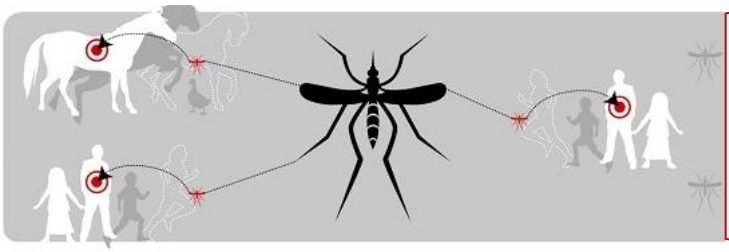


IZS TERAMO
NATIONAL REFERENCE CENTRE FOR EXOTIC DISEASES OF ANIMALS

ISTITUTO SUPERIORE DI SANITÀ

Integrated surveillance of West Nile and Usutu virus

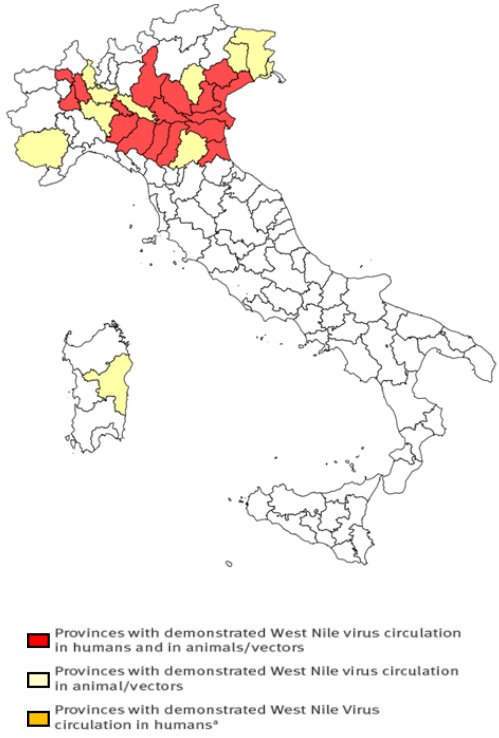
Epidemiological report no. 7 3 August 2022
National data

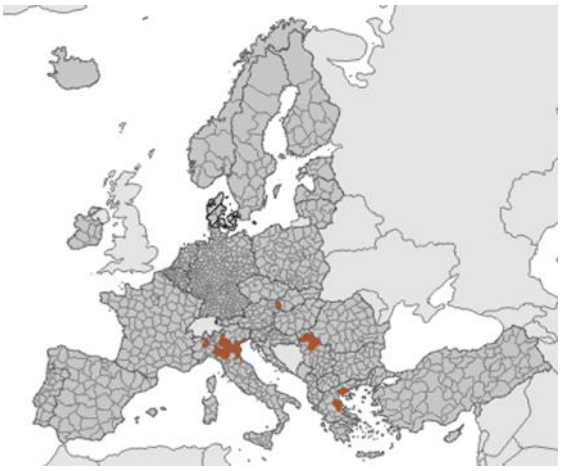
1 In Evidence

This report summarizes the results of West Nile virus and the Usutu virus surveillance activities in Italy, updated to **2-8-2022**

- Since June 2022, **94** confirmed cases of West Nile Virus (WNV) infection in humans have been reported in Italy; **55 WNND** (16 Emilia-Romagna, 33 Veneto, 2 Piemonte), 5 cases identified in blood donors (2 Lombardia, 3 Veneto, 4 Piemonte, 2 Lombardia) and 1 symptomatic case (1 Veneto). The first human case of the season was reported by Veneto in June in the province of Padova. Seven deaths were reported among the confirmed cases (5 in Veneto, 1 in Piemonte and 1 in Emilia-Romagna). In the same period, no cases of Usutu virus were reported.
- Surveillance in mosquitoes, resident birds, wild birds, poultry and horses confirmed the circulation of WNV in **Veneto, Emilia Romagna, Lombardia, Friuli Venezia Giulia and Sardegna** region. Molecular analysis confirmed **Lineage 2** and **Lineage 1** circulation.
- As of 27 July 2022, 55 human cases of WNV have been reported in the EU Member States (12 in Greece, 42 in Italy and 1 in Slovakia) including 5 deaths in Italy. Sixteen cases were reported from neighboring countries (16 Serbia) (Source: ECDC 2022).

