

Surveillance for Avian Influenza in the European Union during 2014

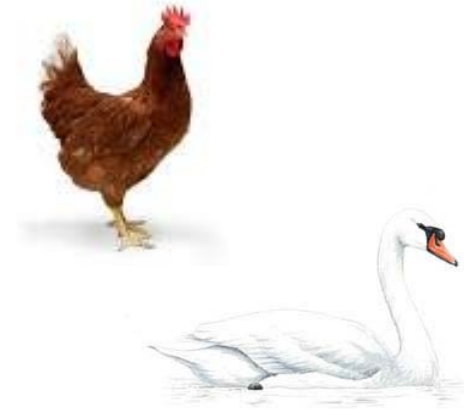
EU Reference Laboratory for Avian Influenza,
APHA-Weybridge, UK



Animal &
Plant Health
Agency

Overview

- 2014 surveillance programme in
 - Poultry
 - Wild birds



- Additional epidemiological activities at the EURL



Annual Report



Animal &
Plant Health
Agency

on surveillance
for avian influenza in
poultry and in wild birds in
Member States of the
European Union
in 2013

Annual Report on surveillance
for avian influenza in
poultry and in wild birds in
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in 2012



Surveillance for AI in Poultry in EU

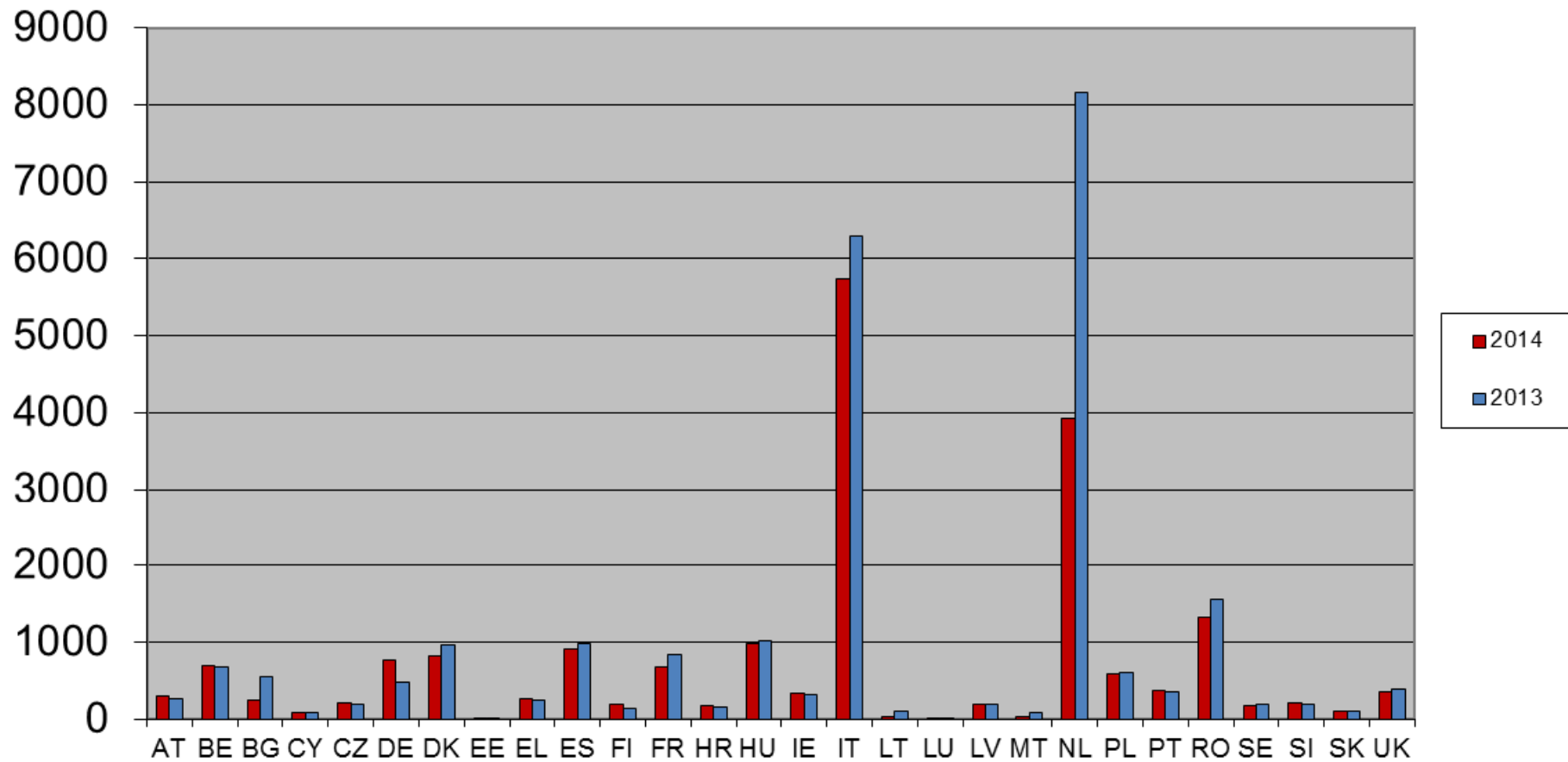
- MS followed the guidelines laid down in Commission Decision 2010/367/EU
- The guidelines recommend risk-based surveillance
- In 2014, 11 MS carried out a risk-based sampling approach (BE, BG, DE, DK, FI, FR, IT, LT, NL, RO and UK)

