


H5N8 HPAI in Italy in 2017

November update

STANDING COMMITTEE ON PLANTS, ANIMALS, FOOD AND FEED
Section Animal Health and Welfare

30 November – 1 December 2017



HPAI H5 outbreaks in Italy 2016-2017

- Cases in **wild birds**:

- 4 in Friuli Venezia Giulia
- 4 in Lombardy
- 3 in Piedmont
- 1 in Veneto
- 2 in Emilia Romagna

- Cases in **domestic poultry**:

- 4 in Emilia Romagna
- 1 in Friuli Venezia Giulia
- 1 in Lazio
- 47 in Lombardy
- 2 in Piedmont
- 26 in Veneto

Total of 81 cases in
the domestic poultry



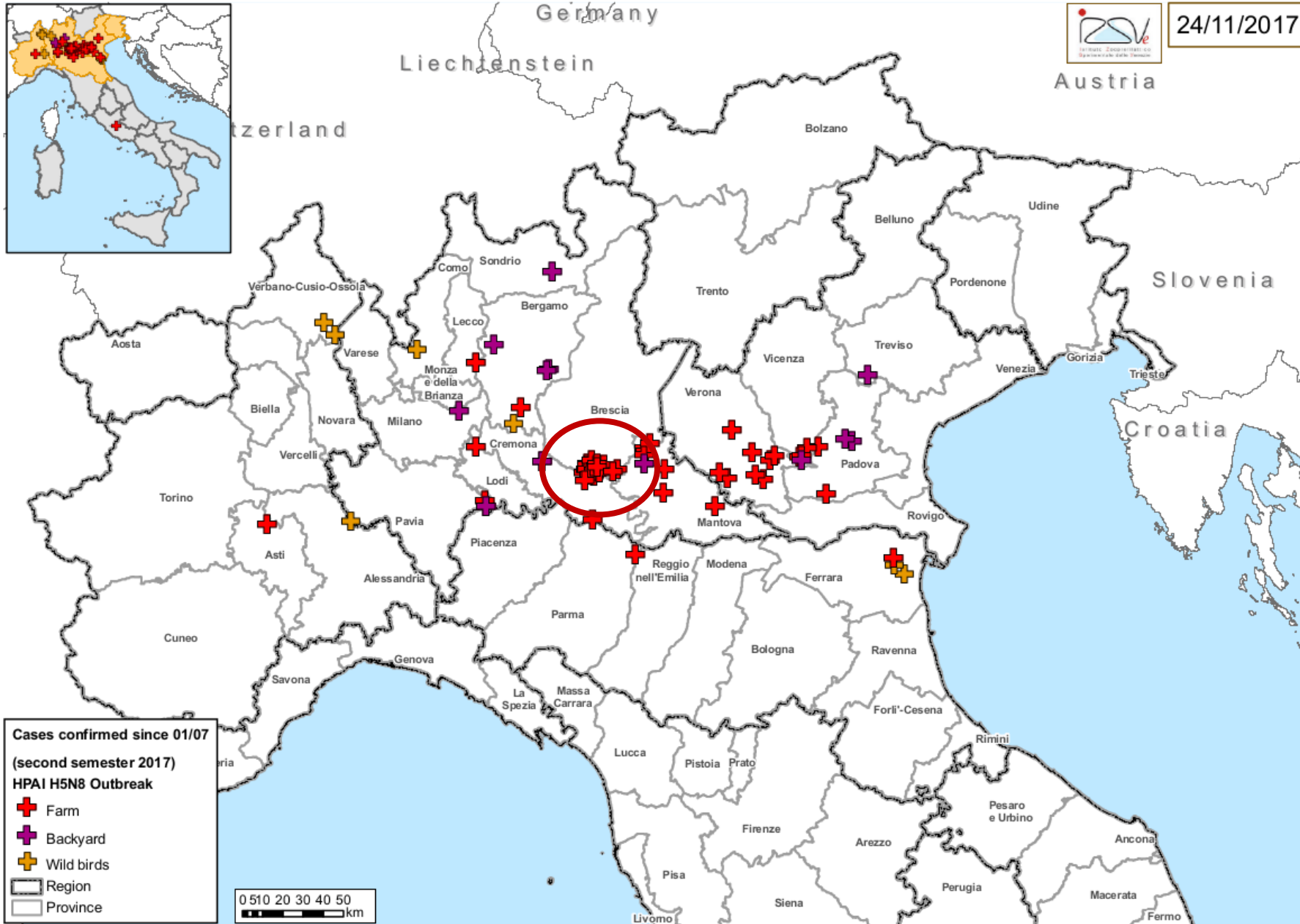
HPAI H5 outbreaks in Italy (2nd Semester)

