

Surveillance for Avian Influenza in the European Union in 2016

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Overview

- 2016 surveillance programme in
 - Poultry
 - Wild birds



- Additional epidemiological analyses 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 2014

Annual Report



Animal &
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on surveillance
for avian influenza in
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Surveillance for AI in Poultry in EU

- Objectives
 - Inform the competent authority of circulating avian influenza virus with a view to controlling the disease
 - Primarily serological surveillance for detection of evidence of exposure to AI of subtypes H5 and H7
 - Complement early detection systems (scanning/passive surveillance)



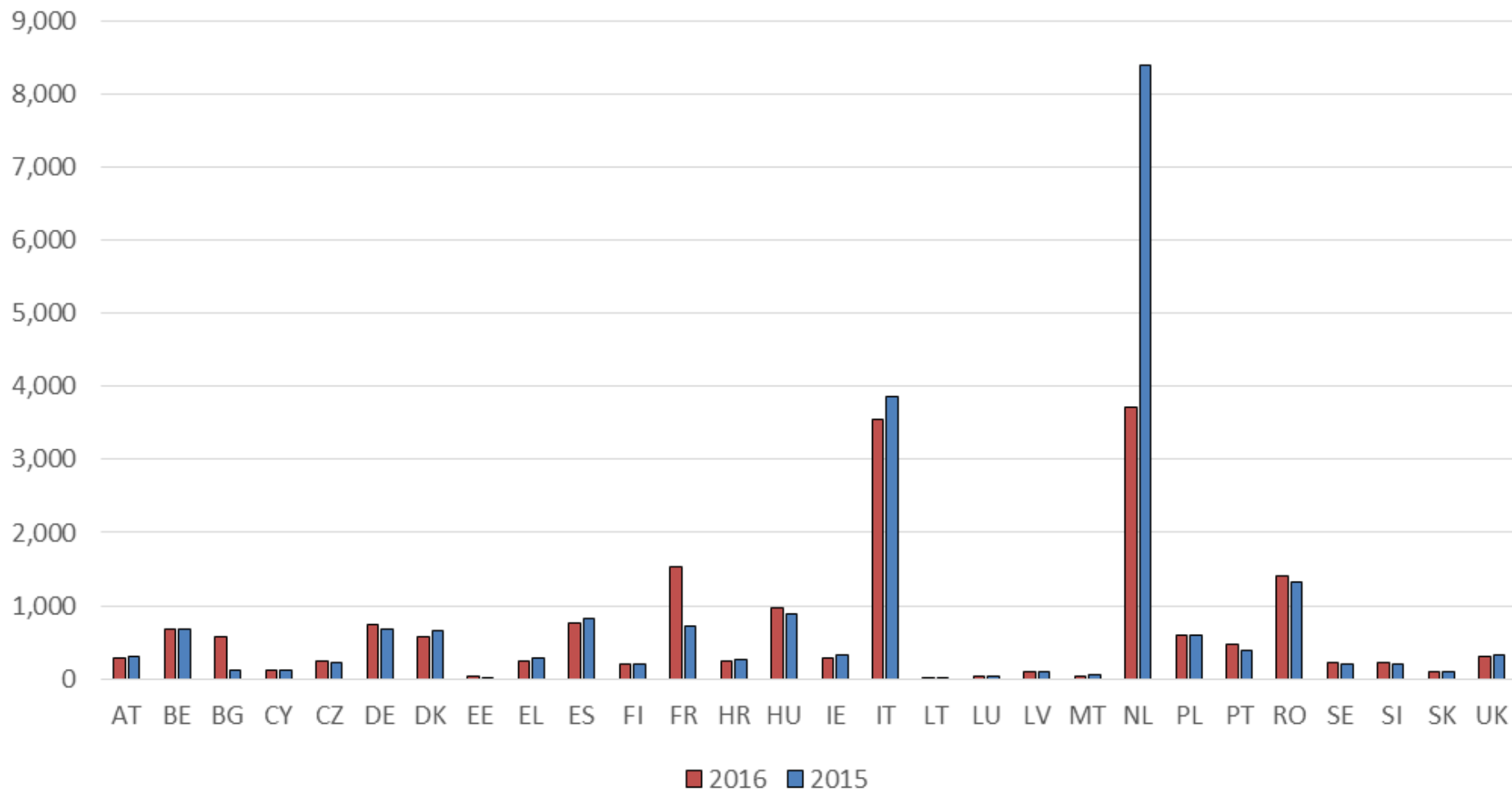
Poultry 2016 – Results

- 18,138 poultry holdings sampled by 28 MS (in 2015 21,867)
- Number of holdings sampled varied by MS from 8 – 3,708

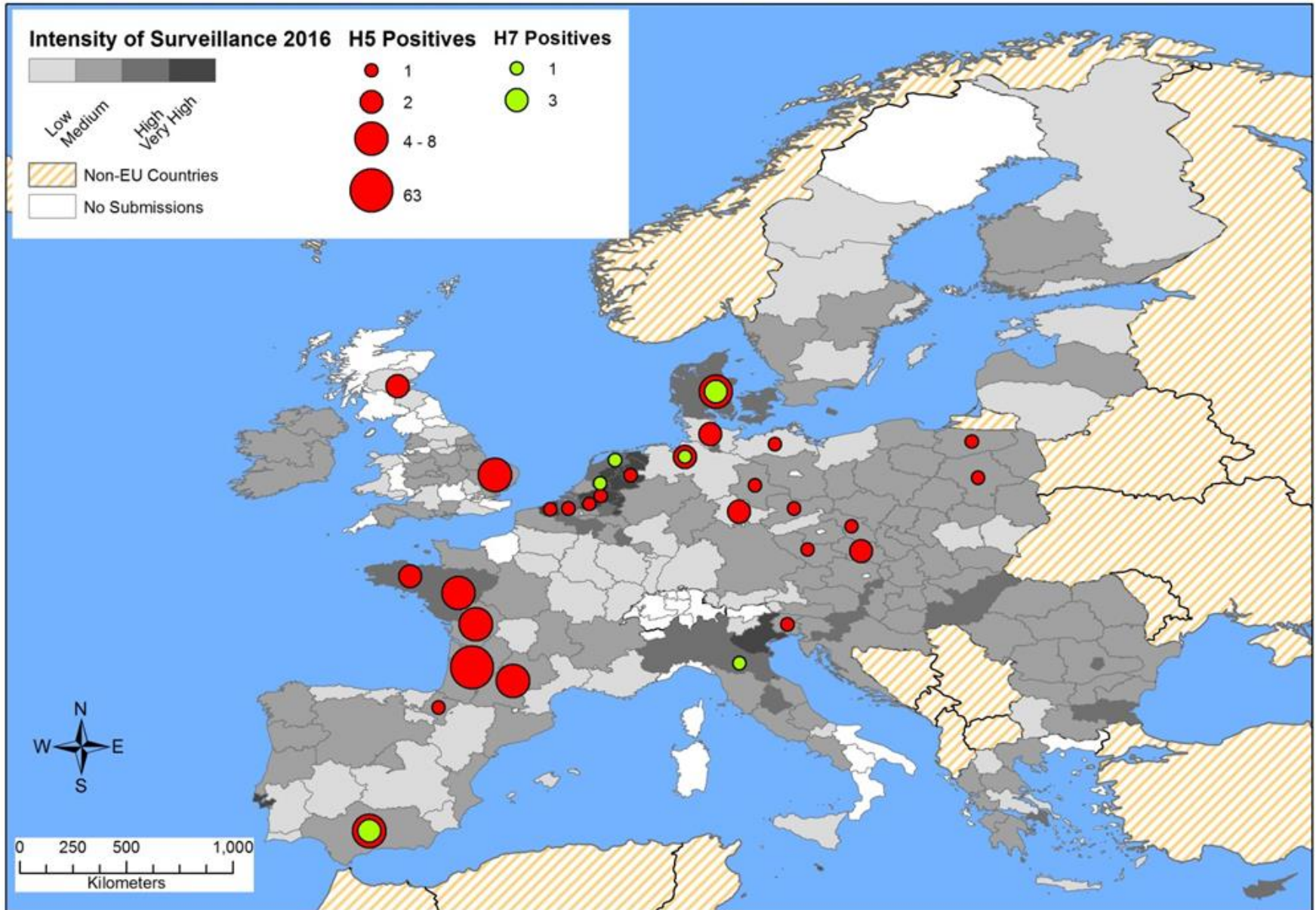


Poultry 2016 – Results

Number of poultry holdings sampled in 2015 and 2016



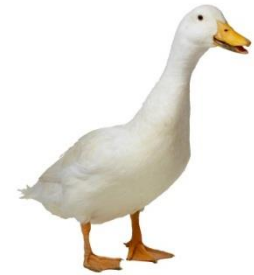
2016 Poultry - Results



Poultry 2016 – Results (2015 blue)

