Veterinary Laboratories Agency

Avian influenza surveillance in the European Union in 2009

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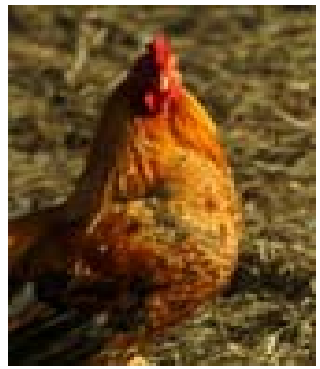
Poultry surveillance 2009



Surveillance for AI in poultry in EU

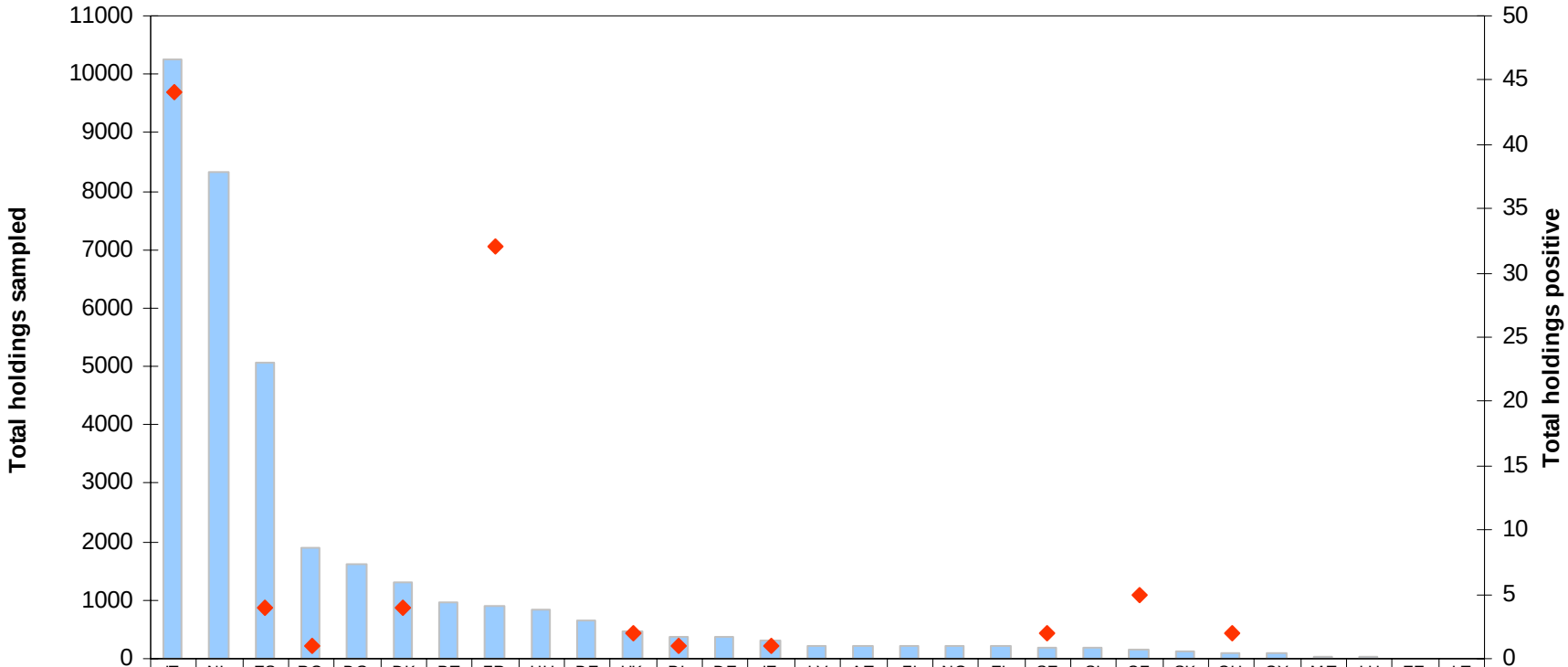
- Objectives in 2009
  - To detect sub-clinical infections with low-pathogenicity Avian Influenza (LPAI) of subtypes H5 and H7
  - Complement early detection systems
  - Contribute to demonstration of disease free status of country/region/compartment from notifiable AI

2009 results

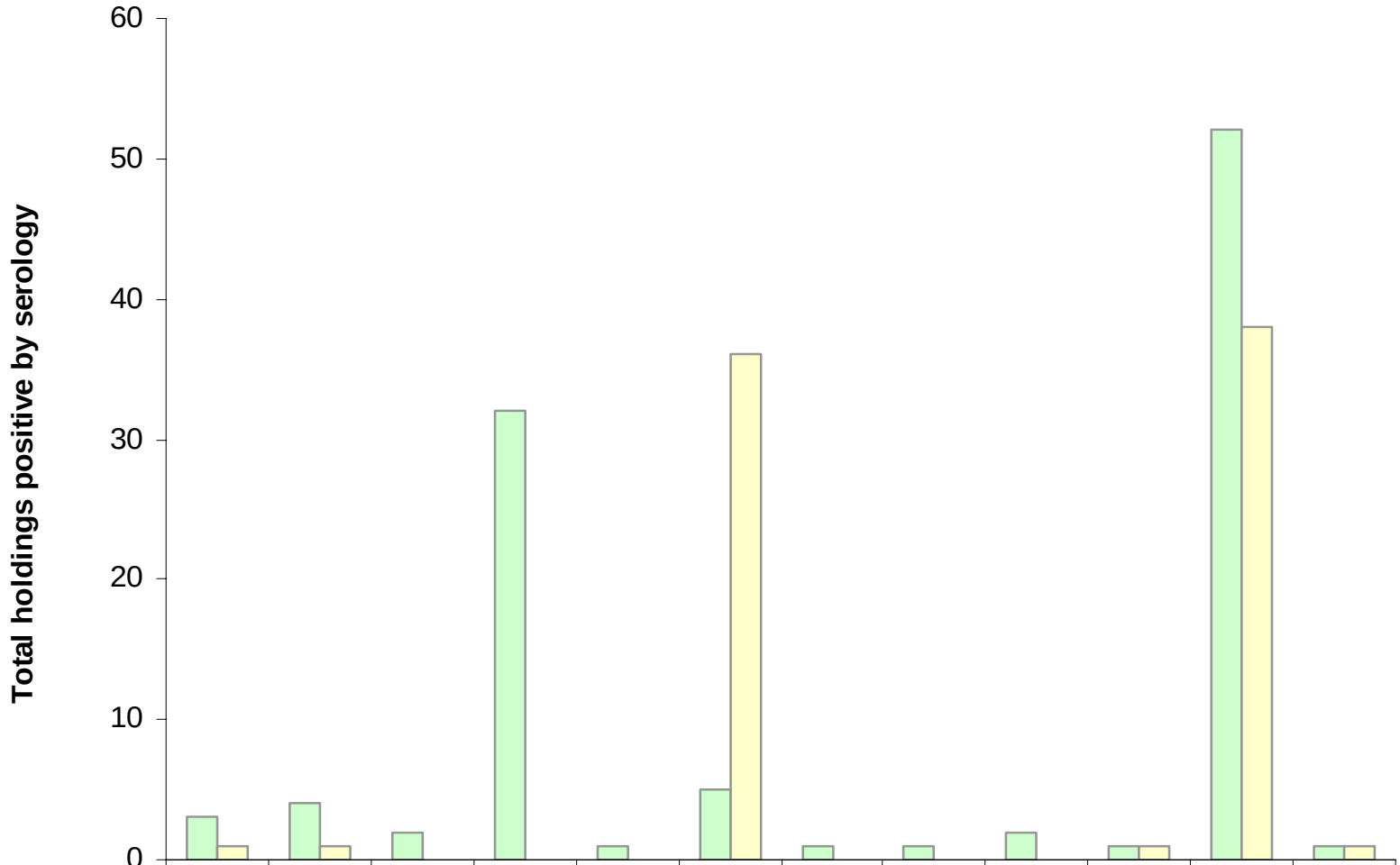
- In 2009 a total of 35,016 holdings sampled (2008 - 34,985)
  - the most frequently sampled poultry types were backyard flocks (26.7%) and laying hens (24.1%)

