Vector-borne Surveillance Report

CDC WEEK 32 August 8-14, 2021

Report Highlight:

- ***West Nile virus (WNV) has been detected in 25 mosquito pools so far this week and to date, 275 pools have tested positive for WNV. There were 94 positive pools reported last week, the highest so far this year and significantly above the 5-year average.***
- ***One fatal human case of WNV has been reported from Camden County with an illness onset in mid-July.***
- ***To date, 7 pools have tested positive for EEE in southern N.J. and is consistent with 5-year averages.***
- ***The number of recent tick-related Emergency Department visits is consistent with 2020 levels but lower than historical averages.***

1. Human Testing

New Jersey Administrative Code (NJAC.) Title 8 Chapter 57 mandates public health reporting of specified vector-borne diseases to prevent further disease spread.

Table 1.1 Human Cases [a]

Mosquito-borne diseases			Tickborne Diseases		
	2021 [b]	2020		**2021** [b]	2020
Chikungunya	**-**	3	Anaplasmosis	**89**	115
Dengue	**-**	2	Babesiosis	**108**	238
Eastern equine encephalitis	**-**	-	*Borrelia miyamotoi*	**5**	9
Jamestown Canyon	**1**	-	Ehrlichiosis	**29**	78
Malaria	**25**	24	Lyme disease	**1471**	2572
West Nile	**1**	3	Powassan	**-**	1
Zika	**-**	3	Spotted fever group rickettsioses	**13**	35

[a] Data for 2021 reflect confirmed and probable cases that NJDOH has approved. This does not include cases under investigation. All 2021 numbers are preliminary and are subject to change. [b] Cumulative through Week 32: August 8-14, 2021

2. Mosquito Testing

The New Jersey Department of Health Public Health and Environmental Laboratories (PHEL) and the Cape May County Department of Mosquito Control Bio-safety Level 3 Laboratory (CMBSL3) perform arboviral testing on mosquito pools collected by county mosquito control agencies throughout New Jersey.

West Nile virus (WNV):