- Cases in **wild birds**:
 - 3 in Lombardy
 - 2 in Piedmont
 - 2 in Emilia Romagna

- Cases in **domestic poultry**:
 - 2 in Emilia Romagna
 - 1 in Lazio
 - 44 in Lombardy
 - 1 in Piedmont
 - 17 in Veneto

Total of 65 cases in
the domestic poultry

H5N8 HPAI outbreaks in Italy - 2nd epidemic wave



● H5N8 HPAI outbreaks in Italy - 2nd epidemic wave

- Distribution and type of affected farms

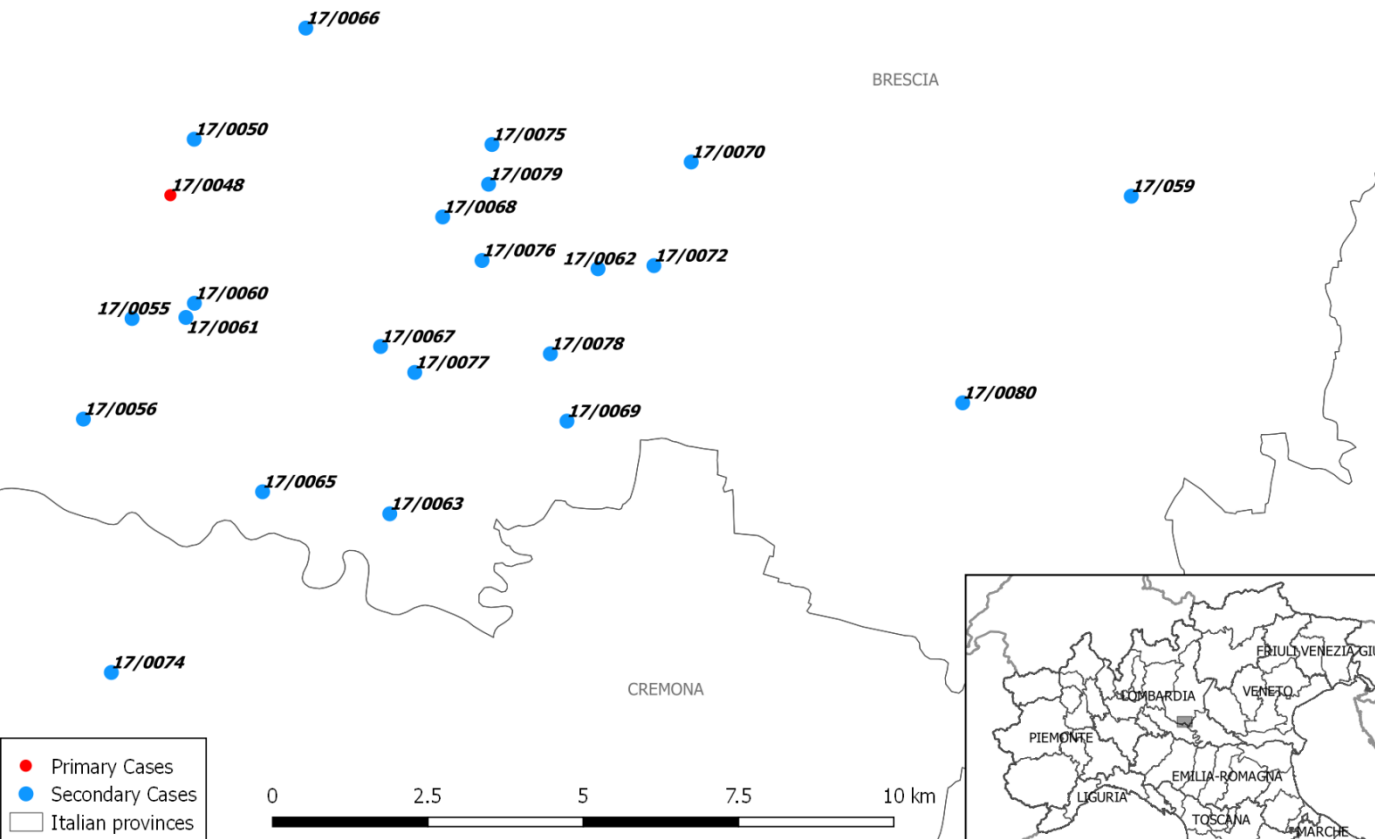
Region	Meat turkeys	Laying hens	Broilers	Geese	Game birds	Ducks	Rural Farms	Chicken Breeders	Grower	Tot.
Emilia-Romagna	1	1	0	0	0	0	0	0	0	2
Lombardy	18	7	4	1	1	3	8	1	1	44
Veneto	10	0	1	1	0	1	4	0	0	17
Lazio	0	0	0	0	0	0	1	0	0	1
Piedmont	0	1	0	0	0	0	0	0	0	1
TOTAL	29	9	5	2	1	4	13	1	1	65