Poultry 2014 – Results

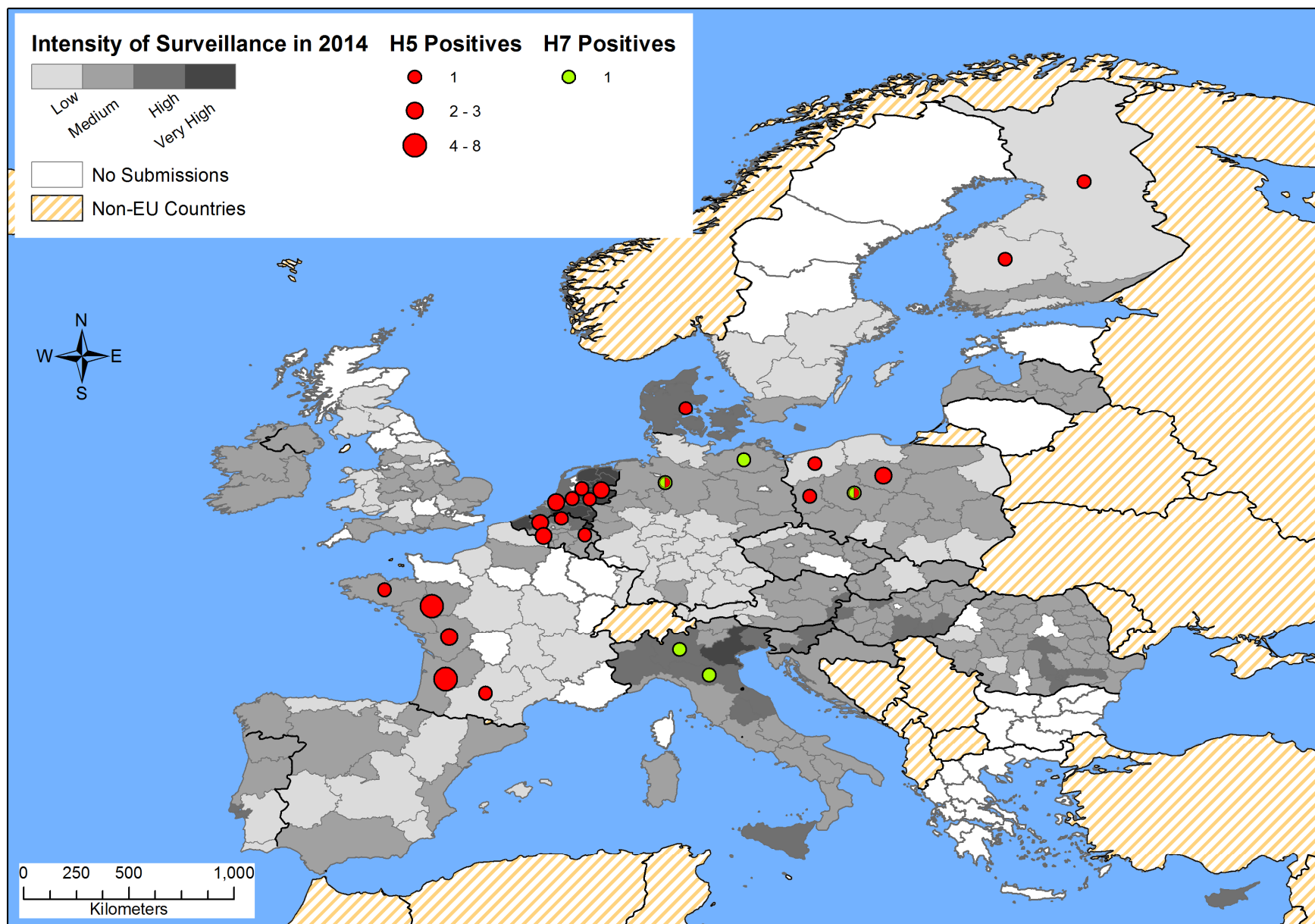
- 28 MS participated in the poultry survey in 2014
- 19,813 poultry holdings were sampled (in 2013 25,220)
 - the most sampled categories were:
 - Laying Hens (conventional & free-range) n = 5,832
 - Chicken Breeders n = 3,154
 - Backyard Flocks n = 2,719
- Number of holdings sampled varied by MS from 17 – 5,733

Poultry 2014 – Results

Number of poultry holdings sampled in 2014 and 2013



2014 Poultry report



Surveillance for AI in Poultry in EU 2014 (2013 blue)

38 (57) H5 seropositive holdings:

- Fattening Ducks: 11 (8)
- Breeder Geese: 9 (5)
- Breeder Ducks: 7 (27)
- Free-range Laying Hens: 4 (3)
- Chicken Breeders: 2 (0)
- Conventional Laying Hens: 2 (0)
- Fattening Geese: 2 (1)
- Ratites: 1 (1)
- Others: 0 (7)
- Backyard Flocks: 0 (3)
- Farmed Game Birds (waterfowl): 0 (2)



Surveillance for AI in Poultry in EU 2014

Epidemiological follow up investigations following an H5 seropositive result

H5 seropositive holdings	Number of holdings	% of total H5 seropositives
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 holdings	38	100

Surveillance for AI in Poultry in EU 2014 (2013 blue)

5 (6) H7 seropositive holdings

- Conventional Laying Hens: 2 (1)
- Others: 2 (0)
- Breeder Geese: 1 (0)
- Free-range Laying Hens: 0 (4)
- Chicken Breeders: 0 (1)

Surveillance for AI in Poultry in EU 2014

Epidemiological follow up investigations following a H7 seropositive result

H7 seropositive holdings	Number of holdings	% of total H7 seropositives
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 holdings	5	100

Surveillance for AI in Poultry in EU 2014

Summary

- Number of H5 seropositive holdings (38) was lower than in 2013 (57).
- High proportion of detections in Ducks and Geese as in previous years.
- 28 H5 seropositive holdings underwent follow up testing and 7 were H5 virus positive.

- Number of H7 seropositive holdings (5) was similar to 2013 (6).
- Detections in Conventional Laying Hens, Others and Breeder Geese.
- All 5 H7 seropositive holdings underwent follow up testing and all were H7 virus positive.