- Antibodies to H5 or H7 avian influenza were detected in 90 holdings (0.26%) of the total holdings sampled
  - H5 52 positive (52 in 2008, 97 in 2007)
    - 5 of 52 were found to be virus positive on follow-up testing
  - H7 38 positive (21 in 2008, 36 in 2007)
    - 16 of 38 were found to be virus positive on follow-up testing

- The detection rate was highest in breeder ducks (9.1%) and breeder geese (8.3%)

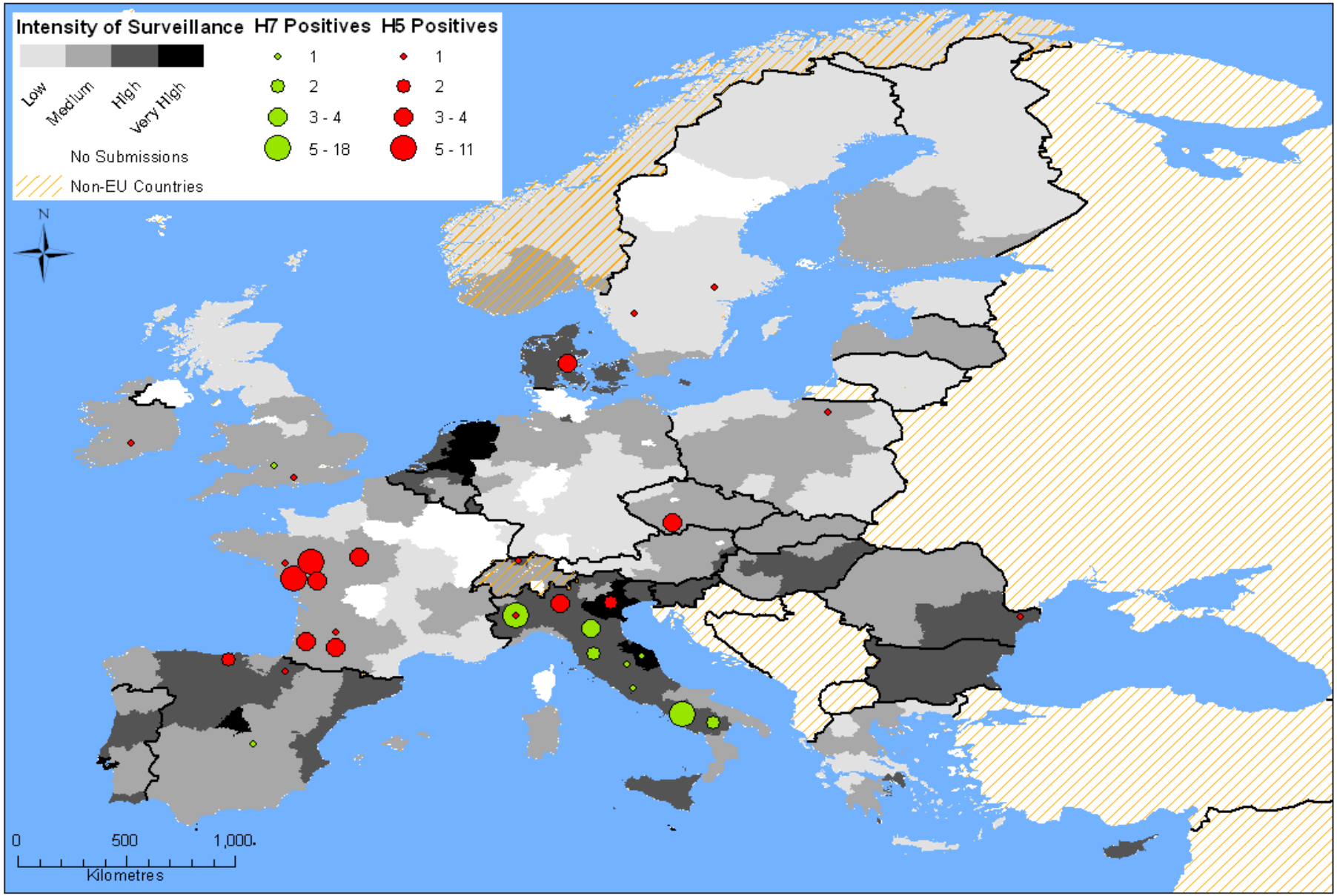


	IT	NL	ES	RO	BG	DK	PT	FR	HU	BE	UK	PL	DE	IE	LV	AT	FI	NO	EL	SE	SI	CZ	SK	CH	CY	MT	LU	EE	LT	
Total holdings Sampled	10254	8327	5070	1904	1605	1304	958	893	826	664	453	378	373	308	226	225	225	222	205	196	192	145	109	104	94	41	27	12	2	EU total = 35016
Total H5/ H7 positive holdings	44		4	1		4		32			2	1		1						2		5		2						EU Total = 96