124 (33) H5 seropositive holdings:

- Breeder Ducks: 74 (6) in CZ, FR and UK
- Breeder Geese: 18* (13) in CZ, DE, FR and PL
- Farmed Game birds (waterfowl): 10* (0) in CZ, DK and ES
- Fattening Ducks: 9 (7) in BE, DE and FR
- Fattening Geese: 6 (1) in DE, ES and UK
- Free-range Laying Hens: 3** (1) in NL and DK
- Others: 3 (4) in DE, ES and IT
- Conventional Laying Hens: 2** (0) in DE and NL
- Fattening Turkeys: 1 (0) in DE
- Backyard Flocks: 0 (1)



Poultry 2016 – Results

Epidemiological follow up investigations following an H5 seropositive result

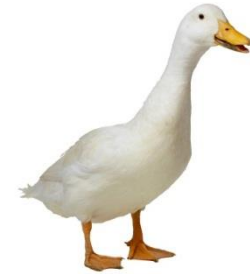
H5 seropositive poultry holdings	Number of poultry holdings	% of total number of H5 seropositive poultry holdings
Following H5 seropositive result, epidemiological follow-up visit 'Done'	119	96.0
Done: H5 detected by virological testing	7	5.6
Done: No detection by virological testing	112	90.3
Following H5 seropositive result, epidemiological follow-up visit 'Not done'	5	4.0
Not done: Sampling at slaughter	1	0.8
Not done: Birds slaughtered/killed	4	3.2
Total number of H5 seropositive poultry holdings (by MS)	124	



Poultry 2016 – Results (2015 blue)

10 (7) H7 seropositive holdings:

- Farmed Game Birds (waterfowl): 4 (1) in DK and ES
- Free-range Laying Hens: 4 (3) in DK and NL
- Conventional Laying Hens: 1 (0) in DE
- Others: 1 (0) in IT
- Backyard Flocks: 0 (1)
- Breeder Geese: 0 (2)



Poultry 2016 – Results

Epidemiological follow up investigations following a H7 seropositive result

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'	10	100
Done: H7 detected by virological testing	3	30.0
Done: No detection by virological testing	7	70.0
Following H7 seropositive result, epidemiological follow-up visit 'Not done'	0	0
Total number of H7 seropositive poultry holdings (by MS)	10	



Poultry 2016 – Results

Summary

- Number of H5 seropositive holdings (124) was higher than 2015 (33), and higher than the 5 year average (44, 2011-2015).
- High proportion of detections in Ducks and Geese as in previous years.
- 119 H5 seropositive holdings underwent follow up testing and 7 were H5 virus positive.

- Number of H7 seropositive holdings (10) was similar to 2014 (7)
- Detections in Farmed Game Birds (waterfowl), Free-range Laying Hens, Conventional Laying Hens and Others.
- All 10 H7 seropositive holdings underwent follow up testing and 3 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.



Passive surveillance for AI in **wild birds** in EU 2016

Objectives (2010/367/EU)

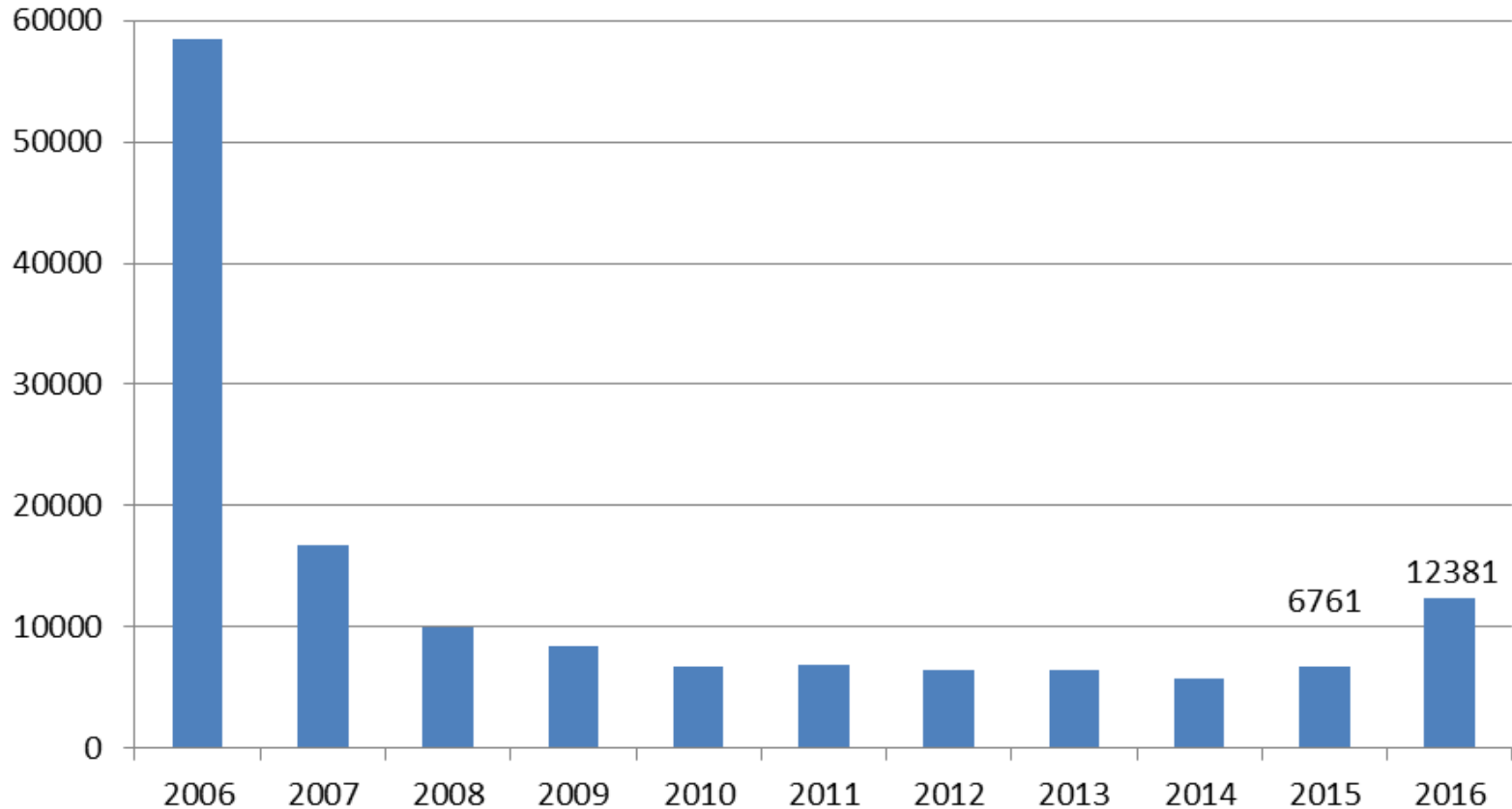
Timely detection of HPAI of the subtype H5N1 in wild birds in order to protect poultry and safeguard veterinary public health.

- a) Risk based passive surveillance
- b) Target species to be prioritised
- c) Areas close to water bodies and high density poultry holding areas targeted
- d) Epidemiologists, ornithologists and conservationists to be consulted
- e) Enhanced surveillance to be implemented if the epidemiological situation requires.



