the total number of holdings figure provided for each NUTS code in the last semester of the year, or where this was not given, the first semester, only from NUTS regions where sampling took place. Hence if a MS did not sample in all NUTS regions that a poultry category is present, this figure will differ from the total number of holdings for that poultry category at the MS level.

Some MS sample holdings more than once within their approved surveillance programmes for the survey period. This was assumed to be the case where the reported number of holdings sampled for a poultry category exceeded the total number of holdings reported for that category.

If positives are found in two or more poultry categories on the same holding, they are reported in each of the poultry categories, but in the overall positive holdings figures for the MS, the holding would only be counted once. Similarly if positives are found for both H5 and H7 subtypes on the same holding, they are reported under each of the subtypes, but in the overall H5/H7 positive holdings figures for the MS, the holding would only be counted once.

For the comparison of survey results according to poultry categories across years, free-range and indoor categories were combined, as were fatteners and breeders for Turkeys, Ducks and Geese, and gallinaceous and waterfowl for Farmed Game Birds.

A number of MS that submitted data in the Others category provided further species details. In light of this information, if queries arose concerning whether a type of poultry should be included under Others or another category, they were referred to the relevant MS. For Estonia and Ireland, the following data originally submitted in the Others category were reassigned:

Estonia - One holding reassigned from Others (free-range geese) to Fattening Geese.

Ireland - One holding reassigned from Others (laying duck) to Breeder Ducks.

Where extra category species details were provided, information on holdings included under Others is shown in Table 18.

Table 18 Information on holdings included under the Others poultry category in 2014 (where category species details were provided)

Member State	Category species detail included	Comments
BE	Includes pigeon and guinea fowl (destined for slaughter, not to be released as game birds).	
BG	Includes hatchery and zoo.	
DE	Includes quail and zoo.	
EL	Includes poultry (mainly chicken) reared and sold for use as backyard.	This poultry category is exclusively farmed indoors in 'authorised holdings' with no access to the outside. At a certain age the birds are distributed by authorised merchants to rural areas where they are kept outside as backyard poultry. Due to this unique production system, EL reports these holdings under 'Others'.
ES	Includes dove, pigeon and chickens.	
FR	Includes guinea fowl.	
IT	Includes grower, guinea fowl and quail.	
PT	Includes other captive birds.	

The map (Figure 4) showing the intensity of sampling in the poultry survey and H5/H7 serologically positive holdings was produced using the ArcMap function of Arc GIS version 10.

The intensity of surveillance was determined by calculating the density of holdings sampled across mainly NUTS 2 with some NUTS 1 regions. Positive holdings are displayed at these same region levels.

5.2 Wild Birds

5.2.1 Survey design

In 2014, MS wild bird survey plans were approved under Commission Decision 2013/722/EU (EC 2013). Details of individual MS passive surveillance sampling strategies, as described in their 2014 survey plans can be found in Table 19.

5.2.2 Laboratory testing

Laboratory tests were carried out in accordance with the EU diagnostic manual for avian influenza (EC 2006b). It was recommended that samples should initially be tested using M gene PCR (to detect presence of AI virus), with rapid testing of positives for H5, and if possible N1, and that analysis of the haemagglutinin cleavage site should be undertaken to determine the pathogenicity of the AI virus.

5.2.3 Data and data processing

The data presented in this report is limited to data collected under Commission Decision 2010/367/EU (EC 2010), submitted to the EC database in the required format. Consequently the data may differ from other reporting systems such as the Animal Disease Notification System (ADNS).

Species of wild birds

For passive surveillance 5,048 birds were identified to species level (88.9%) whilst 30 submissions were completely unidentified (0.53%). For active surveillance 8,569 birds (89.8%) were identified to species level, whilst 5 were completely unidentified (0.05%).

Wild bird status

Information on the status of the bird at sampling (e.g. live, found dead etc.) was complete with 100% of birds sampled for the year 2014 having this information submitted.

Wild bird Subtype / Pathotype information

Of the 34 wild birds testing positive for influenza by passive surveillance, 25 (73.5%) had H subtype determined and 14 (41.1%) were identified as HPAI or LPAI.

Date of wild bird sampling

MS provided a localisation date (from when the bird was sampled in the field) for all birds sampled in 2014.

Wild bird spatial information

Maps were produced using the ArcMap function of Arc GIS version 10, and the sampling intensity is displayed per unit area at NUTS 3 level. Of the submitted spatial information for 2014, 11,009 (72.3% of birds sampled during this period) were provided with NUTS 3 codes or better for mapping. 4,213 (27.7%) wild birds could be located at NUTS 3 level via geo-coordinates provided.

Table 19 Summary of passive surveillance sampling strategies, as described in Member States 2014 wild bird survey plans

Member State	Target number of birds to sample	Surveillance design													Epidemiological situation of past 5 years as described in the MS 12 survey plans (2008-2012)
		EU Target Species	Location							Mass mortalities	Searching for birds	Collaboration with hunting or ornithological interest groups	General public	Temporal targeting	
			Proximity to water	Proximity of poultry holdings	Density of poultry holdings	Density of target species	Where HPAI found previously	Epi linked areas	Increased mortalities						
AT	300	✓	✓												Austria has been free of Avian Influenza in wild birds during the last 5 years.
BE	400	✓ (2)			✓	✓	✓			✓		✓	✓		2008 - H5, H7 and other H subtypes detected in aquatic birds 2009 - H7 and other H types found in ducks, swans and gulls 2010 - H5, H7 and other H types detected in ducks, geese, waders and gulls
BG	295	✓	✓	✓	✓					✓					2010 - HP H5N1 in a buzzard
CY	180	(1)	✓												HPAI not detected
CZ	300	(3)	✓	✓			✓	✓	✓	✓					2008 - LPAI H5 detected in five wild birds, 52 other AI cases (not H5 or H7) 2009 - 25 wild birds positive for LPAI (not H5 or H7) 2010 - 77 mallards found positive for LPAI (not H5 or H7)
DE	1,570	✓	✓			✓	✓								2009 - HP H5N1 in a mallard duck
DK	70	✓								✓			✓		HPAI not detected
EE	80	(4)												✓	HPAI not detected
EL	300	✓	✓		✓	✓	✓	✓			✓(5)	✓	✓		HPAI not detected
ES	1,387	✓	✓	✓			✓	✓	✓	✓	✓	✓	✓		HPAI not detected
FI	100	✓													HPAI not detected
FR	500	(6)	✓			✓									HPAI not detected
HU	1,440	✓	✓	✓			✓	✓	✓	✓					2009 - LPAI detected in 8 wild birds 2010 - LPAI detected in 13 wild birds
IE	500	✓	✓		✓					✓		✓	✓		2008 - 2 wild shot teal positive for LPAI (not H5 or H7) 2009 - 2 wild shot widgeon positive for LPAI H5, 1 wild shot teal positive for LPAI (not H5 or H7) 2010 - 1 wild shot teal positive for LPAI (not H5 or H7)
IT	500	✓	✓	✓	✓			✓	✓	✓	✓(5)				Not available
LT	20	✓	✓						✓	✓		✓			HPAI not detected
LU	160	(1)								✓					HPAI not detected

Member State	Target number of birds to sample	Surveillance design													Epidemiological situation of past 5 years (2008-2012)
		EU Target Species	Location							Mass mortalities	Searching for birds	Collaboration with hunting or ornithological interest groups	General public	Temporal targeting	
			Proximity to water	Proximity of poultry holdings	Density of poultry holdings	Density of target species	Where HPA found previously	Epi linked areas	Increased mortalities						
LV	20	(7)													2008 - 1 duck positive for LPAI (not H5 or H7) 2009 - 18 ducks positive for LPAI (not H5 or H7) 2010 - 19 ducks positive for LPAI (not H5 or H7) 2011 - 43 ducks positive for LPAI (not H5 or H7)
MT	10	(8)													HPAI not detected
NL	500	✓	✓	✓	✓			✓			✓(5)	✓	✓		2011 - LPAI H5 in swans 2012 - LPAI H5 in swans
PL	50	✓	✓	✓				✓			✓(5)				HPAI not detected
PT	350	✓	✓	✓		✓			✓			✓			2008 - LPAI H5 (9 birds) and H7 (7 birds) detected in Anseriformes
RO	487	✓	✓	✓	✓		✓	✓	✓		✓(5)	✓			HPAI not detected
SE	500	(1)									✓(5)				2009 - LPAI detected in 69 mallards 2010 - 77 wild birds positive for LPAI
SI	200	✓	✓	✓	✓						✓(5)	✓	✓		2008 - no H5 or H7 2009 - LPAI H5 detected in 1 mallard and H7 in 1 mute swan. 10 mallards LPAI positive (not H5 or H7) 2010 - 6 mallards positive for LPAI (not H5 or H7)
SK	400	✓	✓	✓	✓				✓		✓(5)	✓			HPAI not detected
UK	800	✓			✓	✓				✓	✓		✓		2008 - HP H5N1 in wild swans and a canada goose in England

(1) Information was not specified in the 2013 survey plan
(2) BE uses target species, plus 6 additional species identified as high risk in BE specifically
(3) CZ uses 6 'target species' considered higher risk in their country, not EU TS list
(4) EE target species are 'Waterfowl 70% and shorebirds 20% and other wild birds 10%'
(5) Searching for dead or moribund birds will occur if the epidemiological situation requires
(6) FR targeting Anatidae family
(7) LV targeting orders Anseriformes and Charadriiformes
(8) MT targets wild ducks and other migratory birds

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7 ANNEXES

7.1 Poultry Survey

7.1.1 Annex 1 Details of sampling by poultry category and MS for 2014 and 2013

Annex 1 Table 1 Total number of Chicken Breeder holdings reported (from regions where sampling took place), total number sampled and total number of positive holdings reported for 2014 and 2013 by Member State

Virological data is displayed in italics in parentheses. If a holding was virologically positive for H5/H7 only, further information is provided at the base of the table.

NS = Not sampled.

Member State	2014					2013				
	Total No. of Holdings	Total No. of Holdings Sampled	Positive Holdings			Total No. of Holdings	Total No. of Holdings Sampled	Positive Holdings		
			Total	H5	H7			Total	H5	H7
AT	85	23	0	0	0	93	33	0	0	0
BE	191	194	0	0	0	199	200	0	0	0
BG	10	6	0	0	0	14	9	0	0	0
CY	9	11	0	0	0	10	9	0	0	0
CZ	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
DE	80	1	0	0	0	NS	NS	NS	NS	NS
DK	465	470	0	0	0	454	503	0	0	0
EE	1	1	0	0	0	NS	NS	NS	NS	NS
EL	94	53	0	0	0	94	53	0	0	0
ES	377	98	0	0	0	374	83	1*(1)*	0	1*(1)*
FI	61	39	0	0	0	63	34	0	0	0
FR	857	60	0	0	0	5,330	60	0	0	0
HR	60	22	0	0	0	636	21	0	0	0
HU	143	56	0	0	0	158	50	0	0	0
IE	103	111	0	0	0	103	111	0	0	0
IT	280	392	0	0	0	220	429	0	0	0
LT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
LU	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
LV	1	1	0	0	0	1	1	0	0	0
MT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
NL	1,031	1,371	2*(2)*	2*(2)*	0	365	3,670	0	0	0
PL	481	62	0	0	0	488	66	0	0	0
PT	82	52	0	0	0	80	54	0	0	0
RO	39	69	0	0	0	42	75	0	0	0
SE	33	33	0	0	0	36	36	0	0	0
SI	8	8	0	0	0	8	8	0	0	0
SK	13	10	0	0	0	12	11	0	0	0
UK	95	11	0	0	0	84	8	0	0	0
Total	4,599	3,154	2*(2)*	2*(2)*	0	8,864	5,524	1*(1)*	0	1*(1)*
CH	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

Annex 1 Table 2 Total number of Conventional and Free-range Laying Hen holdings reported (from regions where sampling took place), total number sampled, and total number of positive holdings reported for 2014 and 2013 by Member State

Virological data is displayed in italics in parentheses. If a holding was virologically positive for H5/H7 only, further information is provided at the base of the table. Information is also provided on serological/virological data other than H5/H7.

NS = Not sampled.