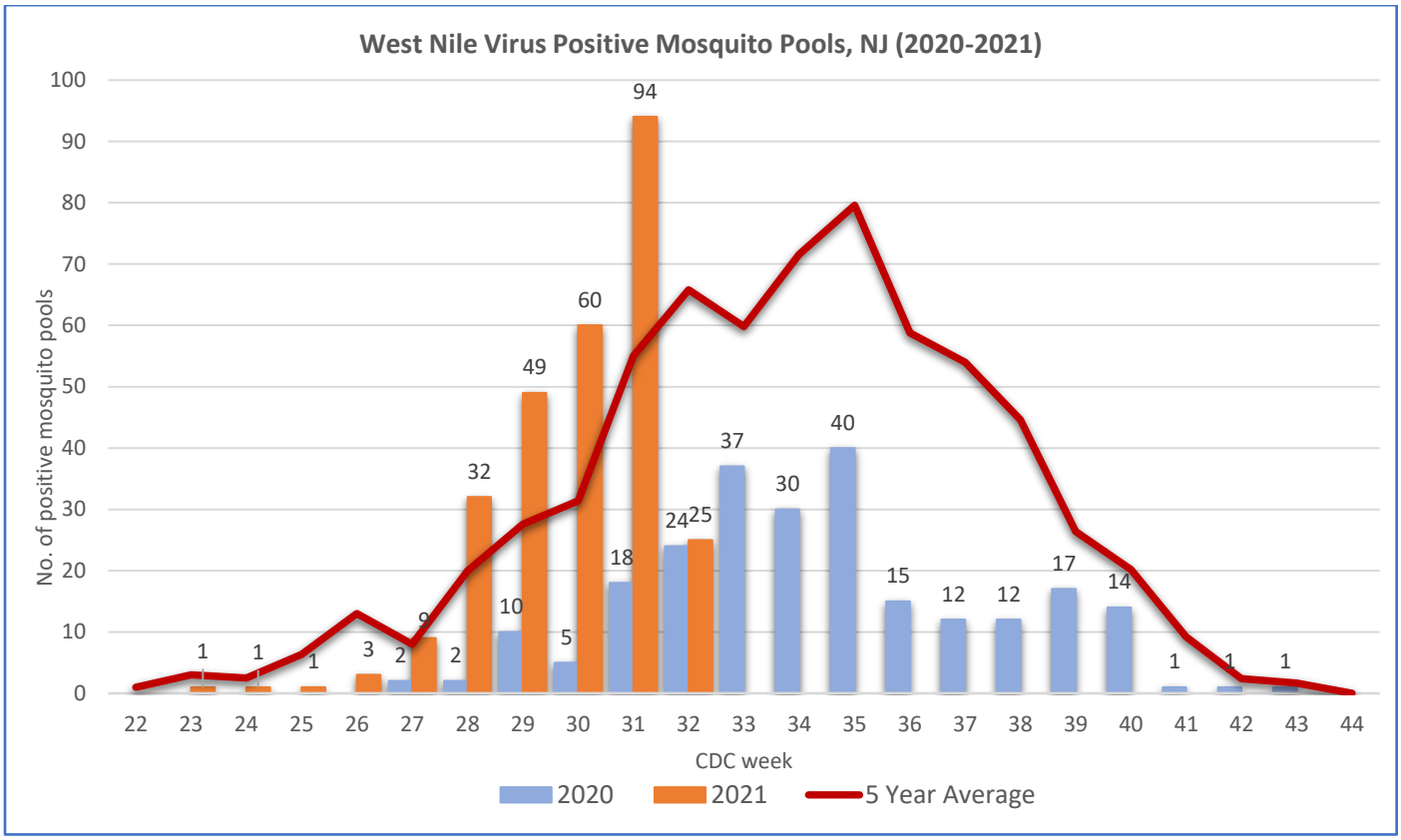
- A total of 4635 mosquito pools have been tested for WNV.
- 275 pools were positive for WNV this year.
- The positive pools were detected in *Culex pipiens/ restuans/salinarius* species mix, *Aedes trivittatus*, *Ae. triseriatus*, *Ae. albopictus*, and *Ae. vexans*.
- The first WNV positive pool was detected in Week 23 from Somerset County. In 2020, the first WNV positive mosquito pool was identified in Week 27 from Mercer and Monmouth counties.

**Test results may be incomplete; counties submit pools for testing on specific weekdays. Mosquito testing data reflects test results received from PHEL as of August 18, 2021*

WNV Positive Mosquito Pools

	Week 32		Cumulative Total (Week 32)	
County	**2021***	2020	**2021***	2020
Atlantic			3	
Bergen		4	46	11
Burlington	4	6	20	11
Camden	2		39	2
Cape May	1		2	
Cumberland				
Essex			1	
Gloucester		1	3	1
Hudson		4	12	12
Hunterdon	2		6	
Mercer			5	4
Middlesex	11		41	
Monmouth	2	1	16	3
Morris		1	13	1
Ocean	1		7	
Passaic		2	3	4
Salem				
Somerset		3	24	4
Sussex			1	
Union	2	1	28	7
Warren		1	5	1
Total	**25**	24	**275**	61