● Epidemiological investigations

- Epidemiological investigations have been performed using a standard form in each detected outbreak by IZS and Local Veterinary Services, and forwarded to the NRL for analyses and tracing
- Up to the end of September: epidemiological investigations indicated that the majority of the outbreaks were likely related to **multiple introductions from the wild reservoir**
- From the first half of October → **frequent lateral spreads**, leading to a large cluster of secondary cases in Brescia and Cremona provinces, between October and November 2017

● Secondary cases – Brescia Province

- **October 9th – A fattening turkey farm tested positive for H5N8 HPAI (48th outbreak)**
- A total of 23 outbreaks connected to Outbreak 48th were detected in a group of 9 municipalities situated within a radius of approximately 5-6 km (last confirmation date: 22 Nov; 80th outbreak).
- The more likely sources of spread in:
 - Sharing of vehicles (especially feed lorries)
 - Sharing of personnel (including also farm belonging to the same owner or relatives)
 - Closed proximity to infected farms (neighborhood spread)



Type of contacts	Number of potential risk contacts
Sharing of personnel	3
Sharing of vehicles	21* (9 farms)
Proximity (within 1000 m)	9

16 secondary cases with identified at-risk contacts

Province	Fattening Turkeys	Laying hens	Broiler	Ducks	Chicken breeders	TOT.
Brescia	8	5	5	3	1	22
Cremona	1	0	0	0	0	1
TOTAL	9	5	5	3	1	23

● H5N8 HPAI in Bergamo, Asti, Rome and Treviso provinces

64th Outbreak – Bergamo Province (Lombardy)

- Fattening turkey farm
- Confirmation date: Oct 31st

71st Outbreak – Asti Province (Piedmont)

- Laying hen farm
- Confirmation date: Nov 6th

● H5N8 HPAI in Bergamo, Asti, Rome and Treviso provinces

73rd Outbreak – Rome province (Lazio)

- Rural farm
- Confirmation date: Nov 7th (all of the birds were dead at the confirmation)

81st Outbreak – Treviso province (Veneto)

