

Report Highlight:

- **West Nile virus (WNV) has been detected in 61 mosquito pools so far this week and to date, 412 pools have tested positive for WNV.**
- **One fatal human case of WNV has been reported from Camden County with an illness onset in mid-July.**
- **One equine case of EEE has been reported this week from Cumberland County.**
- **To date, 10 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	106	115
Dengue	1	2	Babesiosis	121	238
Eastern equine encephalitis	-	-	<i>Borrelia miyamotoi</i>	5	9
Jamestown Canyon	1	-	Ehrlichiosis	33	78
Malaria	28	24	Lyme disease	1548	2572
West Nile	1	3	Powassan	-	1
Zika	-	3	Spotted fever group rickettsioses	15	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 33: August 15-21, 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 5168 mosquito pools have been tested for WNV.
- 412 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*, *Ae. japonicus*, *Ae. vexans*, and *Culiseta melanura*.
- 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.

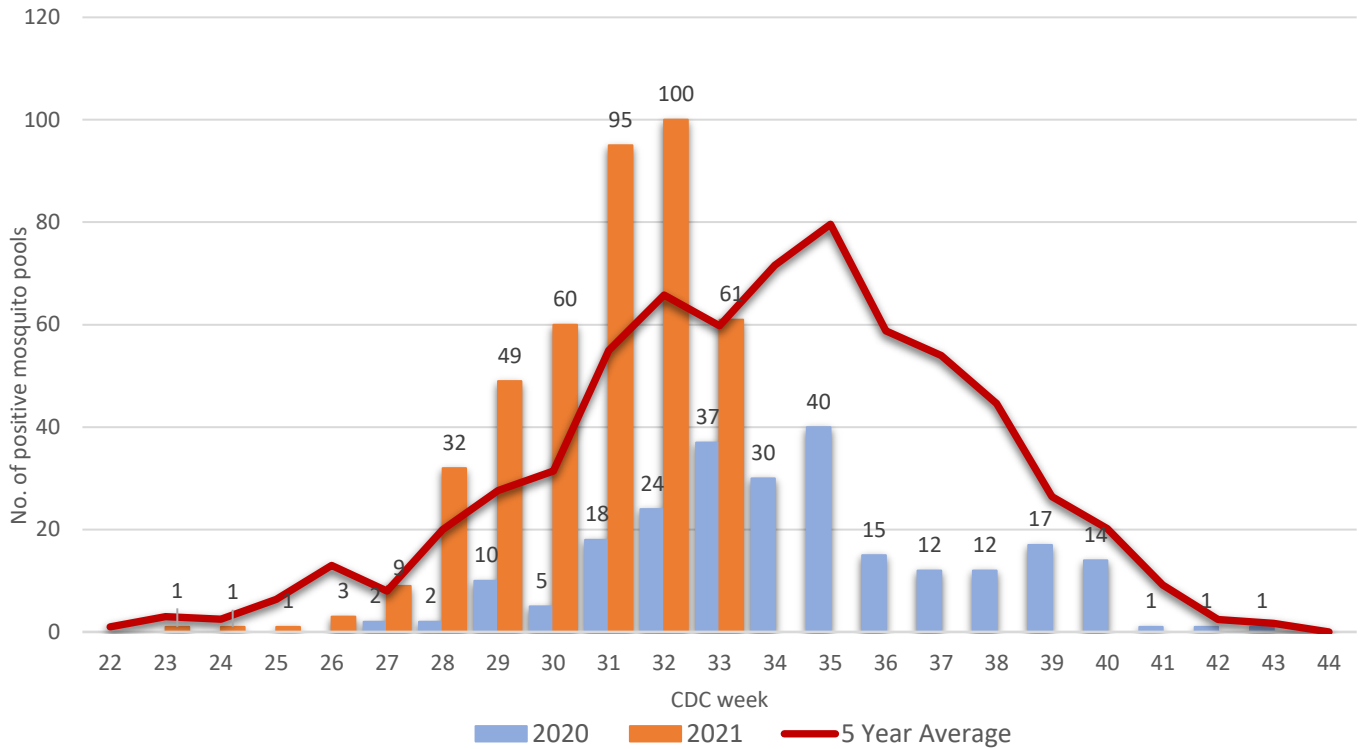
*Test results may be incomplete; counties submit pools for testing on specific weekdays. Mosquito testing data reflects test results received from PHEL as of August 25, 2021