Week 32: August 2-8, 2020; August 8-14, 2021



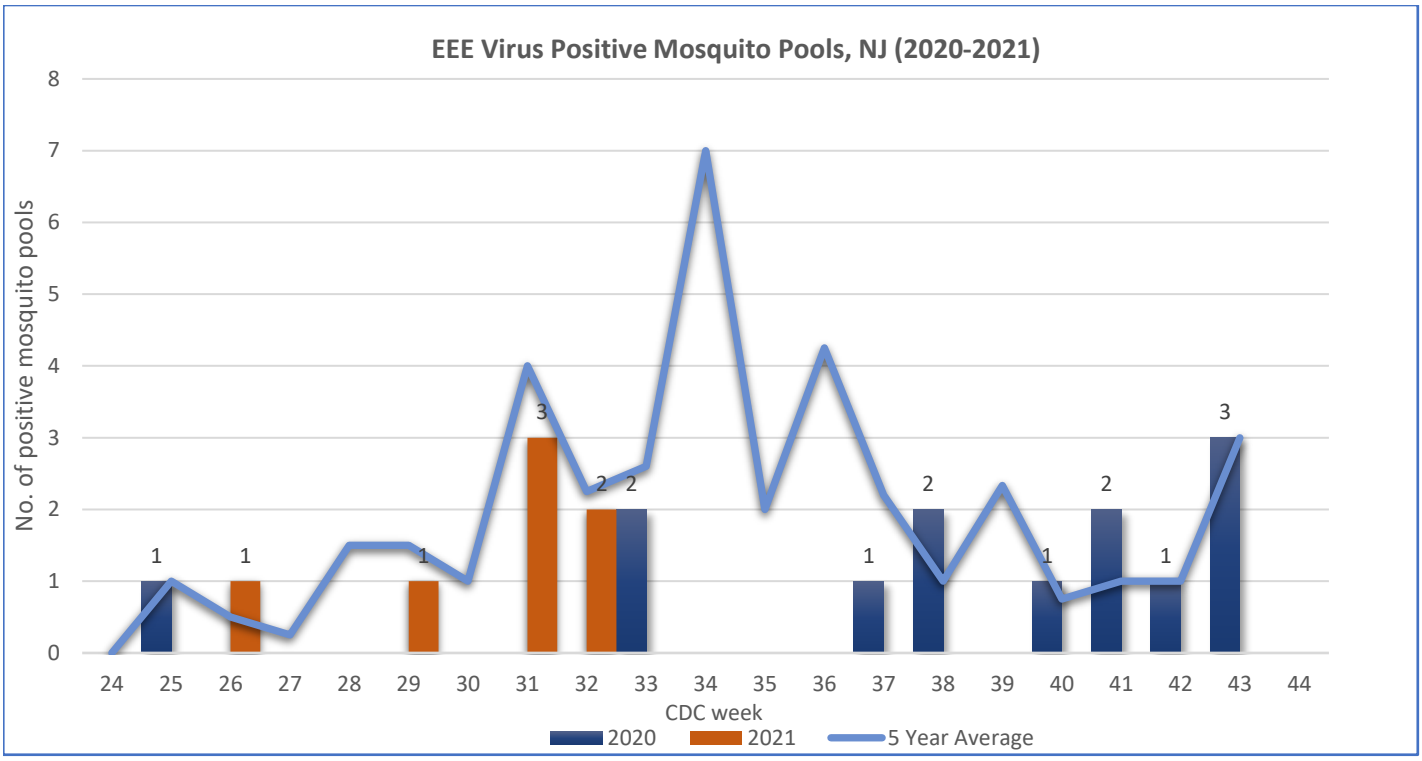
Eastern equine encephalitis virus (EEE)

- A total of 3818 mosquito pools have been tested for EEE.
- Seven pools tested positive for EEE this year in *Culiseta melanura* (6) and *Culex erraticus* (1).
- The first positive mosquito pool was detected in Week 26 from Gloucester County. In 2020, the first EEE mosquito pool was reported from Atlantic County in Week 25.

EEE Positive Mosquito Pools

	Week 32		Cumulative Total (Week 32)	
County	**2021***	2020	**2021***	2020
Atlantic	**1**		**3**	**1**
Bergen				
Burlington				
Camden			**1**	
Cape May	**1**		**1**	
Cumberland				
Essex				
Gloucester			**2**	
Hudson				
Hunterdon				
Mercer				
Middlesex				
Monmouth				
Morris				
Ocean				
Passaic				
Salem				
Somerset				
Sussex				
Union				
Warren				
Total	**2**	-	**7**	1

Week 32: August 2-8, 2020; August 8-14, 2021



Other viruses:

Mosquito pools from 21 counties have been tested for other arboviruses. One pool has tested positive for JCV.

