

## Integrated surveillance of West Nile and Usutu virus

Epidemiological report no. 13 14 October 2021  
National data

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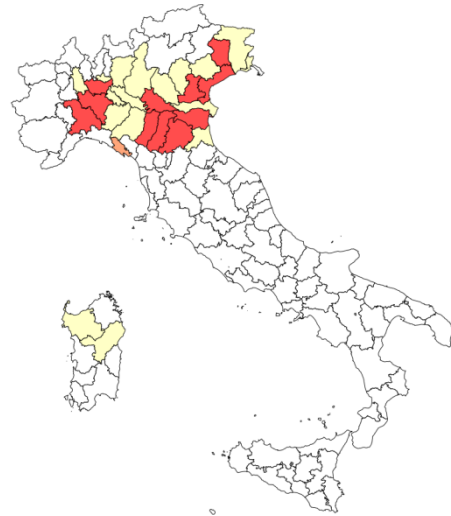
## 1

# In Evidence

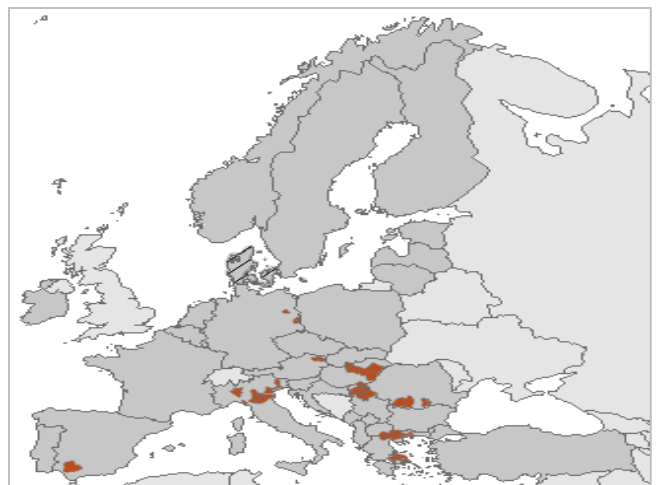
This report summarizes the results of West Nile virus and the Usutu virus surveillance activities in Italy, updated to **13 October 2021**.

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

- Since June 2021 **52** human case of WNV infection has been reported from has been reported from **Liguria, Emilia Romagna, Lombardia, Veneto and Friuli Venezia Giulia and Piemonte** regions. In the same period one case of Usutu virus infection has been reported from **Veneto** region.
- Surveillance in mosquitoes, resident birds, wild birds, poultry and horses confirmed the circulation of WNV **Lineage 2** in **Emilia Romagna, Piemonte, Veneto, Friuli Venezia Giulia, Sardegna and Lombardia** regions. WNV **Lineage 1** has been detected in a in **Padova** province.
- On **7 October 2021**, in the Member States of the EU, **132 human cases of WND**, 54 in Greece, 52 in Italy, 7 in Romania, 7 in Hungary, 6 in Spain, 6 in Austria and 3 in Germany. 9 deaths were reported (7 Greece, 1 Spain, 1 Romania). 17 cases have been reported from neighboring countries all from Serbia (Source ECDC)



**Figure 2.** Distribution of WNV human cases in EU



## 2

## Human

Since June 2021, **52** cases of West Nile virus infection have been reported in Italy.

**34** showed neuro-invasive symptoms (Table 1), **14** identified in blood donors (1 Alessandria, 1 Cremona, 1 Mantova 5 Modena, 1 Piacenza, 4 Reggio Emilia, 1 Venezia) and **4** case of WNF (1 Modena, 1 Padova, 1 Cremona)