WNV Positive Mosquito Pools

County	Week 33		Cumulative Total (Week 33)	
	2021*	2020	2021*	2020
Atlantic	3		6	
Bergen		5	57	16
Burlington	15		35	11
Camden	4	1	56	3
Cape May			3	
Cumberland				
Essex			1	
Gloucester			3	1
Hudson		3	19	15
Hunterdon	10	2	17	2
Mercer		3	7	7
Middlesex	10	2	51	2
Monmouth	3	7	19	10
Morris		1	18	2
Ocean	3		10	
Passaic		1	4	5
Salem				
Somerset	7		42	4
Sussex			1	
Union	4	12	50	19
Warren	2		13	1
Total	61	37	412	98

Week 33: August 9-15, 2020: August 15-21, 2021

West Nile Virus Positive Mosquito Pools, NJ (2020-2021)



Eastern equine encephalitis virus (EEE)

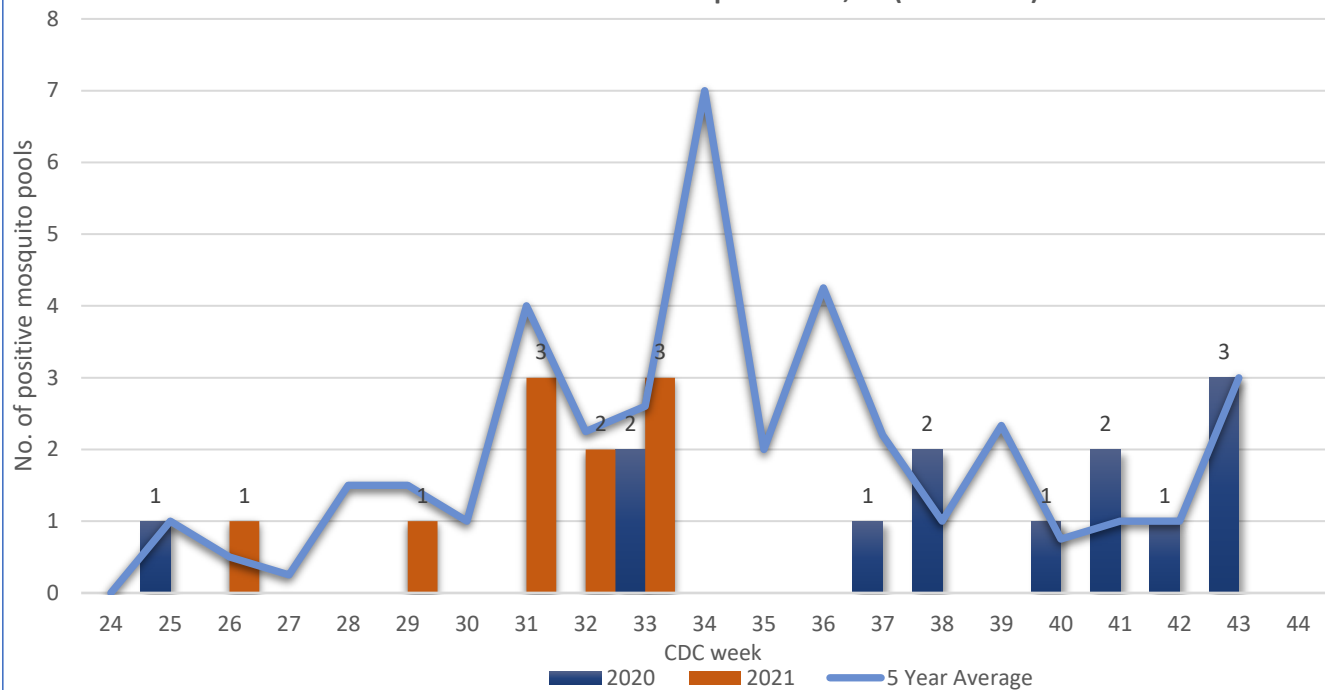
- A total of 4353 mosquito pools have been tested for EEE.
- 10 pools tested positive for EEE this year in *Culiseta melanura* (9) and *Culex erraticus* (1).
- The first positive mosquito pool was detected in Week 26 from Gloucester County. In 2020, the first EEE mosquito pool was reported from Atlantic County in Week 25.