Figure 1. *Provinces where WNV has been detected in vectors, animals and humans (blood donor, fever and neuroinvasive cases)*





Integrated WN and Usutu virus surveillance

2 Human

Since June 2022, the start of surveillance, 94 of West Nile Virus (WNV) infection have been reported in Italy, 55 WNND (Table 1) all autochthonous cases, 19 identified in blood donors (1 Brescia , 1 Lodi, 1 Mantua, 1 Novara, 4 Padua, 2 Piacenza, 1 Ravenna, 1 Reggio Emilia, 5 Venice, 2 Verona) 19 cases of fever (10 Padua, 1 Brescia, 1 Lodi, 1 Ferrara, 1 Verona, 3 Venice, 2 Rovigo) and 1 symptomatic case (1 Padua). Details of WNND are provided below.

Region/Province	Age group					Total
	<=14	15-44	45-64	65-74	>=75	
Emilia-Romagna						
Ferrara			1	1	2	**4**
Modena				2	1	**3**
Parma				2		**2**
Piacenza				1	1	**2**
Ravenna				1	2	**3**
Reggio Emilia					1	**1**
Piemonte						
Novara			1		1	**2**
Vercelli				1	1	**2**
Veneto						
Padova		2	4	9	12	**27**
Rovigo				2	2	**4**
Treviso					1	**1**
Venezia					1	**1**
Lombardia						
Mantova					2	**2**
Lodi				1		**1**
Total	**0**	**2**	**6**	**20**	**27**	**55**

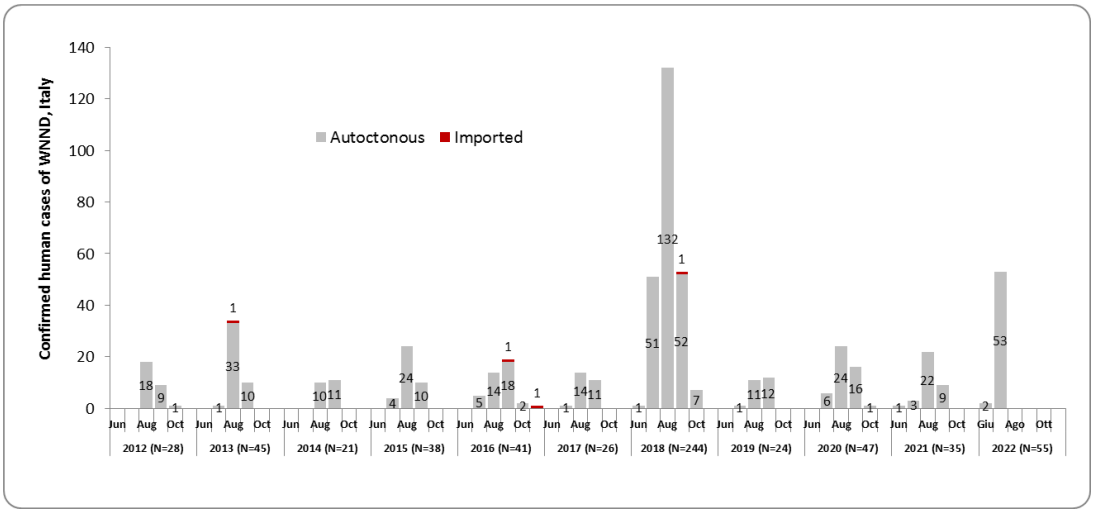


Figure 1. Trend of confirmed cases of WNND by month onset of symptoms. Italy: 2012 - 2022**.**

3 Horses

4 WNND outbreaks in horses have been confirmed by the National Reference Centre for exotic diseases (CESME) in **Veneto** region**.**

Region	Province	N. Outbreaks	N. Clinical outbreaks	Outbreaks details				Prevalence	Letality
				Susceptible	N.cases	Clinical cases	Death/ slaughtered		
VENETO	Padova	2	2	35	2	2	0	0,057143	0
	Venezia	1	1	103	1	1	0	0,009709	0
	Vicenza	1	1	15	1	1	0	0,066667	0
Total		**4**	**4**	**153**	**4**	**4**	**0**	**0,026144**	**0**