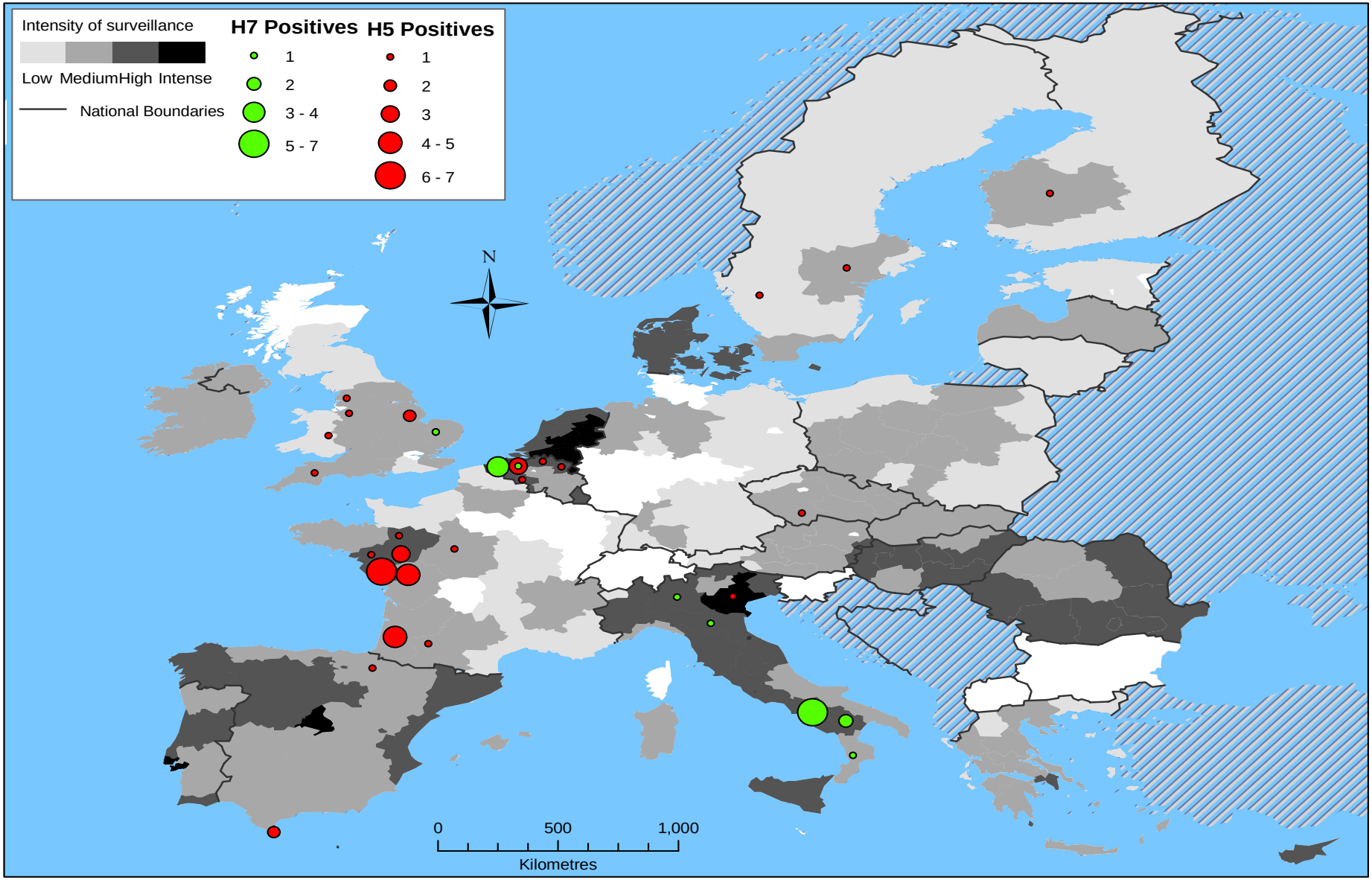


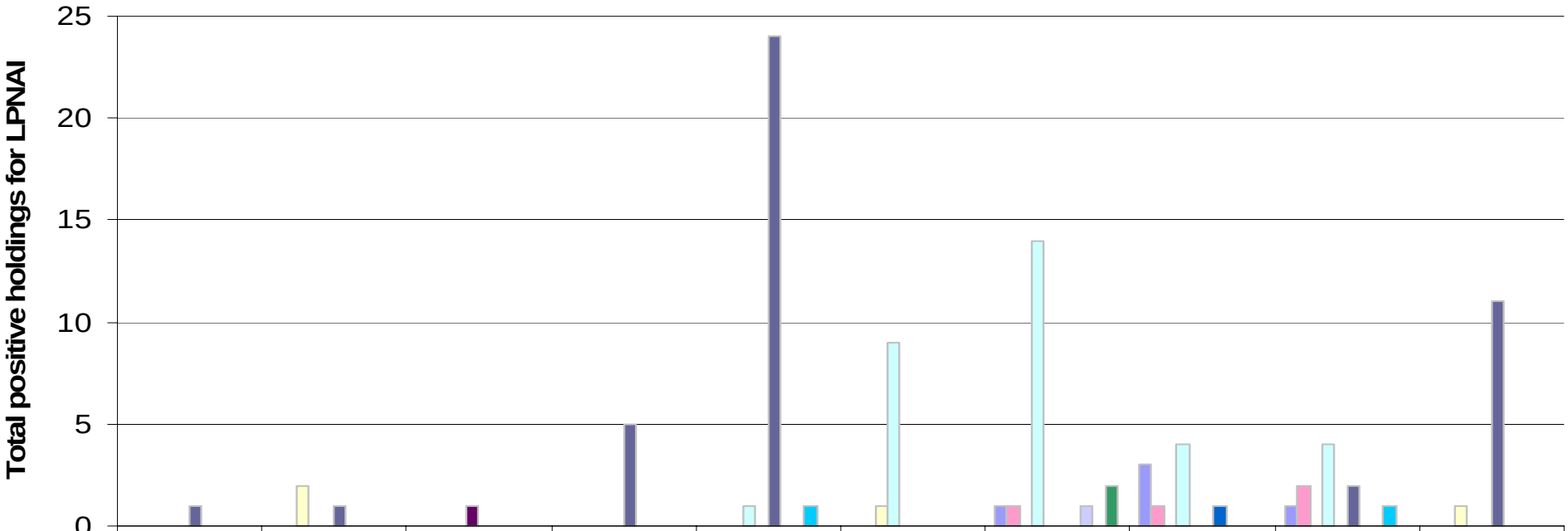
	CZ	DK*	ES	FR	IE	IT	PL	RO	SE	UK	EU Total	CH
H5 seropositive holdings	3	4	2	32	1	5	1	1	2	1	52	1
H7 seropositive holdings	1	1	0	0	0	36	0	0	0	1	38	1

Positive poultry samples 2009



Positive poultry samples 2008





	Chicken Breeders	Laying Hens	Free range laying hens	Fattening Turkeys	Backyard flocks	Fattening Ducks	Breeder Ducks	Breeder Geese	Game birds	Others
CZ	0	0	0	0	0	0	1	3	1	0
DK	0	0	0	0	0	0	1	1	2	0
ES	0	2	0	0	0	1	0	0	0	1
FR	0	0	0	0	1	9	14	4	4	0
IE	0	0	1	0	0	0	0	0	0	0
IT	1	1	0	5	24	0	0	0	2	11
PL	0	0	0	0	0	0	0	1	0	0
RO	0	0	0	0	0	0	1	0	0	0
SE	0	0	0	0	1	0	0	0	1	0
UK	0	0	0	0	0	0	2	0	0	0

2009 results

- Antibodies to H5 or H7 avian influenza were detected in 90 holdings (0.26%) of the total holdings sampled
  - Similar overall detection rate to 2008 (0.21%)
- The detection rate was highest in breeder ducks (9.1%) and breeder geese (8.3%)
- H5 was mostly detected in ducks and geese and game birds – consistent with 2008 and 2007
- H7 was less aggregated by poultry type, but was detected most frequently in backyard flocks and “others”

Future perspectives – revised guidelines 2010/367/EU

- Objectives –
  - inform on circulating H5 and H7 with view to control
  - annual detection

- Change to number of waterfowl to be sampled per holding, reduced from 40-50 to 20
  - Bayesian analysis of HI and ELISA data – future work in collaboration with NRLs on potential use of ELISA in poultry survey