EEE Positive Mosquito Pools

County	Week 33		Cumulative Total (Week 33)	
	2021*	2020	2021*	2020
Atlantic	1	1	4	2
Bergen				
Burlington		1		1
Camden	1		2	
Cape May	1		2	
Cumberland				
Essex				
Gloucester			2	
Hudson				
Hunterdon				
Mercer				
Middlesex				
Monmouth				
Morris				
Ocean				
Passaic				
Salem				
Somerset				
Sussex				
Union				
Warren				
Total	3	2	10	3

Week 33: August 9-15, 2020; August 15-21, 2021

EEE Virus Positive Mosquito Pools, NJ (2020-2021)



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)

County	CHIKV		DENV		JCV		LACV		SLEV		ZIKV	
	Pools	Pos	Pools	Pos	Pools	Pos	Pools	Pos	Pools	Pos	Pools	Pos
Atlantic	12		12		285				285		12	
Bergen	1		1		226				227		1	
Burlington					255		11		289			
Camden					189				189			
Cape May	1		1		304				321		1	
Cumberland					259				308			
Essex					74				85			
Gloucester					275				311			
Hudson					176				182			
Hunterdon					204				244			
Mercer	1		1		215		6		262		1	
Middlesex					210				247			
Monmouth					299				348			
Morris	2		2		231				275		2	
Ocean					187				200			
Passaic					143		2		166			
Salem					277		10		313			
Somerset					177				177			
Sussex					347	1	8		347			
Union					104				104			
Warren					262		1		262			
Total	17	0	17	0	4699	1	38	0	5142	0	17	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 33), 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 unvaccinated horse (7-year-old mare) from Cumberland County tested positive for EEE in Week 33 (onset Aug 18; euthanized Aug 19).
- 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 33		Cum. Total (Year)	
	2021*	2020	2021*	2020
Equine (EEE)	1		1	
Equine (WNV)				
Avian (WNV)			4	
Other				

Week 33: August 2-8, 2020; August 15-21, 2021

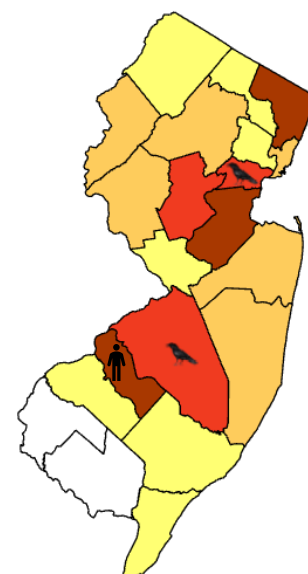
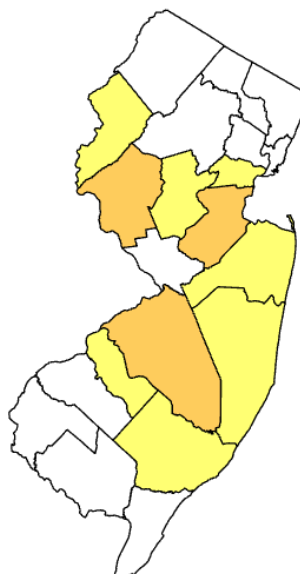
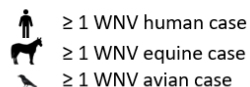
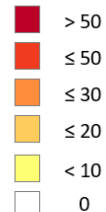
4. Surveillance Maps

West Nile Virus (WNV)

Week 33 WNV Activity (2021)*

Cumulative WNV Activity 2021

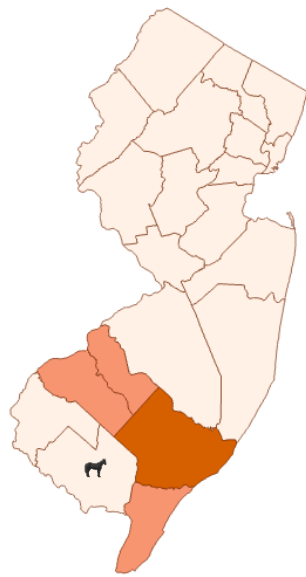
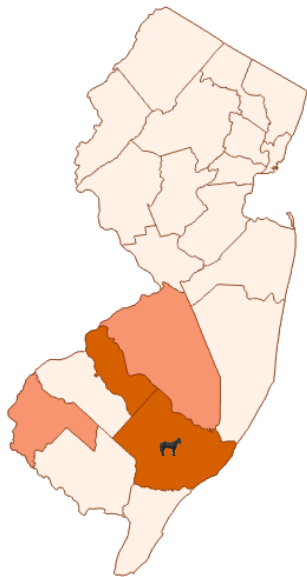
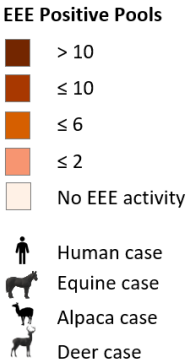
WNV Positive Pools



Eastern equine encephalitis (EEE)