Table 2 West Nile Disease in horses- **2022**

Figure 2 Geographical distribution West Nile virus detection in horses **- 2022**

4 Resident birds of target species

CESME confirmed WNV in **15** resident birds belong to target species from **Emilia Romagna, Lombardia, Friuli Venezia Giulia, Piemonte and Veneto** region. The circulating strains belong to **Lineage 2** and **Lineage 1.**

The target species for the surveillance are :

- **Magpie (*Pica pica*)**
- **Carrion crow (*Corvus corone cornix*)**
- **Eurasian jay (*Garrulus glandarius)***

Figure 3 Geographical distribution West Nile virus detection in birds belong to target species - **2022**

Region	Province	Carrion crow	Magpie	Jay	n.birds+
EMILIA ROMAGNA	Piacenza	0	3	0	3
	Ferrara	0	2	0	2
	Parma	1	0	0	1
	Reggio Emilia	2	1	0	3
LOMBARDIA	Milano	1	0	0	1
VENETO	Padova	1	0	0	1
	Rovigo	1	1	0	2
PIEMONTE	Cuneo	1	0	0	1
FRIULI VENEZIA GIULIA	Udine	1	0	0	1
Total		8	7	0	15

Table 3 West Nile virus detection in birds belong to target species- **2022**

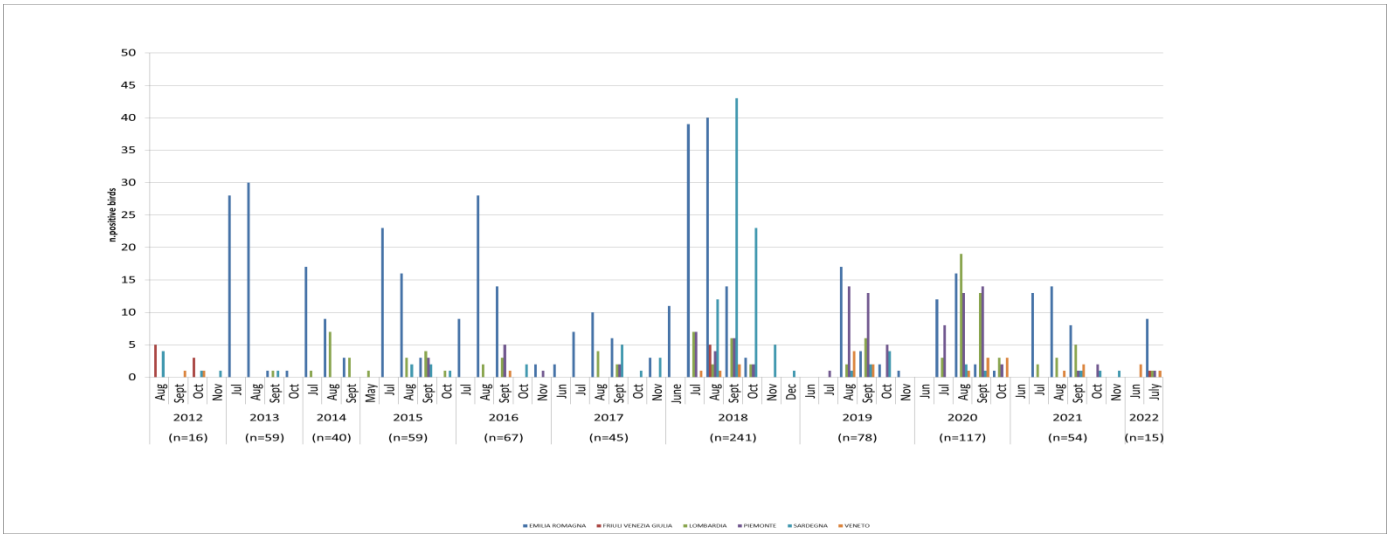


Figure 2 Spatio–temporal distribution West Nile virus detection in birds belong to target species - **2022**

5 Wild birds

CESME confirmed WNV in 10 wild birds from **Veneto, Lombardia and Sardegna** region. The circulating strains belong to **Lineage 1 and Lineage 2.**

Figure 3 Geographical distribution West Nile virus detection in wild birds- **2022**

