

Report Highlight:

- **West Nile virus (WNV)** has been detected in 30 mosquito pools in twelve counties. The weekly number of positive pools is approaching the 5-year average. One American crow tested positive for WNV in Week 27.
- **Jamestown Canyon virus (JCV)** was detected in one mosquito pool from Sussex County on Week 27; one human case of JCV was reported on Sussex County in Week 18.
- **Eastern Equine Encephalitis virus (EEEV)** was detected in one mosquito pool from Gloucester County in Week 26.
- **The number of tick-related ED visits in 2021 is higher than those reported in 2020 but is 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	67	115
Dengue	-	2	Babesiosis	57	238
Eastern equine encephalitis	-	-	<i>Borrelia miyamotoi</i>	1	9
Jamestown Canyon	1	-	Ehrlichiosis	24	78
Malaria	14	24	Lyme disease	984	2572
West Nile	-	3	Powassan	-	1
Zika	-	3	Spotted fever group rickettsioses	9	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 28: July 11-17, 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 3140 mosquito pools have been tested for WNV.
- 30 pools were positive for WNV this year.
- The positive pools were detected in *Culex pipiens/restuans/salinarius* species mix and *Aedes trivittatus*.
- 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.

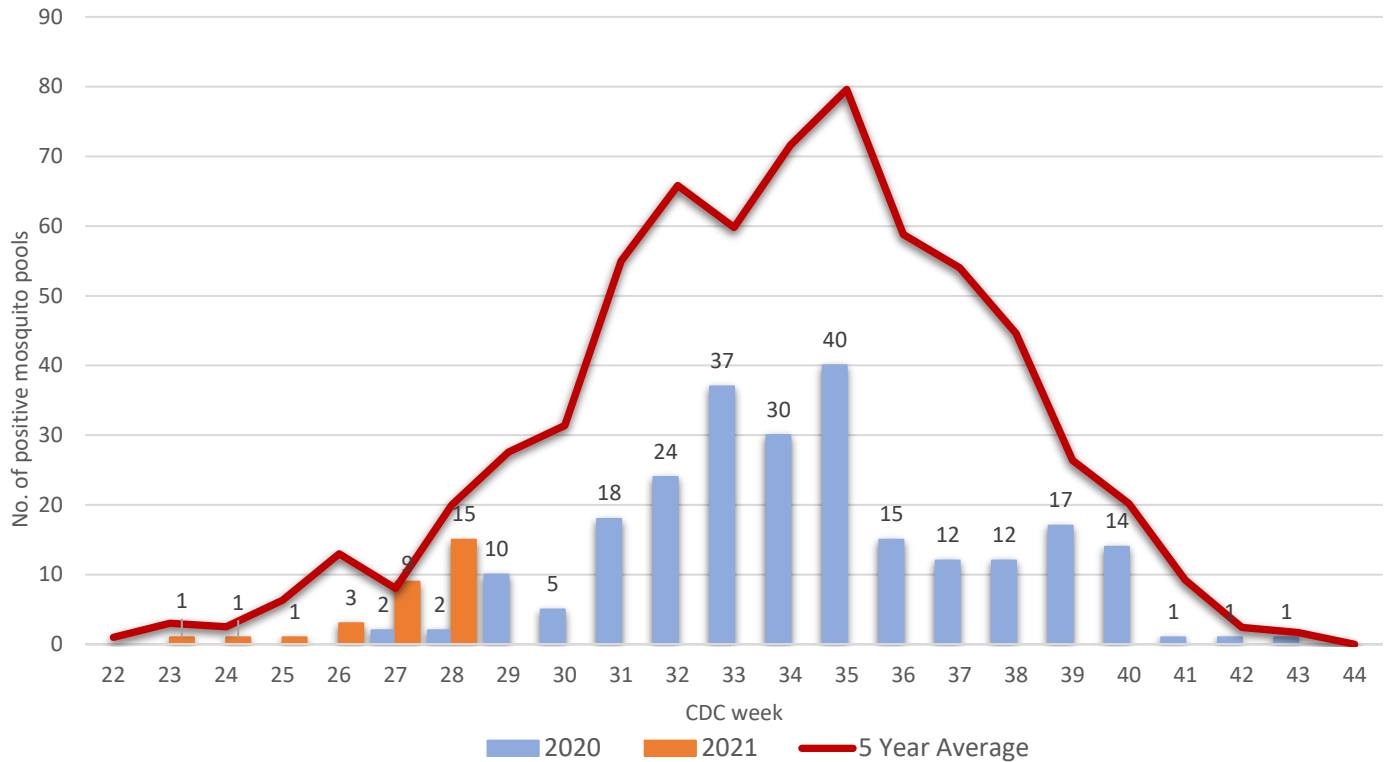
**Test results may be incomplete; counties submit pools for testing on specific weekdays. Mosquito testing data reflects test results received from PHEL as of July 21st, 2021*