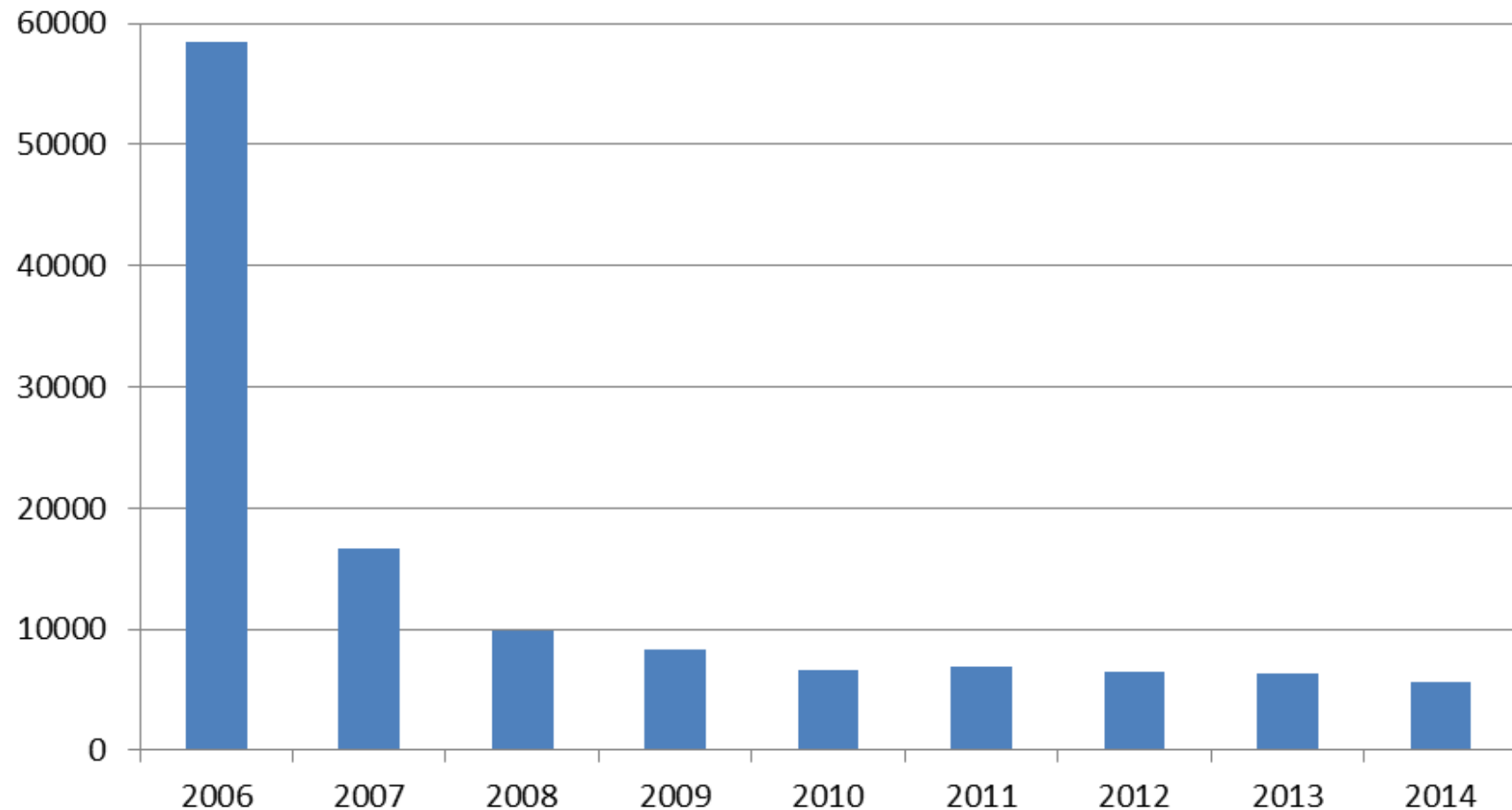
- Surveillance effective in detection of H5 and H7 virus exposure and infection where clinical indicators may not trigger detection by other methods.

Surveillance for AI in **wild birds** in EU 2014

- Surveys performed according to the guidelines laid down in Commission Decision 2010/367/EU
 - **Passive surveillance** of moribund or dead wild birds
 - Especially in 50 target species
 - Aim is early detection of incursion of H5N1 HPAI if occurs
- Active surveillance data (live healthy birds), was voluntarily submitted by 14 MS in 2014
 - Results of submitted active surveillance are presented separately to passive surveillance.

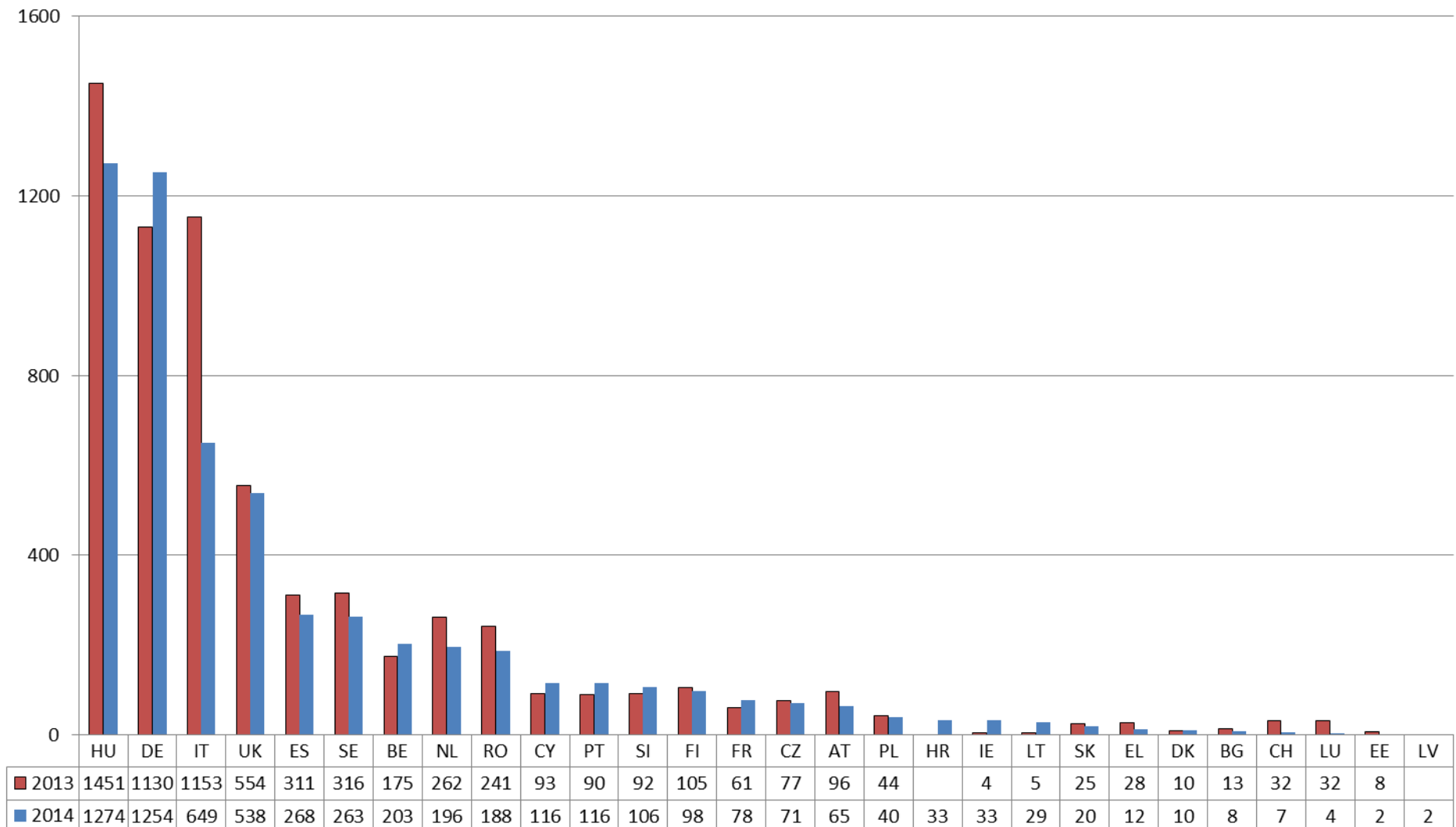
Passive surveillance for AI in **wild birds** in EU 2014