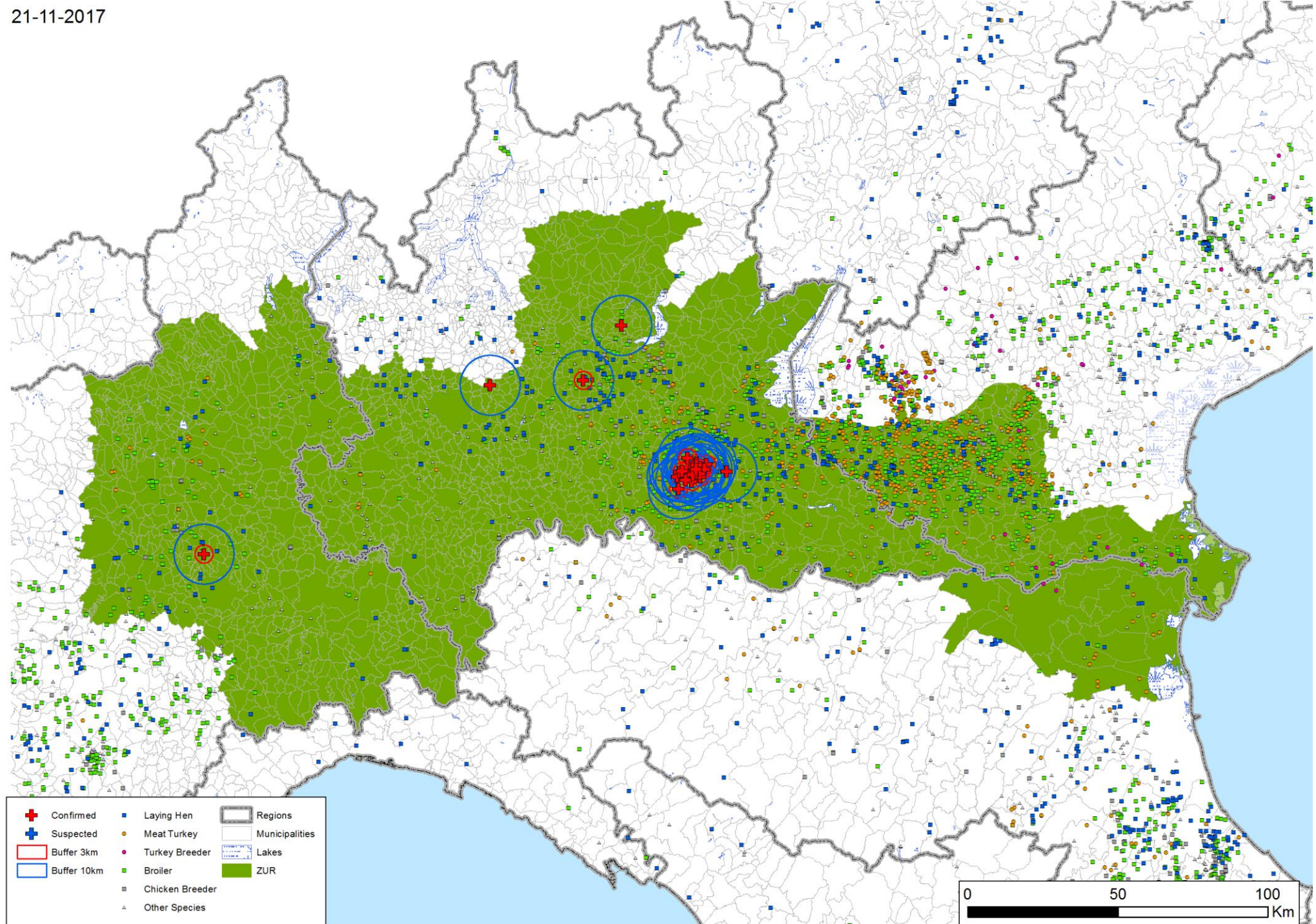
- Rural farm
- Confirmation date: Nov 23th

● H5N8 HPAI in Bergamo, Asti, Rome and Treviso provinces

- First three cases → **Italy-B** genetic group virus
No epidemiological contacts were identified with other outbreaks
- Last outbreak → **Italy-A** genetic group virus