WNV Positive Mosquito Pools

County	Week 28		Cumulative Total (Week 28)	
	2021*	2020	2021*	2020
Atlantic				
Bergen			3	
Burlington	2	1	3	1
Camden	3		5	
Cape May	1		1	
Cumberland				
Essex			1	
Gloucester				
Hudson			1	
Hunterdon				
Mercer	1		1	1
Middlesex	4		5	
Monmouth	1	1	1	2
Morris				
Ocean	1		4	
Passaic				
Salem				
Somerset			1	
Sussex				
Union				
Warren	2		4	
Total	15	2	30	4

Week 28: July 5-11, 2020; July 11-17, 2021

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



Eastern equine encephalitis virus (EEE)

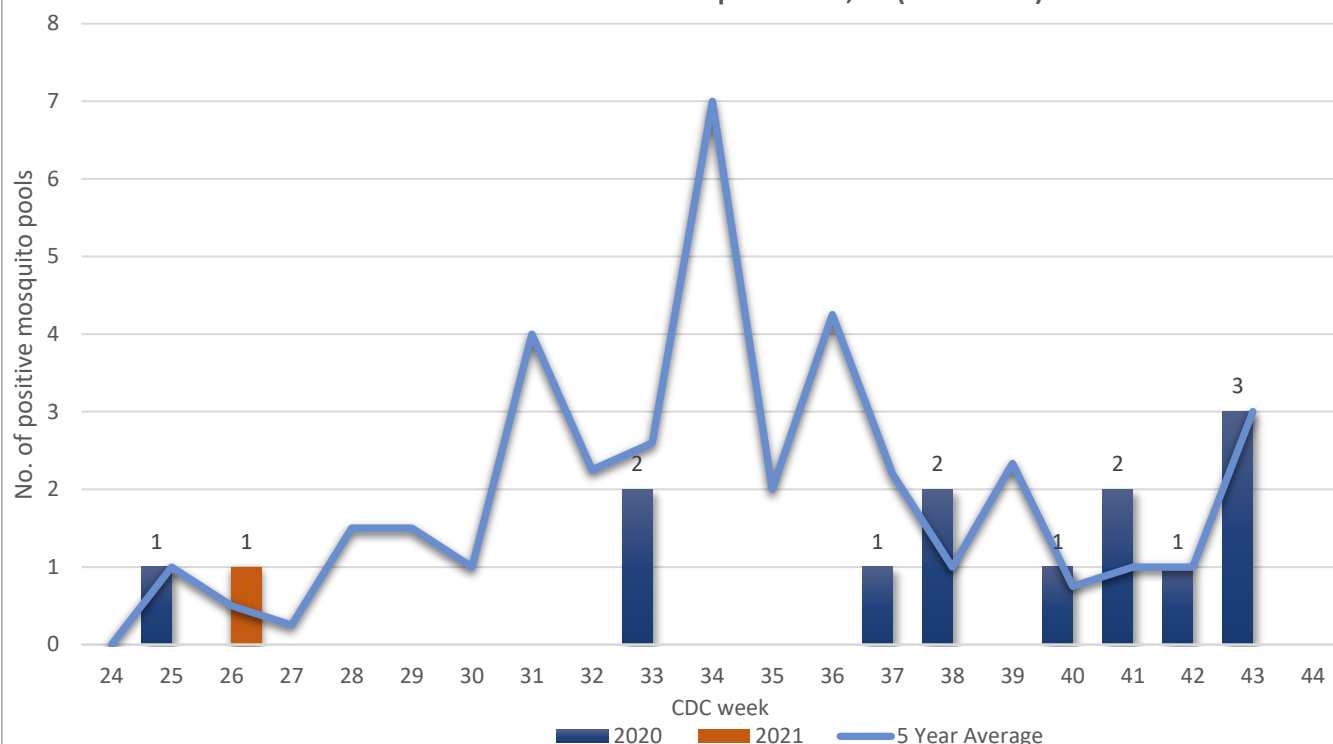
- A total of 2326 mosquito pools have been tested for EEE.
- One EEE positive mosquito pool has been reported from Gloucester County in Week 26.
- The positive pool was detected in *Culiseta melanura*.
- In 2020, the first EEE mosquito pool was reported from Atlantic County in Week 25.