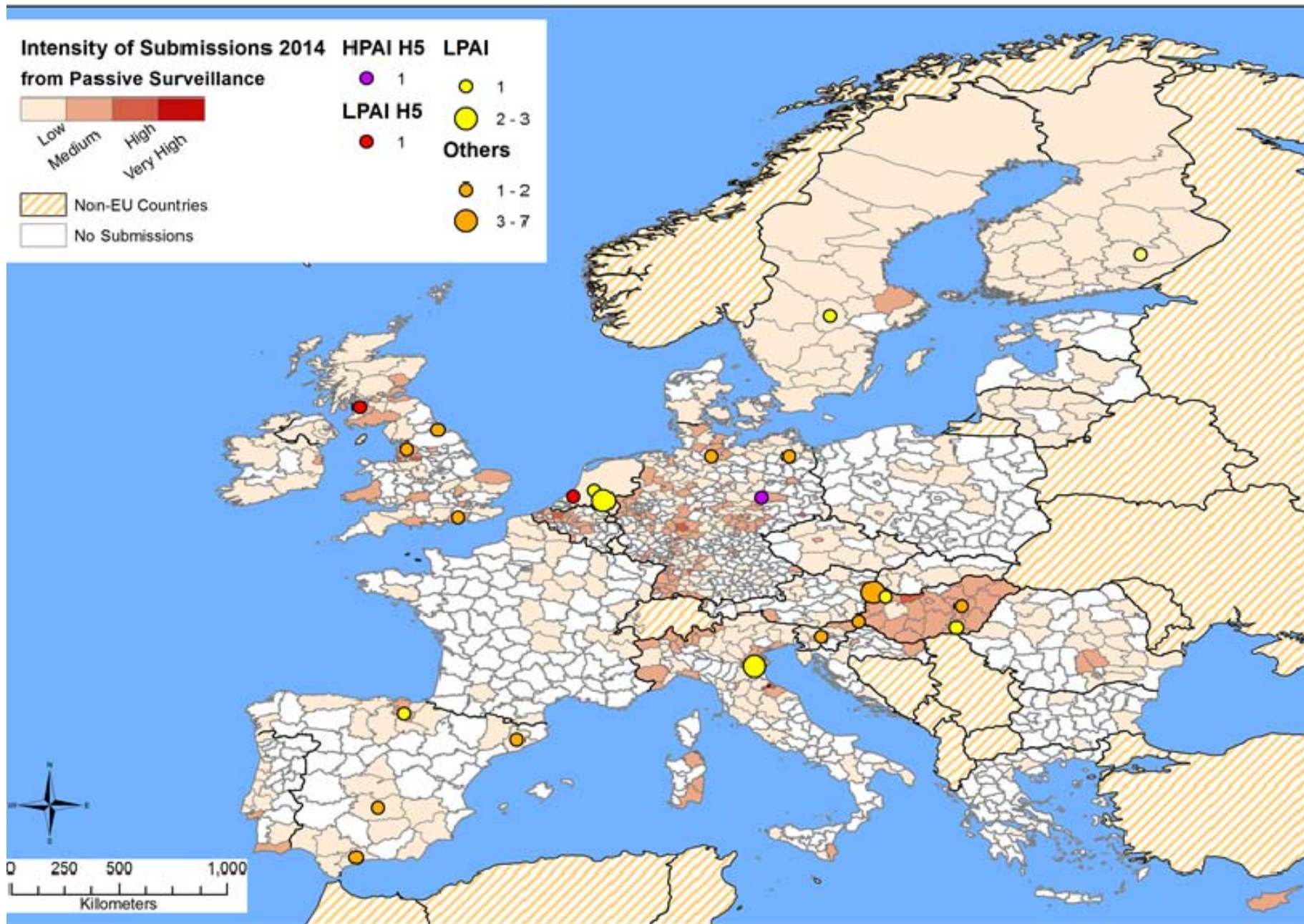
Total Number of Wild Birds Sampled by Passive Surveillance in EU



Passive surveillance for AI in **wild birds** in EU 2014

Number of birds sampled by MSs in 2013-2014





Detections of Avian Influenza by **PASSIVE** surveillance in EU MS in 2014.