Passive surveillance for AI in wild birds in EU 2016

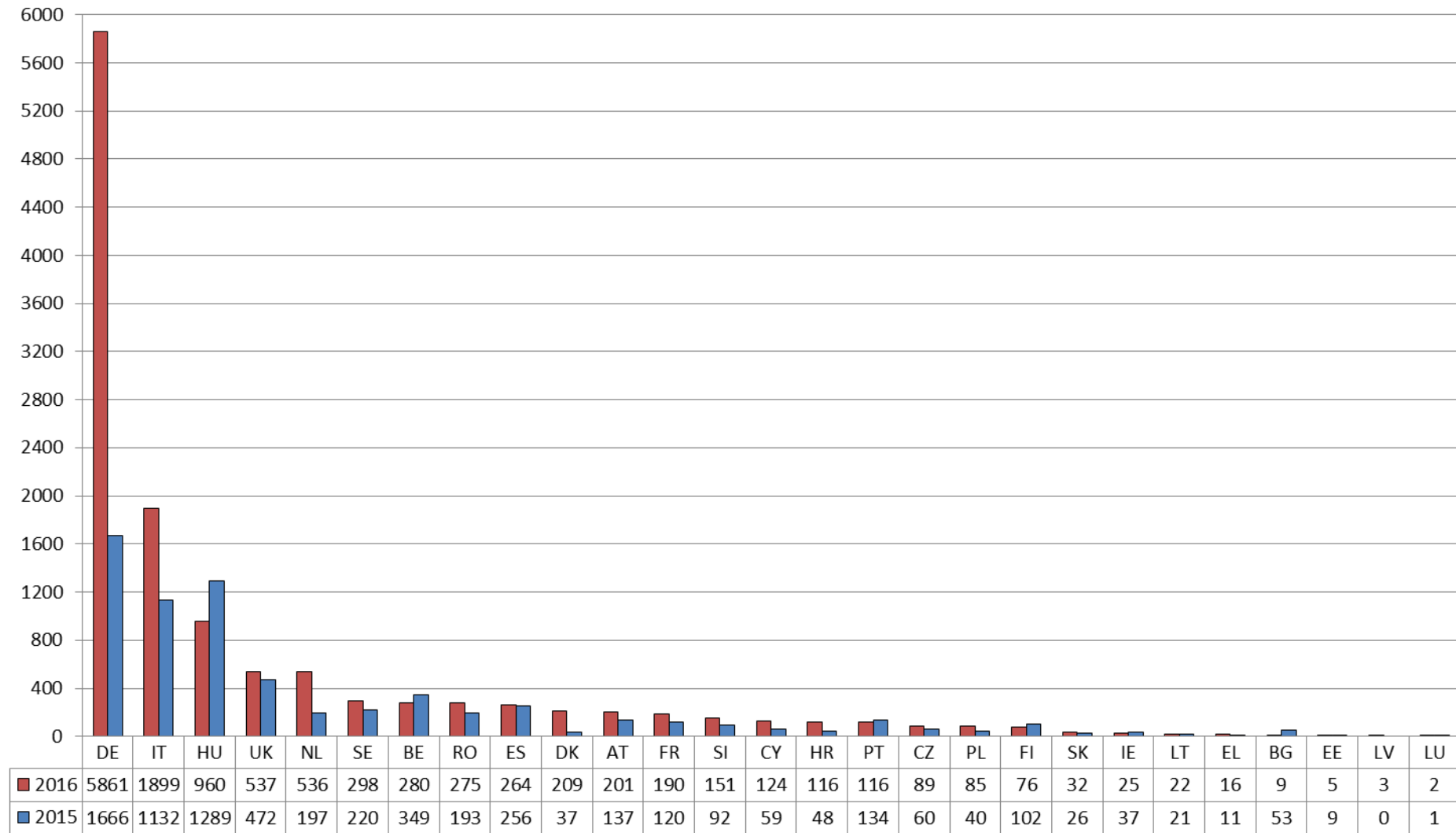
Total Number of Wild Birds Sampled by Passive Surveillance
in EU



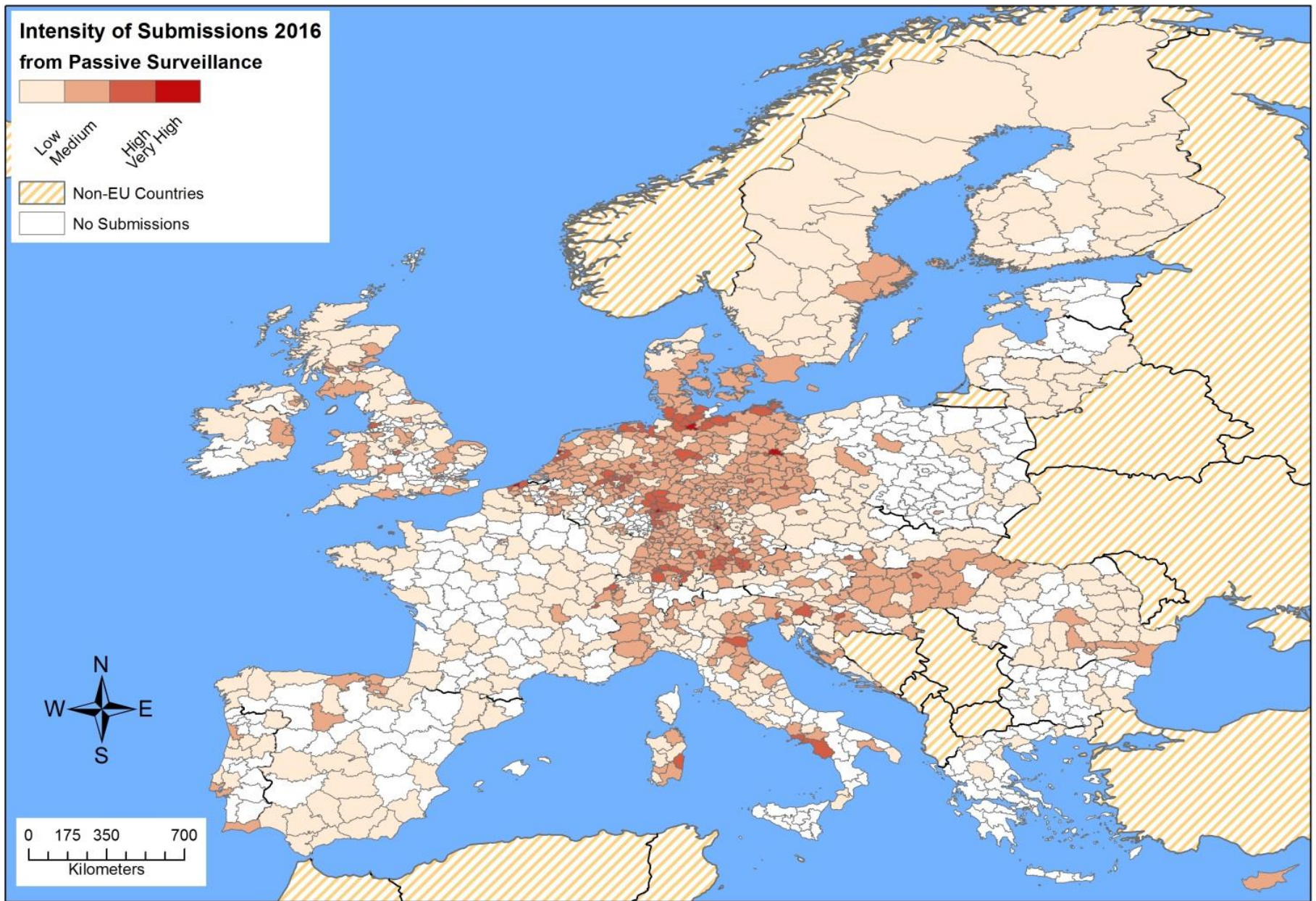
~83% more submissions in 2016 than in 2015

87% more than 5 year average (2011-2015)

Passive surveillance for AI in wild birds in EU 2016



Germany accounted for 47% of the total sampling effort in 2016
Germany submitted ~ 3.5 times more samples than in 2016



Intensity of sampling by **PASSIVE** surveillance (birds found dead, injured or live with clinical signs) in EU MS in 2016