Member State	2014										2013									
	Conventional Laying Hens					Free-range Laying Hens					Conventional Laying Hens					Free-range Laying Hens				
	Total No. of Holdings	Total No. of Holdings Sampled	Positive Holdings			Total No. of Holdings	Total No. of Holdings Sampled	Positive Holdings			Total No. of Holdings	Total No. of Holdings Sampled	Positive Holdings			Total No. of Holdings	Total No. of Holdings Sampled	Positive Holdings		
			Total	H5	H7			Total	H5	H7			Total	H5	H7			Total	H5	H7
AT	767	62	0	0	0	1,114	63	0	0	0	681	62	0	0	0	1,028	58	0	0	0
BE	163	207	0	0	0	94	189	1	1	0	219	242	1	0	1	131	137	0	0	0
BG	110	50	0	0	0	NS	NS	NS	NS	NS	85	32	0	0	0	NS	NS	NS	NS	NS
CY	27	22	0	0	0	13	25	0	0	0	22	24	0	0	0	14	28	0	0	0
CZ	125	53	0	0	0	7	7	0	0	0	113	53	0	0	0	6	6	0	0	0
DE	37,001	186	2	0	2	444	4	0	0	0	53,598	68	0	0	0	18,704	15	0	0	0
DK	23	31	0	0	0	110	170	1	1	0	23	35	0	0	0	102	160	0	0	0
EE	15	15	0	0	0	NS	NS	NS	NS	NS	14	19	0	0	0	NS	NS	NS	NS	NS
EL	372	50	1[1]	0	0	78	25	0	0	0	341	51	0	0	0	NS	NS	NS	NS	NS
ES	737	63	0	0	0	122	63	0	0	0	798	131	0	0	0	96	58	0	0	0
FI	294	61	0	0	0	46	33	0	0	0	297	50	0	0	0	40	15	0	0	0
FR	1,585	44	0	0	0	6,612	63	0	0	0	750	47	0	0	0	3,235	79	0	0	0
HR	138	47	0	0	0	18	3	0	0	0	1,260	59	0	0	0	NS	NS	NS	NS	NS
HU	486	63	0	0	0	7	7	0	0	0	450	63	0	0	0	3	3	0	0	0
IE	106	112	0	0	0	97	12	0	0	0	89	75	0	0	0	97	37	0	0	0
IT	1,121	1,573	0	0	0	200	193	0	0	0	892	1,603	0	0	0	150	211	1	1	0
LT	15	15	0	0	0	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
LU	4	4	0	0	0	4	4	0	0	0	4	4	0	0	0	4	4	0	0	0
LV	82	34	0	0	0	NS	NS	NS	NS	NS	107	35	0	0	0	NS	NS	NS	NS	NS
MT	33	35	0	0	0	NS	NS	NS	NS	NS	33	78	0	0	0	NS	NS	NS	NS	NS
NL	455	847	*2(2)*	*2(2)*	0	440	756	*2(2)*	*2(2)*	0	774	1,704	0	0	0	337	1,693	*6(6)*	*2(2)*	*4(4)*
PL	622	70	0	0	0	80	43	0	0	0	622	80	0	0	0	89	29	0	0	0
PT	127	55	0	0	0	18	16	0	0	0	143	58	0	0	0	NS	NS	NS	NS	NS
RO	220	180	0	0	0	NS	NS	NS	NS	NS	224	216	0	0	0	NS	NS	NS	NS	NS
SE	237	58	0	0	0	83	23	0	0	0	259	44	0	0	0	93	16	0	0	0
SI	228	59	0	0	0	NS	NS	NS	NS	NS	228	60	0	0	0	NS	NS	NS	NS	NS
SK	128	53	0	0	0	NS	NS	NS	NS	NS	126	55	0	0	0	NS	NS	NS	NS	NS
UK	1,212	84	0	0	0	NS	NS	NS	NS	NS	978	95	0	0	0	NS	NS	NS	NS	NS
Total	46,433	4,133	*5(2)*	*2(2)*	2	9,587	1,699	*4(2)*	*4(2)*	0	63,130	5,043	1	0	1	24,129	2,549	*7(6)*	*3(2)*	*4(4)*
CH	NS	NS	NS	NS	NS	1,544	79	0	0	0	NS	NS	NS	NS	NS	1,528	81	0	0	0

2014 notes

[1]One LH holding from EL was seropositive for influenza A (PCR negative/VI not performed).

Annex 1 Table 3 Total number of Broiler (at heightened risk) holdings reported (from regions where sampling took place), total number sampled, and total number of positive holdings reported for 2014 and 2013 by Member State

From 2013, the Broilers category has been reported as Broilers (at heightened risk) and includes broilers when (i) they are kept in significant numbers in free range production and (ii) they are considered to pose a higher risk of infection with avian influenza. In earlier survey years, the Broiler poultry category was reported as Conventional Broilers and Free-range Broilers.

NS = Not sampled.

Member State	2014					2013				
	Total No. of Holdings	Total No. of Holdings Sampled	Positive Holdings			Total No. of Holdings	Total No. of Holdings Sampled	Positive Holdings		
			Total	H5	H7			Total	H5	H7
AT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
BE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
BG	8	1	0	0	0	24	13	0	0	0
CY	3	4	0	0	0	2	1	0	0	0
CZ	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
DE	7	7	0	0	0	2,331	9	0	0	0
DK	17	18	0	0	0	10	2	0	0	0
EE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
EL	42	37	0	0	0	48	46	0	0	0
ES	NS	NS	NS	NS	NS	1,353	7	0	0	0
FI	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
FR	7,011	83	0	0	0	3,729	87	0	0	0
HR	NS	NS	NS	NS	NS	9	1	0	0	0
HU	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
IE	35	39	0	0	0	35	36	0	0	0
IT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
LT	NS	NS	NS	NS	NS	5	100	0	0	0
LU	4	4	0	0	0	4	4	0	0	0
LV	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
NL	168	776	0	0	0	703	839	0	0	0
PL	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
PT	241	64	0	0	0	244	57	0	0	0
RO	20	7	0	0	0	19	7	0	0	0
SE	35	12	0	0	0	34	26	0	0	0
SI	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SK	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
UK	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total	7,591	1,052	0	0	0	8,550	1,235	0	0	0
CH	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

Annex 1 Table 4 Total number of Fattening Turkey and Turkey Breeder holdings reported (from regions where sampling took place), total number sampled, and total number of positive holdings reported for 2014 and 2013 by Member State

Virological data is displayed in italics in parentheses. If a holding was virologically positive for H5/H7 only, further information is provided at the base of the table. Information is also provided on serological/virological data other than H5/H7.

NS = Not sampled.

Member State	2014										2013									
	Fattening Turkeys					Turkey Breeders					Fattening Turkeys					Turkey Breeders				
	Total No. of Holdings	Total No. of Holdings Sampled	Positive Holdings			Total No. of Holdings	Total No.of Holdings Sampled	Positive Holdings			Total No. of Holdings	Total No. of Holdings Sampled	Positive Holdings			Total No. of Holdings	Total No.of Holdings Sampled	Positive Holdings		
			Total	H5	H7			Total	H5	H7			Total	H5	H7			Total	H5	H7
AT	142	57	0	0	0	NS	NS	NS	NS	NS	143	53	0	0	0	NS	NS	NS	NS	NS
BE	42	54	0	0	0	NS	NS	NS	NS	NS	46	54	0	0	0	NS	NS	NS	NS	NS
BG	1	1	0	0	0	1	1	0	0	0	1	1	0	0	0	1	1	0	0	0
CY	5	5	0	0	0	NS	NS	NS	NS	NS	6	4	0	0	0	NS	NS	NS	NS	NS
CZ	34	42	0	0	0	1	1	0	0	0	37	43	0	0	0	1	1	0	0	0
DE	2,284	138	9[1]	0	0	7	1	0	0	0	2,359	98	0	0	0	3	1	0	0	0
DK	44	27	0	0	0	NS	NS	NS	NS	NS	40	24	0	0	0	NS	NS	NS	NS	NS
EE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
EL	38	26	0	0	0	2	1	0	0	0	39	25	0	0	0	4	3	0	0	0
ES	491	65	0	0	0	10	10	0	0	0	497	78	0	0	0	10	9	0	0	0
FI	31	31	0	0	0	8	6	0	0	0	35	33	0	0	0	NS	NS	NS	NS	NS
FR	4,421	58	0	0	0	283	50	0	0	0	1,016	125	0	0	0	311	64	0	0	0
HR	76	16	0	0	0	15	1	0	0	0	270	11	0	0	0	19	2	0	0	0
HU	293	59	0	0	0	26	23	0	0	0	332	62	0	0	0	26	20	0	0	0
IE	107	55	0	0	0	NS	NS	NS	NS	NS	107	48	0	0	0	NS	NS	NS	NS	NS
IT	877	1,406	0	0	0	55	68	0	0	0	732	1,451	0	0	0	28	61	0	0	0
LT	1	1	0	0	0	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
LU	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
LV	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
NL	53	75	0	0	0	NS	NS	NS	NS	NS	54	180	0	0	0	NS	NS	NS	NS	NS
PL	215	55	0	0	0	11	11	0	0	0	213	52	0	0	0	11	12	0	0	0
PT	156	62	0	0	0	NS	NS	NS	NS	NS	156	55	0	0	0	NS	NS	NS	NS	NS
RO	14	23	0	0	0	NS	NS	NS	NS	NS	10	16	0	0	0	NS	NS	NS	NS	NS
SE	16	16	0	0	0	2	2	0	0	0	20	25	0	0	0	2	3	0	0	0
SI	43	43	0	0	0	NS	NS	NS	NS	NS	45	43	0	0	0	NS	NS	NS	NS	NS
SK	8	4	0	0	0	6	6	0	0	0	6	6	0	0	0	6	5	0	0	0
UK	378	83	0	0	0	54	1	0	0	0	397	85	0	0	0	5	5	0	0	0
Total	9,770	2,402	9	0	0	481	182	0	0	0	6,561	2,572	0	0	0	427	187	0	0	0
CH	83	22	0	0	0	NS	NS	NS	NS	NS	68	23	0	0	0	NS	NS	NS	NS	NS

2014 notes

[1]Five FT holdings were seropositive for H9 (PCR/VI not performed) and four FT holdings were seropositive for influenza A (PCR/VI not performed), all from DE.

Annex 1 Table 5 Total number of Fattening and Breeder Duck holdings reported (from regions where sampling took place), total number sampled, and total number of positive holdings reported for 2014 and 2013 by Member State

Virological data is displayed in italics in parentheses. If a holding was virologically positive for H5/H7 only, further information is provided at the base of the table. Information is also provided on serological/virological data other than H5/H7.

NS = Not sampled.

Member State	2014										2013									
	Fattening Ducks					Breeder Ducks					Fattening Ducks					Breeder Ducks				
	Total No. of Holdings	Total No. of Holdings Sampled	Positive Holdings			Total No. of Holdings	Total No. of Holdings Sampled	Positive Holdings			Total No. of Holdings	Total No. of Holdings Sampled	Positive Holdings			Total No. of Holdings	Total No. of Holdings Sampled	Positive Holdings		
			Total	H5	H7			Total	H5	H7			Total	H5	H7			Total	H5	H7
AT	48	26	0	0	0	NS	NS	NS	NS	NS	11	11	0	0	0	NS	NS	NS	NS	NS
BE	22	26	5	5	0	NS	NS	NS	NS	NS	19	25	*2(1)* [2]	2	0	NS	NS	NS	NS	NS
BG	93	52	0	0	0	NS	NS	NS	NS	NS	102	52	0	0	0	NS	NS	NS	NS	NS
CY	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
CZ	16	32	0	0	0	15	21	0	0	0	13	24	0	0	0	13	19	0	0	0
DE	4,865	118	1	1	0	NS	NS	NS	NS	NS	3,320	89	0	0	0	NS	NS	NS	NS	NS
DK	56	9	0	0	0	1	1	0	0	0	60	13	0	0	0	1	2	0	0	0
EE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
EL	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ES	52	40	*3(3)* [1]	0	0	NS	NS	NS	NS	NS	55	42	*2(2)* [3]	0	0	NS	NS	NS	NS	NS
FI	5	4	0	0	0	NS	NS	NS	NS	NS	3	3	0	0	0	NS	NS	NS	NS	NS
FR	2,348	65	4	4	0	142	50	7	7	0	2,930	141	5	5	0	220	80	24	24	0
HR	53	17	0	0	0	29	7	0	0	0	163	12	0	0	0	138	7	0	0	0
HU	419	79	0	0	0	31	28	0	0	0	308	78	0	0	0	26	25	0	0	0
IE	5	2	0	0	0	3	2	0	0	0	6	6	1	1	0	NS	NS	NS	NS	NS
IT	151	98	0	0	0	10	16	0	0	0	57	116	0	0	0	NS	NS	NS	NS	NS
LT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
LU	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
LV	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
NL	37	41	*1(1)*	*1(1)*	0	55	68	0	0	0	35	46	0	0	0	13	28	0	0	0
PL	337	73	0	0	0	40	34	0	0	0	353	82	0	0	0	30	24	0	0	0
PT	14	13	0	0	0	2	2	0	0	0	13	13	0	0	0	2	2	0	0	0
RO	2	4	0	0	0	NS	NS	NS	NS	NS	2	4	0	0	0	NS	NS	NS	NS	NS
SE	3	2	0	0	0	NS	NS	NS	NS	NS	1	1	0	0	0	NS	NS	NS	NS	NS
SI	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SK	14	5	0	0	0	2	1	0	0	0	14	5	0	0	0	3	2	0	0	0
UK	84	31	0	0	0	91	23	0	0	0	105	37	0	0	0	92	44	3	3	0
Total	8,624	737	14*(4)*	11*(1)*	0	421	253	7	7	0	7,570	800	10*(3)*	8	0	538	233	27	27	0
CH	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

2014 notes

[1]Three FD holdings from ES were seropositive and PCR positive for influenza A (VI negative).