Details about WND cases are provided below

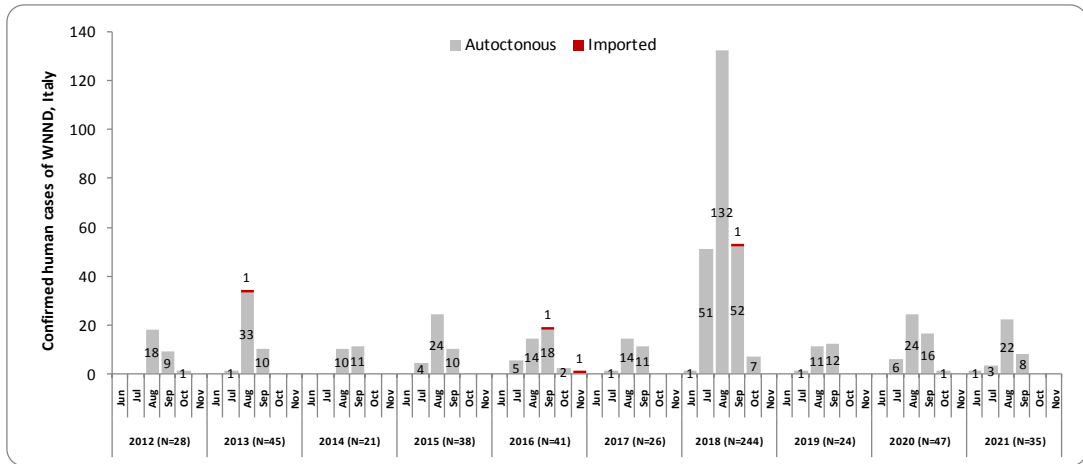


Figure 1. Trend of confirmed cases of WND by month onset of symptoms. Italy: 2012 - 2021.

Region/Province	Age group					Total
	<=14	15-44	45-64	65-74	>=75	
<b>Emilia-Romagna</b>						
<i>Bologna</i>			1		1	2
<i>Ferrara</i>					3	3
<i>Modena</i>			1		6	7
<i>Piacenza</i>			1		1	2
<i>Reggio Emilia</i>				1	2	3
<b>Friuli-Venezia Giulia</b>						
<i>Pordenone</i>				1		1
<b>Liguria</b>						
<i>La Spezia</i>				1		1
<b>Lombardia</b>						
<i>Cremona</i>				2		2
<i>Mantova</i>			1	1	1	3
<i>Milano</i>				1		1
<i>Pavia</i>		1	1	1	2	5
<b>Piemonte</b>						
<i>Alessandria</i>					1	1
<b>Veneto</b>						
<i>Padova</i>				1	1	2
<i>Venezia</i>					1	1
<b>Total</b>	<b>0</b>	<b>1</b>	<b>5</b>	<b>9</b>	<b>19</b>	<b>34</b>

## 3

## Horses

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



Region	Province	N. Outbreaks	N. Clinical outbreak	Horses in outbreaks					Prevalence	Letality
				Susceptible	Total cases	Con segni clinici	Death			
LOMBARDIA	BERGAMO	1	1	37	1	1	0	2,70%	0,00%	
	MANTOVA	1	1	20	1	1	0	5,00%	0,00%	
	PAVIA	1	1	25	1	1	0	4,00%	0,00%	
	MILANO	1	1	40	1	1	0	2,50%	0,00%	

**Table 1** West Nile Disease in horses- 2021

**Figure 1** Geographical distribution of WND outbreaks in horses -2021



## 4

## Resident birds of target species

CESME confirmed WND in **28** resident birds of target species in **Lombardia, Veneto, Piemonte and Emilia Romagna regions**. The circulating strains belong to **Lineage 2**.

The target species for the surveillance are :

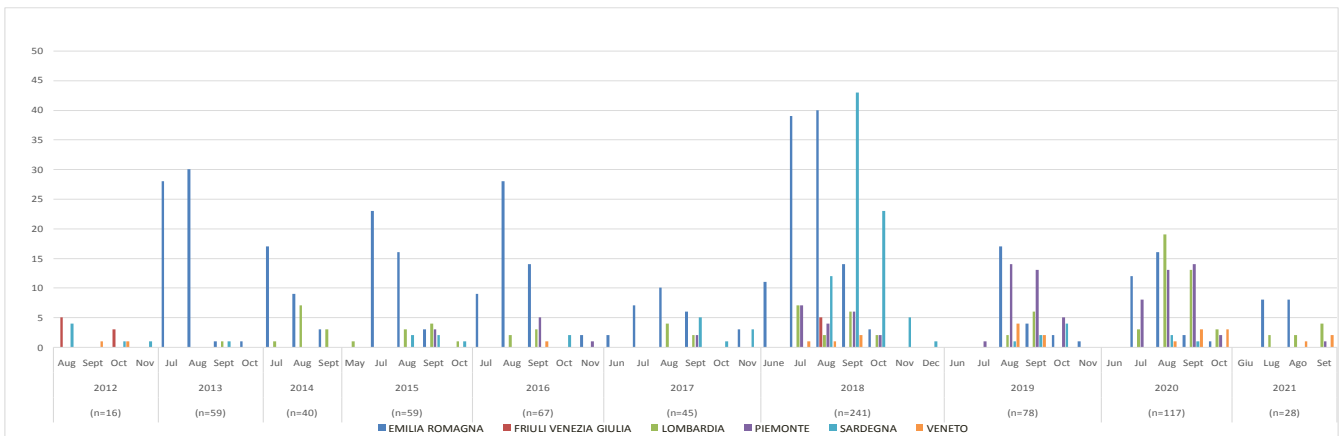
- Magpie (*Pica pica*)
- Carrion crow (*Corvus corone cornix*)
- Eurasian jay (*Garrulus glandarius*)