Passive surveillance for AI in **wild birds** in EU 2014



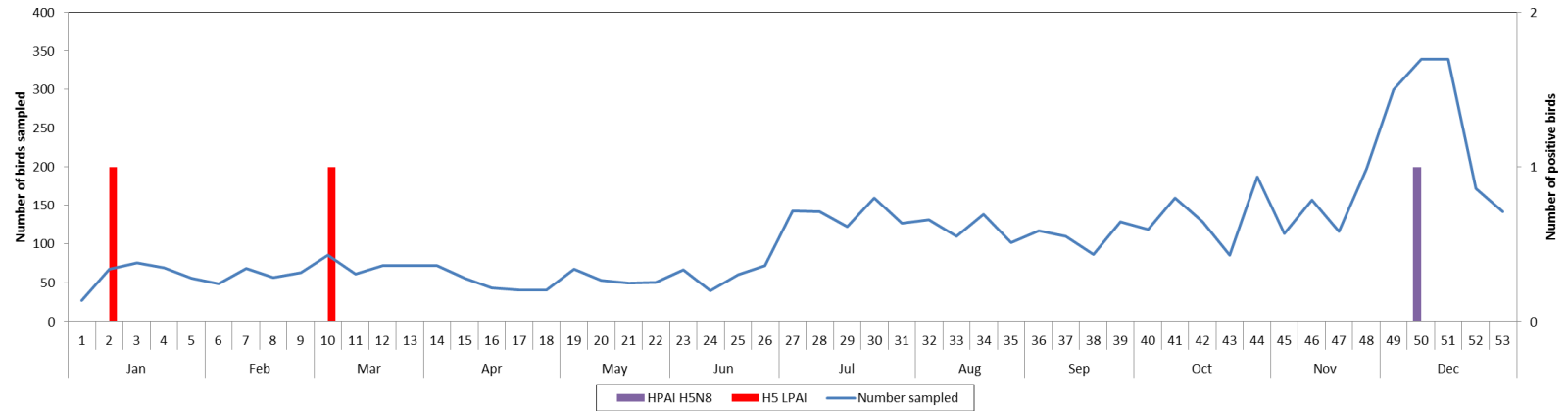
The most frequently sampled species

Species	2014	2013	2012
<i>Anas platyrhynchos</i>	785	526	785
<i>Phasianus colchicus</i>	496	652	527
<i>Cygnus olor</i>	274	277	333
<i>Columba livia</i>	147	217	85
<i>Buteo buteo</i>	142	257	224
<i>Larus argentatus</i>	139	162	207
<i>Turdus merula</i>	118	151	153

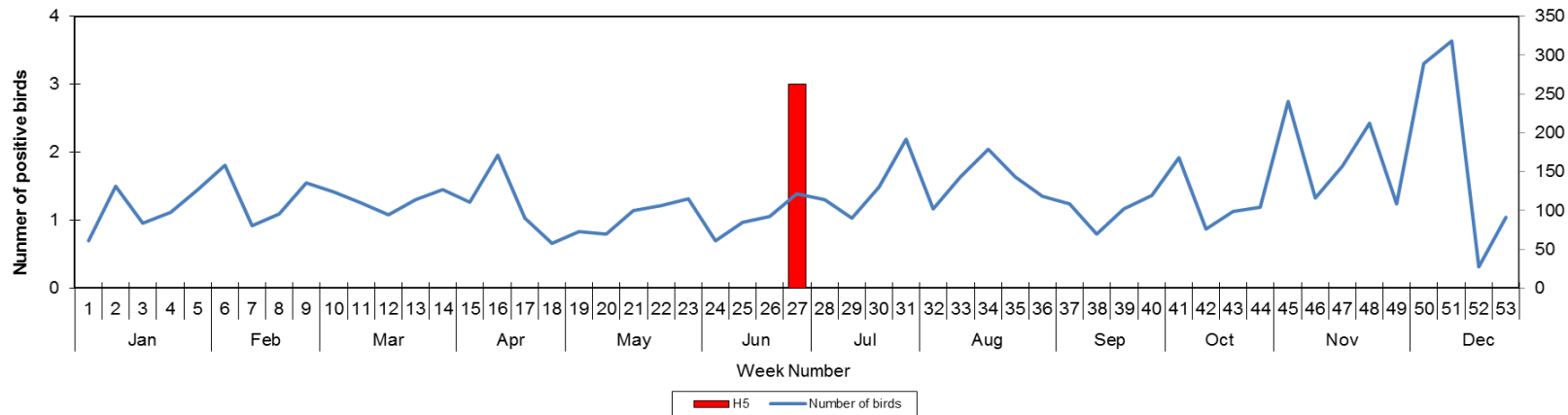


Passive surveillance for AI in wild birds in EU

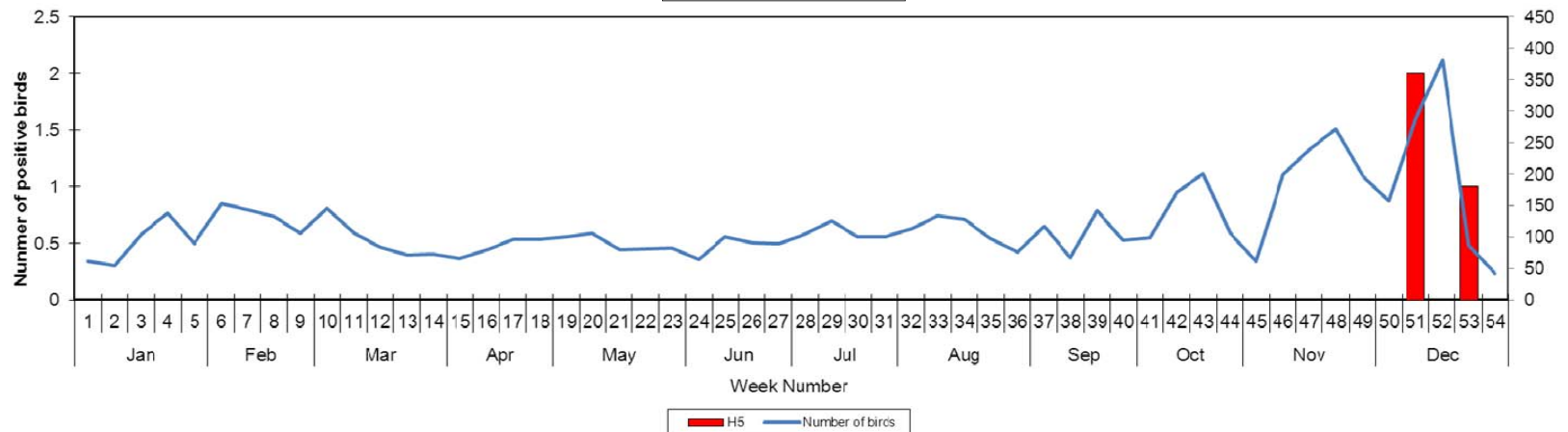
2014



2013



2012



Active surveillance for AI in **wild birds** in EU 2014

- No mandatory requirement for MS to carry out or submit AI surveillance data collected through active surveillance programmes
- 14 MS voluntarily submitted active surveillance data in 2014
- Active surveillance data presented may not accurately represent the active surveillance effort carried out across the EU as other activities may have been carried out but not reported by MS