2013 notes

[2]One H5 seropositive FD holding from BE was also PCR positive for influenza A virus (VI negative).

[3]One FD holding from ES was PCR (only) positive for influenza A virus (serology/VI negative); another was also PCR (only) positive for influenza A virus (serology negative/VI not performed).

Annex 1 Table 6 Total number of Fattening and Breeder Geese holdings reported (from regions where sampling took place), total number sampled, and total number of positive holdings reported for 2014 and 2013 by Member State

Virological data is displayed in italics in parentheses. If a holding was virologically positive for H5/H7 only, further information is provided at the base of the table.

NS = Not sampled.

Member State	2014										2013									
	Fattening Geese					Breeder Geese					Fattening Geese					Breeder Geese				
	Total No. of Holdings	Total No. of Holdings Sampled	Positive Holdings			Total No. of Holdings	Total No. of Holdings Sampled	Positive Holdings			Total No. of Holdings	Total No. of Holdings Sampled	Positive Holdings			Total No. of Holdings	Total No. of Holdings Sampled	Positive Holdings		
			Total	H5	H7			Total	H5	H7			Total	H5	H7			Total	H5	H7
AT	71	59	0	0	0	NS	NS	NS	NS	NS	42	42	0	0	0	NS	NS	NS	NS	NS
BE	NS	NS	NS	NS	NS	4	2	0	0	0	NS	NS	NS	NS	NS	3	2	0	0	0
BG	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
CY	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
CZ	3	3	0	0	0	7	7	0	0	0	3	3	0	0	0	7	7	0	0	0
DE	4,144	37	0	0	0	NS	NS	NS	NS	NS	3,594	26	0	0	0	1	1	0	0	0
DK	27	3	0	0	0	NS	NS	NS	NS	NS	26	3	0	0	0	NS	NS	NS	NS	NS
EE	1	1	0	0	0	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
EL	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ES	11	10	0	0	0	NS	NS	NS	NS	NS	4	4	0	0	0	NS	NS	NS	NS	NS
FI	3	2	2	2	0	NS	NS	NS	NS	NS	2	2	1	1	0	NS	NS	NS	NS	NS
FR	NS	NS	NS	NS	NS	40	36	5	5	0	NS	NS	NS	NS	NS	30	17	4	4	0
HR	NS	NS	NS	NS	NS	9	9	0	0	0	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
HU	435	80	0	0	0	70	46	0	0	0	362	93	0	0	0	63	54	0	0	0
IE	NS	NS	NS	NS	NS	2	1	0	0	0	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
IT	65	22	0	0	0	7	11	0	0	0	17	23	0	0	0	NS	NS	NS	NS	NS
LT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
LU	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
LV	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
NL	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
PL	982	94	0	0	0	230	85	5	4	1	953	91	0	0	0	226	83	1	1	0
PT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
RO	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SE	9	9	0	0	0	NS	NS	NS	NS	NS	18	13	0	0	0	NS	NS	NS	NS	NS
SI	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SK	8	4	0	0	0	NS	NS	NS	NS	NS	11	3	0	0	0	2	1	0	0	0
UK	112	47	0	0	0	23	11	0	0	0	107	34	0	0	0	20	10	0	0	0
Total	5,871	371	2	2	0	392	208	10	9	1	5,139	337	1	1	0	352	175	5	5	0
CH	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

Annex 1 Table 7 Total number of Backyard Flock holdings reported (from regions where sampling took place), total number sampled, and total number of positive holdings reported for 2014 and 2013 by Member State

Virological data is displayed in italics in parentheses. (If a holding was virologically positive for H5/H7 only, further information is provided at the base of the table).

NS = Not sampled.

Member State	2014					2013				
	Total No. of Holdings	Total No. of Holdings Sampled	Positive Holdings			Total No. of Holdings	Total No. of Holdings Sampled	Positive Holdings		
			Total	H5	H7			Total	H5	H7
AT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
BE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
BG	25,411	102	0	0	0	230,422	433	0	0	0
CY	1,247	20	0	0	0	8,500	22	0	0	0
CZ	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
DE	61,371	21	0	0	0	4,696	7	0	0	0
DK	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
EE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
EL	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ES	4,300	27	0	0	0	6,930	21	0	0	0
FI	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
FR	3,579	44	0	0	0	1,250	53	0	0	0
HR	314	41	0	0	0	435	45	0	0	0
HU	227,006	498	0	0	0	261,610[1]	521	0	0	0
IE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
IT	624	624	0	0	0	834	948	*4(3)*	*4(3)*[2]	0
LT	NS	NS	NS	NS	NS	1	1	0	0	0
LU	500	4	0	0	0	500	7	0	0	0
LV	3,212	167	0	0	0	2,831	165	0	0	0
MT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
NL	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
PL	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
PT	237,000	63	0	0	0	237,000	68	*1(1)*	0	*1(1)*[3]
RO	1,050	1,016	0	0	0	603	1,201	0	0	0
SE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SI	4,154	92	0	0	0	4,154	86	0	0	0
SK	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
UK	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total	569,768	2,719	0	0	0	759,766	3,578	*5(4)*	*4(3)*	*1(1)*
CH	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

2013 notes

[1]The total number of BYF holdings reported from HU is an estimate.

[2]One BYF holding from IT was PCR (only) positive for H5 (serology negative/VI not performed).

[3]One BYF holding from PT was PCR (only) positive for H7 (serology/VI negative).

Annex 1 Table 8 Total number of Farmed Game Bird (gallinaceous) and Farmed Game Bird (waterfowl) holdings reported (from regions where sampling took place), total number sampled, and total number of positive holdings reported for 2014 and 2013 by Member State

Virological data is displayed in italics in parentheses. If a holding was virologically positive for H5/H7 only, further information is provided at the base of the table. Information is also provided on serological/virological data other than H5/H7. NS = Not sampled.

Since 2013 the Farmed Game Bird category has been reported as Farmed Game Birds (gallinaceous) and Farmed Game Birds (waterfowl). In earlier survey years, it was reported as one combined category.

Member State	2014										2013									
	Farmed Game Birds (gallinaceous)					Farmed Game Birds (waterfowl)					Farmed Game Birds (gallinaceous)					Farmed Game Birds (waterfowl)				
	Total No. of Holdings	Total No. of Holdings Sampled	Positive Holdings			Total No. of Holdings	Total No. of Holdings Sampled	Positive Holdings			Total No. of Holdings	Total No. of Holdings Sampled	Positive Holdings			Total No. of Holdings	Total No. of Holdings Sampled	Positive Holdings		
			Total	H5	H7			Total	H5	H7			Total	H5	H7			Total	H5	H7
AT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
BE	NS	20	0	0	0	NS	NS	NS	NS	NS	27	23	0	0	0	NS	NS	NS	NS	NS
BG	NS	4	0	0	0	NS	NS	NS	NS	NS	3	3	0	0	0	NS	NS	NS	NS	NS
CY	NS	5	0	0	0	NS	NS	NS	NS	NS	3	6	0	0	0	NS	NS	NS	NS	NS
CZ	NS	31	0	0	0	5	11	0	0	0	23	31	0	0	0	8	10	0	0	0
DE	NS	2	0	0	0	10	3	0	0	0	5	1	0	0	0	117	7	0	0	0
DK	NS	74	0	0	0	38	14	0	0	0	179	195	0	0	0	33	24	0	0	0
EE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1	1	0	0	0	1	1	0	0	0
EL	19	14	0	0	0	NS	NS	NS	NS	NS	17	13	0	0	0	NS	NS	NS	NS	NS
ES	518	252	0	0	0	142	147	0	0	0	413	184	0	0	0	144	167	0	0	0
FI	14	11	0	0	0	3	3	0	0	0	9	6	0	0	0	2	2	0	0	0
FR	1,280	50	0	0	0	762	14	0	0	0	70	28	0	0	0	NS	NS	NS	NS	NS
HR	11	8	0	0	0	2	2	0	0	0	39	3	0	0	0	NS	NS	NS	NS	NS
HU	71	35	0	0	0	14	11	0	0	0	48	40	0	0	0	12	10	0	0	0
IE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
IT	468	318	0	0	0	NS	NS	NS	NS	NS	182	323	0	0	0	NS	NS	NS	NS	NS
LT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
LU	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
LV	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
NL	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
PL	92	37	0	0	0	NS	NS	NS	NS	NS	81	38	0	0	0	NS	NS	NS	NS	NS
PT	74	43	0	0	0	2	2	0	0	0	66	41	0	0	0	1	1	0	0	0
RO	17	17	0	0	0	NS	NS	NS	NS	NS	19	29	0	0	0	NS	NS	NS	NS	NS
SE	18	12	0	0	0	5	5	0	0	0	19	16	0	0	0	9	7	*1(1)* [1]	1	0
SI	5	5	0	0	0	1	1	0	0	0	5	5	0	0	0	NS	NS	NS	NS	NS
SK	22	18	0	0	0	NS	NS	NS	NS	NS	24	15	0	0	0	NS	NS	NS	NS	NS
UK	284	43	0	0	0	162	25	0	0	0	261	38	0	0	0	243	28	1	1	0
Total	3,768	999	0	0	0	1,146	238	0	0	0	1,494	1,039	0	0	0	570	257	*2(1)*	2	0
CH	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

2013 notes

[1]One H5 seropositive FGB-W holding from SE was also PCR positive for influenza A virus (VI negative).

Annex 1 Table 9 Total number of Ratite holdings reported (from regions where sampling took place), total number sampled, and total number of positive holdings reported for 2014 and 2013 by Member State

Virological data is displayed in italics in parentheses. If a holding was virologically positive for H5/H7 only, further information is provided at the base of the table.

NS = Not sampled.

Member State	2014					2013				
	Total No. of Holdings	Total No. of Holdings Sampled	Positive Holdings			Total No. of Holdings	Total No. of Holdings Sampled	Positive Holdings		
			Total	H5	H7			Total	H5	H7
AT	16	16	0	0	0	10	8	0	0	0
BE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
BG	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
CY	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
CZ	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
DE	31	4	0	0	0	9	5	*1(1)*	*1(1)*	0
DK	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
EE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
EL	2	1	0	0	0	3	2	0	0	0
ES	81	38	0	0	0	89	39	0	0	0
FI	3	3	0	0	0	3	3	0	0	0
FR	93	2	0	0	0	25	11	0	0	0
HR	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
HU	4	4	0	0	0	3	3	0	0	0
IE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
IT	61	28	0	0	0	23	39	0	0	0
LT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
LU	1	2	0	0	0	1	2	0	0	0
LV	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
NL	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
PL	74	33	1	1	0	84	47	0	0	0
PT	4	4	0	0	0	4	4	0	0	0
RO	NS	NS	NS	NS	NS	1	2	0	0	0
SE	3	3	0	0	0	2	3	0	0	0
SI	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SK	8	7	0	0	0	16	9	0	0	0
UK	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total	381	145	1	1	0	273	177	*1(1)*	*1(1)*	0
CH	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

Annex 1 Table 10 Total number of Other holdings reported (from regions where sampling took place), total number sampled, and total number of positive holdings reported for 2014 and 2013 by Member State

Virological data is displayed in italics in parentheses. If a holding was virologically positive for H5/H7 only, further information is provided at the base of the table. NS = Not sampled.

For information on the type of holdings included under Others, please see Table 18.

	2014					2013				
	Total No. of Holdings	Total No. of Holdings Sampled	Positive Holdings			Total No. of Holdings	Total No. of Holdings Sampled	Positive Holdings		
			Total	H5	H7			Total	H5	H7
AT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
BE	9	7	0	0	0	5	4	0	0	0
BG	1,500	31	0	0	0	4	3	0	0	0
CY	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
CZ	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
DE	111,759	245	0	0	0	91,723	149	*6(1)*[2]	*5(1)*	0
DK	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
EE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
EL	108	61	0	0	0	111	56	0	0	0
ES	4,565	104	0	0	0	6,560	162	0	0	0
FI	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
FR	4,447	65	0	0	0	1,200	49	0	0	0
HR	1	1	0	0	0	NS	NS	NS	NS	NS
HU	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
IE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
IT	826	984	*3(3)*	*1(1)*[1]	*2(2)*	501	1,091	*2(2)*	*2(2)*	0
LT	22	22	0	0	0	NS	NS	NS	NS	NS
LU	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
LV	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
NL	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
PL	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
PT	1	1	0	0	0	NS	NS	NS	NS	NS
RO	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SI	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SK	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
UK	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total	123,238	1,521	*3(3)*	*1(1)*	*2(2)*	100,104	1,514	*8(3)*	*7(3)*	0
CH	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

2014 notes

[1]One O holding from IT was PCR (only) positive for H5 (serology/VI negative).

2013 notes

[2]One O holding from DE was seropositive for H9 (PCR/VI negative).