Region	Province	Carrion Crow	Magpie	Jay	n.birds+
EMILIA ROMAGNA	Modena		2		2
	Piacenza	3		1	4
	Ferrara		7		7
	Reggio Emilia	1	2		3
LOMBARDIA	Bergamo	3	1		4
	Milano		3		3
	Mantova	1			1
VENETO	Vicenza		1		1
	Verona	1	1		2
PIEMONTE	Novara	1			1
Total		10	17	1	28

**Table 2** West Nile virus detection in resident birds-  
**2021**

**Figure 2** Geographical distribution West Nile virus detection in resident birds of target species -  
**2021**



**Figure 3** Spatio-temporal distribution West Nile virus detection in resident birds of target species - **2021**

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## Wild birds

CESME confirmed WND in 21 wild in Lombardia, Veneto, Sardegna, Piemonte and Emilia Romagna regions. The circulating strains belong to Lineage 2.



Region	Province	n.birds+
EMILIA ROMAGNA	Bologna	1
	Ferrara	6
	Piacenza	3
	Reggio Emilia	1
VENETO	Verona	1
	Venezia	2
LOMBARDIA	Pavia	2
	Varese	1
	Brescia	1
PIEMONTE	Alessandria	1
SARDEGNA	Nuoro	1
	Sassari	1
Total		21

Figure 4 Geographical distribution West Nile virus detection in wild birds - 2021

Table 3 West Nile virus detection in wild birds- 2021

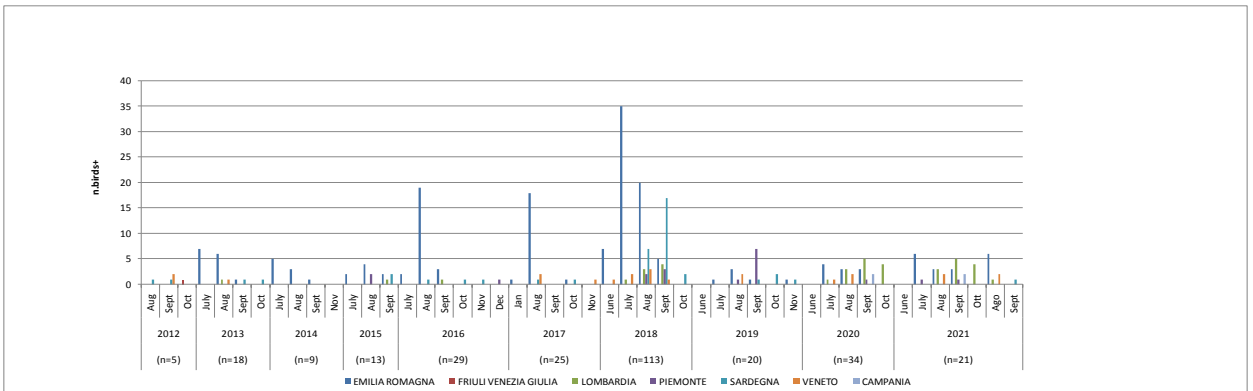


Figure 5 Spatio-temporal distribution West Nile virus detection in wild birds - 2021



## 6

## Entomological surveillance

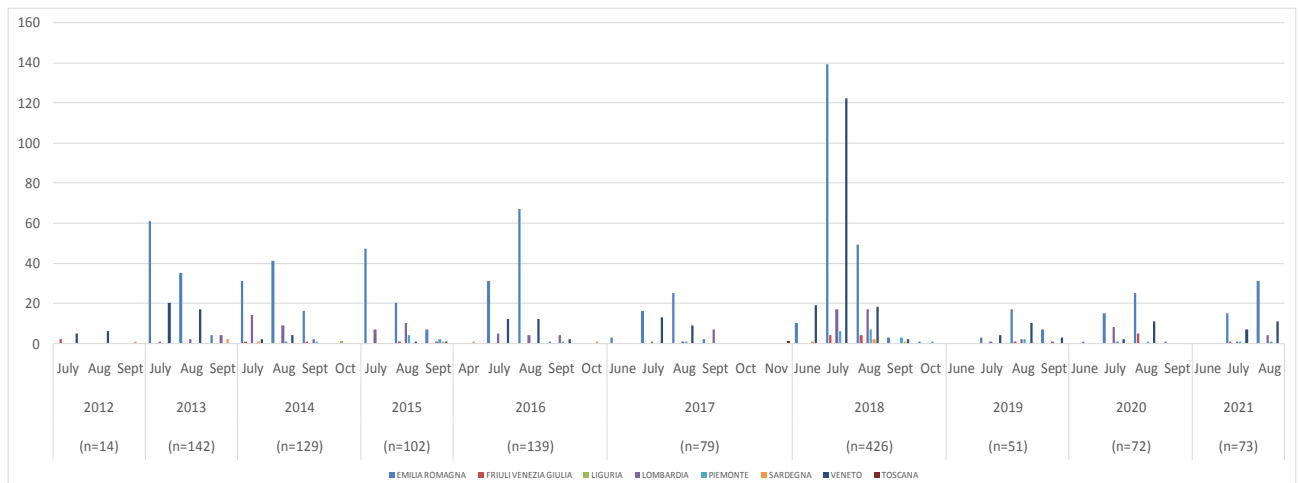
WNV genome has been reported in **73** mosquito **pools** collected in **Friuli Venezia Giulia, Emilia Romagna, Veneto, Piemonte and Lombardia** regions. The circulating strains belong to **Lineage 2**. WNV belong to **Lineage 1** has been detected in a mosquitoes pool from **Padova** province.