Future perspectives – revised guidelines 2010/367/EU

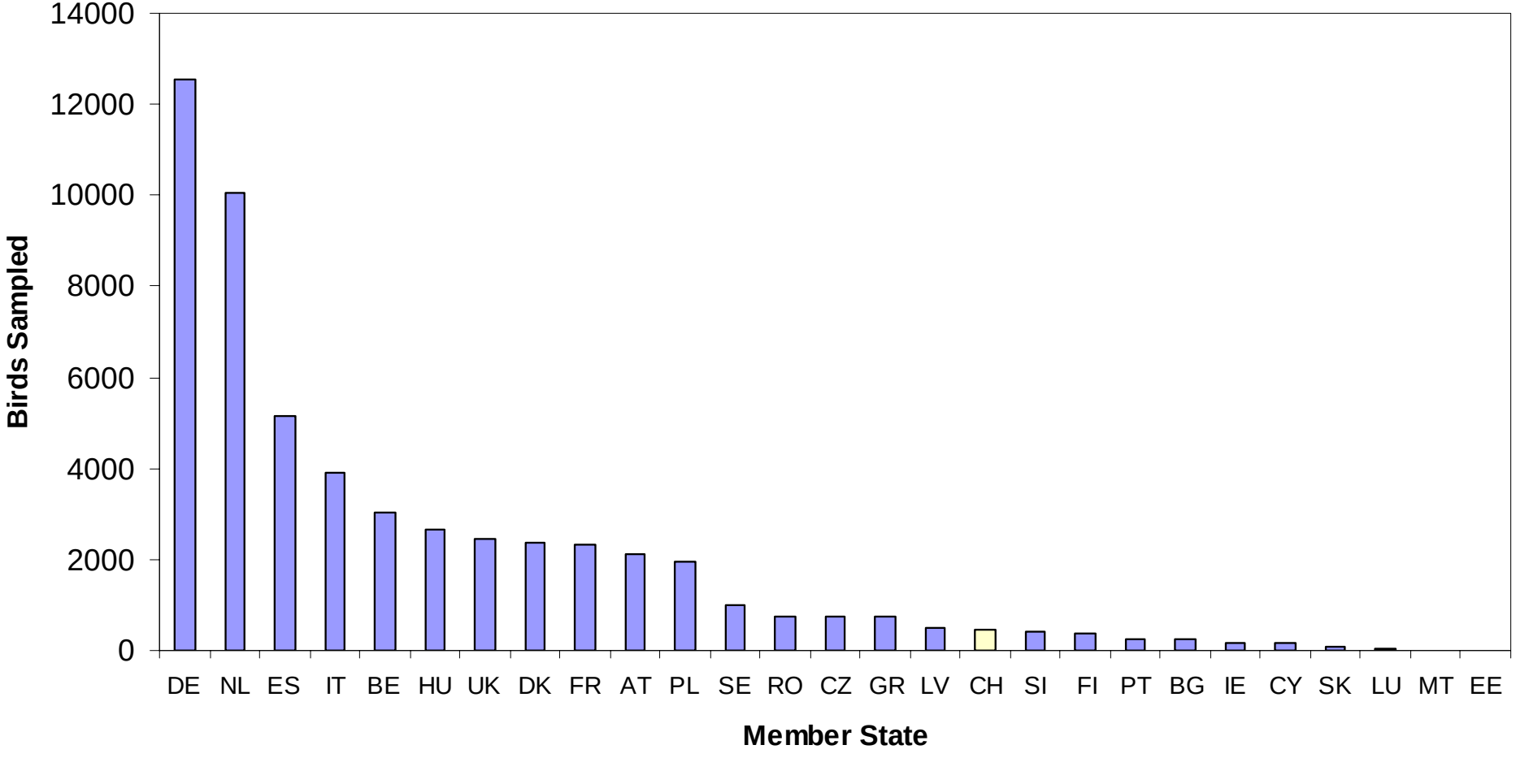
- Opportunity to move further towards “risk-based surveillance”
  - Criteria: factors for direct or indirect exposure to wild birds (e.g. proximity to areas where migratory water birds aggregate, free range, low biosecurity)
  - Criteria: factors for risk of virus spread within and between poultry holdings and the impact of spread (e.g. holdings with multiple poultry species, long lived poultry types, high density areas)
- Risk pathways and relative importance will vary among Member States