● Establishment of a Further Restricted Zone

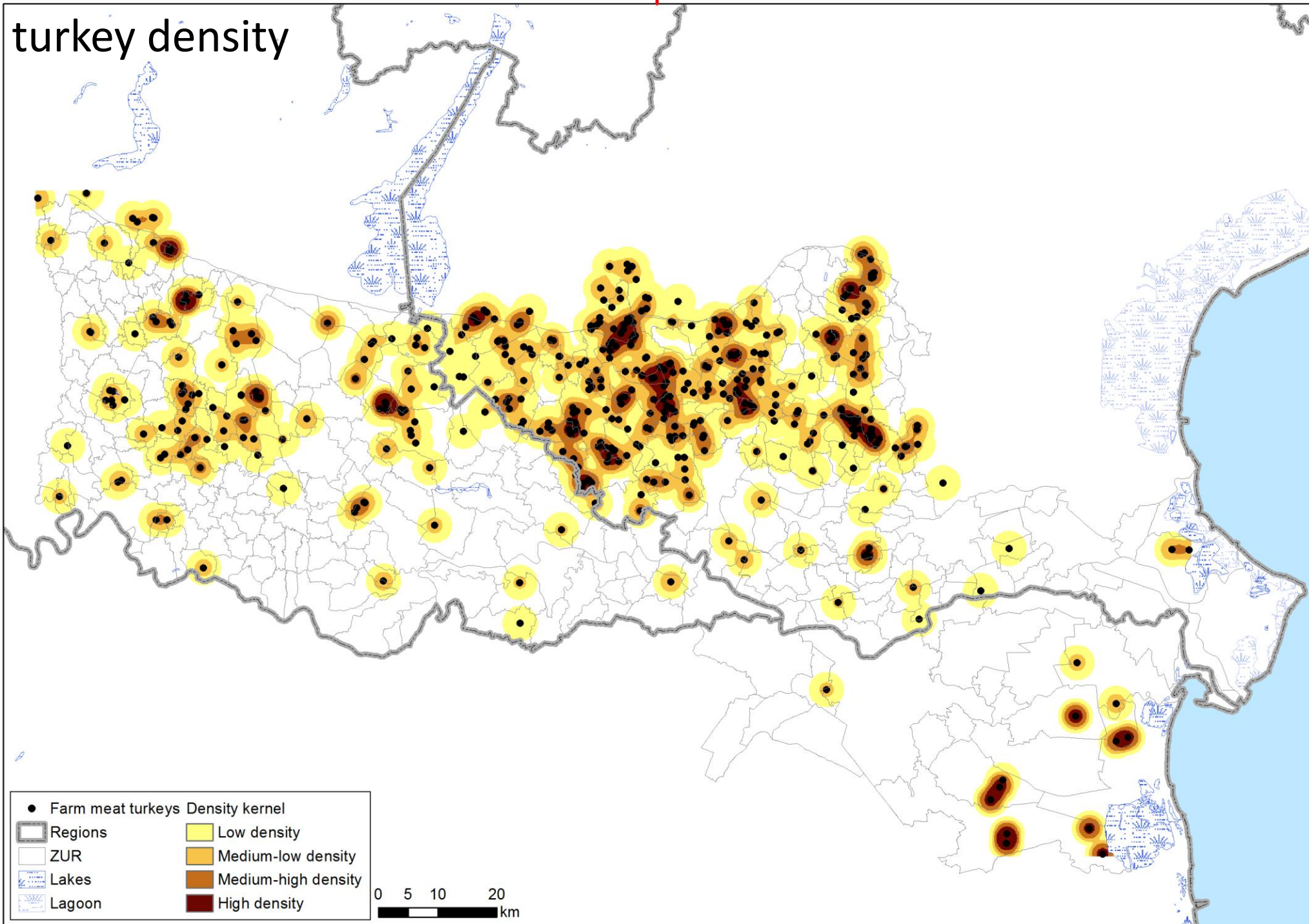
- In view of the epidemiological situation and taking into consideration the location of the H5N8 HPAI outbreaks (inside DPPAs), the Ministry of Health issued a provision to establish a Further Restricted Zone with the aim to enforce strict control measures to prevent HPAIV spread



● Measures applied at farm-level within the Further Restricted Zone

- Census of industrial poultry holdings
- Birds shall be kept inside closed buildings and measures should be taken to reduce the risk of direct/indirect contact with wild birds
- Pre-movement clinical inspection and virological testing
- Enforcement of increased biosecurity measures regarding vehicles/personnel entering and exiting farms
- Gathering of domestic birds for fairs, exhibitions and live-bird markets is banned
- **Re-stocking of meat turkey farms is prohibited**
 - A derogation to this measure can be authorized only whether an official veterinarian has verified the compliance with new biosecurity standards (these requirements have been recently defined and applied to strengthen the level of biosecurity considering also the risk of AIV introduction from the wild reservoir) and IZSve has evaluated the geographical risk according to the poultry density in the area and the proximity to other poultry premises

turkey density



● Further Restricted Zone - Additional control measures

- Loading for slaughter of turkeys, ducks, geese, and of spent layers from farms within the Further Restricted Zone is allowed if an official clinical inspection is carried out 24 hours before loading.
- Moreover, turkeys have to be PCR tested (tracheal swabs) 48 hours before loading. Clinical inspection has to be repeated every 48 hours. Whether during inspection any mortality is noticed, further samplings shall be collected on dead/sick birds.
- Spent layers have to be PCR tested (tracheal swabs) 72 hours before loading
- Ducks and geese have to be PCR tested (both tracheal and cloacal swabs) 48 hours before loading
- Live poultry have to be PCR tested (tracheal swabs) 72 hours before loading
- In laying hen/pullet farms located in the regions with high poultry densities (Lombardy, Piedmont, Emilia-Romagna, Veneto, Lazio) official veterinarians shall collect tracheal swabs for PCR testing every 21 days
- Poultry companies operating in Lombardy, Piedmont, Emilia-Romagna, Veneto must ensure that there is a functional separation of activities, personnel and facilities among at-risk regions
- Fairs, exhibitions and live-bird markets are banned within the Further Restricted Zone
- Release of game for hunting is prohibited within the Further Restricted Zone