Region	Province	n.pool+
EMILIA ROMAGNA	Bologna	10
	Ferrara	3
	Modena	10
	Piacenza	8
	Parma	3
FRIULI VENEZIA GIULIA	Reggio Emilia	11
	Udine	1
LOMBARDIA	Lodi	1
	Mantova	1
	Brescia	1
	Pavia	4
PIEMONTE	Alessandria	2
VENETO	Rovigo	2
	Treviso	1
	Venezia	8
	Padova	1
	Verona	6
Total		<b>73</b>

**Table 4** West Nile virus detection in mosquitoes- **2021**

**Figure 6** Geographical distribution West Nile virus detection in mosquitoes - **2021**



**Figure 5** Spatio-temporal distribution West Nile virus detection in mosquitoes - **2021**

## 7

## Poultry surveillance

- No WND outbreaks have been confirmed in poultry flocks.

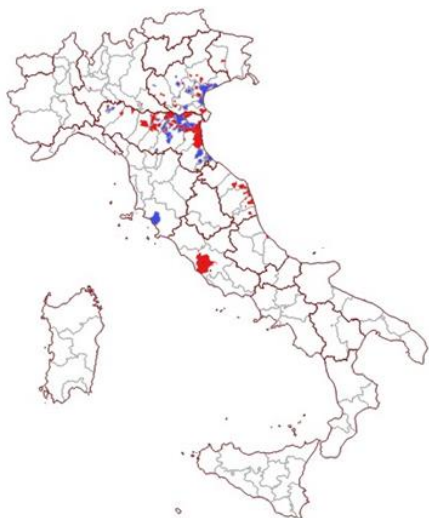




## 8

## USUTU virus surveillance

Usutu virus has been detected in **108 mosquitoes pools** collected in **Abruzzo, Emilia Romagna, Friuli Venezia Giulia, Lombardia, Lazio Piemonte, Marche e Veneto** regions and in **117 wild birds** in **Emilia Romagna, Veneto, Repubblica di San Marino and Toscana**.



Region	Province	n.pool+
EMILIA ROMAGNA	Bologna	12
	Ferrara	7
	Modena	12
	Rimini	3
	Parma	2
	Ravenna	2
	Piacenza	5
	Forl' Cesena	2
	Reggio Emilia	4
	Ancona	4
MARCHE	Ascoli Piceno	2
	Pesaro Urbino	1
	Macerata	5
PIEMONTE	Fermo	2
	Asti	1
VENETO	Rovigo	7
	Venezia	9
	Treviso	8
	Padova	4
	Verona	7
LOMBARDIA	Mantova	3
	Milano	1
FRIULI VENEZIA GIULIA	Pordenone	1
LAZIO	Roma	1
	Teramo	2
ABRUZZO	Teramo	2
	Pescara	1
Total		108

**Table 5** Usutu virus detection in mosquitoes -2021

**Figure 6** Geographical distribution Usutu virus detection in birds and mosquitoes - 2021

Region	Province	n.birds+
EMILIA ROMAGNA	Bologna	36
	Forlì-Cesena	8
	Rimini	25
	Ferrara	14
	Modena	2
	Piacenza	4
VENETO	Padova	9
	Venezia	9
	Vicenza	1
	Verona	5
	Rovigo	2
TOSCANA	Grosseto	1
REPUBBLICA DI SAN MARINO	San Marino	1
Totale		117

**Table 6** Usutu virus detection in birds - 2021

## 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

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- 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](#)

The weekly report is prepared by:

A. Bella, G. Venturi, F. Riccardo – Department of Infectious diseases, ISS

F. Iapaolo, F. Monaco, P. Calistri – CESME, Istituto Zooprofilattico Sperimentale dell'Abruzzo e del Molise.

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