Passive surveillance for AI in **wild birds** in EU 2016

12,381 Birds sampled in 2016 - belonging to 22 Orders and 269 species

The most frequently sampled Orders

Order	2016
Anseriformes	4075
Passeriformes	2135
Falconiformes	1767
Charadriiformes	1437
Columbiformes	1045
Galliformes	513



Passive surveillance for AI in **wild birds** in EU 2016

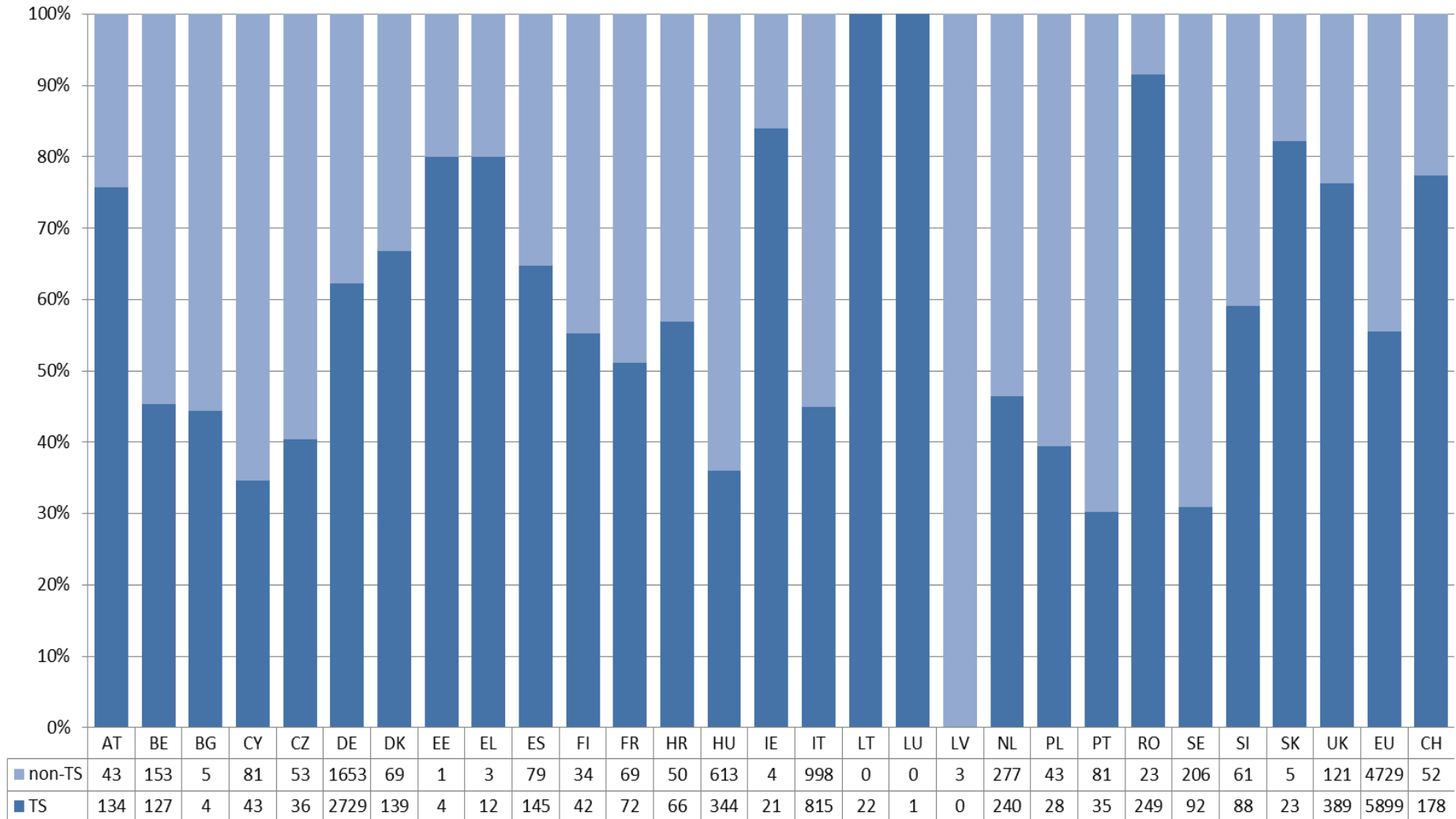
12,381 Birds sampled in 2016 - belonging to 22 Orders and 269 species

The most frequently sampled Orders

Order	2016	2015	2014
Anseriformes	4075	1893	1684
Passeriformes	2135	1068	1027
Falconiformes	1767	966	559
Charadriiformes	1437	750	534
Columbiformes	1045	622	518
Galliformes	513	442	200