7.1.2 Annex 2 Additional information on results of the 2014 poultry survey

Annex 2 Table 1 Poultry holdings testing positive for subtype H5

Member State	Poultry category	Total poultry holdings reported (from regions where sampling took place)	Total poultry holdings sampled	Number of H5 serological positive poultry holdings	Number of PCR / virus isolation H5 positive poultry holdings	Comments
BE	Free-range Laying Hens	94	189	1		
	Fattening Ducks	22	26	5		
DE	Fattening Ducks	4,865	118	1		
DK	Free-range Laying Hens	110	170	1		
FI	Fattening Geese	3	2	2		
FR	Fattening Ducks	2,348	65	4		
	Breeder Ducks	142	50	7		
	Breeder Geese	40	36	5		
IT	Others	826	984	0	1	One holding PCR (only) positive for H5 (serology/VI negative).
NL	Chicken Breeders	1,031	1,371	2	2	Two holdings serologically and PCR/VI positive for H5.
	Conventional Laying Hens	455	847	2	2	Two holdings serologically and PCR/VI positive for H5.
	Free-range Laying Hens	440	756	2	2	Two holdings serologically and PCR/VI positive for H5.
	Fattening Ducks	37	41	1	1	One holding serologically and PCR/VI positive for H5.
PL	Breeder Geese	230	85	4		
	Ratites	74	33	1		
Total		10,717	4,773	38	8	

Annex 2 Table 2 Poultry holdings testing positive for subtype H7

Member State	Poultry category	Total poultry holdings reported (from regions where sampling took place)	Total poultry holdings sampled	Number of H7 serological positive poultry holdings	Number of PCR / virus isolation H7 positive poultry holdings	Comments
DE	Conventional Laying Hens	37,001	186	2		
IT	Others	826	984	2	2	Two holdings serologically and PCR positive for H7 (one was VI negative and the other was VI not performed).
PL	Breeder Geese	230	85	1		
Total		38,057	1,255	5	2	

Annex 2 Table 3 Number of poultry holdings positive for subtype H5 by serology, serology and PCR/virus isolation, or PCR/virus isolation only

Member State	Poultry category	Number serologically positive only, PCR/virus isolation negative or not performed	Number serologically positive and PCR/virus isolation positive	Number PCR/ virus isolation positive, serology negative or not performed
BE	Free-range Laying Hens	1		
	Fattening Ducks	5		
DE	Fattening Ducks	1		
DK	Free-range Laying Hens	1		
FI	Fattening Geese	2		
FR	Fattening Ducks	4		
	Breeder Ducks	7		
	Breeder Geese	5		
IT	Others	0		1
NL	Chicken Breeders		2	
	Conventional Laying Hens		2	
	Free-range Laying Hens		2	
	Fattening Ducks		1	
PL	Breeder Geese	4		
	Ratites	1		
EU Total		31	7	1

Annex 2 Table 4 Number of poultry holdings positive for subtype H7 by serology, serology and PCR/virus isolation, or PCR/virus isolation only

Member State	Poultry category	Number serologically positive only, PCR/virus isolation negative or not performed	Number serologically positive and PCR/virus isolation positive	Number PCR/ virus isolation positive, serology negative or not performed
DE	Conventional Laying Hens	2		
IT	Others		2	
PL	Breeder Geese	1		
EU Total		3	2	0

7.2 Wild Bird Annex

7.2.1 Annex 3 – Passive surveillance data

7.2.1.1 Diagnosis

This section reports the samples collected through passive surveillance activities and the associated test results. The 2007 guidelines (EC, 2007) recommend oro-pharyngeal (tracheal) and cloacal swabs to be collected from healthy free living birds and cloacal and oro-pharyngeal swabs and/ or tissues from dead or shot birds as the basis of sampling for HPAI H5N1. Similarly, the 2010 guidelines (EC 2010a) recommend that cloacal and tracheal/oro-pharyngeal swabs and/or tissues from wild birds found dead or moribund should be sampled. The totals for the 2014 testing regimes are shown below.

Annex 3 Table 1 Type of samples collected for birds sampled by passive surveillance in 2014, by status of bird - EU-data only.

Sample type	Status of bird			Passive surveillance total
	Found dead	Injured	Live with clinical signs	
Cloacal	1,056	89	5	1,150
Faeces	56	0	0	56
Other	753	8	1	762
Tissue	1,882	1	13	1,896
Tracheal	628	10	23	661
Cloacal and Tissue	2	0	0	2
Cloacal and Tracheal	980	10	41	1,031
Faeces and Other	1	0	0	1
Faeces and Tissue	6	0	0	6
Tissue and Other	70	0	1	71
Tracheal and Tissue	7	0	0	7
Cloacal, Tracheal and Other	9	1	0	10
Cloacal, Tracheal and Tissue	16	1	0	17
Faeces, Tissue and Other	2	0	0	2
Faeces, Tracheal and Tissue	1	0	0	1
Cloacal, Faeces, Tracheal and Tissue	1	0	0	1
Cloacal, Tracheal, Tissue and Other	9	0	0	9
EU Total	**5,479**	**120**	**84**	**5,683**

The most commonly submitted sample type for birds found dead was tissue (34.3%). Cloacal swabs (19.3%) and birds with both cloacal and oro-pharyngeal (tracheal) swab submissions (17.9%) were also tested in large numbers for dead birds. For injured birds, the majority of samples collected were cloacal swabs (74.2%), whilst for live birds with clinical signs; the most common sample type was for birds where both cloacal and tracheal samples were submitted (48.8%) (Table A3.1).

7.2.1.2 AI Positives

In 2014, both birds found dead and one bird live with clinical signs tested positive for AI; no AI virus was detected in birds that were injured. Tables A3.2 and A3.3 show the test results for birds that were positive for AI virus (all subtypes) that were found dead and live with clinical signs, respectively. For both bird status' and all sample types, a high proportion of those tested by both PCR and virus isolation were PCR positive only and VI negative.

Of the 13 AI positive birds that had oro-pharyngeal (tracheal) and cloacal swabs tested, seven tested positive on the cloacal swab only (Tables A3.2 and A3.3).

H5N8 HPAI was isolated from one wild bird 'found dead' where cloacal sampling only was conducted. The cloacal swab for this bird was positive by PCR, but virus isolation was not performed.

Annex 3 Table 2 Test-results and samples taken for found dead birds - EU-data only.

Sample type	Total number of birds sampled	Total number of birds positive	PCR+ VI+	PCR+ VI-	PCR+ VI NP	PCR- VI NP
Cloacal	1,056	6	0	1	5	-
Other	753	1	0	0	1	-
Tissue	1,882	13	2	4	7	-
Cloacal &	980	13	0	6	6	1
Tracheal			0	1	5	7

Annex 3 Table 3 Test-results and samples taken for birds live with clinical signs - EU-data only.

Sample type	Total number of birds sampled	Total number of birds positive	PCR+ VI+	PCR+ VI-	PCR+ VI NP	PCR- VI NP
Cloacal &	41	1	0	1	0	0
Tracheal			0	0	0	1

7.2.1.3 Type of Surveillance by Quarter

Table A3.4 displays the number of birds sampled in 2014, by passive surveillance in each bird status category (found dead, injured and live with clinical signs).

Annex 3 Table 4 Number of birds tested through passive surveillance by quarter and Member State (injured, diseased and dead birds) in 2014 – Non-MS data included.

Member State	Quarter 1			Quarter 2			Quarter 3			Quarter 4		
	Found dead	Injured	Live with clinical signs	Found dead	Injured	Live with clinical signs	Found dead	Injured	Live with clinical signs	Found dead	Injured	Live with clinical signs
AT	7	0	0	16	0	0	34	0	0	8	0	0
BE	84	0	0	39	0	0	45	0	0	35	0	0
BG	1	0	0	2	0	0	4	0	0	1	0	0
CY	6	18	0	1	14	0	11	33	2	7	22	2
CZ	9	0	0	9	0	0	40	0	0	13	0	0
DE	183	0	0	256	0	4	271	0	2	534	0	4
DK	0	0	0	4	0	0	1	0	0	5	0	0
EE	0	0	0	0	0	0	0	0	0	2	0	0
EL	0	0	5	0	0	0	0	7	0	0	0	0
ES	78	0	1	20	0	0	56	6	0	105	0	2
FI	22	0	0	21	0	0	29	0	0	26	0	0
FR	5	0	0	11	0	0	28	0	0	34	0	0
HR	14	0	0	8	0	0	6	0	0	5	0	0
HU	53	0	0	50	0	0	95	0	0	1,076	0	0
IE	14	0	0	2	0	0	7	0	1	8	0	1
IT	0	0	0	8	0	0	447	0	4	186	0	4
LT	2	0	0	10	0	0	13	0	0	4	0	0
LU	0	0	0	0	0	0	2	0	0	2	0	0
LV	0	0	0	0	0	0	2	0	0	0	0	0
NL	56	0	0	6	0	0	73	0	0	61	0	0
PL	6	0	0	5	0	0	13	0	0	16	0	0
PT	10	0	1	3	0	0	39	0	0	34	11	18
RO	51	1	0	23	0	0	53	0	1	59	0	0
SE	53	3	0	52	5	0	74	0	0	76	0	0
SI	26	0	4	26	0	16	11	0	10	12	0	1
SK	9	0	0	3	0	0	5	0	0	3	0	0
UK	117	0	0	92	0	0	204	0	0	125	0	0
EU Total	**806**	**22**	**11**	**667**	**19**	**20**	**1,563**	**46**	**20**	**2,437**	**33**	**32**
CH	1	0	0	0	0	0	4	0	1	1	0	0

Table A3.5 displays the number of birds of Target Species and non-Target Species sampled by MS and quarter.

Annex 3 Table 5 Number of target species (TS) sampled in each quarter by Member State in 2014 – Non-MS data included.

Member State	Quarter 1		Quarter 2		Quarter 3		Quarter 4	
	TS	Non-TS	TS	Non-TS	TS	Non-TS	TS	Non-TS
AT	6	0	15	0	25	8	4	1
BE	58	26	10	29	23	22	15	20
BG	1	0	0	2	0	4	0	1
CY	7	16	2	13	11	35	9	19
CZ	9	0	5	4	35	5	6	7
DE	79	52	88	127	105	104	298	118
DK	0	0	4	0	1	0	5	0
EE	0	0	0	0	0	0	2	0
EL	3	2	0	0	0	7	0	0
ES	26	52	11	5	41	20	23	48
FI	9	13	10	11	13	17	9	17
FR	0	5	4	7	25	3	20	14
HR	4	10	2	6	2	4	2	3
HU	3	50	9	41	9	86	400	676
IE	10	4	2	0	3	5	8	1
IT	0	0	2	6	147	282	42	135
LT	2	0	10	0	5	8	4	0
LU	0	0	0	0	0	0	2	0
LV	0	0	0	0	0	1	0	0
NL	27	29	3	3	54	15	16	33
PL	6	0	0	5	1	12	6	10
PT	2	7	2	1	13	25	17	45
RO	45	1	20	3	51	3	42	9
SE	5	51	12	45	23	50	23	52
SI	23	7	14	28	5	16	7	5
SK	3	5	1	2	0	0	2	0
UK	65	40	52	25	138	31	72	11
EU Total	**393**	**370**	**278**	**363**	**730**	**763**	**1,034**	**1,225**
CH	1	0	0	0	5	0	1	0

7.2.1.4 Overview of Results by Species

Table A3.6: Detections of HPAI H5N8 (in brackets) that were reported by TS (in bold) and non-TS and the number of those species sampled in each MS – Non-MS data included.

Table A3.7: Detections of LPAI H5 (in brackets) that were reported by TS (in bold) and non-TS and the number of those species sampled in each MS – Non-MS data included.

Table A3.8: Detections of all AI types (in brackets) by TS (in bold) and non-TS and the number of those species sampled in each MS - Non-MS data included.

The aim of these tables is to provide context of AI detections taking into account bird species and the number of birds sampled by MS.

Key to tables

Headings	
LPAI H5	All AI patho/subtypes
LPAI H7	No AI positives
HPAI H5	Not sampled

Not presenting actual data, for illustrative purposes only.

Annex 3: Table 6 Detections of HPAI H5N8 (in brackets) that were reported by TS (in bold) and non-TS and the number of those species sampled in each MS – Non-MS data included.

Species	AT	BE	CY	CZ	DE	DK	EE	ES	FR	HU	IE	IT	LT	NL	PL	PT	RO	SE	SI	UK	EU
Anas platyrhynchos	12	19	2	33	214 (1)	2	1	34	32	189	2	49	13	47	2	10	35	7	3	79	785 (1)

Target species indicated with bold text.

Annex 3 Table 7 Detections of LPAI H5 (in brackets) that were reported by TS (in bold) and non-TS and the number of those species sampled in each MS – Non-MS data included.

Species	AT	BE	CY	CZ	DE	DK	ES	FI	FR	HR	HU	IE	IT	LT	NL	PL	SE	SI	SK	UK	EU
Alca torda							2													22 (1)	24 (1)
Cygnus olor	12	7	1	19	45	1	2	2	16	2	9	6	2	7	21 (1)	10	7	28	4	66	267 (1)

Target species indicated with bold text.