Cumulative 2021 Mosquito Pool Testing (Other Viruses [a])

	CHIKV		DENV		JCV		LACV		SLEV		ZIKV	
County	Pools	Pos	Pools	Pos	Pools	Pos	Pools	Pos	Pools	Pos	Pools	Pos
Atlantic	12		12		236				236		12	
Bergen	1		1		206				207		1	
Burlington					228		11		262			
Camden					167				167			
Cape May	1		1		254				271		1	
Cumberland					239				288			
Essex					65				76			
Gloucester					275				311			
Hudson					163				169			
Hunterdon					164				204			
Mercer					195		5		242			
Middlesex					194				231			
Monmouth					257				306			
Morris	2		2		208				252		2	
Ocean					153				166			
Passaic					131		2		154			
Salem					251		10		287			
Somerset					147				147			
Sussex					323	1	8		323			
Union					78				78			
Warren					227		1		227			
Total	16	0	16	**0**	**4161**	**1**	**37**	0	**4604**	0	16	0

[a] Chikungunya virus (CHIKV), Dengue virus (DENV), Jamestown Canyon Virus (JCV), La Crosse encephalitis virus (LAC), St. Louis encephalitis virus (SLE), Zika Virus (ZIKV)

Numbers in white columns represent the number of pools tested to date in 2021

Numbers in blue shaded columns represent positive pools in 2021

Jamestown Canyon virus (JCV):

- NJ reported its 2nd ever human case of Jamestown Canyon virus this year in Week 18 in a Sussex County resident. The first case was reported in 2015 in a Sussex County resident.
- One positive Jamestown Canyon virus pool was reported in Sussex County on Week 27.
- In 2020, six mosquito pools from 4 counties tested positive for Jamestown Canyon virus. The positive pools were identified in Bergen (Week 23 and Week 25), Cumberland (Week 28 and Week 32), Middlesex (Week 31) and Monmouth (Week 29).

La Crosse encephalitis virus (LAC):

- No positive La Crosse virus pools have been identified in 2021.
- Prior to the current year, a mosquito pool collected in Passaic County tested positive for La Crosse virus at PHEL in 2019.
- There has not been any human La Crosse virus cases reported in at least the past 20 years.

3. Equine/Avian /Other Animal Testing

Equine testing for WNV and EEE is conducted at the New Jersey Department of Agriculture's Animal Health and Diagnostic Laboratory.

- One American crow from Burlington County tested positive for WNV on Week 27.
- Three Cooper's hawks from Union County tested positive for WNV on Week 31.
- Routine avian testing has been discontinued but is available upon request at PHEL.

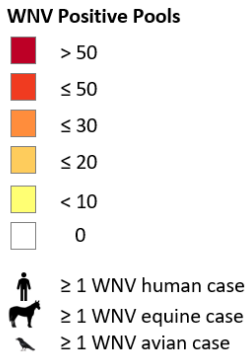
WNV/EEE Positive Test Results

	Week 32		Cum. Total (Year)	
	2021*	2020	**2021***	2020
Equine (EEE)				
Equine (WNV)				
Avian (WNV)			**4**	
Other				

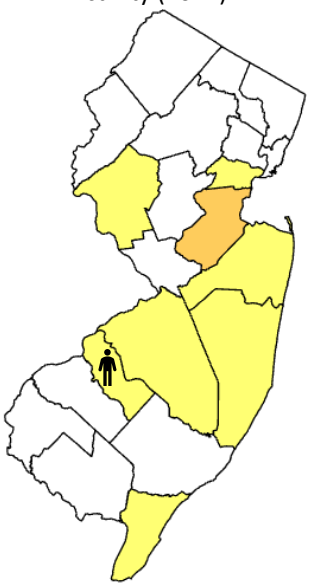
Week 32: August 2-8, 2020; August 8-14, 2021