EEE Positive Mosquito Pools

County	Week 28		Cumulative Total (Week 28)	
	2021*	2020	2021*	2020
Atlantic				1
Bergen				
Burlington				
Camden				
Cape May				
Cumberland				
Essex				
Gloucester			1	
Hudson				
Hunterdon				
Mercer				
Middlesex				
Monmouth				
Morris				
Ocean				
Passaic				
Salem				
Somerset				
Sussex				
Union				
Warren				
Total	-	-	1	1

Week 28: July 5-11, 2020; July 11-17, 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		173				173		12	
Bergen					132				134			
Burlington					154		11		188			
Camden					76				76			
Cape May	1		1		172				189		1	
Cumberland					162				217			
Essex					37				48			
Gloucester					175				225			
Hudson					85				91			
Hunterdon					90				130			
Mercer					138		2		193			
Middlesex					120				157			
Monmouth					183				236			
Morris	2		2		109				153		2	
Ocean					102				115			
Passaic					61		2		84			
Salem					159		8		195			
Somerset					85				85			
Sussex					229	1	6		229			
Union					25				25			
Warren					172				172			
Total	15	0	15	0	2639	1	29	0	3115	0	15	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):

- 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).
- 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.

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.
- Routine avian testing has been discontinued but is available upon request at PHEL.

WNV/EEE Positive Test Results

	Week 28		Cum. Total (Year)	
	2021*	2020	2021*	2020
Equine (EEE)				
Equine (WNV)				
Avian (WNV)			1	
Other				

Week 28: July 5-11, 2020; July 11-17, 2021

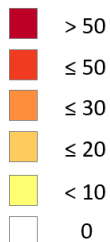
4. Surveillance Maps

West Nile Virus (WNV)

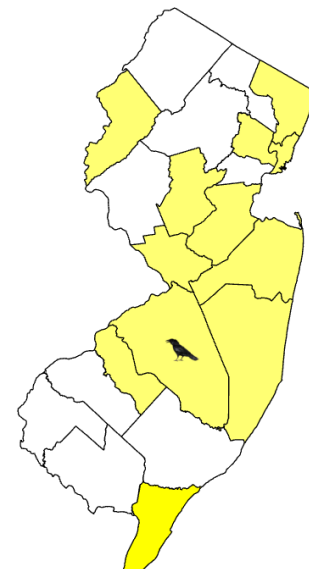
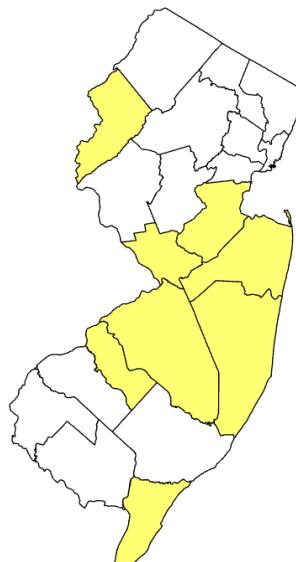
Week 28 WNV Activity (2021)*

Cumulative WNV Activity 2021

WNV Positive Pools



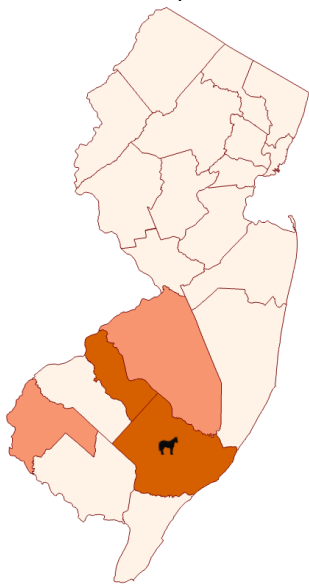
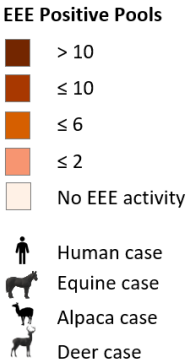
- ≥ 1 WNV human case
- WNV equine case
- WNV avian case



Eastern equine encephalitis (EEE)