Proportion of birds sampled by passive surveillance that were Target Species



Under half of the birds sampled (47.6%) were identified as Target Species

Passive surveillance for AI in **wild birds** in EU 2016

The most frequently sampled species



Species

2016

Anas platyrhynchos

1,085



Aythya fuligula

554

Cygnus olor

547



Buteo buteo

546

Turdus merula

435

Phasianus colchicus

420

Anas crecca

347

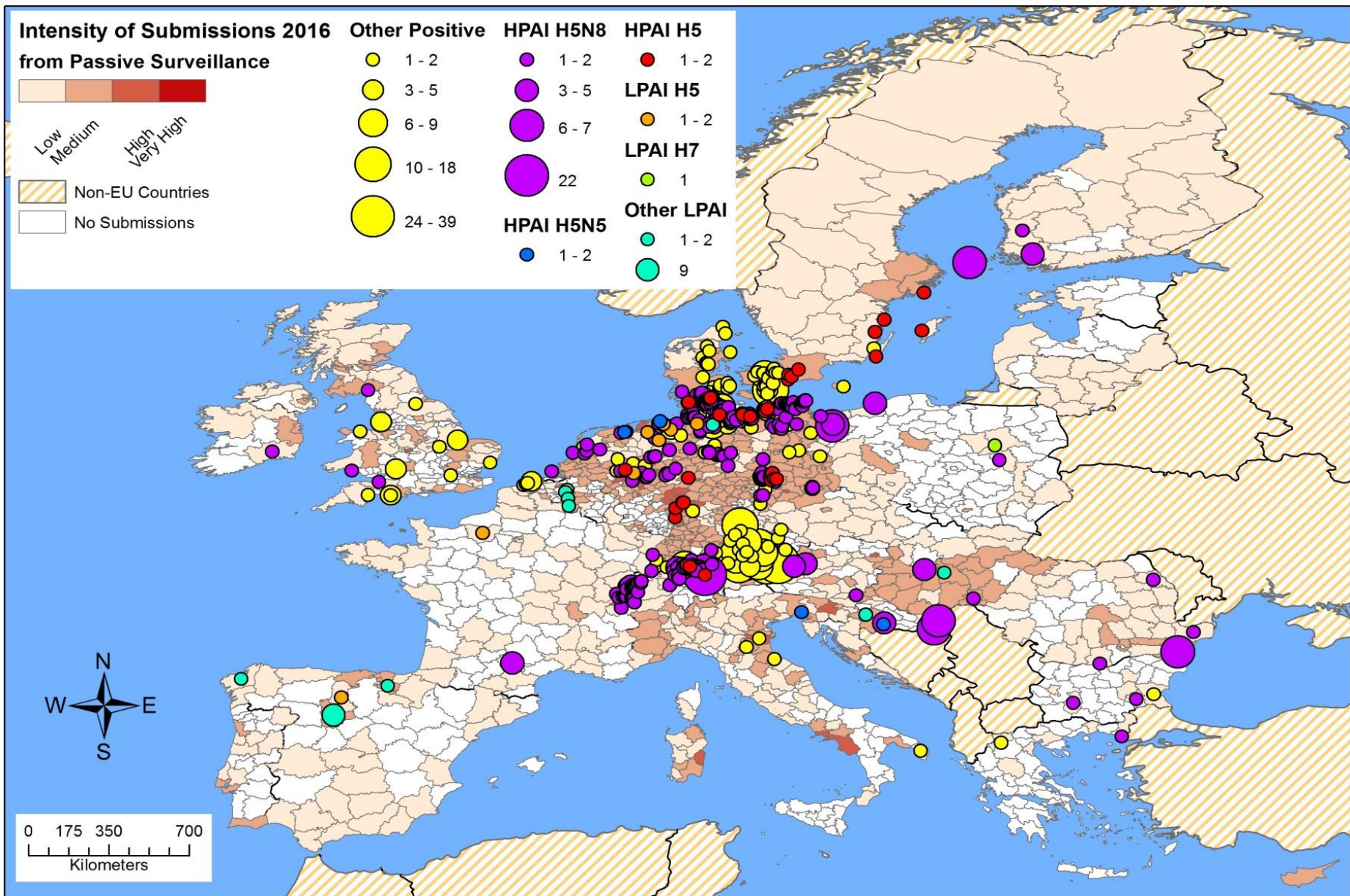


Passive surveillance for AI in **wild birds** in EU 2016

The most frequently sampled species



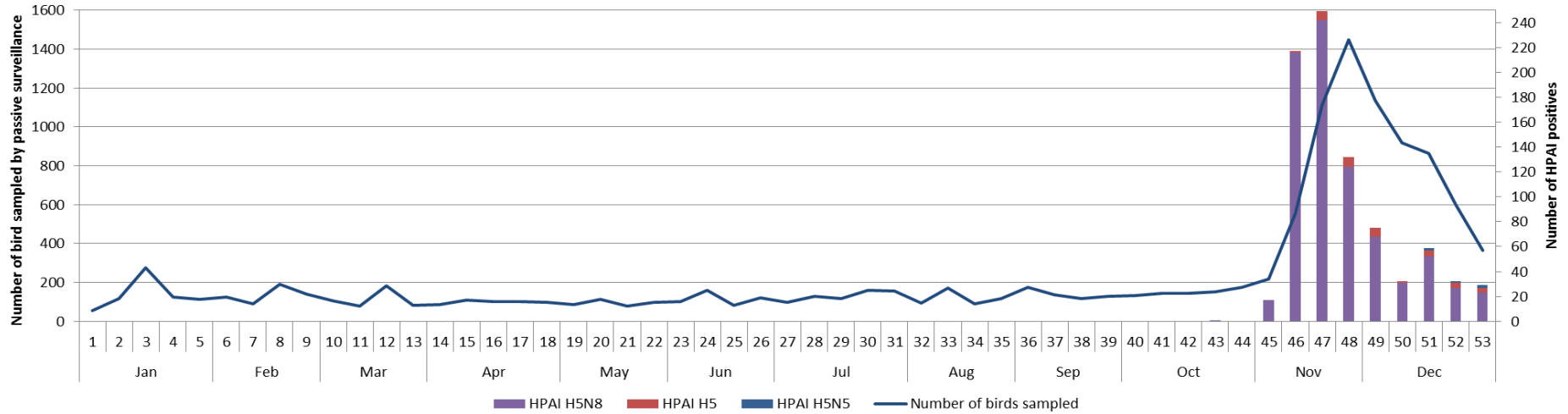
Species	2016	2015	2014
<i>Anas platyrhynchos</i>	1,085	735	785
<i>Aythya fuligula</i>	554	5	8
<i>Cygnus olor</i>	547	349	274
<i>Buteo buteo</i>	546	324	142
<i>Turdus merula</i>	435	147	118
<i>Phasianus colchicus</i>	420	376	496
<i>Anas crecca</i>	347	74	32



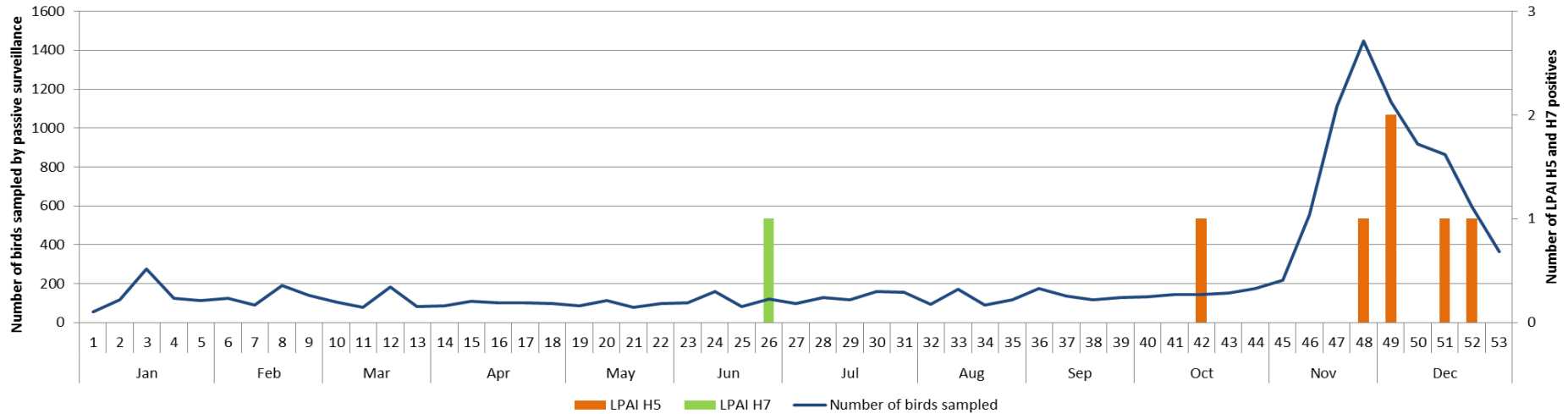
Detections of Avian Influenza by **PASSIVE** surveillance (birds found dead, injured or live with clinical signs) in EU MS in 2016