Region	Province	Species	n.birds+
SARDEGNA	Nuoro	Gheppio	1
VENETO	Venezia	Corvo	1
		Civetta	1
	Rovigo	Cormorano	1
		Gufo	1
		Civetta	1
	Padova	Gabbiano	1
		Civetta	1
LOMBARDIA	Pavia	Civetta	1
	Varese	Civetta	1
Total			**10**

Table 2 West Nile virus detection in wild birds - **2022**

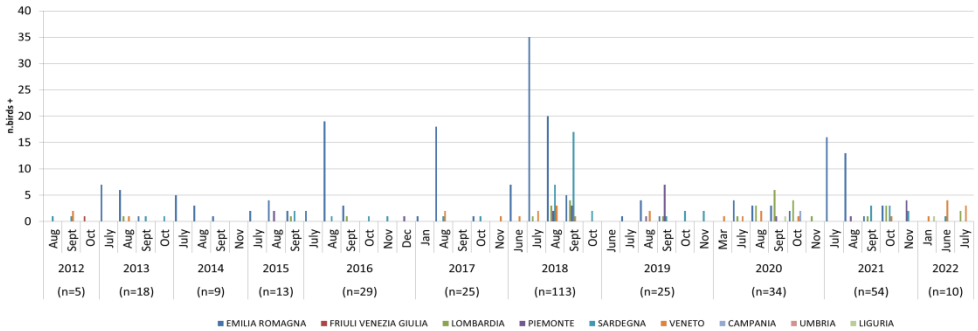


Figure 4 Spatio–temporal distribution West Nile virus detection in wild birds - **2022**

6 Entomological surveillance

WNV genome has been reported in **100 mosquitoes pool** collected in **Veneto, Emilia Romagna, Piemonte, Friuli Venezia Giulia and Lombardia** region**.** The circulating strains belong to **Lineage 1 and Lineage 2**.

Figure 5 Geographical distribution West Nile virus detection in mosquitoes - **2022**

Regione	Provincia	n.pool+
EMILIA ROMAGNA	Parma	7
	Modena	4
	Piacenza	3
	Bologna	3
	Reggio Emilia	9
	Ferrara	9
LOMBARDIA	Lodi	1
	Brescia	2
	Pavia	5
	Mantova	5
VENETO	Rovigo	21
	Venezia	13
	Verona	4
	Padova	6
	Vicenza	4
FRIULI VENEZIA GIULIA	Gorizia	1
	Udine	1
	Pordenone	1
NOVARA	Novara	1
Totale		100

Table 3 West Nile virus detection in mosquitoes- **2022**

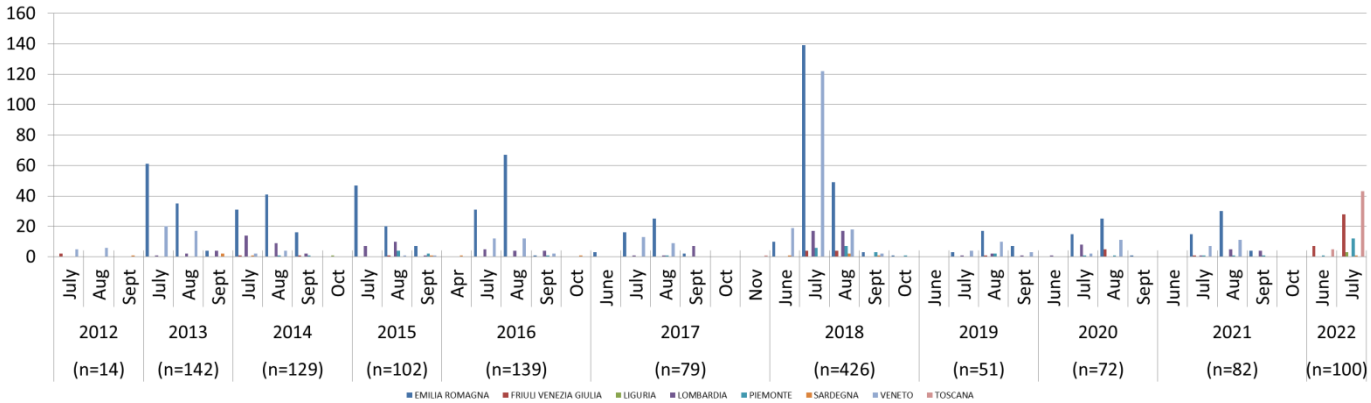


Figure 6 Spatio–temporal distribution West Nile virus detection in mosquitoes - **2022**

7

Poultry surveillance

- No WND outbreaks have been confirmed in poultry flocks.