Preventive culling

Region	Province	Production Type	No. Culled farms	No. Culled birds
Veneto	Verona	Fattening turkey	9	97,528
		Broiler	6	209,421
	Vicenza	Fattening turkey	5	46,833
		Broiler	3	195,770
	Padua	Fattening turkey	1	19,520
	Lombardy	Brescia	Fattening turkey	6
Laying hens			6	161,375
Broiler			6	286,764
Ducks			2	26,980
Mantua		Fattening turkey	1	18,660
		Broiler	3	160,560
		Ducks	3	36,648
Cremona		Laying hens	1	100,000

52 preventively culled farms

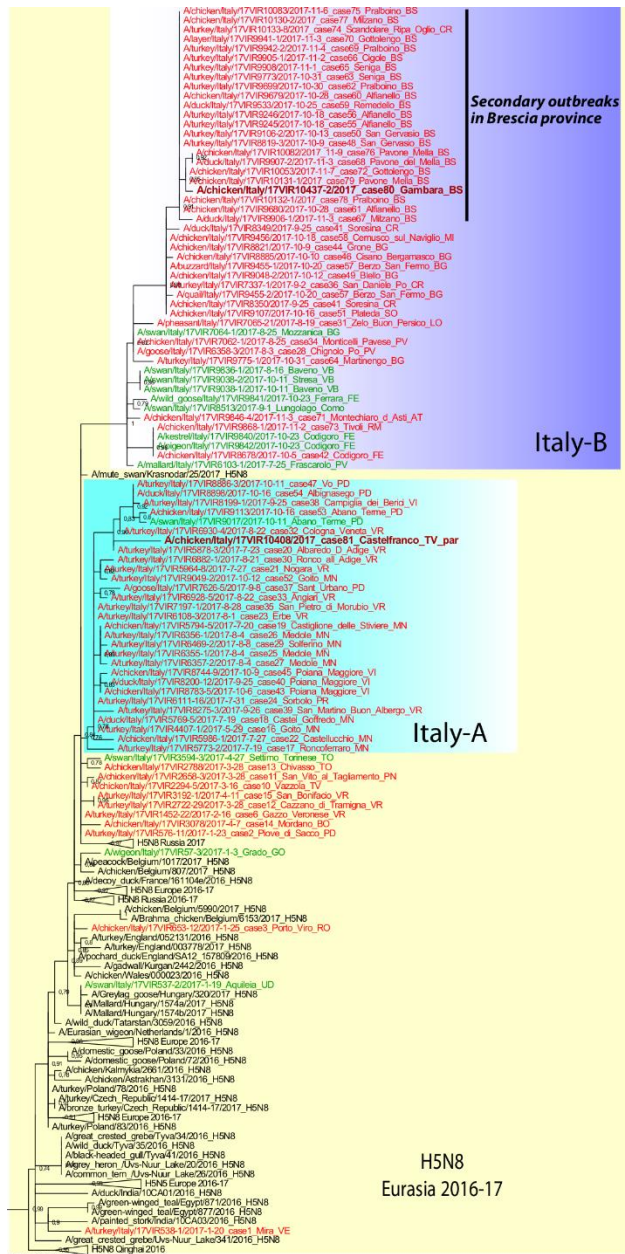
- 22 Fattening turkey
- 18 Broiler
- 7 Laying hens
- 5 Ducks

Around a total of 1,5 million birds

● Phylogenetic analyses

The phylogenetic analyses indicate that:

- The secondary cases in the Brescia province cluster tightly together (similarity of 99.9-100%)
- The Brescia cluster is separated by 24 to 32 nucleotide differences from the cluster in the rural poultry sector → Unlikely spread between rural and industrial poultry farms
- The viruses identified in the outbreaks in Bergamo and Asti provinces are not closely related with viruses collected from previous outbreaks
- The H5N8 strain isolated in Rome province shows a high similarity (99.9%) with the viruses detected in the infected layer farm in Ferrara province (42nd outbreak) and in wild birds collected close to the infected farm. Epidemiological investigations did not reveal any epidemiological connection with other outbreaks
- The H5N8 virus isolated in the rural farm in Castelfranco Veneto belongs to Italy A genetic group. The HA gene resulted highly similar to the virus detected in the 20th Outbreak (Verona province), NA gene revealed high similarity with viruses circulating between July and October in Verona and Padua provinces