Wild bird passive surveillance detections

Detections of HPAI



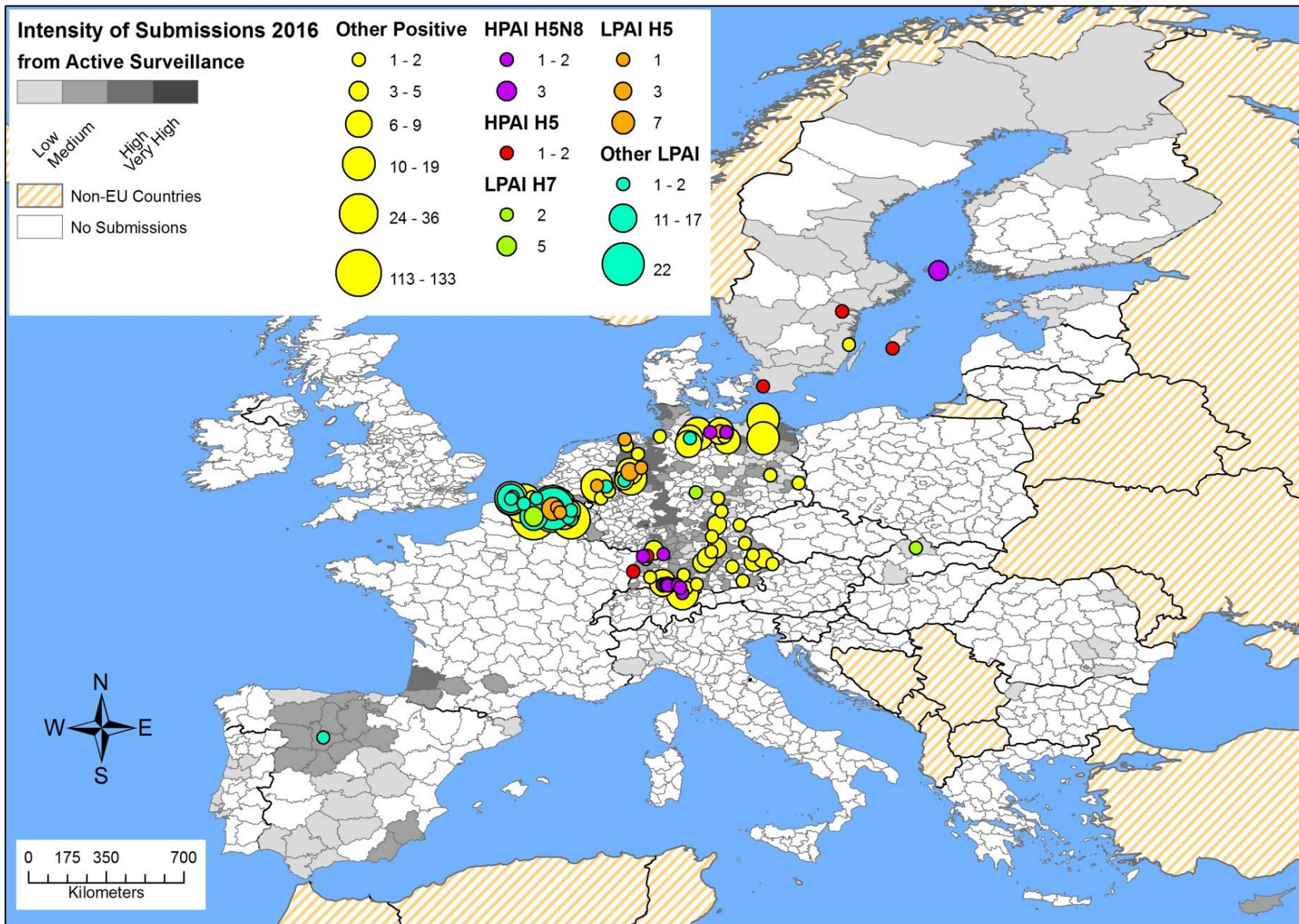
Detections of LPAI H5 and H7



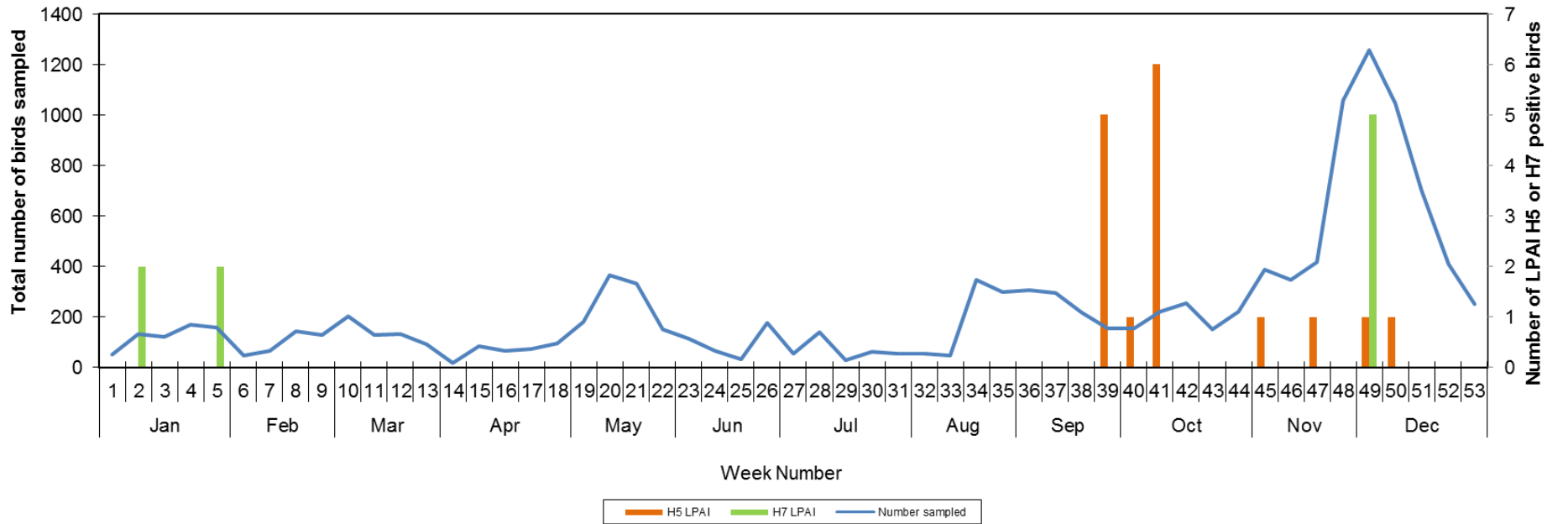
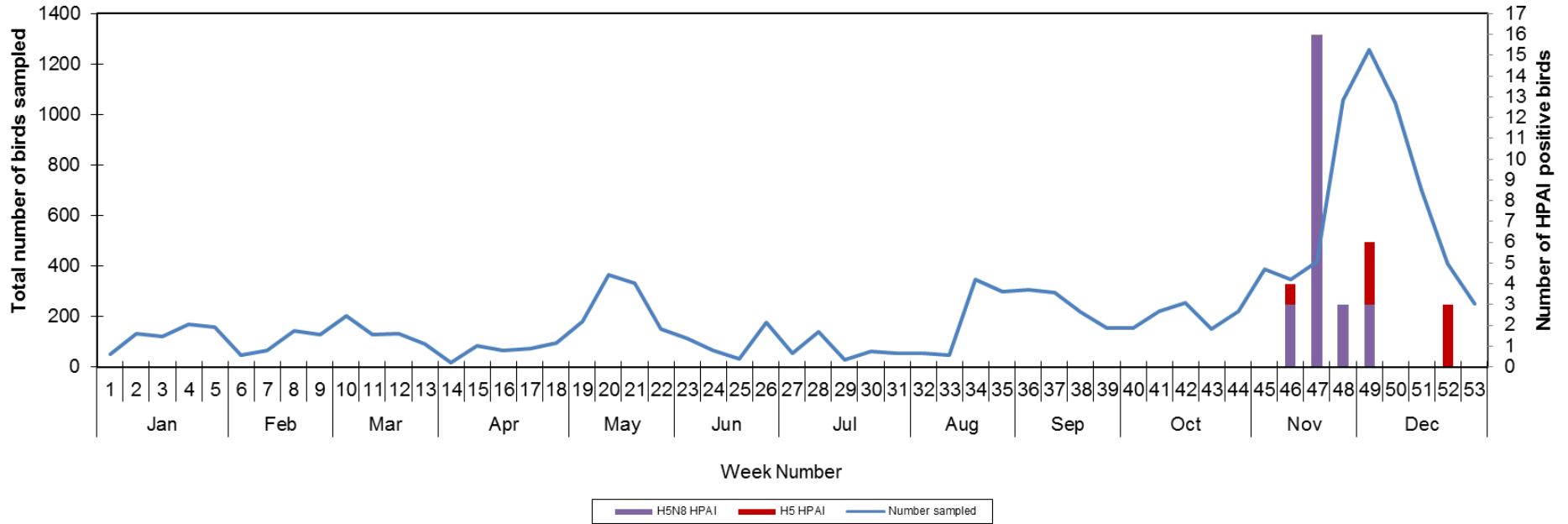
Wild bird passive surveillance summary

- HPAI H5N8 (2.3.4.4) detected in 801 birds
 - 14 Member States and Switzerland
 - 57 species from 12 Orders
 - All detections made Oct-Dec
- HPAI H5N5 detected in 5 birds
 - 4 Member States
 - 3 species from the Order Anseriformes
 - All detections in December
- HPAI H5 (unknown N type) detected in 37 birds
 - Germany (24), Sweden (12) and Austria (1)
 - 23 species from six Orders
 - All detections Nov-Dec
- Winter 2017/18??