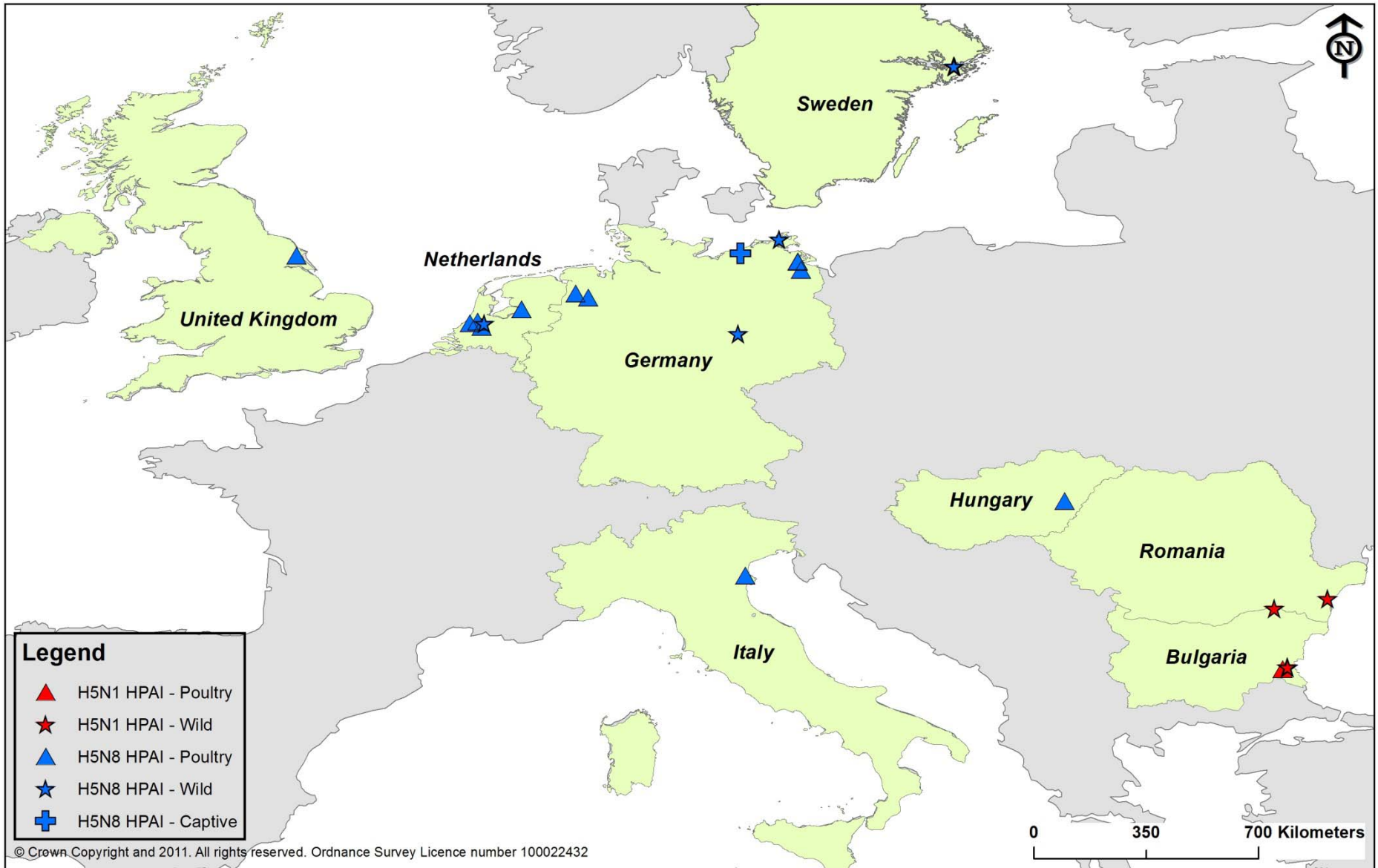
Wild bird surveillance summary

- HPAI H5N8 2.3.4.4 reported in Germany through both passive and active surveillance strategies in 2014.
- A few LPAI H5 detections made by passive surveillance, as in previous years.
- H5N1 HPAI 2.3.2.1c continues to be reported in wild birds (in Europe in 2015)
- H5Nx HPAI 2.3.4.4 reported in wild birds (and poultry) in Europe, Asia and North America in 2014 and 2015.

Wild bird surveillance summary

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- Winter 2015/16???





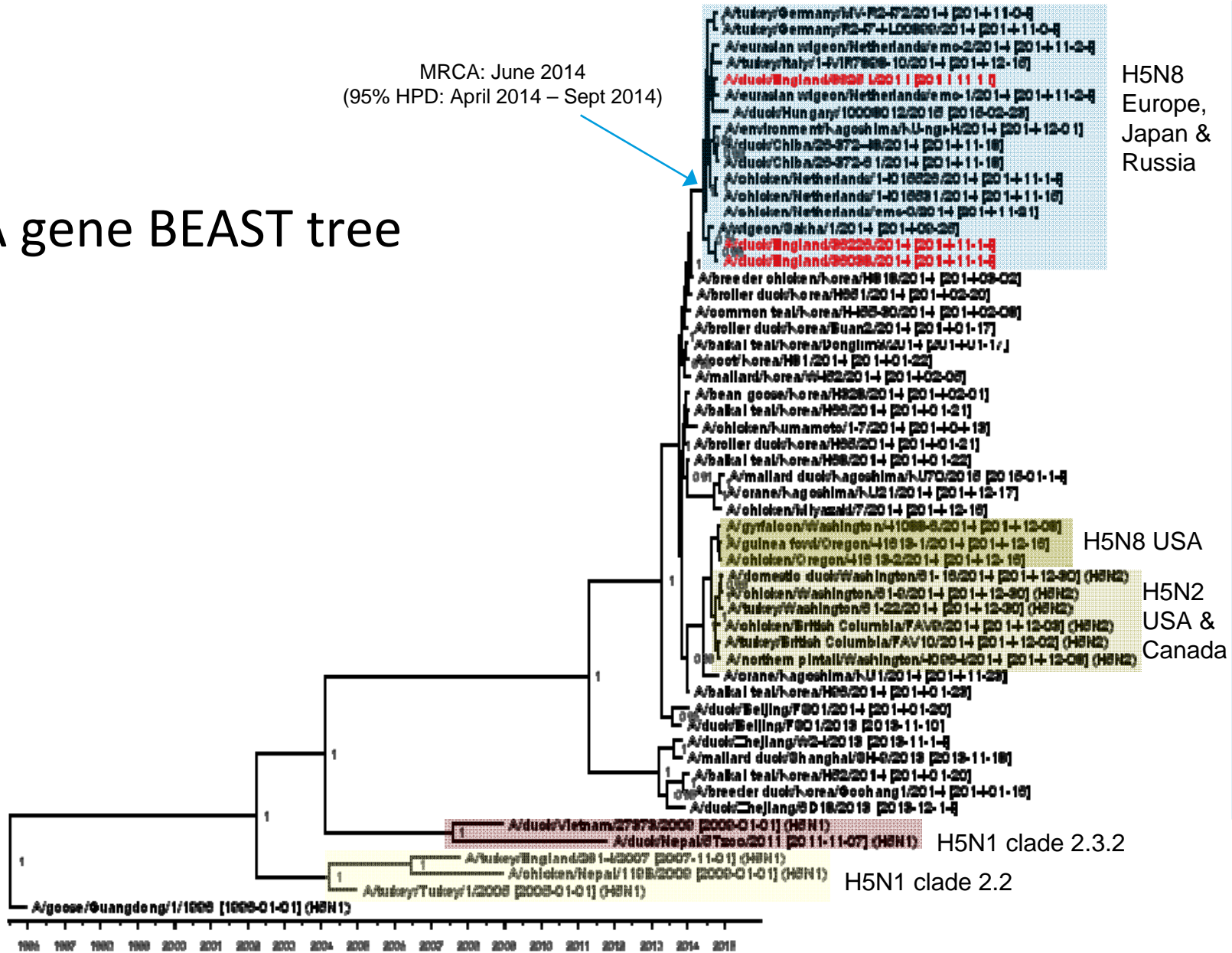
CREATOR:
EU Reference Laboratory
DATE: 10/04/2015