Annex 3 Table 8 Detections of all AI types (in brackets) by TS (in bold) and non-TS and the number of those species sampled in each MS - Non-MS data included

Species	AT	BE	CY	CZ	DE	DK	EE	EL	ES	FI	FR	HR	HU	IE	IT	LT	LU	NL	PL	PT	RO	SE	SI	SK	UK	EU	CH
Alca torda									2																22 (1)	24 (1)	
Anas crecca	6 (3)				2				1				4		7			1		1	7				3	32 (3)	
Anas platyrhynchos	12 (2)	19	2	33	214 (2)	2	1		34 (1)		32		189 (4)	2	49	13		47	2	10	35	7 (1)	3		79 (2)	785 (12)	
Anas querquedula	1 (1)																									1 (1)	
Anas sp.					69										13		2	11 (4)							16	111 (4)	
Athene noctua			3		6								4		34								1 (1)			48 (1)	
Cygnus cygnus					3					20		5			19	1	2				1	6			40 (1)	97 (1)	
Cygnus olor	12	7	1	19	45	1			2	2	16	2	9	6	2	7		21 (1)	10			7	28 (1)	4	66	267 (2)	7
Larus argentatus		70								10			1		32 (2)			10		2		4			10	139 (2)	
Larus argentatus argentatus					15 (1)																					15 (1)	
Larus argentatus cachinnans			4						3 (1)				6		3											16 (1)	
Larus canus		7				1				4 (1)			6								4	2			4	28 (1)	
Larus fuscus		8							4 (1)	1								10		33					2	58 (1)	
Sterna albifrons																									1 (1)	1 (1)	
Tadorna tadorna	3 (1)	1			1			1					2		1										3	12 (1)	
Turdus sp.					5				14 (1)						1											20 (1)	

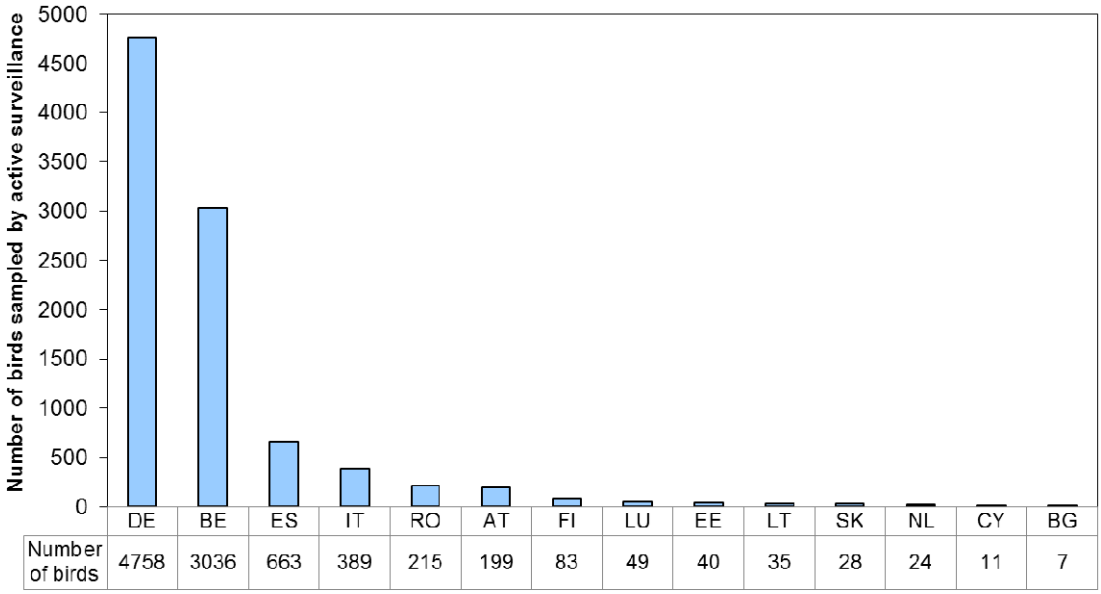
Target species indicated with bold text.

7.2.2 Annex 4 – Sampling by reported active surveillance

7.2.2.1 Overview of reported active surveillance

During 2014, there was no mandatory requirement for Member States to carry out or submit AI surveillance data collected through active surveillance programmes (sampling live healthy birds). A total of 14 Member States submitted active surveillance data in 2014, which is presented in the following Annex 4 (Section 7.2.2). Active surveillance data was not submitted by any additional non-Member States in 2014. The data presented in this section of the report does not accurately represent the active surveillance effort carried out across the EU as a whole. The submission of active surveillance data to the European Commission was voluntary in 2014, and other activities were carried out but not reported by Member States.

In total, 9,537 birds were sampled by active surveillance. Germany submitted the largest number of birds tested by active surveillance (n=4,758), followed by Belgium (n=3,036). This accounts for over three quarters of the total active surveillance data submitted in 2014. In addition to the 9,537 birds sampled by active surveillance, a further 516 environmental faecal samples were collected and submitted by Spain (n=509) and Cyprus (n=7). These environmental samples are considered in Section 7.2.2.7.



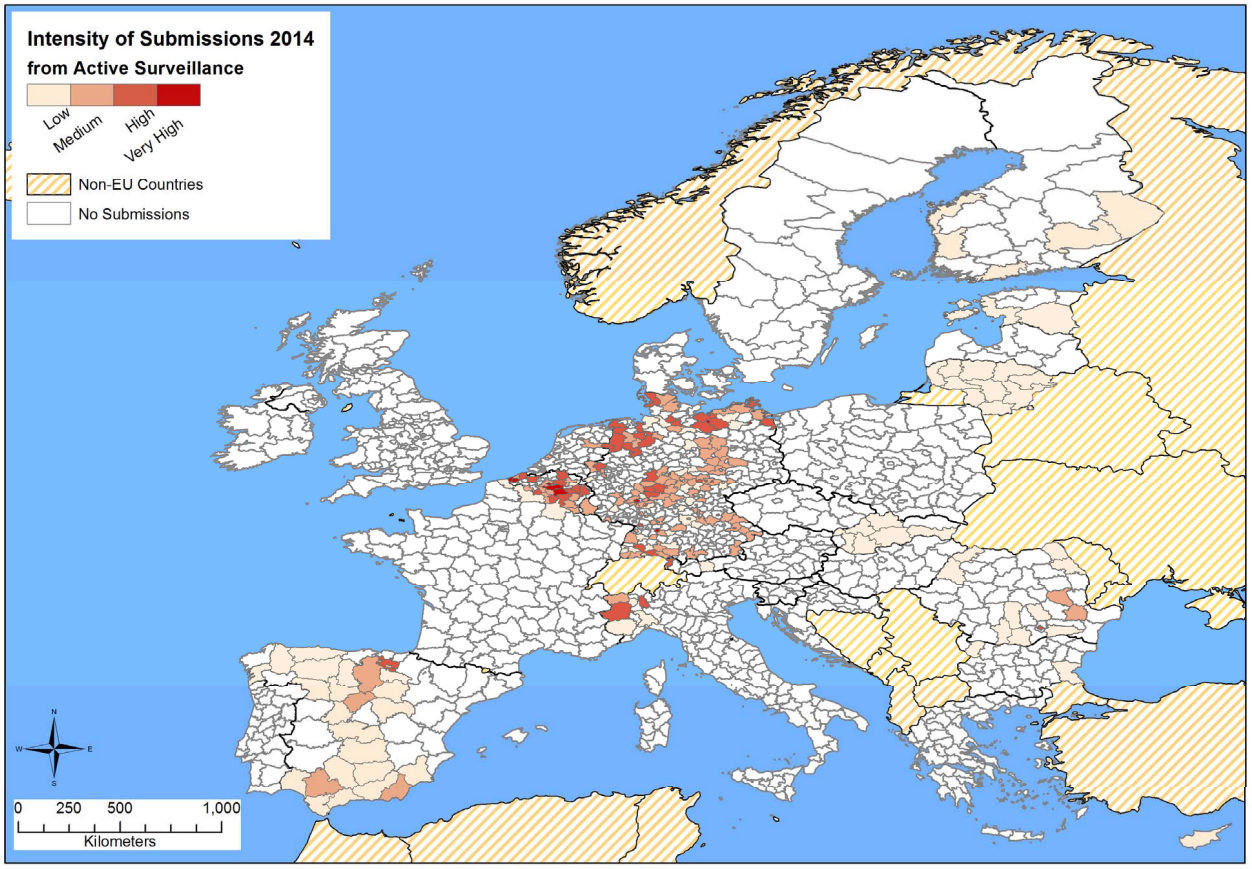
Annex 4 Figure 1 Total number of birds sampled by active surveillance in 2014 by EU Member State.

7.2.2.2 Geographical targeting of reported active surveillance

Figure A4.2 illustrates the distribution of active surveillance on a spatial scale by displaying the number of birds sampled per unit area.

Annex 4 Figure 2 Intensity of sampling by active surveillance (birds found dead, injured or live with clinical signs) and environmental faecal sampling in EU-MS in 2014.

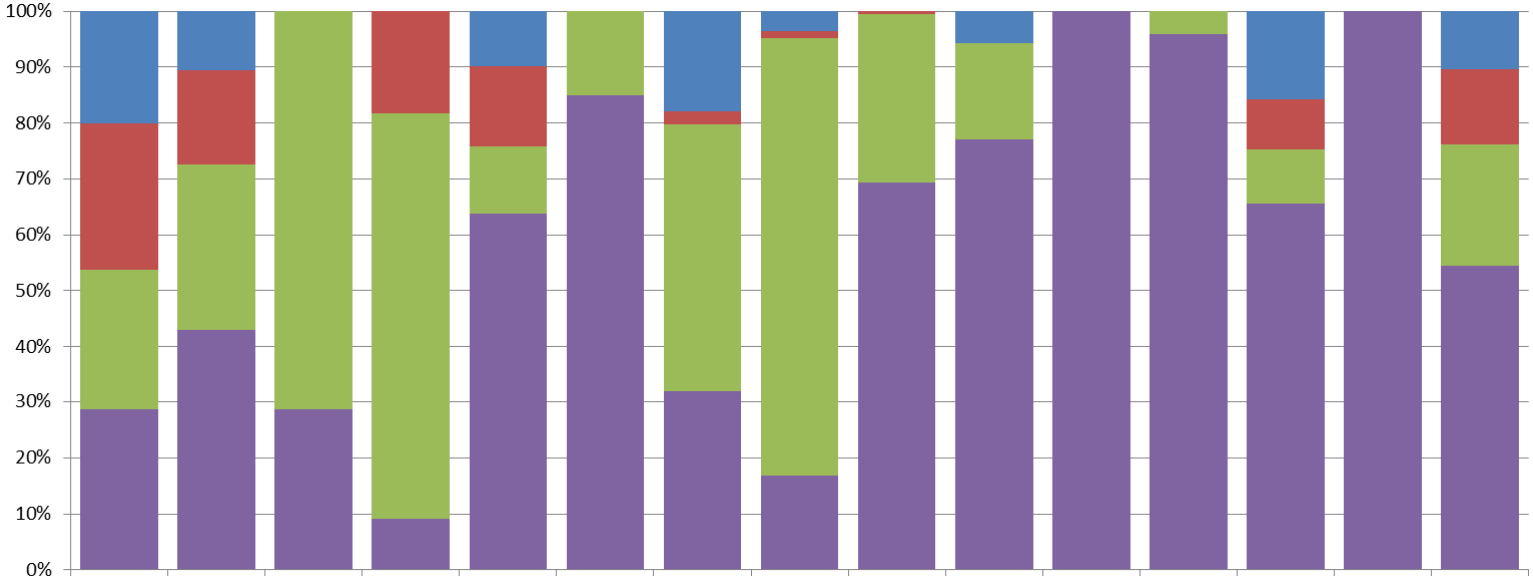
The classification of intensity of surveillance is grouped by holdings sampled per 100km^2
Low: up to 10, Medium: 11 - 100, High: 101 - 500, Very high: >500



7.2.2.3 Seasonal targeting of reported active surveillance

Figure A4.3 displays the percentage of birds sampled by MSs in each quarter, when considering active surveillance data. For the EU overall (14 submitting MSs), the majority of sampling (54.5%) was carried out in the 4th quarter (Oct-Dec). For individual MSs, the temporal targeting varied. Most MSs carried out the majority of their sampling in the 4th quarter, most notably Luxembourg, the Netherlands and Slovakia (100.0%, 95.8% and 100.0%, respectively); whilst others carried out the majority of their sampling in the 3rd quarter, Bulgaria (71.4%), Cyprus (72.7%) and Finland (78.3%). Austria had a fairly evenly distributed surveillance programme throughout the year.

Annex 4 Figure 3 Proportion of all birds sampled by active surveillance in 2014, by quarter and MS. Raw numbers of birds sampled by quarter and MS are shown in the table below.



	AT	BE	BG	CY	DE	EE	ES	FI	IT	LT	LU	NL	RO	SK	EU
Jan-Mar	40	321	0	0	469	0	119	3	0	2	0	0	34	0	988
Apr-Jun	52	512	0	2	678	0	15	1	2	0	0	0	19	0	1281
Jul-Sep	50	899	5	8	579	6	317	65	117	6	0	1	21	0	2074
Oct-Dec	57	1304	2	1	3032	34	212	14	270	27	49	23	141	28	5194

Figure A4.4 displays the percentage of birds that were sampled by active surveillance in each quarter for all participating MSs.