4. Surveillance Maps

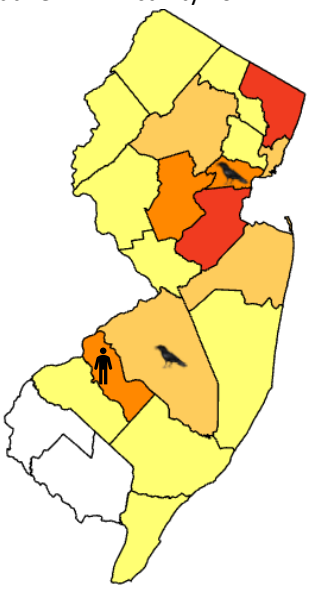
West Nile Virus (WNV)



Week 32 WNV Activity (2021)*



Cumulative WNV Activity 2021



Eastern equine encephalitis (EEE)

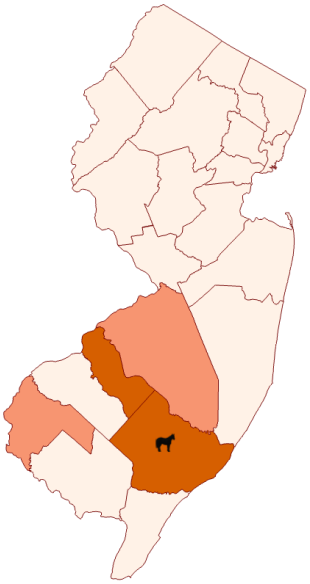
2020 EEE Activity

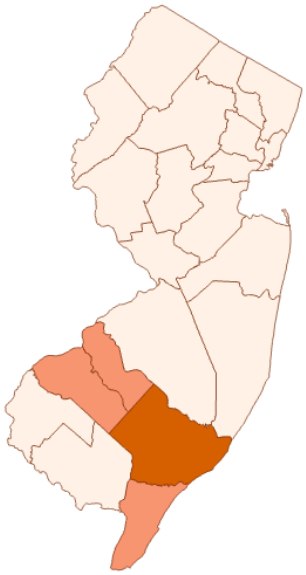
Cumulative EEE Activity 2021

EEE Positive Pools

- > 10
- ≤ 10
- ≤ 6
- ≤ 2
- No EEE activity

- Human case
- Equine case
- Alpaca case
- Deer case





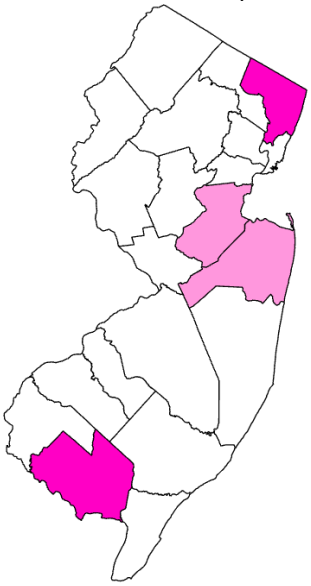
Jamestown Canyon Virus (JCV)

2020 JCV Activity

Cumulative JCV Activity 2021

JCV Positive Pools

- ≥ 2
- 1
- No JCV activity



La Crosse Virus (LAC)