Highly Pathogenic Avian Influenza outbreaks in 2014 and 2015



HA gene BEAST tree

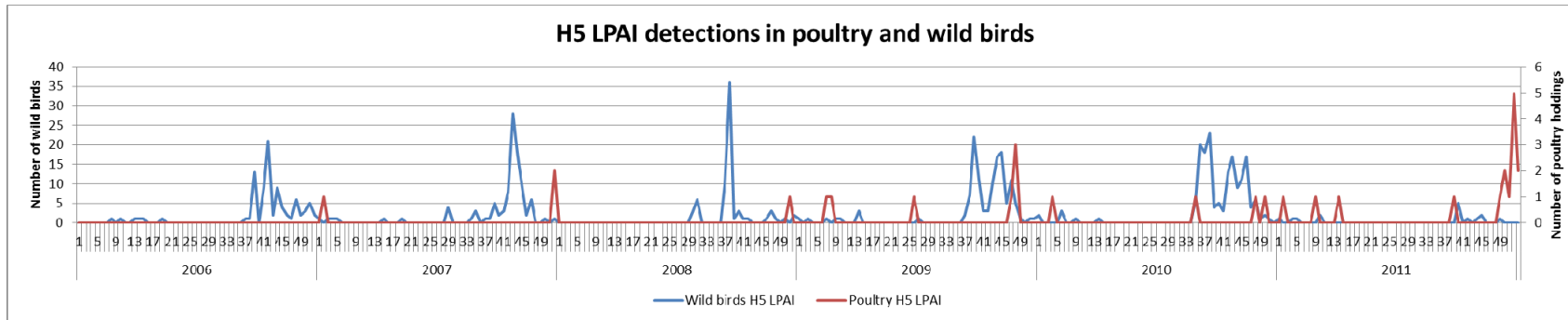
MRCA: June 2014
(95% HPD: April 2014 – Sept 2014)



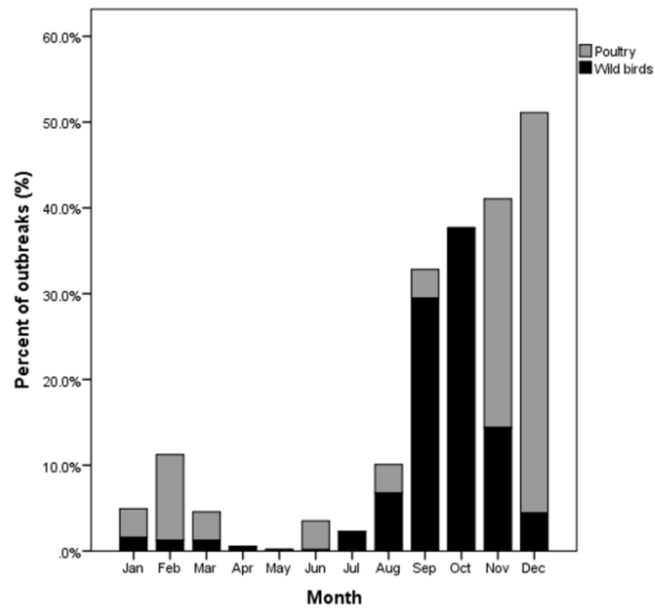
H5Nx HPAI 2.3.4.4

- Reduced severity of clinical indicators in domestic ducks
 - Increased role for serological surveillance in domestic waterfowl
 - Haemagglutination Inhibition antigen study
- Multiple incursions to holdings in Europe with indoor poultry emphasising potential role for fomite spread and need for biosecurity
- Multiple detections in apparently healthy wild birds
 - EFSA Journal 2014;12(12):3941 Highly pathogenic avian influenza A subtype H5N8 (Cross EU contributions)

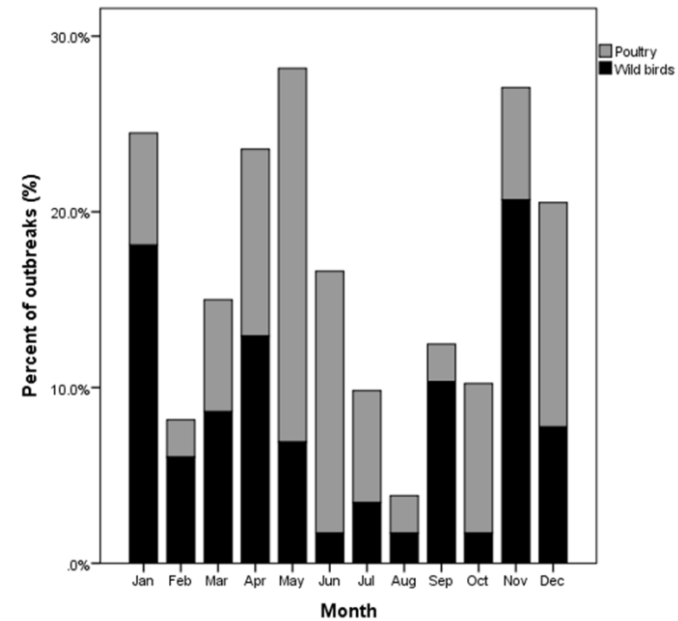
The interface between poultry and wild birds preliminary results