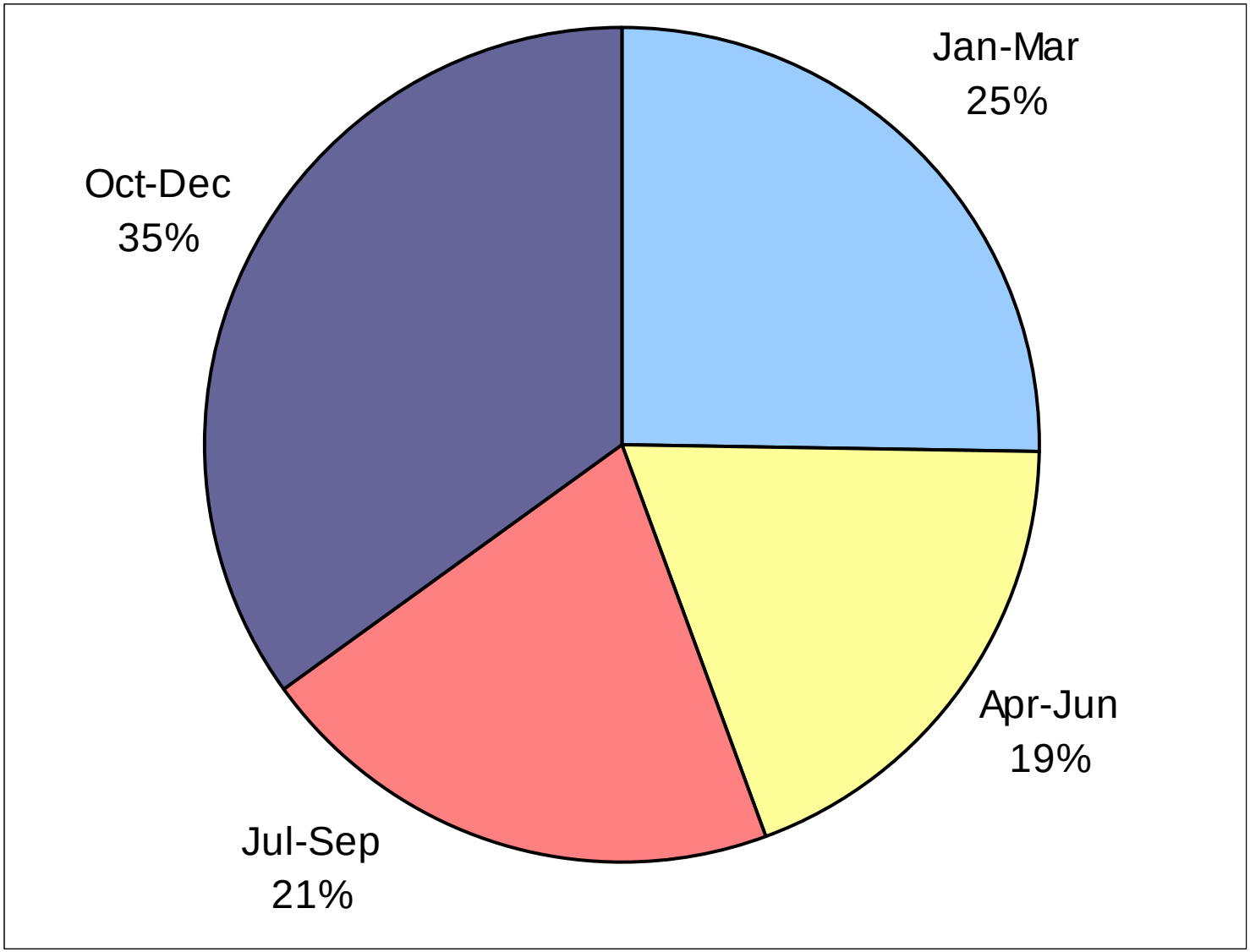
Wild bird surveillance 2009

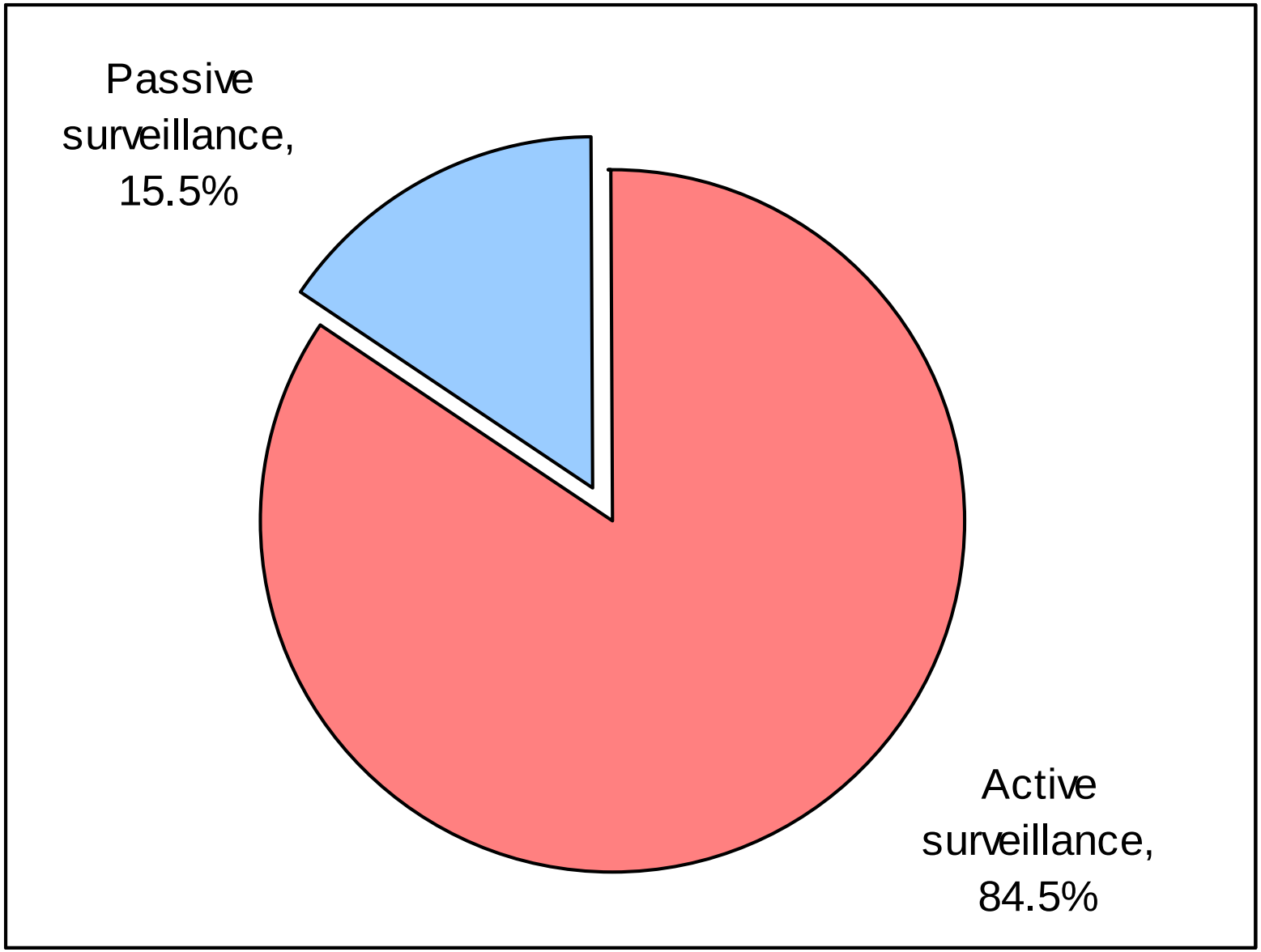
Surveillance for AI in wild birds in EU

- Purpose (Decision 2007/268/EC)
  - To detect incursion of HPAI H5N1
  - Monitor LPAI H5 & H7 strains
  - Inform risk assessments
  - Protect EU poultry