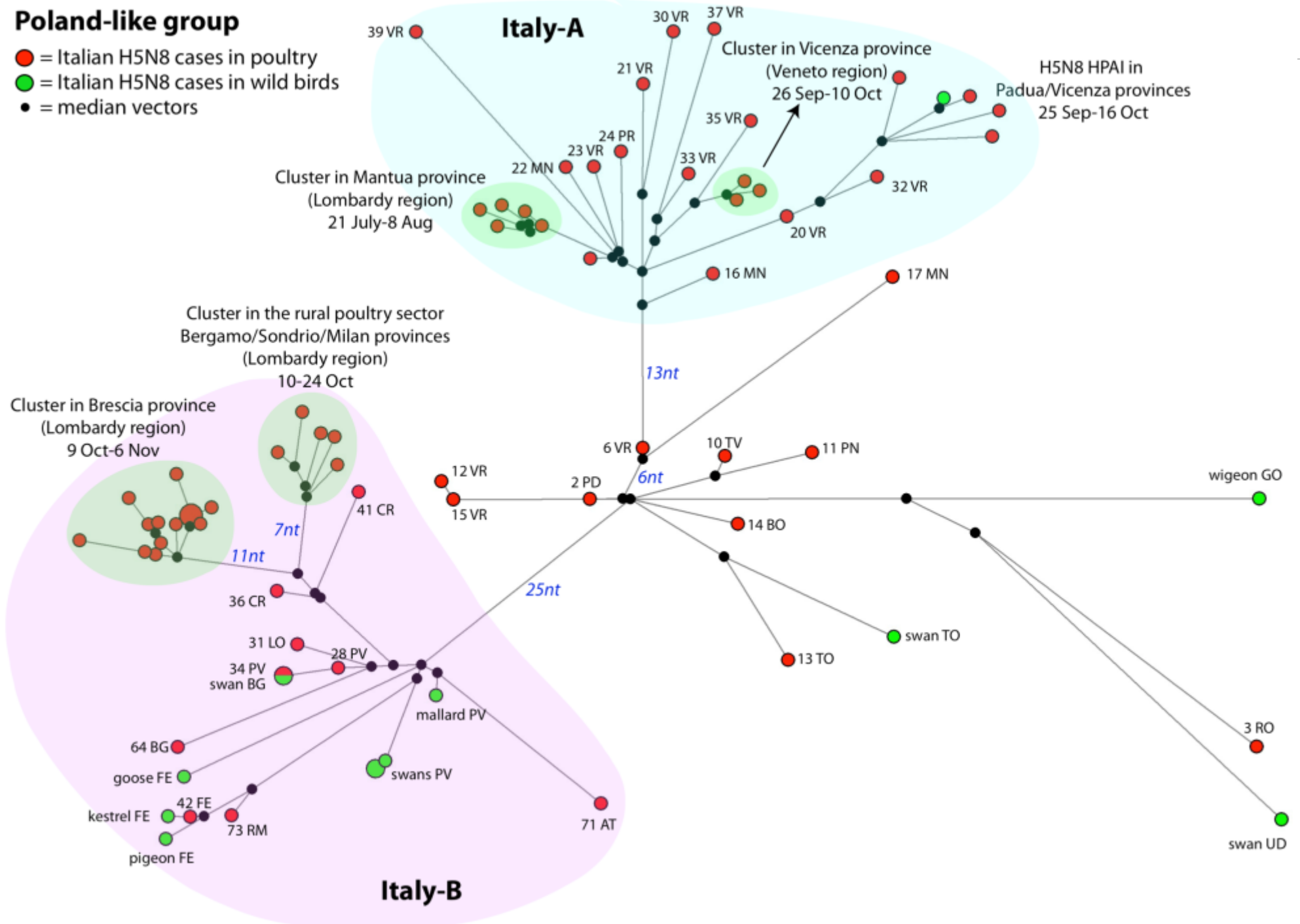
Secondary outbreaks in Brescia province

Secondary outbreaks in Brescia province



Poland-like group

- = Italian H5N8 cases in poultry
- = Italian H5N8 cases in wild birds
- = median vectors



● Thanks for your attention