Annex 4 Figure 4 The proportion of birds sampled by active surveillance by quarter for EU MS.

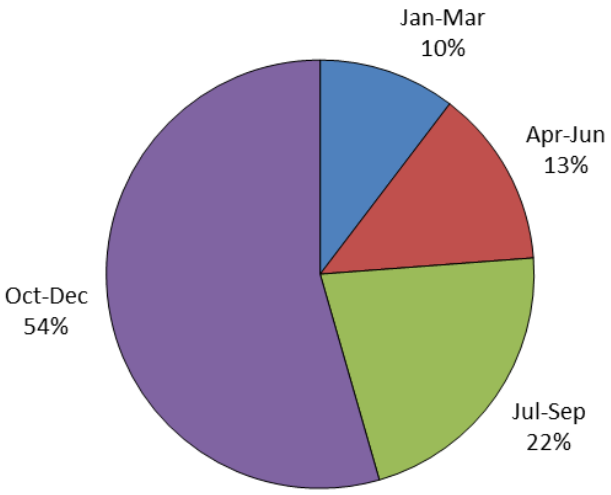
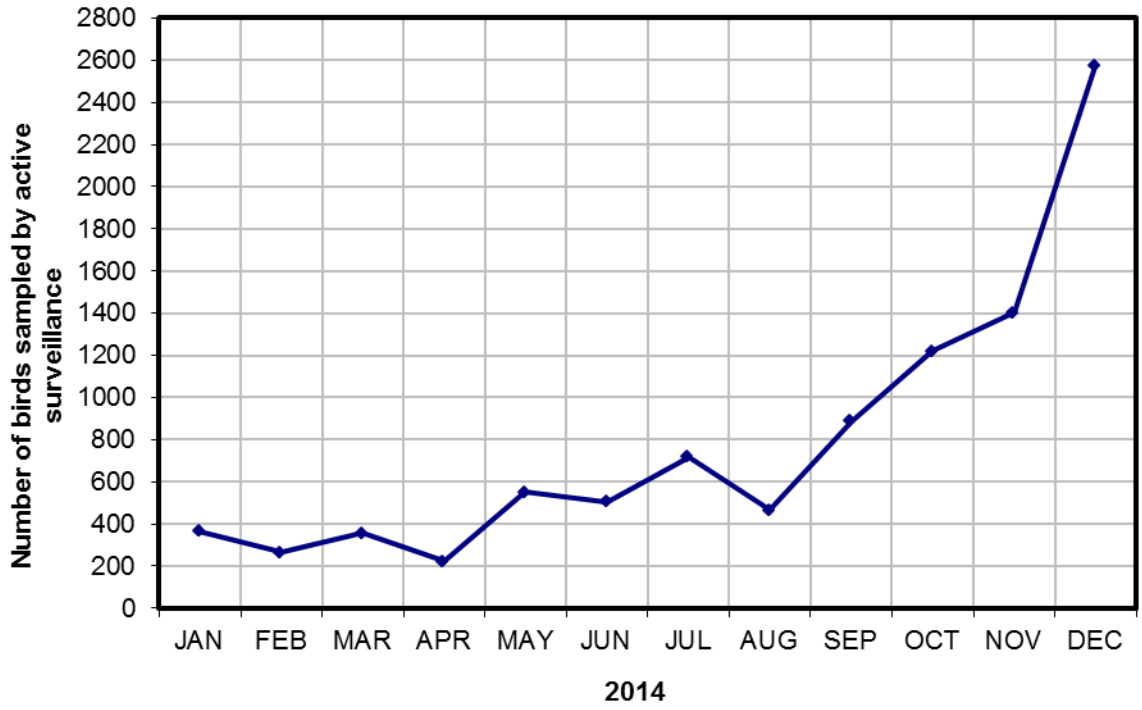


Figure A4.5 displays the overall number of birds sampled each month by active surveillance throughout 2014. Reported active surveillance was at its lowest level in April, and increased considerably from September through to its highest level in December 2014.

Annex 4 Figure 5 Total number of birds sampled by active surveillance during 2014.



7.2.2.4 Bird species sampled by reported active surveillance

In total 9,537 birds of at least 16 Orders and 133 species were sampled by active surveillance in 2014. Table A4.1 displays the ten most frequently sampled Orders. The most commonly sampled Order was Anseriformes (ducks, geese and swans), followed by Charadriiformes (gulls and waders) and Passeriformes (perching birds). Since 2006, Anseriformes and Charadriiformes have consistently been the most intensively sampled Orders by active surveillance.

Table A4.2 displays the top 15 species sampled by active surveillance in 2014 for the submitting MS. Mallards (*Anas platyrhynchos*) were the most frequently sampled species in 2014 (n=3,205) as in 2006-2013. Greylag goose (*Anser anser*) (n=807) and unidentified species belonging to the genus *Anser* (*Anser sp.*) (n=586) were also sampled in high numbers. Of the 13 most frequently sampled species, 12 were from the Target Species (TS) list. The Red-legged partridge (*Alectoris rufa*), was the only non-TS sampled in high numbers (n=181). Table A4.2 also indicates that the top 15 species account for three quarters of all birds tested in 2014.

Annex 4 Table 1 Bird Orders most frequently sampled in 2014.

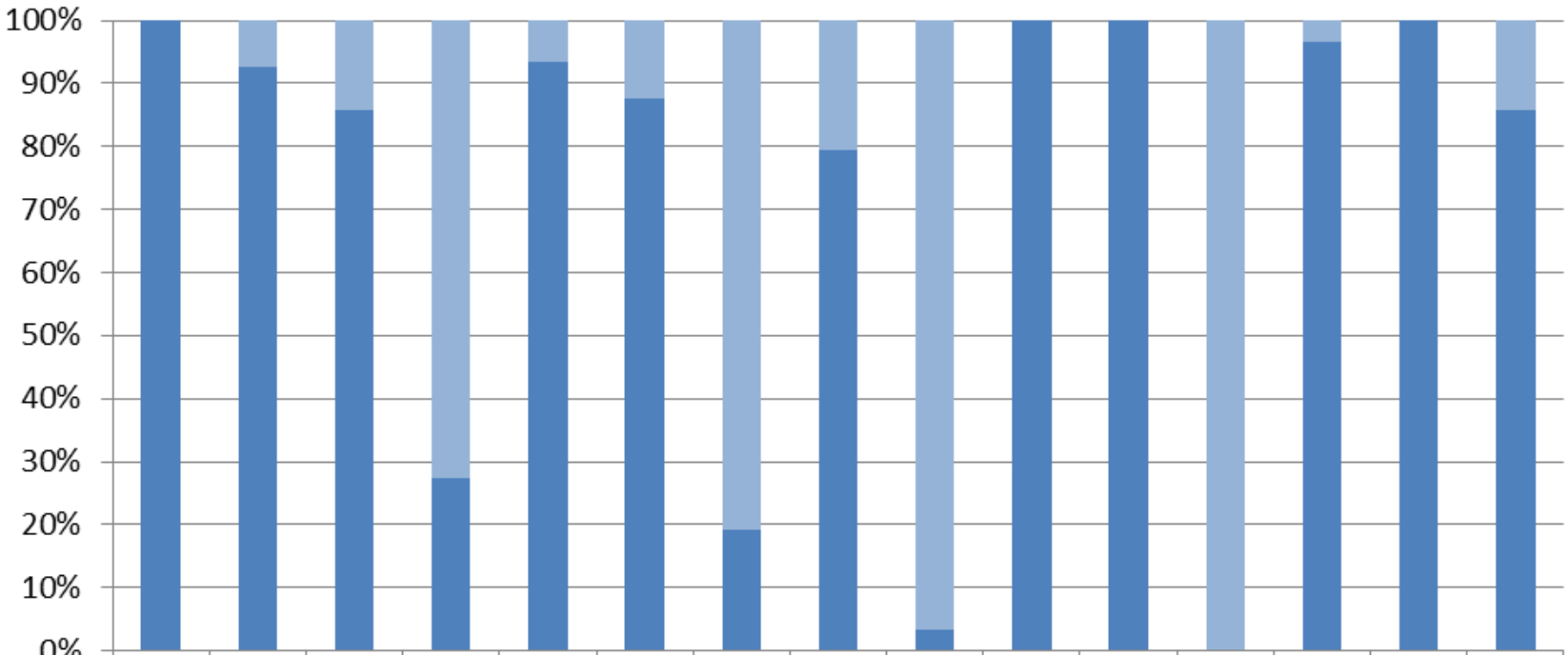
Order	Number sampled
Anseriformes	7,039
Charadriiformes	1,007
Passeriformes	483
Galliformes	274
Falconiformes	255
Gruiformes	221
Ciconiiformes	120
Strigiformes	80
Pelecaniformes	26
Columbiformes	12
Total (top 10 Orders only)	**9,517**

Annex 4 Table 2 Bird species most frequently sampled in 2014.

Species	Number sampled
Anas platyrhynchos	**3,205**
Anser anser	**807**
Anser sp.	586
Branta canadensis	**576**
Pluvialis apricaria	**351**
Aythya fuligula	**347**
Anser albifrons	**293**
Larus ridibundus	**231**
Fulica atra	**197**
Cygnus olor	**183**
Alectoris rufa	181
Anas crecca	**173**
Anas sp.	171
Branta leucopsis	**114**
Cygnus cygnus	**112**
Total (top 15 species only)	**7,527**

Figure A4.6 displays the proportion of birds target species that were sampled by active surveillance by each MS submitting data in 2014. The majority of non-target species were sampled in low numbers (85.7% of all birds sampled were Target Species).

Annex 4 Figure 6 Proportion of TS and non-TS sampled by active surveillance in 2014, by MS. Raw numbers of birds sampled in each category are shown in the table below.



	AT	BE	BG	CY	DE	EE	ES	FI	IT	LT	LU	NL	RO	SK	EU Total
Non-TS	0	224	1	8	274	5	306	17	376	0	0	23	7	0	1241
TS	199	2809	6	3	3905	35	73	66	13	35	49	0	206	28	7427

7.2.2.5 H5 HPAI Positives by reported active surveillance

7.2.2.5.1 Overview of HPAI results

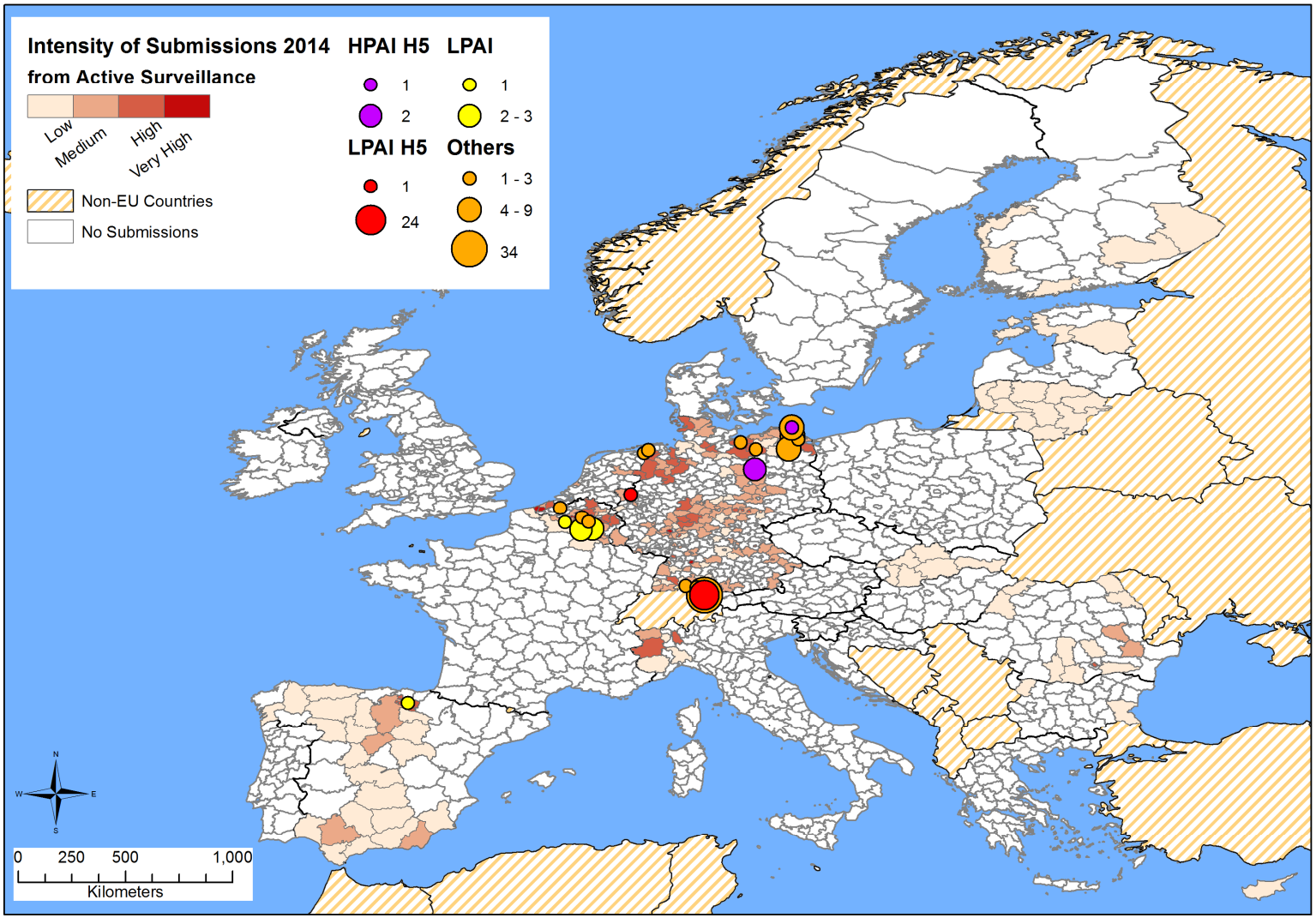
In 2014, H5N8 HPAI was detected by active surveillance in three birds. All three birds, two Mallards (*Anas platyrhynchos*) and one Eurasian Teal (*Anas crecca*), were 'hunted without clinical signs' in Germany. These detections were in addition to one H5N8 HPAI positive Mallard (*Anas platyrhynchos*) 'found dead' in Germany in 2014 (see results section 3.2.2 for more details of HPAI detected by passive surveillance). Prior to 2014, the most recent outbreak of H5 HPAI detected via active surveillance was a single incident in Germany in January 2009; one Mallard (*Anas platyrhynchos*), 'hunted without clinical signs', positive for H5N1 HPAI.