Total number of Wild birds sampled in 2009 by MS



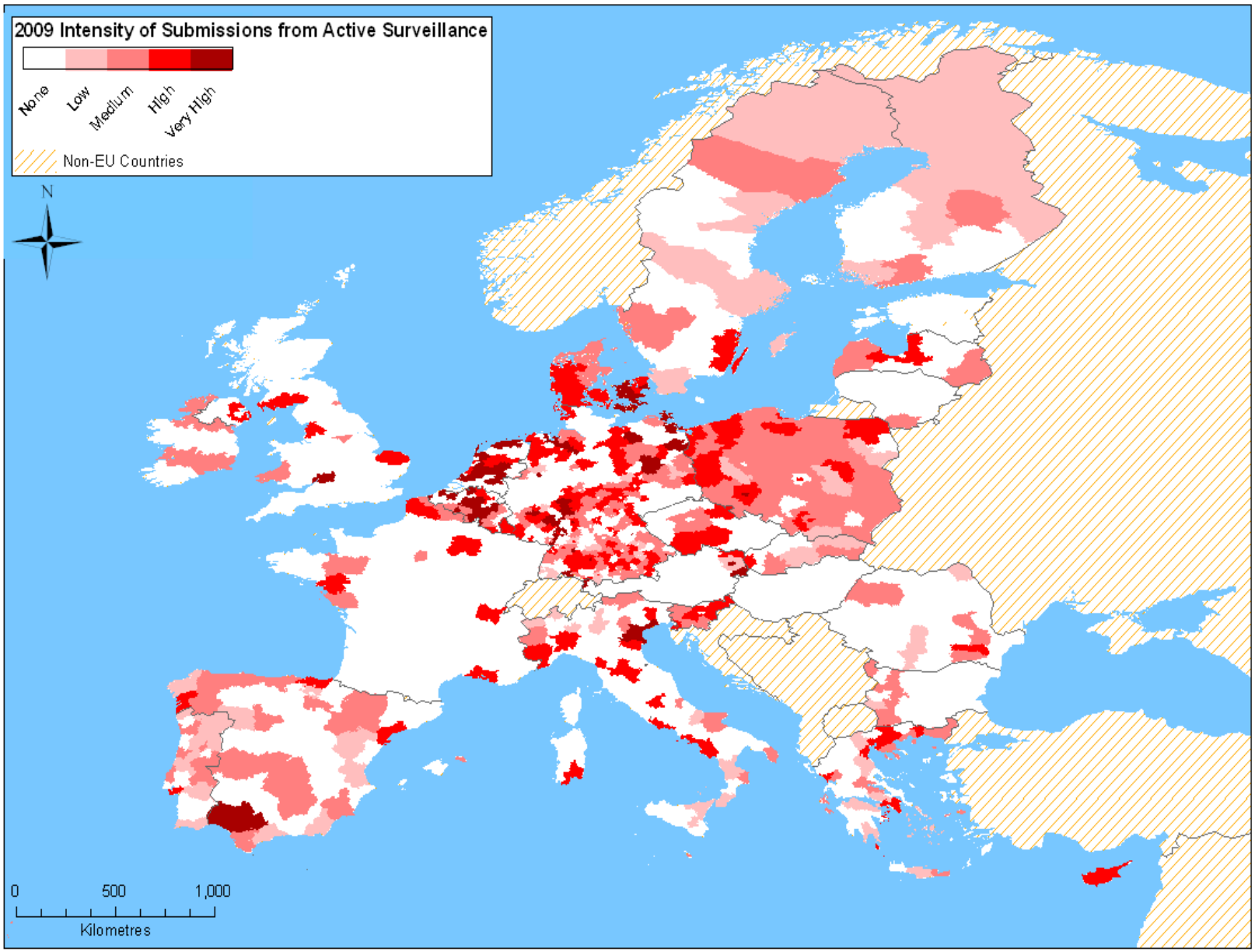

Jan-Mar
25%
Apr-Jun
19%
Jul-Sep
21%
Oct-Dec
35%


Passive surveillance, 15.5%
Active surveillance, 84.5%

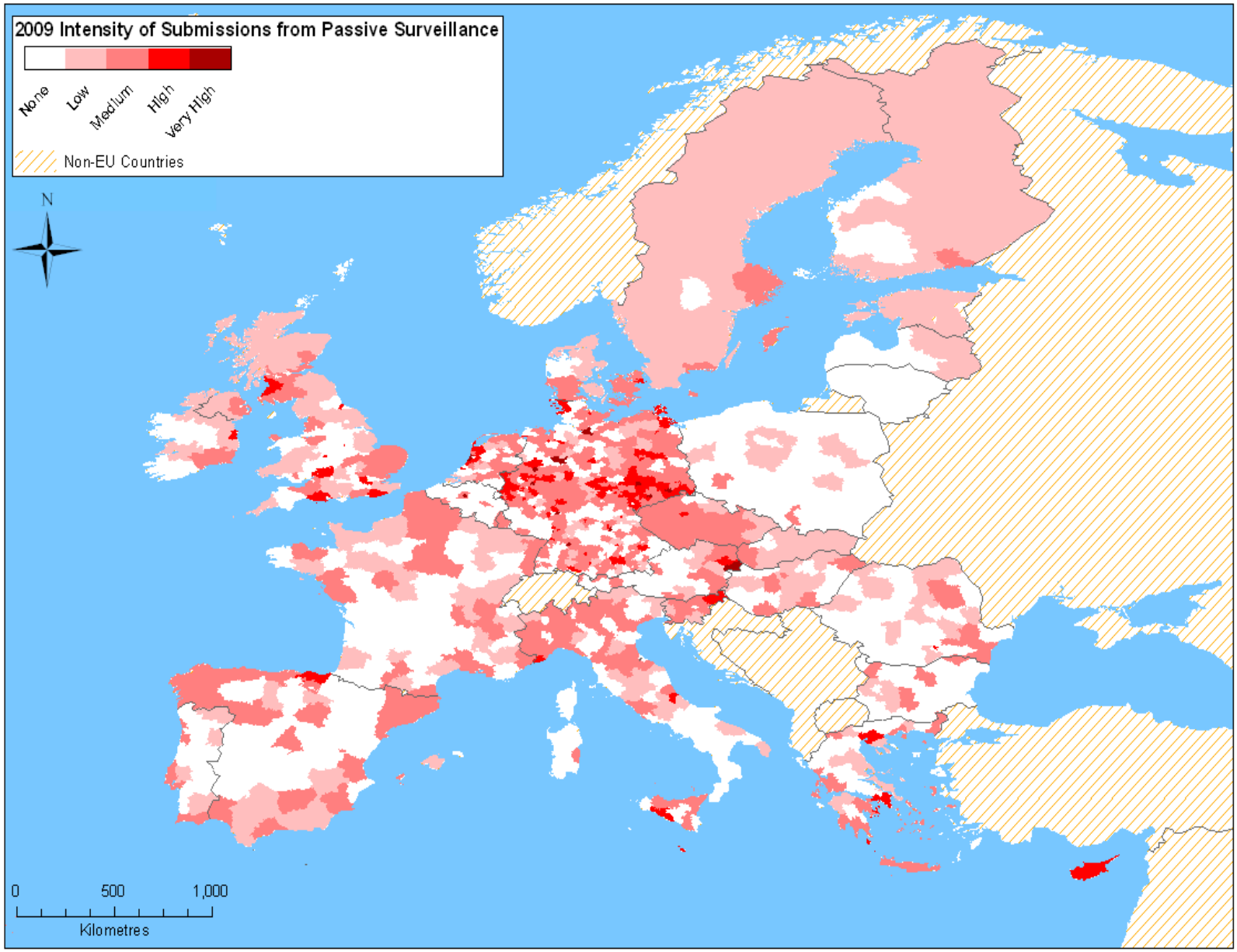
54,086 (43,253) Birds sampled in 2009 (2008) belonging to 22(22) Orders and 356 (321) species

ORDER	2009	2008	2007
Anseriformes	34,171	34,732	48,166
Charadriiformes	8,465	4,832	9,880
Passeriformes	2,888	2,194	5,263
Gruiformes	1,537	1,809	2,868
Falconiformes	1,565	1,362	2,111