2020 EEE Activity

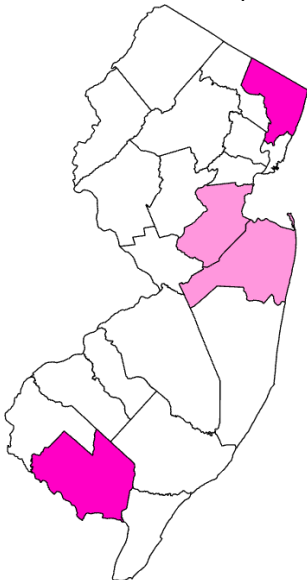
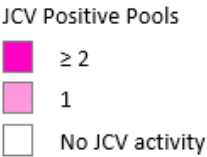
Cumulative EEE Activity 2021



Jamestown Canyon Virus (JCV)

2020 JCV Activity

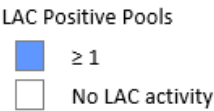
Cumulative JCV Activity 2021



La Crosse Virus (LAC)

2020 LAC Activity

Cumulative LAC Activity 2021

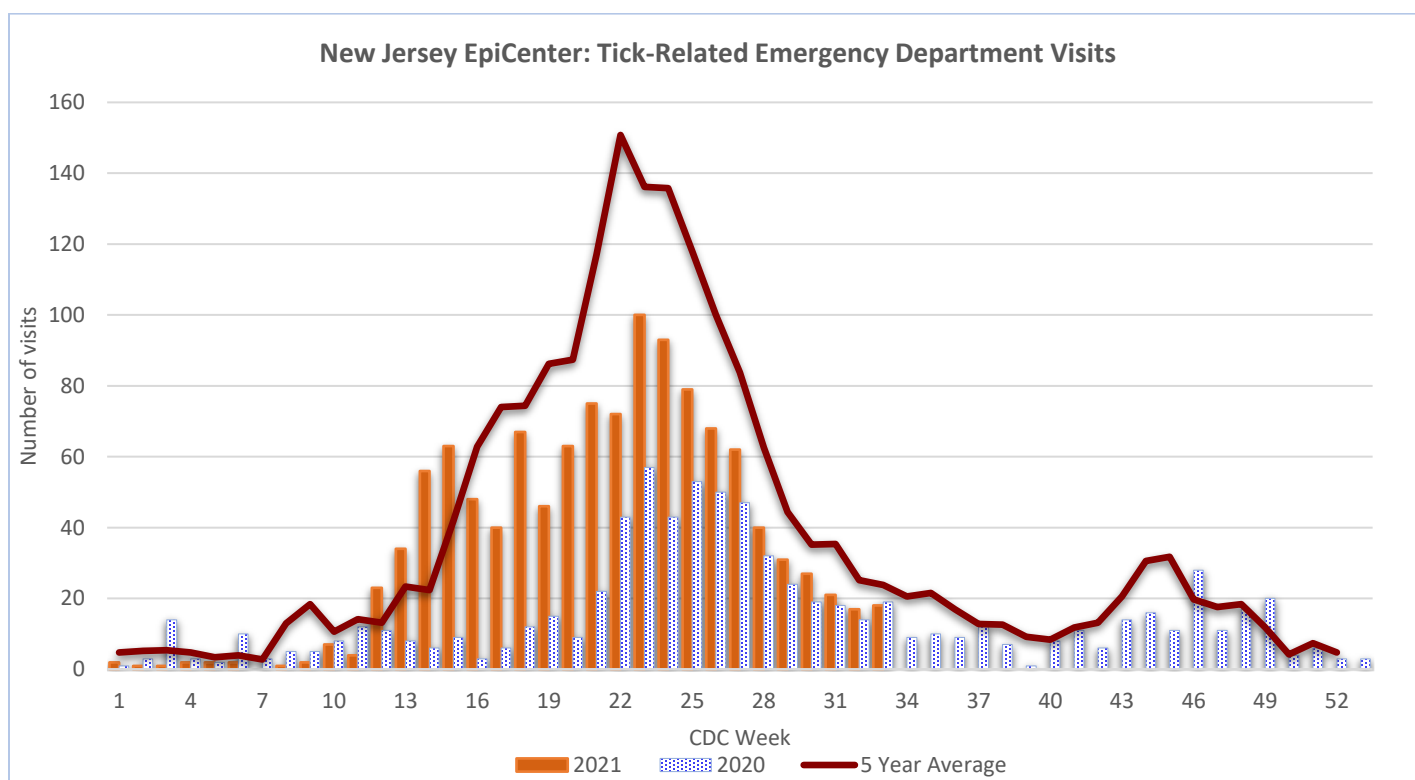


5. Syndromic Surveillance for Tick-related Emergency Department Visits

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 33, the overall number of ED visits is lower than the 5-year average but comparable to 2020 levels. 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 25, 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/>