2020 LAC Activity

Cumulative LAC Activity 2021

LAC Positive Pools

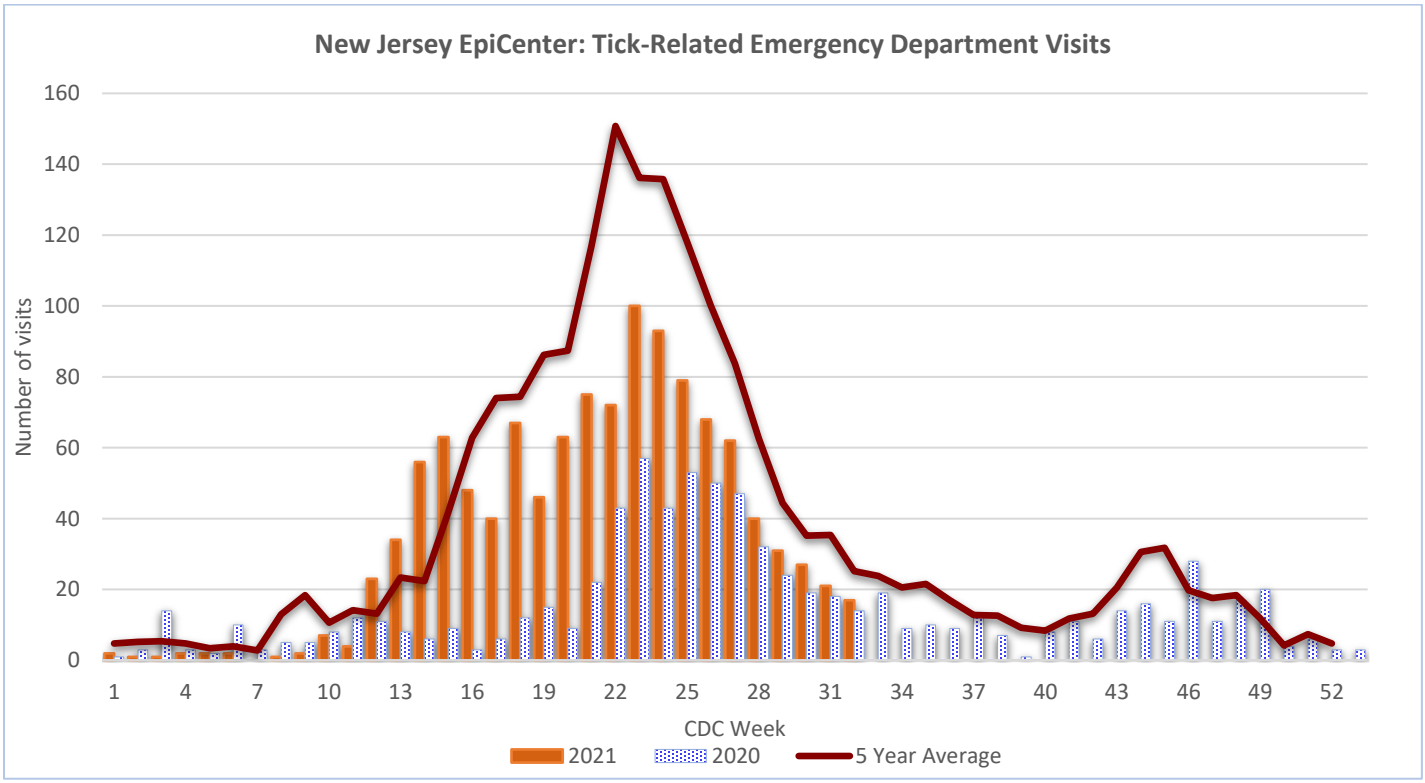
- ≥ 1
- No LAC activity

5. Syndromic Surveillance for Tick-related Emergency Department Visits

EpiCenter is a syndromic surveillance system developed and maintained by Health Monitoring Systems, Inc, for monitoring by health departments in the United States. New Jersey's EpiCenter receives real time Emergency Department (ED) data from 78 acute care and satellite health (99 percent reporting) facilities statewide. The system collects "chief complaint" information and limited patient registration data from existing ED computer systems.

The chart below represents NJ residents seen at emergency departments statewide with a tick-bite complaint or signs/symptoms associated with a reported tick-bite. Tick-related ED visits occur throughout the year with peak number of visits in the summer months and a smaller peak in the fall weeks when adult Ixodes scapularis (blacklegged ticks) are active.

In Week 32, the overall number of ED visits is lower than the 5-year average. There is a significant increase in activity compared with last year starting from week 12.



Data reflects ED visits downloaded from EpiCenter as of August 18, 2021

For More Information

- NJDOH Communicable Disease Service: http://nj.gov/health/cd/topics/vectorborne.shtml
- New Jersey Arboviral Activity Maps: http://bit.ly/JerseySurv
- NJDEP Office of Mosquito Control Coordination: http://www.nj.gov/dep/mosquito/
- NJDA Division of Animal Health: http://www.nj.gov/agriculture/divisions/ah/
- Rutgers Center for Vector Biology: http://vectorbio.rutgers.edu/