8 USUTU virus surveillance

Usutu virus has been detected in **33 mosquitoes pool** and **4 birds** from **Emilia Romagna, Lombardia, Marche, Friuli Venezia Giulia, Umbria, Lazio and Veneto** region.

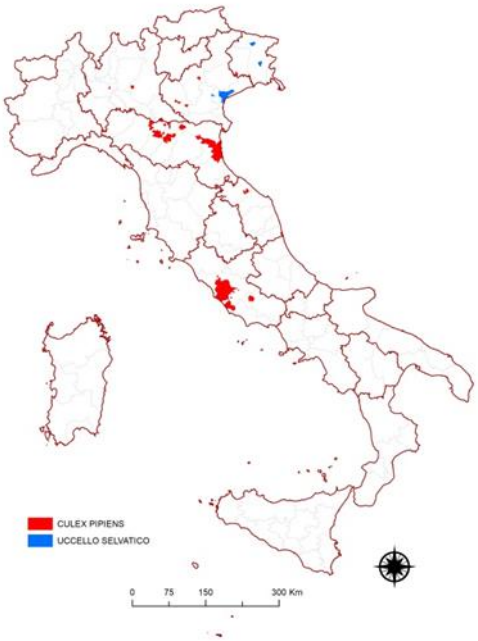


Figure 7 Geographical distribution Usutu virus detection in birds and mosquitoes - **2022**

Region	Province	n.pool+
MARCHE	Pesaro e Urbino	1
	Ancona	1
	Ascoli Piceno	1
	Macerata	1
EMILIA ROMAGNA	Modena	8
	Reggio Emilia	8
	Parma	1
	Ravenna	2
FRIULI VENEZIA GIULIA	Pordenone	1
LAZIO	Latina	1
	Roma	1
	Frosinone	1
LOMBARDIA	Milano	1
	Brescia	1
UMBRIA	Terni	1
	Perugia	1
VENETO	Verona	1
	Vicenza	1
Total	33	

Table 4 Usutu virus detection in mosquitoes **-2022**

Region	Province	n.birds+
FRIULI VENEZIA GIULIA	Udine	2
VENETO	Venezia	2
Total		4

Table 4 Usutu virus detection in birds **-2022**

9

National Plan for Prevention, Surveillance and Response to Arbovirus 2020-2025

West Nile (WNV) and Usutu (USUV) viruses surveillance activities since 2020 are included in the National Plan for Prevention, Surveillance and Response to Arbovirus 2020-2025.

The Plan integrates in a unique document the surveillance measures to be implemented at the national level for autochthonous and imported arboviruses, promoting a multidisciplinary approach in the management of surveillance and control activities.

More details about the integrated surveillance plan are available on the complete document «National Plan for Prevention, Surveillance and Response to Arbovirus 2020-2025.»

National Human surveillance activities are coordinated by the National Institute of Health (Istituto Superiore di Sanità, ISS) and the Ministry of Health is responsible to provide surveillance data to the European Commission and to ECDC. Moreover regions can implement normative-programmatic documents for the epidemiological and laboratory surveillance on their territory according to National legislation and guidelines provided by the Ministry of Health .

Veterinary surveillance activities are coordinated by the National Reference Center for the exotic diseases of animals (CESME) which harmonize the diagnostic procedures within the network of IIZZSS national laboratories and confirms suspected specimens. CESME is also in charge for the veterinary surveillance data management, collection and communication to the Ministry of Health according to the data flow reported in the Plan.

Useful links

- Web page of National Institute of Health
- Web page of Istituto Zooprofilattico Sperimentale dell'Abruzzo e del Molise "G. Caporale" (CESME)
- Directions of the National Italian Blood Center
- Directions of the National Italian Transplant Center
- Web page of the Italian Ministry of Health
- Web page of ECDC

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We gratefully acknowledge the support from the personnel of the Regions and the Local Health Services for sampling and data collection, the National Italian Blood Center, the National Italian Transplant Center, the Italian network of the Istituti Zooprofilattici Sperimentali and the Italian Ministry of Health.