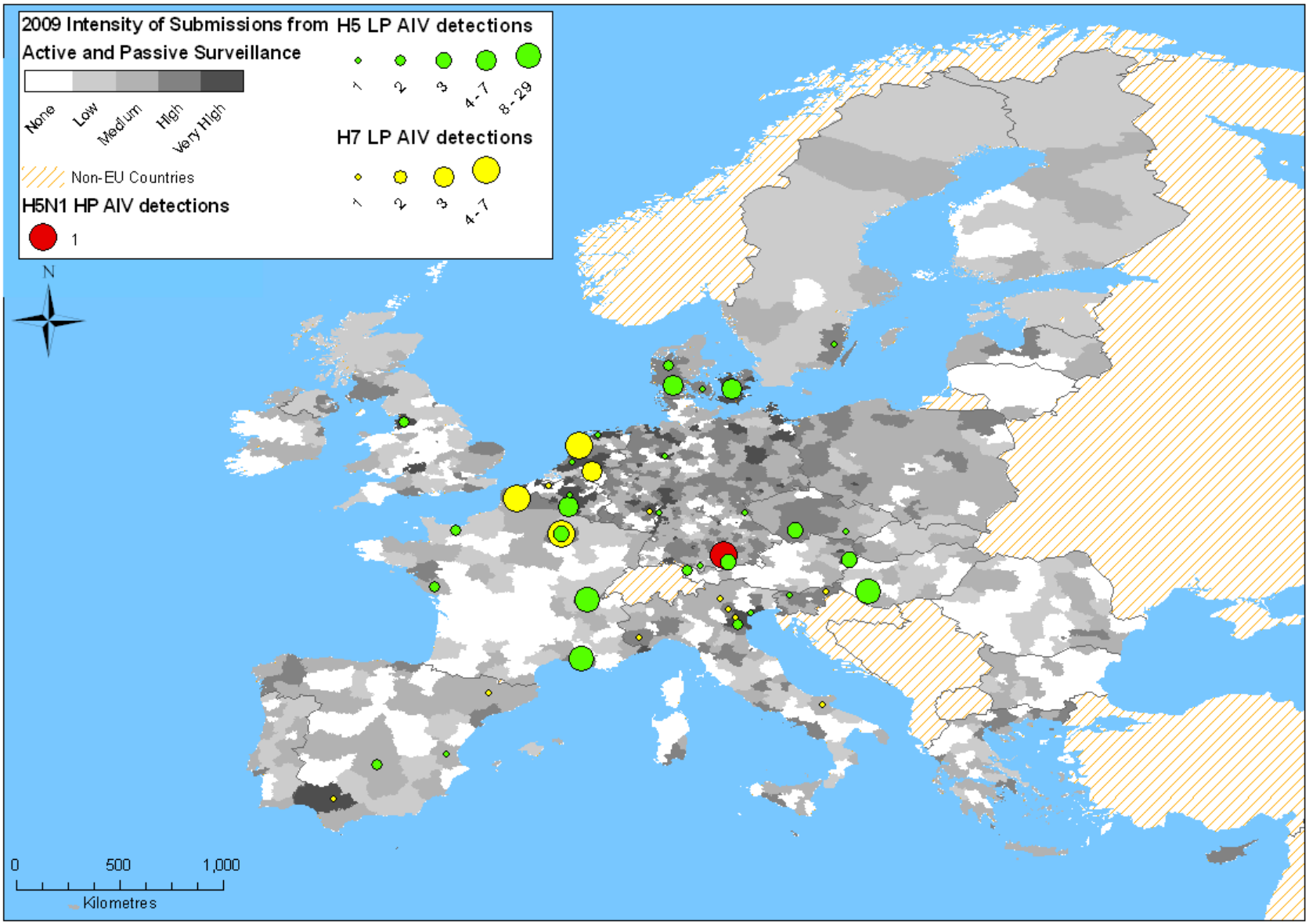
Active surveillance in EU 2009



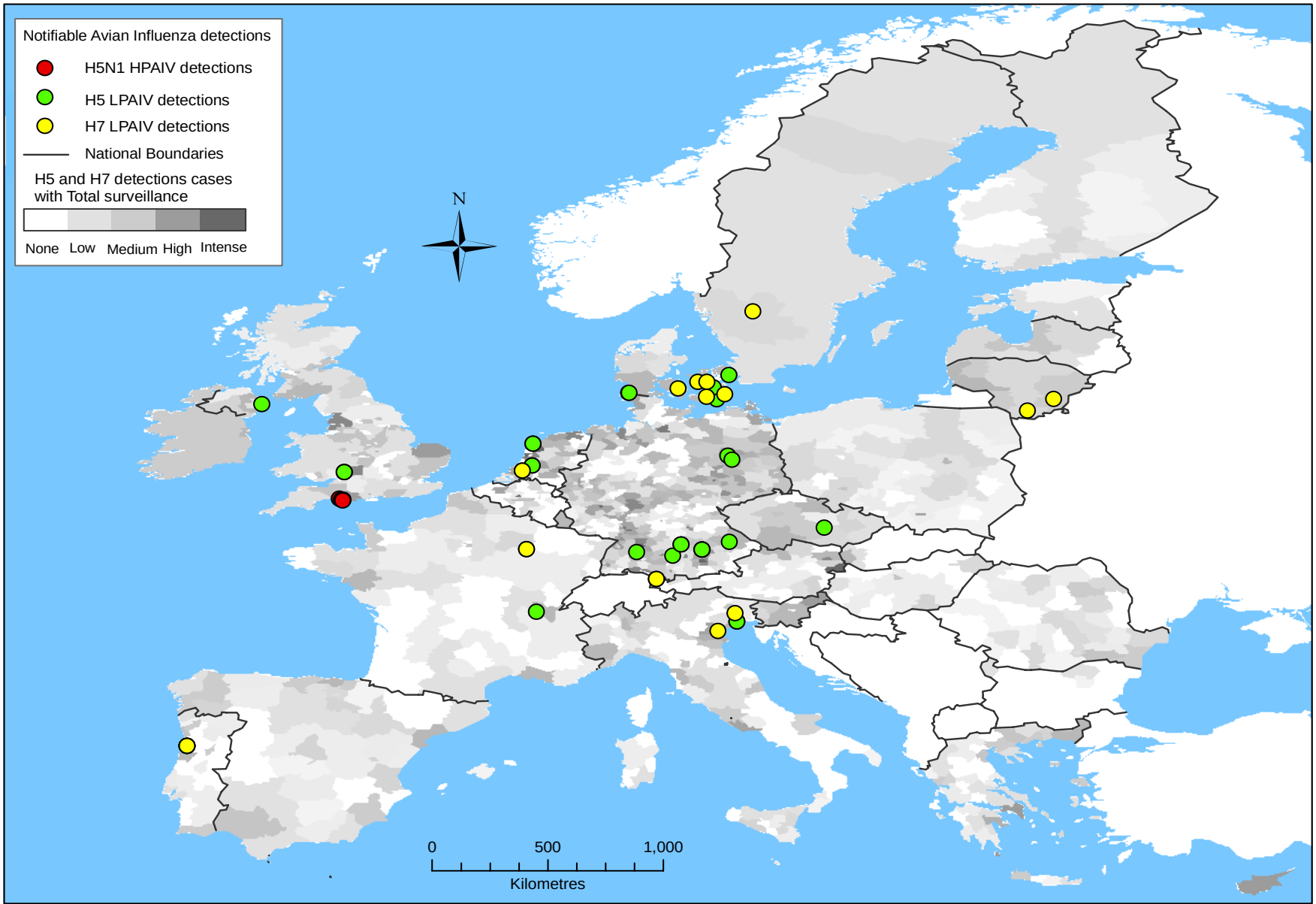
Passive surveillance in EU 2009



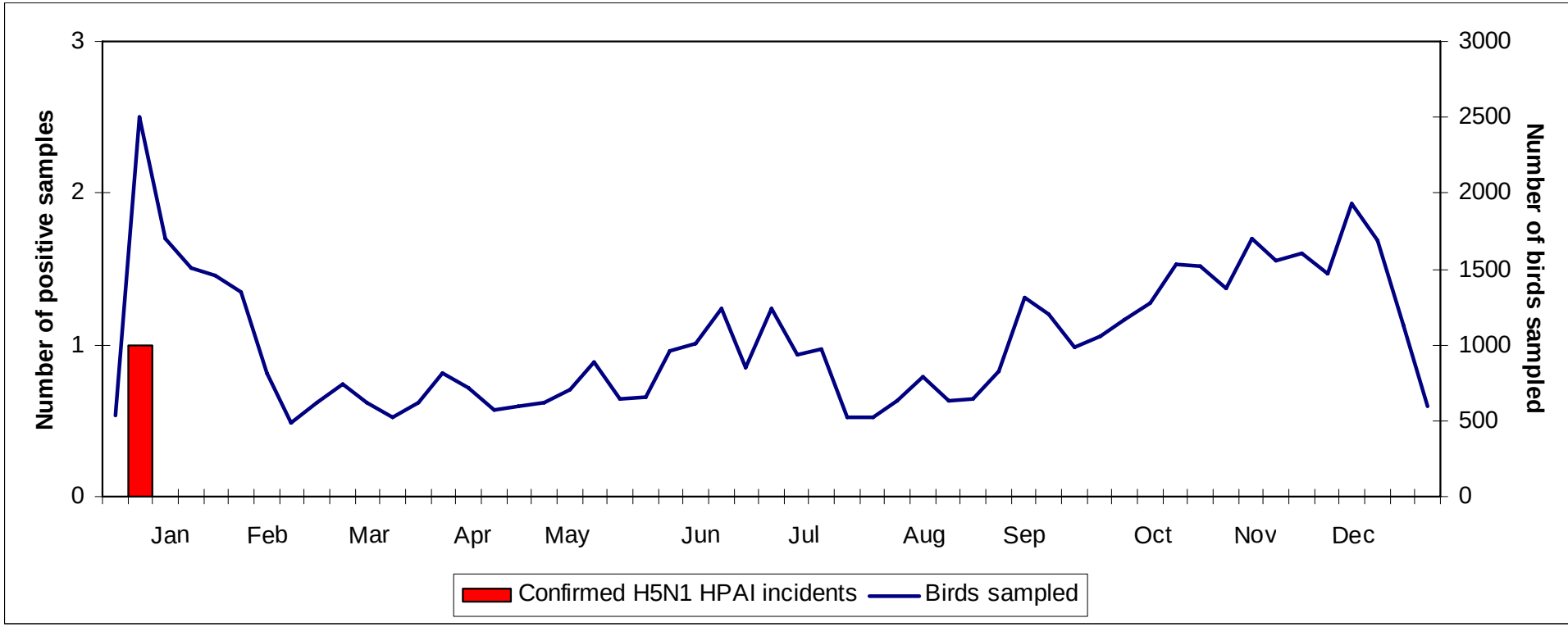
HPAI and H5 & H7 LPAI 2009



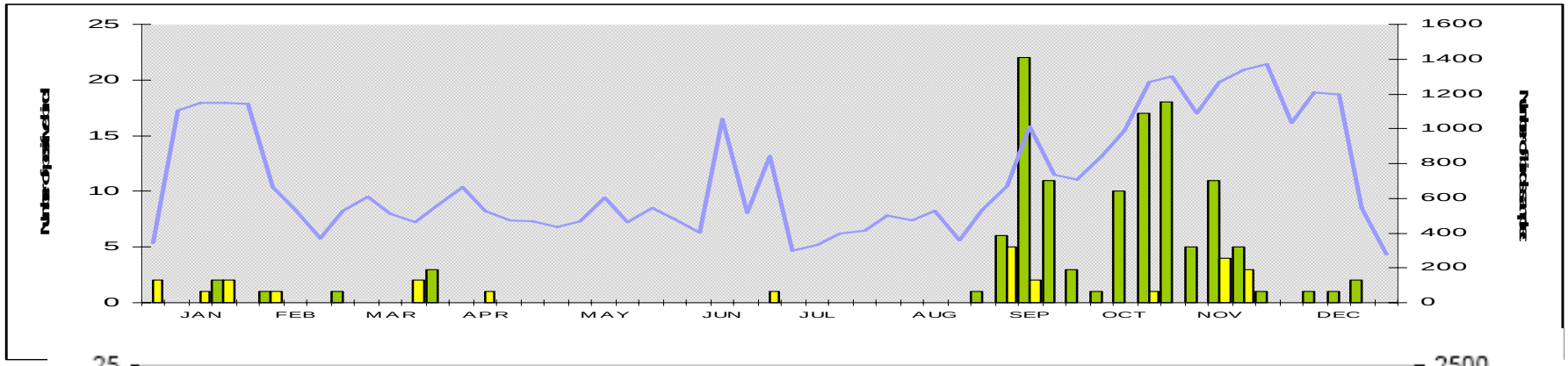
HPAI and H5 & H7 LPAI 2008



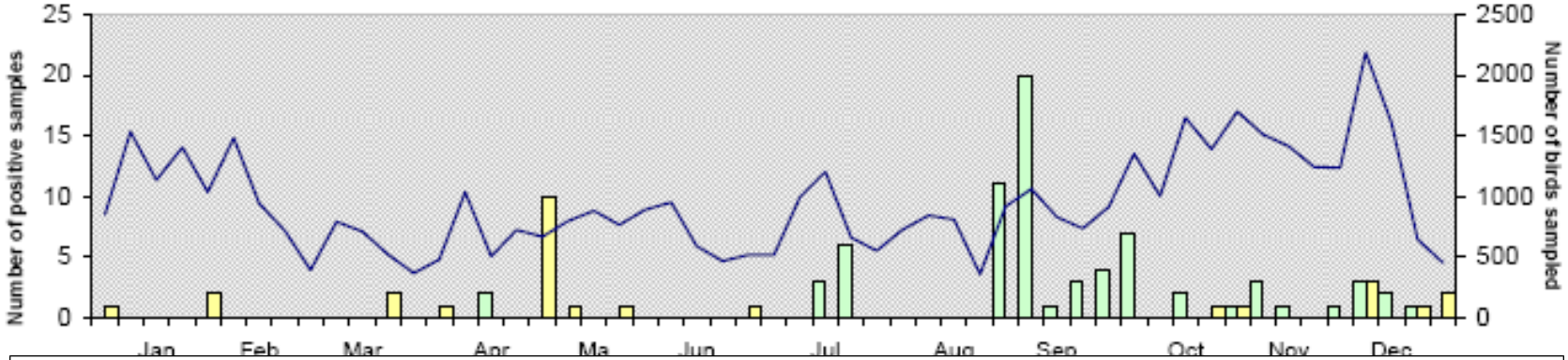
Total number of birds sampled during 2009 showing the incident of H5N1 HPAI



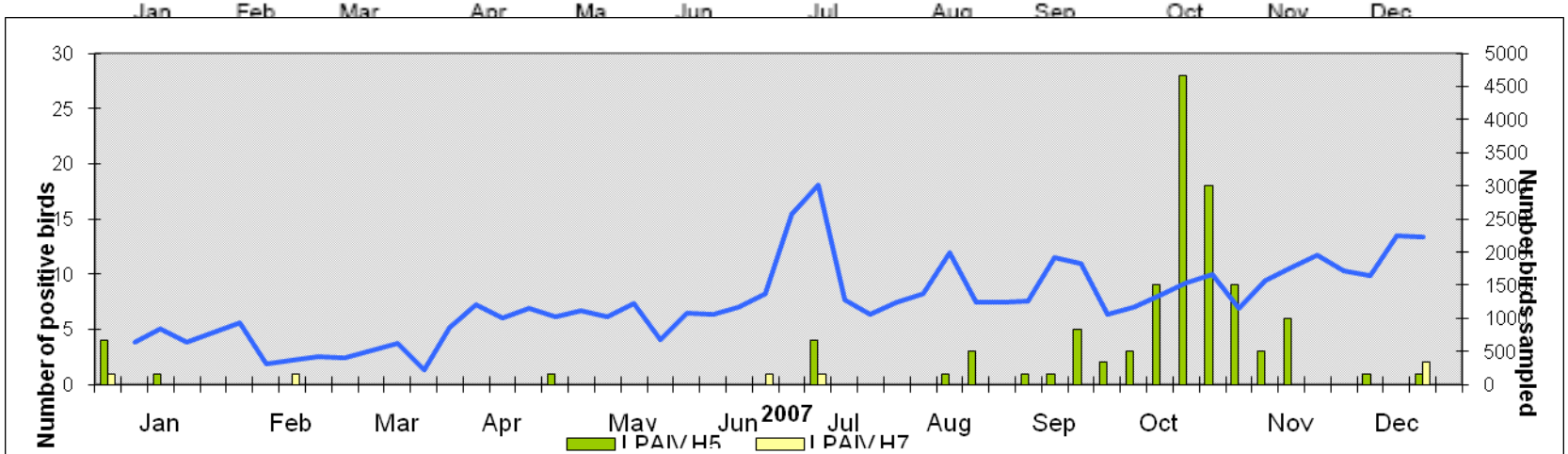
LPAI H5 and H7



2009



2008



2007

Future perspectives – revised guidelines 2010/367/EU

- Passive surveillance more effective for HPAI
- Active surveillance more effective for LPAI

- Move towards
  - timely detection of HPAI H5N1 only
  - Passive surveillance and risk-based
  - “Higher Risk Species” HRS – increased to “Target Species” TS

Acknowledgements:

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

Thank you for your attention