7.2.2.5.2 Geographical distribution of HPAI detections by reported active surveillance

Figure A4.7 displays the location of the H5N8 HPAI incidents detected in wild birds through active surveillance activities. The map also shows the location of H5 LPAI and other LPAI findings in wild birds, discussed in the section on LPAI.

Annex 4 Figure 7 Intensity of sample submission from active surveillance and environmental sampling and distribution of H5N8 HPAI and H5 LPAI detections in wild birds in EU MS in 2014.

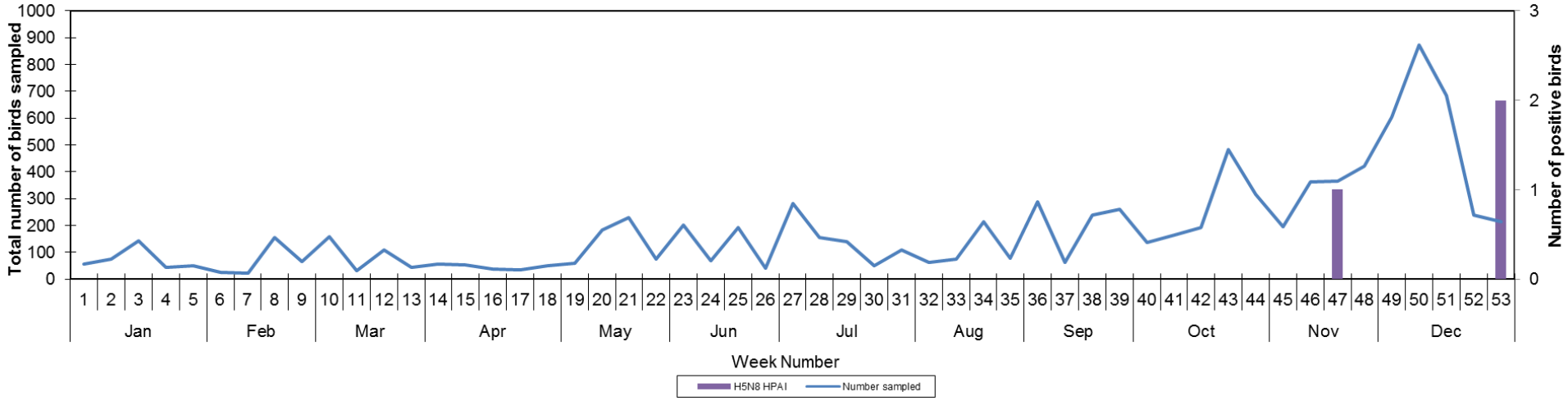
The classification of intensity of surveillance is grouped by holdings sampled per 100km^2
Low: up to 10, Medium: 11 - 100, High: 101 - 500, Very high: >500



7.2.2.5.3 Temporal distribution of HPAI detections by reported active surveillance

The timing of the H5N8 HPAI detections in wild birds in Germany is presented in Figure A4.8, as well as the number of birds tested by active surveillance by week in the EU in 2014.

Annex 4 Figure 8 Number of H5N8 HPAI incidents in wild birds and number of wild birds sampled by active surveillance in the EU by week in 2014.



7.2.2.5.4 Order and species of wild birds positive for HPAI detections by reported active surveillance

Table A4.3 shows the Order of birds in which the H5N8 HPAI detections were made in 2014 and the percentage of birds from this Order testing positive. Anseriformes was the only Order in which H5N8 HPAI was detected in the EU in 2014 (including the detection made through passive surveillance, Section 3.2.2).

Annex 4 Table 3 Number of birds tested by active surveillance and number positive for H5N8 HPAI by Order

Order	Total number tested	Number positive for H5 HPAI	(percentage of birds testing positive)
Anseriformes	7,039	3	0.04%

For active surveillance, two species were found positive for H5N8 HPAI in 2014; two Mallards (*Anas platyrhynchos*) and one Eurasian Teal (*Anas crecca*). Table A4.4 below displays the total number of each species reported to be tested through active surveillance activities in the EU in 2014. Overall, 0.06% of Mallards and 0.58% of Eurasian Teal tested positive for H5N8 HPAI. Detailed information regarding the number of birds tested by MS for bird species that tested positive for H5N8 HPAI or LPAI H5 and all target species is displayed in Annex 5 (Section 7.2.4).

Annex 4 Table 4 Number of birds tested by active surveillance and number positive for H5N8 HPAI by Species

Species	Total number tested	Number positive for H5 HPAI	(percentage of birds testing positive)
Anas crecca	173	1	0.58%
Anas platyrhynchos	3,205	2	0.06%

7.2.2.6 LPAI Positives by reported active surveillance

7.2.2.6.1 Overview of LPAI results by reported active surveillance

In total 122 birds tested positive for AI when considering active surveillance data (excluding HPAI positives).

LPAI H5 was detected in 25 birds from two MS: Austria (24) and Germany (1).

LPAI of other subtypes (LPAI Other) were detected in 24 birds from two MS, while “Other Positives” were detected in 73 birds in 3 MS.

No LPAI H7 was detected through active surveillance activities in 2014.

Table A4.5 indicates the total number and proportion of wild birds testing positive for LPAI H5, LPAI other and “Other Positives” by Member State. Only data from MSs with and AI detection is included.

Overall a very low proportion of birds sampled by active surveillance tested positive for LPAI H5 in 2014 (0.26%). This is similar to findings in previous years, ranging from 0.04%-0.29% in 2007-2013: 2007 (0.13%), 2008 (0.14%), 2009 (0.23%), 2010 (0.29%), 2011 (0.04%), 2012 (0.07%) and 2013 (0.13%).

There were no detections of LPAI H7 in 2014, as was the case in 2013. In years prior to 2013 the proportion of birds testing positive for LPAI H7 were very low, varying from 0.01%-0.05% in 2006-2012: 0.02% (2006), 0.01% (2007), 0.05% (2008), 0.06% (2009), 0.04% (2010), 0.03% (2011) and 0.05% in 2012.

Annex 4 Table 5 Total number and proportion of birds testing positive by active surveillance for LPAI H5 and other subtypes for MS detecting LPAI viruses during 2014.

Member State	Number of birds sampled	Number of H5 LPAI	H5 (proportion of total sampled)	Number of Other LPAI	Other LPAI (proportion of total sampled)	Number of "Other positives"	"Other positives" (proportion of total sampled)
AT	199	24	12.1%	-	-	34	17.1%
BE	3,036	-	-	16	0.5%	6	0.2%
DE	4,758	1	<0.1%	-	-	33	0.7%
FI	83	-	-	8	9.6%	-	-
EU Total	**9,537**	**25**	**0.3%**	**24**	**0.3%**	**73**	**0.8%**

7.2.2.6.2 Geographical distribution of H5 detections by active surveillance

Figure A4.7 displays the geographical distribution of LPAI H5 positives (Annex 4, Section 7.2.2.5.2). Detections of H5 LPAI were made in Austria (n=24) and Germany (n=1). In Austria, all detections were made in the same NUTS 3 region.

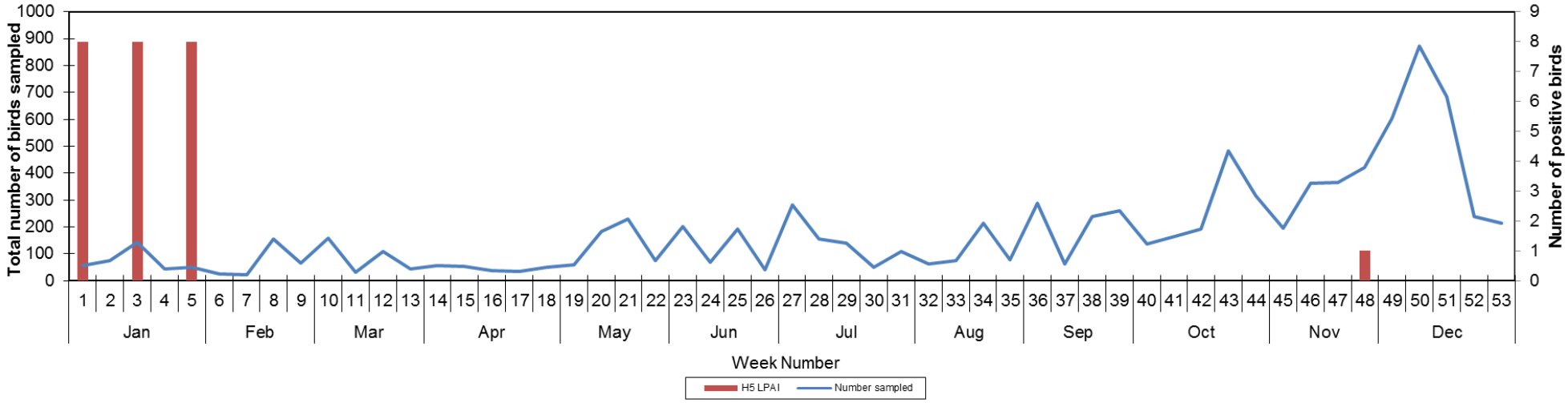
7.2.2.6.3 Temporal distribution of LPAI H5 detections by reported active surveillance

Figure A4.9 displays the calendar week of LPAI H5 detections by MS. Figure A4.10 displays the number of LPAI H5 detections and the number of birds sampled by week. In both figures A4.9 and A4.10 the first and last weeks are incomplete as 2014 did not begin on a Monday. Both the first and the last weeks are four days long.

Annex 4 Figure 9 Number and week of detection of LPAI H5 positive birds detected through active surveillance in 2014, by EU MS. Each week has been assigned to the month in which most days fell.

	Jan					Feb				Mar				Apr					May				Jun				Jul					Aug				Sep				Oct					Nov				Dec				
MS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53
AT	8		8		8																																															
DE																																															1								

Annex 4 Figure 10 Number of LPAI H5 detections and the number of birds sampled active surveillance in the EU by week in 2014.



In 2014, the majority of LPAI H5 was detected in 24 sentinel ducks, all sampled at the same location in Austria on three separate sampling days in the month of January. In addition, one detection of H5 LPAI was made in Germany in November 2014.

7.2.2.6.4 Order and species of wild birds positive for LPAI H5 detections reported by active surveillance

All LPAI H5 detections were made in Anseriformes. "Other Positives" and Other LPAI positives were both additionally detected in Gruiformes (Table A4.6).

Annex 4 Table 6 Detections of LPAI by Order in EU MS in 2014.

Order	Total sampled	Positive for LPAI H5	Other LPAI positives	"Other positives" Pathotype undetermined
Anseriformes	7,039	25	23	71
Gruiformes	221	-	1	2

Further details and tables regarding reported active surveillance sampling and results for target-species and other species by MS can be found in Annex 5, Section 7.2.3.

In 2014, all observations of LPAI H5 were made in Mallards (*Anas platyrhynchos*) (Table A4.7). In total, 10 species tested positive for AI. Of these, eight were Anseriformes and two were Gruiformes.

Annex 4 Table 7 Detections of LPAI by species in EU MS in 2014.

Species	Total sampled	Positive for LPAI H5	Other LPAI positives	"Other positives" Pathotype undetermined
Anas crecca	**173**	**-**	**4**	**1**
Anas platyrhynchos	**3,205**	**25**	**17**	**63**
Anser albifrons	**293**	**-**	**-**	**2**
Anser sp.	586	-	-	2
Aythya ferina	**104**	**-**	**-**	**1**
Callonetta leucophrys	2	-	2	-
Cygnus cygnus	**112**	**-**	**-**	**1**
Fulica atra	**197**	**-**	**1**	**-**
Gallinula chloropus	14	-	-	2
Tadorna tadorna	81	-	-	1

Target species indicated with bold text.