Wild bird active surveillance detections



Wild bird active surveillance summary

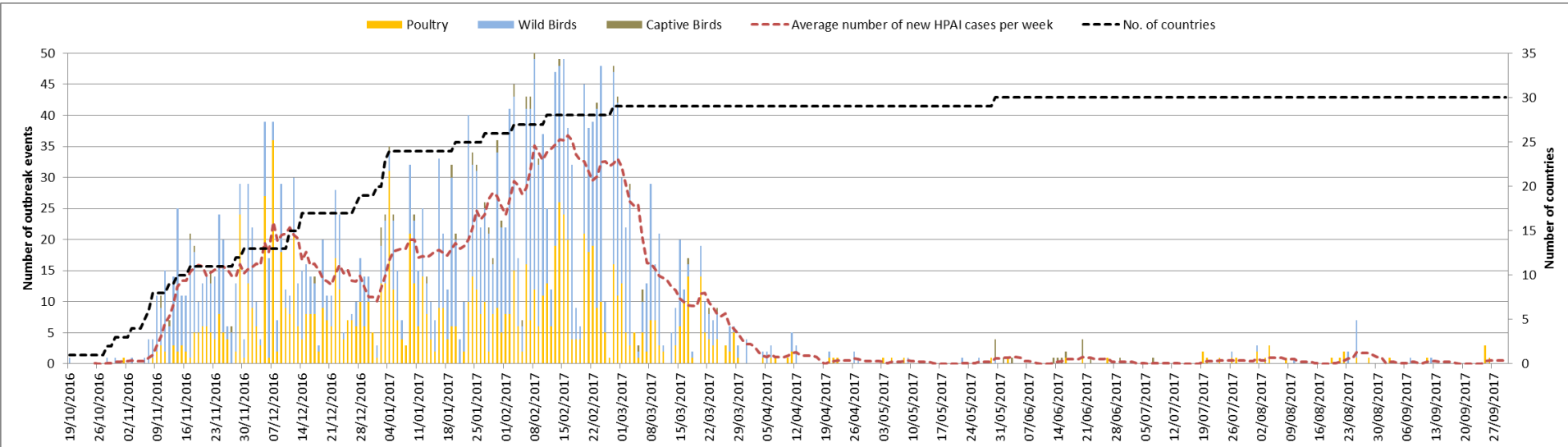
- HPAI H5N8 detected in 25 birds
 - Austria (2), Germany (20) and Finland (3)
 - 9 species from five Orders
 - All detections made Nov-Dec
- HPAI H5 (unknown N type) detected in 7 birds
 - Germany (3) and Sweden (4)
 - 7 species from 4 Orders
 - All detections made Nov-Dec
- LPAI H5 detected in 16 birds
 - Belgium (9) and Germany (7)
 - Four species from the Order Anseriformes
 - All detections made Sept-Dec
- LPAI H7 detected in 9 birds
 - Belgium (5), Germany (2) and Slovakia (2)
 - All Mallards (*Anas platyrhynchos*)
 - All detections made Dec-Jan



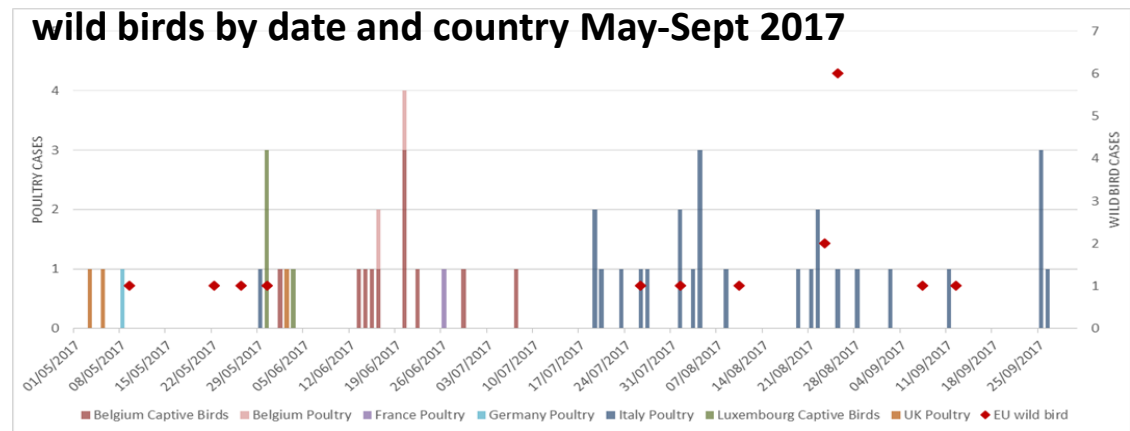
Additional epidemiological analyses:

- H5N8 Epidemic situation update (data to 30th Sept 2017)

Number of H5 HPAI outbreaks by date from 19th October 2016 to 30th September 2017



Number of detections of H5N8 HPAI in poultry, captive and wild birds by date and country May-Sept 2017

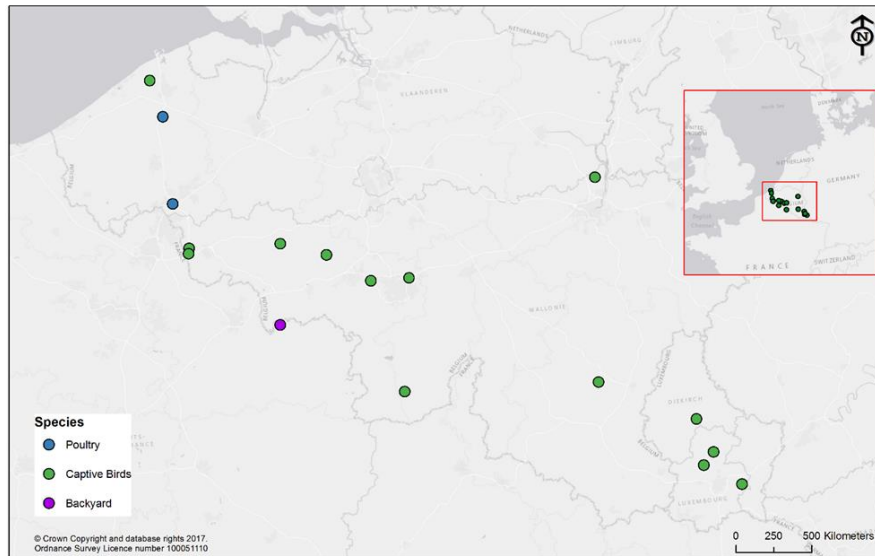


Virus has continued to circulate in poultry and wild birds throughout the summer of 2017

Additional epidemiological analyses:

- H5N8 Epidemic situation update (data to 30th Sept 2017)

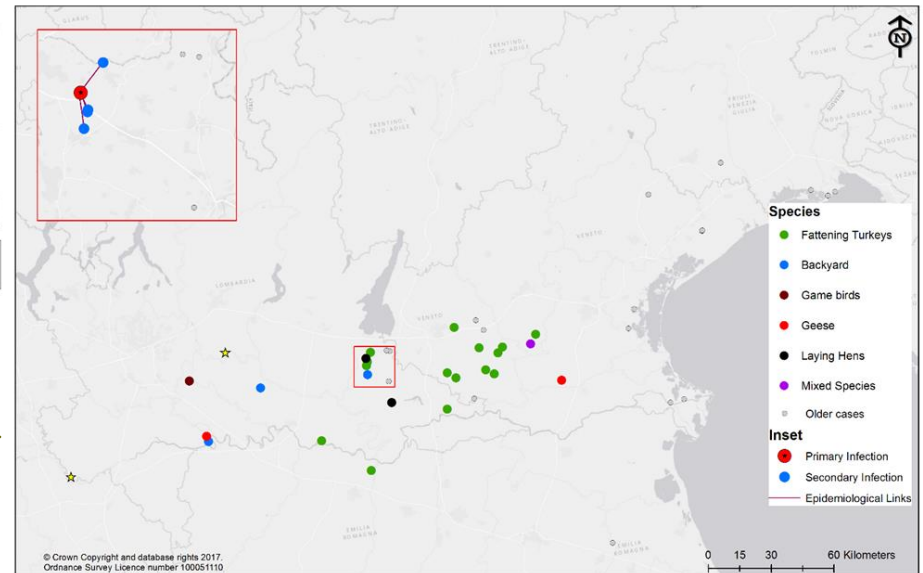
Detections of H5N8 HPAI in poultry and captive birds June to Sept 2017



Poultry and captive bird outbreaks have been detected in two spatial clusters over the summer period