LPAI H5



LPAI H7



Acknowledgements:

Support and contribution from all participating NRLs and competent veterinary authorities in Member States

Thank you for your attention



Surveillance for AI in Poultry in EU 2014

38 holdings seropositive for H5:

- Fattening Ducks: 11 (1.49%) in BE, DE, FR and NL (sampled in 20 MS).
- Breeder Geese: 9 (4.33%) in FR and PL (sampled in 9 MS).
- Breeder Ducks: 7 (2.77%) in FR (sampled in 12 MS).
- Free-range Laying Hens: 4 (0.24%) in BE, DK and NL (sampled in 19 MS).
- Chicken Breeders: 2 (0.06%) in NL (sampled in 24 MS).
- Conventional Laying Hens: 2 (0.05%) in NL (sampled in 28 MS).
- Fattening Geese: 2 (0.54%) in FI (sampled in 13 MS).
- Ratites: 1 (0.69%) in PL (sampled in 13 MS).

Surveillance for AI in Poultry in EU 2014

5 holdings seropositive for H7:

- Conventional Laying Hens: 2 (0.05%) in DE (sampled in 28 MS).
- Others: 2 (0.13%) in IT (sampled in 10 MS).
- Breeder Geese: 1 (0.48%) in PL (sampled in 9 MS).

Passive surveillance for AI in **wild birds** in EU 2014

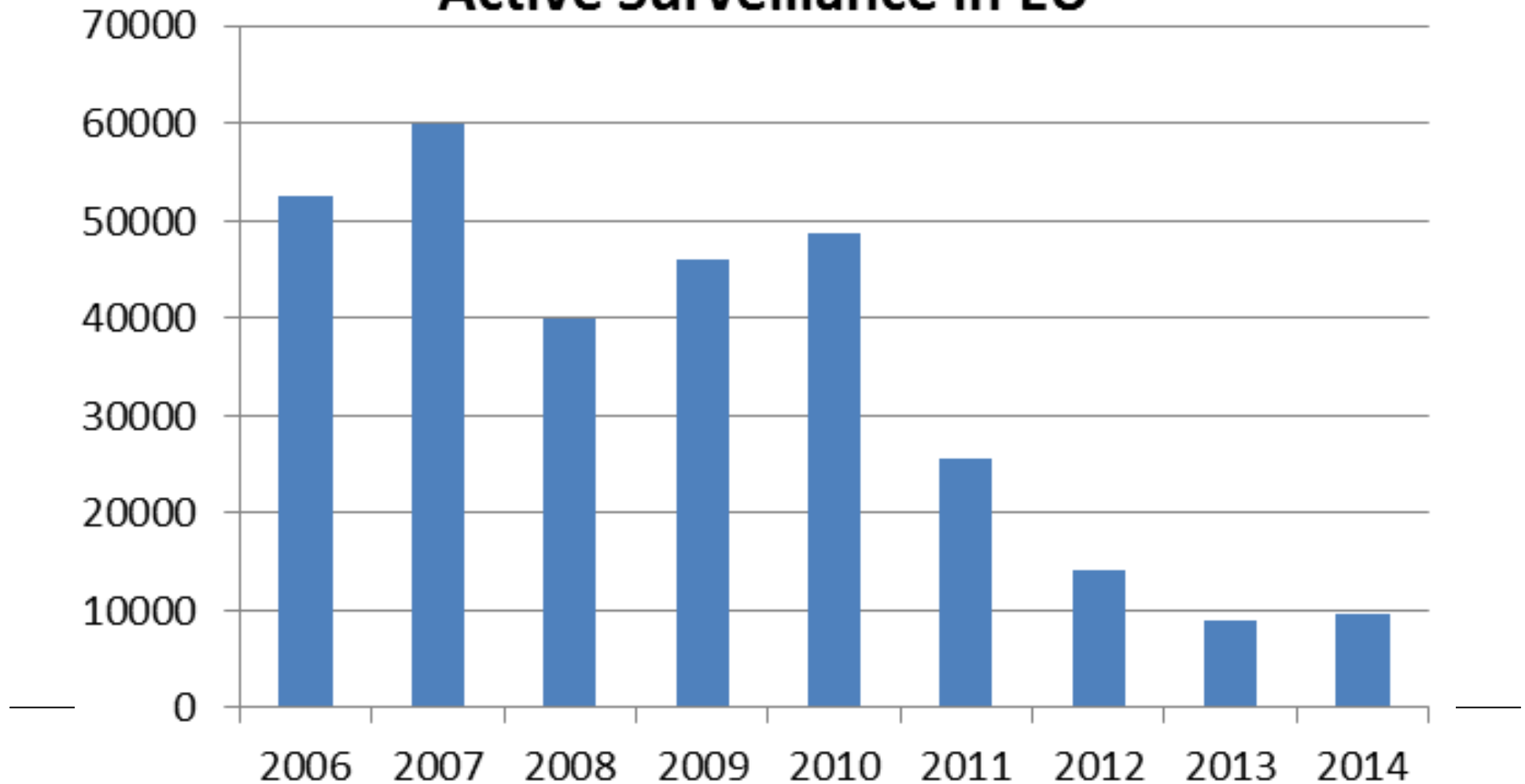
5,676 Birds sampled by MS in 2014 - belonging to 22 Orders and 253 species

The most frequently sampled Orders

Order	2014	2013	2012
Anseriformes	1,684	1,392	1,763
Passeriformes	1,027	1,341	1,259
Falconiformes	601	740	728
Galliformes	559	753	602
Charadriiformes	534	560	642

Active surveillance for AI in wild birds in EU 2014

Total Number of Wild Birds Sampled by Active Surveillance in EU



Additional epidemiological tasks

Cross year analysis of poultry surveillance data

Avian Influenza surveillance 2004-2010: seropositive holdings