2020 EEE Activity

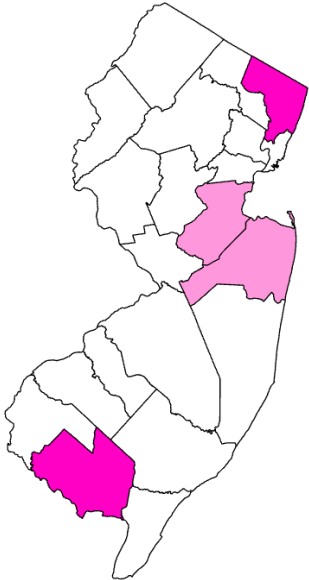
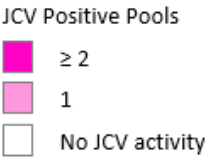
Cumulative EEE Activity 2021



Jamestown Canyon Virus (JCV)

2020 JCV Activity

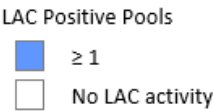
Cumulative JCV Activity 2021



La Crosse Virus (LAC)

2020 LAC Activity

Cumulative LAC Activity 2021

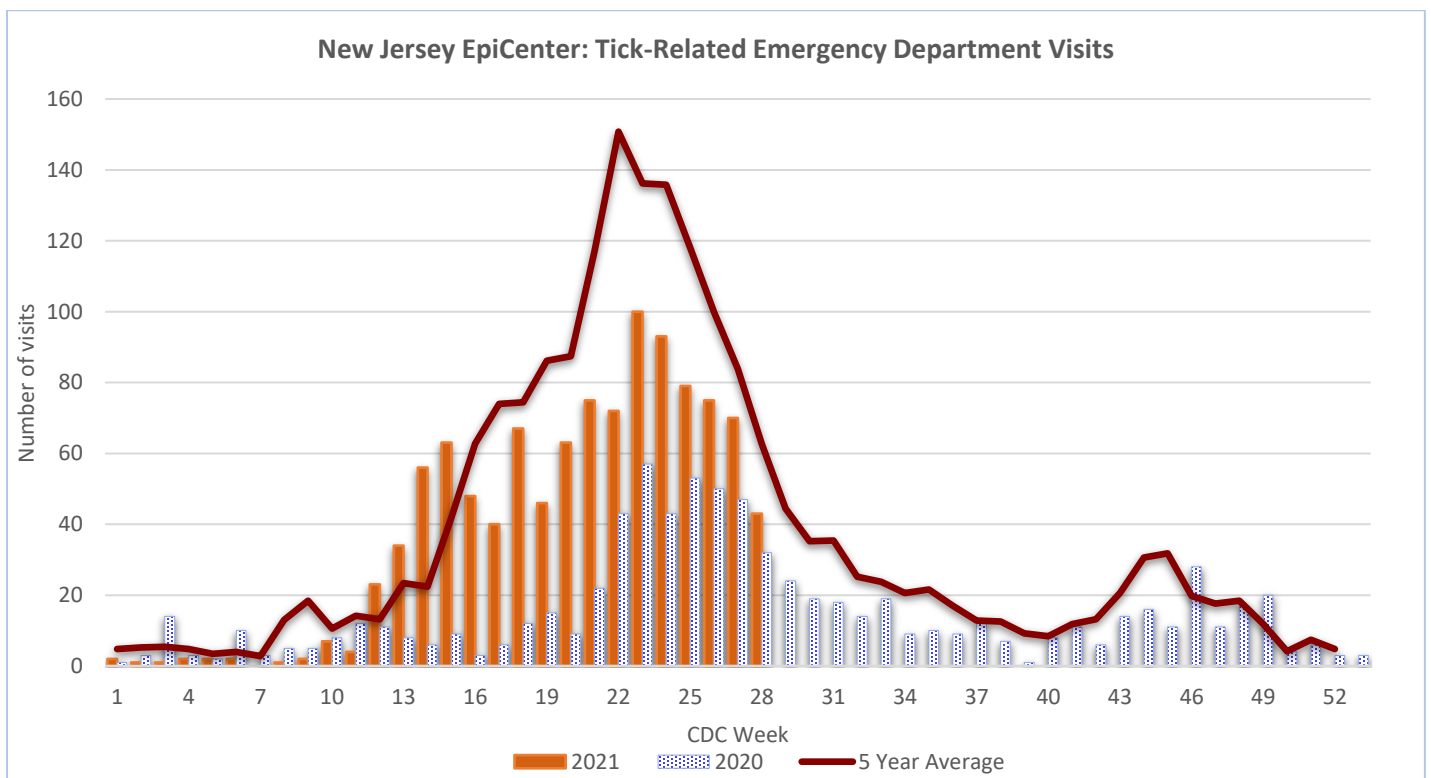


5. Syndromic Surveillance for Tick-related Emergency Department Visits

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 28, 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 July 21, 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/>