← Belgium, France and Luxembourg

Northern Italy →



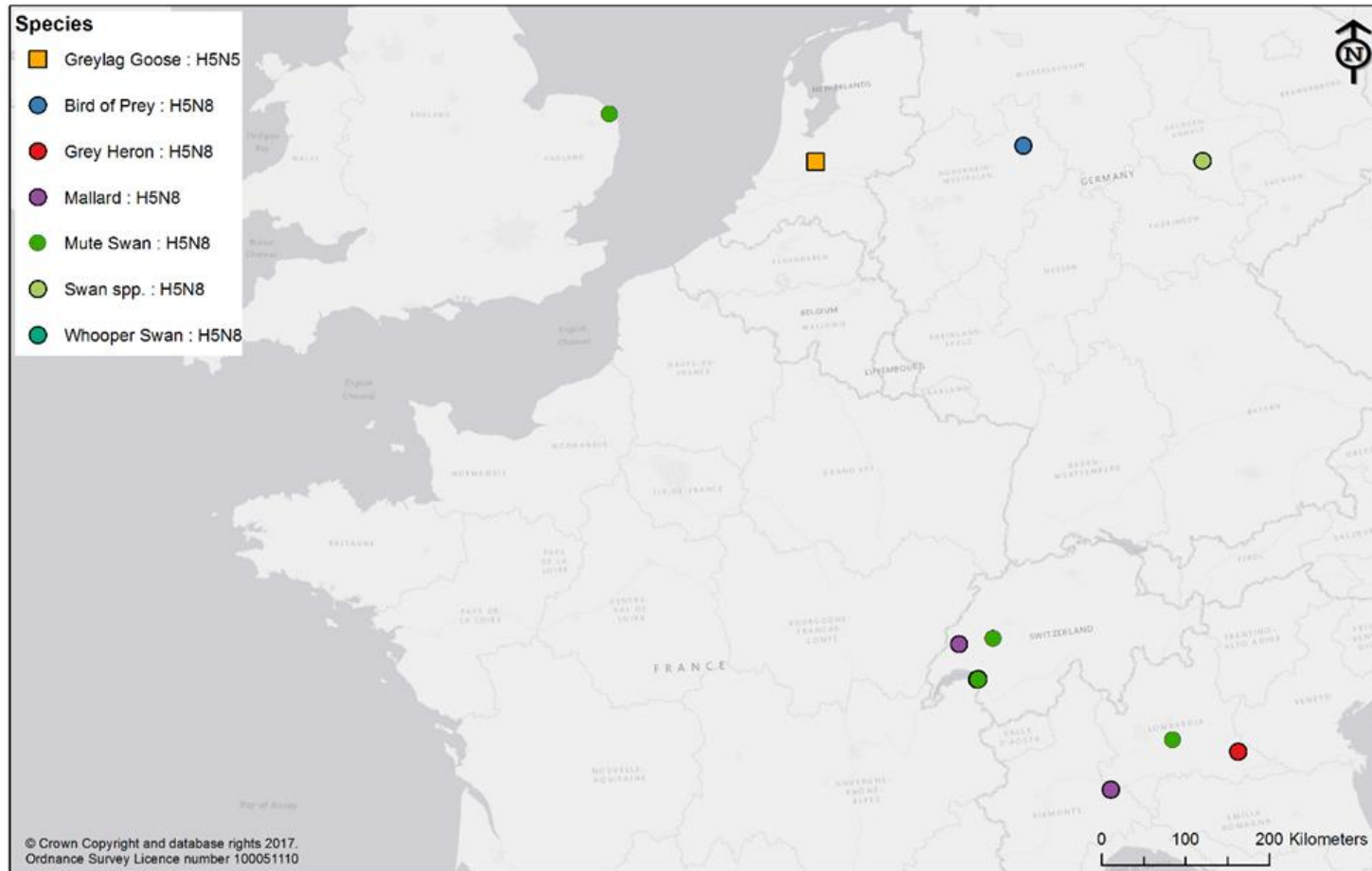
Dept. Of Epi Sciences 06/10/2017 **HPAI H5N8 cases in France and Belgium since 12/06/2017 (to 30/09/2017)** Animal & Plant Health Agency

Dept. Of Epi Sciences 06/10/2017 **HPAI H5N8 cases in Italy since June 2017** Inset map showing cases with established epidemiological links Animal & Plant Health Agency

Additional epidemiological analyses:

- H5N8 Epidemic situation update (data to 30th Sept 2017)

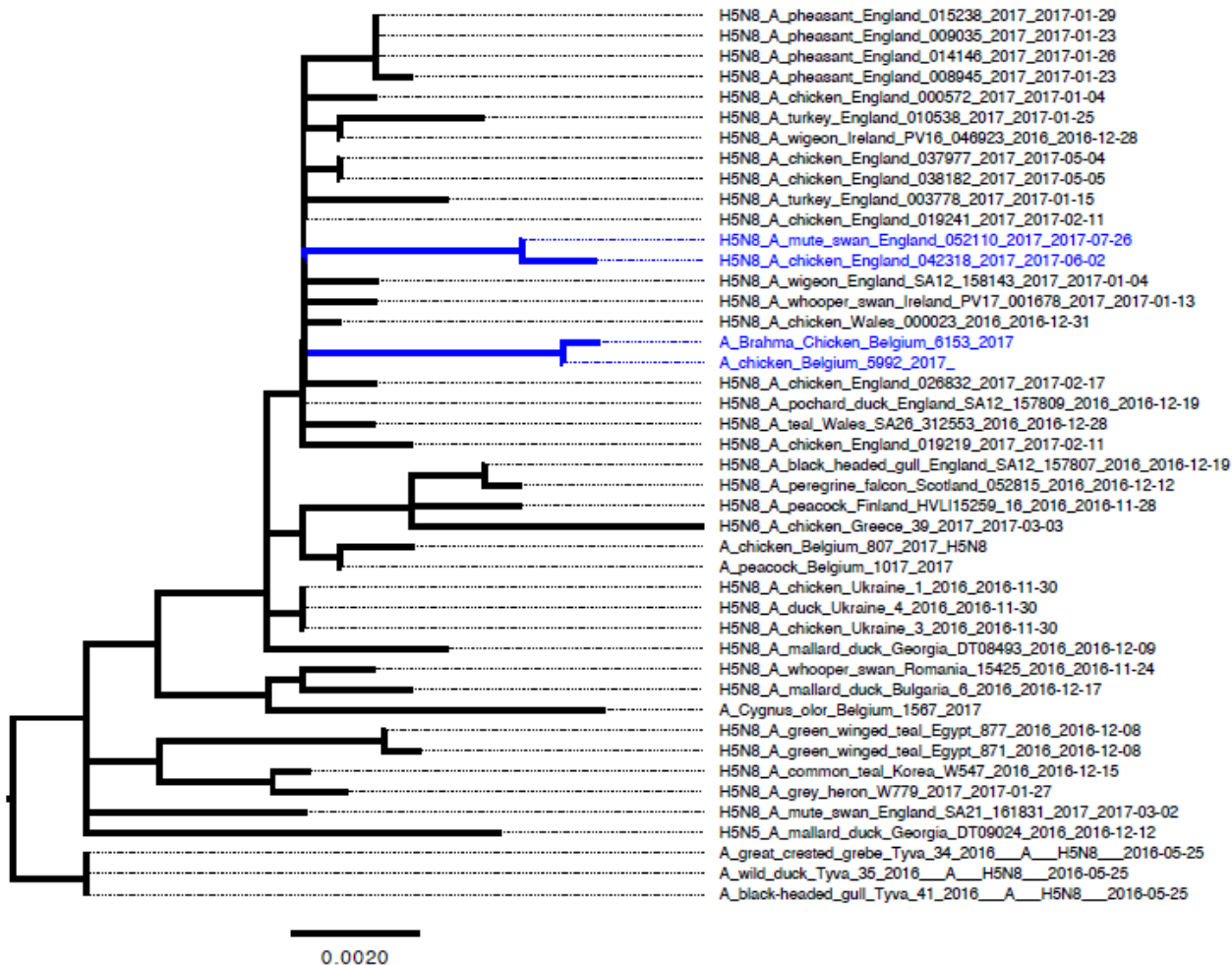
Detections of H5N8 HPAI in wild birds May-Sept 2017



Additional epidemiological analyses:

- H5N8 Epidemic situation update (data to 30th Sept 2017)

Maximum likelihood phylogenetic tree of the HA gene from the H5 HPAI epizootic in Europe



Acknowledgements

- Support and contribution from all participating National Reference Laboratories and competent veterinary authorities in Member States



Thank you for your attention



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Plant Health
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