7.2.2.7 Overview of confirmed environmental sampling

In 2014, 516 environmental faecal samples were confirmed to have been collected and analysed for the presence of AI by Spain (n=509) and Cyprus (n=7). Faecal samples collected in Spain were from wild ducks, with the exact species unknown. The species responsible for the faecal samples collected by Cyprus were unknown. In Spain, all environmental samples were collected in the Araba/Álava province during the 1st and 2nd quarters of 2014 (284 and 225 samples collected, respectively); in Cyprus environmental sampling took place in the 1st and 4th quarters (3 and 4 samples collected respectively). One environmental sample collected in Spain tested positive for LPAI, not H5 or H7.

7.2.3 Annex 5 – Active surveillance data, supplementary tables and figures

7.2.3.1 Diagnosis

This section reports the samples collected and the associated test results. The 2007 guidelines (EC, 2007) recommend oro-pharyngeal (tracheal) and cloacal swabs to be collected from healthy free living birds and cloacal and oro-pharyngeal swabs and/ or tissues from dead or shot birds. Similarly, the 2010 guidelines (EC 2010a) recommend that cloacal and tracheal/oro-pharyngeal swabs and/or tissues from wild birds found dead or moribund should be sampled. The totals for the 2014 testing regimes for active surveillance are shown below.

Annex 5 Table 1 Number and proportion of samples collected by active surveillance by Status of bird, 2014.

Sample Type	Status of bird			Active surveillance total
	Hunted with clinical signs	Hunted without clinical signs	Live without clinical signs	
Cloacal	2	813	3,107	3,922
Faeces	1	-	1,527	1,528
Other	-	32	240	272
Tissue	14	666	5	685
Tracheal	26	378	182	586
Cloacal and Tissue	1	1	0	2
Cloacal and Tracheal	13	987	1,528	2,528
Coacal and Other	-	-	1	1
Faeces and Tracheal	-	1	-	1
Cloacal, Tracheal and Other	-	-	12	12
EU Total	**57**	**2,878**	**6,602**	**9,537**

The majority of healthy live caught birds were sampled by cloacal swabs only (47.1%), faecal samples only (23.1%), or cloacal and oral-pharyngeal (tracheal) swabs (23.1%). For hunted birds without clinical signs, cloacal and oral-pharyngeal (tracheal) swabs or cloacal only swabs were taken most often (34.3% and 28.2%, respectively) ; whilst for hunted birds with clinical signs oral-pharyngeal (tracheal) swabs only were most frequently taken (45.6%) (Table A5.1).

7.2.3.2 AI Positives

Tables A5.2 and A5.3 show the test results of samples collected from birds hunted without clinical signs and live healthy birds that were positive for all subtypes of AI, respectively. For all samples from AIV positive birds hunted without clinical signs, a high proportion of those tested by both PCR and virus isolation were positive on both tests. Of the 17 positive birds hunted without clinical signs that had oro-pharyngeal (tracheal) and cloacal swabs collected, all tested positive by PCR on both the oro-pharyngeal (tracheal) and cloacal swab; virus isolation was not performed on any of these samples. The three cases of H5N8 HPAI reported by active surveillance in 2014 were all detected in hunted birds without clinical signs where cloacal and oro-pharyngeal (tracheal) swabs were collected.

Annex 5 Table 2 Test-results and samples taken for hunted birds without clinical signs.

Sample Type	Total number of birds sampled	Total number of birds positive	PCR+ VI+	PCR+ VI-	PCR+ VI NP
Cloacal	813	20	16	2	2
Tissue	666	1	0	0	1
Cloacal &	987	17	0	0	17
Tracheal			0	0	17

Table A5.3 displays the test results for collected samples from live birds without clinical signs.

In 2014, 47.1% of samples that were tested for both PCR and VI were positive by PCR and negative for VI. Of the 18 positive live birds without clinical signs that had oro-pharyngeal (tracheal) and cloacal swabs collected, two (10.5%) tested positive on the oro-pharyngeal swab only, and two (10.5%) tested positive on the cloacal swab only.

Annex 5 Table 3 Test-results and samples taken for live birds without clinical signs.

Sample Type	Total number of birds sampled	Total number of birds positive	PCR+ VI+	PCR+ VI-	PCR+ VI NP	PCR- VI NP
Cloacal	3,107	26	5	1	20	-
Faecal	1,527	3	0	0	3	-
Tracheal	182	40	1	2	37	-
Cloacal &	1,528	18	1	3	12	2
Tracheal			2	2	12	2

No AI virus was detected in birds that were hunted with clinical signs.

In addition to the samples presented in Table A5.2 and Table A5.3, 516 faecal only environmental samples were tested in 2014. One positive detection was made for LPAI, not H5 or H7 by PCR, virus isolation was not performed.

7.2.3.3 Type of Surveillance by Quarter

Table A5.4 presents the number of live (without clinical signs) and hunted (with and without clinical signs) birds sampled through active surveillance in 2014, by MS and quarter. When considering the submitted data as a whole, most hunted and live birds were sampled in Quarter 4 (Oct-Dec) (67.6% and 48.6%, respectively).

Table A5.5 displays the number of target species and non-target species sampled by active surveillance in each quarter by MS.

Annex 5 Table 4 Number of birds (hunted and live healthy birds) tested through active surveillance by Member State and quarter, 2014.

Member State	Quarter 1		Quarter 2		Quarter 3		Quarter 4	
	Hunted	Live	Hunted	Live	Hunted	Live	Hunted	Live
AT	0	40	0	52	0	50	0	57
BE	55	266	0	512	303	596	182	1,122
BG	0	0	0	0	0	5	0	2
CY	0	0	1	1	1	7	1	0
DE	108	361	56	622	171	408	1,358	1,674
EE	0	0	0	0	6	0	34	0
ES	112	7	0	15	0	317	171	41
FI	3	0	1	0	65	0	14	0
IT	0	0	2	0	4	113	34	236
LT	2	0	0	0	6	0	27	0
LU	0	0	0	0	0	0	0	49
NL	0	0	0	0	0	1	0	23
RO	34	0	10	9	12	9	136	5
SK	0	0	0	0	0	0	26	2
EU Total	**314**	**674**	**70**	**1,211**	**568**	**1,506**	**1,983**	**3,211**

Annex 5 Table 5 Number of target species (TS) sampled in each quarter by Member State.

Member State	Quarter 1		Quarter 2		Quarter 3		Quarter 4	
	TS	Non-TS	TS	Non-TS	TS	Non-TS	TS	Non-TS
AT	40	0	52	0	50	0	57	0
BE	318	3	495	17	884	15	1,112	189
BG	0	0	0	0	5	0	1	1
CY	0	0	2	0	1	7	0	1
DE	438	3	510	121	549	28	2,408	122
EE	0	0	0	0	6	0	29	5
ES	7	112	10	3	36	21	20	170
FI	2	1	0	1	62	3	2	12
IT	0	0	1	1	8	109	4	266
LT	2	0	0	0	6	0	27	0
LU	0	0	0	0	0	0	49	0
NL	0	0	0	0	0	0	0	23
RO	31	2	17	2	17	3	141	0
SK	0	0	0	0	0	0	28	0
EU Total	**838**	**121**	**1,087**	**145**	**1,624**	**186**	**3,878**	**789**

7.2.3.4 Overview of Results by Species

Table A5.6 displays the detections of HPAI H5 reported by species and the number of those species sampled in each MS.

Table A5.7 displays the detections of LPAI H5 reported by species and the number of those species sampled in each MS.

Table A5.8 displays the detections of all AI types reported by species and the number of those species sampled in each MS.

The aim of these tables is to provide context of AI detections taking into account bird species and the number of birds sampled by MS.

Key to tables

Headings	
LPAI H5	All AI patho/subtypes
LPAI H7	No AI positives
HPAI H5	Not sampled

Not presenting actual data, for illustrative purposes only.

Annex 5 Table 6 Detections of HPAI H5N8 (in brackets) that were reported by TS (in bold) and non-TS and the number of those species sampled in each MS.

Species	AT	BE	BG	DE	EE	ES	FI	IT	LT	RO	SK	Total
Anas crecca		35		40 (1)	1	1	35		1	60		173 (1)
Anas platyrhynchos	199	957	6	1,875 (2)	17	25	18	8	34	41	25	3,205 (2)

Target species indicated with bold text.

Annex 5 Table 7 Detections of LPAI H5 (in brackets) that were reported in TS (in bold) and non-TS and the number of those species sampled in each MS.

Species	AT	BE	BG	DE	EE	ES	FI	IT	LT	RO	SK	Total
Anas platyrhynchos	199 (24)	957	6	1,875 (1)	17	25	18	8	34	41	25	3,205 (25)

Target species indicated with bold text.

Annex 5 Table 8 Detections of all AI types (in brackets) that were reported in TS (in bold) and non-TS and the number of those species sampled in each MS.

Species	AT	BE	BG	CY	DE	EE	ES	FI	IT	LT	LU	RO	SK	Total
Anas crecca		35 (1)			40 (1)	1	1	35 (4)		1		60		173 (6)
Anas platyrhynchos	199 (58)	957 (16)	6		1875 (16)	17	25	18 (4)	8	34		41	25	3,205 (107)
Anser albifrons		1			289 (2)							2	1	293 (2)
Anser spp.					341 (2)		245							586 (2)
Aythya ferina		102 (1)			2 (1)									104 (1)
Callonetta leucophrys		2 (2)												2 (2)
Cygnus cygnus					61 (1)			2			49			112 (1)
Fulica atra		106 (1)		1	76				2			12		197 (1)
Gallinula chloropus		7			5 (2)				2					14 (2)
Tadorna tadorna		81 (1)												81 (1)

Target species indicated with bold text.

7.2.4 Annex 6 - Scientific and English names of wild bird species

Annex 6 Table 1 All target species (in bold) as well as all other bird species that tested positive for AI in 2014, giving English and Latin names.

Species	Name
Accipiter gentilis	**Northern Goshawk**
Accipiter nisus	**Eurasian Sparrowhawk**
Alca torda	Razorbill
Anas acuta	**Northern Pintail**
Anas clypeata	**Northern Shoveler**
Anas crecca	**Common Teal**
Anas penelope	**Eurasian Wigeon**
Anas platyrhynchos	**Mallard**
Anas querquedula	**Garganey**
Anas sp.	Dabbling duck
Anas strepera	**Gadwall**
Anser albifrons	Greater White-fronted Goose
Anser albifrons albifrons	**Greater White-fronted Goose (European race)**
Anser anser	**Greylag Goose**
Anser brachyrhynchus	**Pink-footed Goose**
Anser erythropus	**Lesser White-fronted Goose**
Anser fabalis	**Bean Goose**
Anser sp.	Goose
Ardea cinerea	**Grey Heron**
Athene noctua	Little Owl
Aythya ferina	**Common Pochard**
Aythya fuligula	**Tufted Duck**
Branta bernicla	**Brent Goose**
Branta canadensis	**Canada Goose**
Branta leucopsis	**Barnacle Goose**
Branta ruficollis	**Red-breasted Goose**
Bubo bubo	**Eurasian Eagle-Owl**
Buteo buteo	**Common Buzzard**
Buteo lagopus	**Rough-legged Buzzard**
Cairina moschata	**Muscovy Duck**
Callonetta leucophrys	Ringed Teal
Ciconia ciconia	**White Stork**
Circus aeruginosus	**Eurasian Marsh Harrier**
Cygnus columbianus	**Bewick's Swan**
Cygnus cygnus	**Whooper swan**
Cygnus olor	**Mute Swan**
Falco peregrinus	**Peregrine Falcon**
Falco tinnunculus	**Common Kestrel**
Fulica atra	**Eurasian Coot**
Gallinula chloropus	Common Moorhen
Larus argentatus	European Herring Gull
Larus argentatus argentatus	Scandinavian Herring Gull
Larus argentatus cachinnans	Caspian Gull
Larus canus	**Common Gull**
Larus fuscus	Lesser Black-backed Gull
Larus ridibundus	**Black-headed Gull**
Limosa limosa	**Black-tailed Godwit**
Marmaronetta angustirostris	**Marbled Teal**
Mergus albellus	**Smew**
Milvus migrans	**Black Kite**
Milvus milvus	**Red Kite**
Netta rufina	**Red-crested Pochard**
Phalacrocorax carbo	**Great Cormorant**
Philomachus pugnax	**Ruff**
Pica pica	**Eurasian Magpie**
Pluvialis apricaria	**Eurasian Golden Plover**
Podiceps cristatus	**Great Crested Grebe**
Podiceps nigricollis	**Black-necked Grebe**
Porphyrio porphyrio	**Purple Swamphen**
Sterna albifrons	Little Tern
Tachybaptus ruficollis	**Little Grebe**
Tadorna tadorna	Common Shelduck
Turdus sp.	Thrush
Vanellus vanellus	**Northern Lapwing**