

Report Highlight:

- 51 mosquito pools tested positive for West Nile Virus (WNV) in Week 31 for a total of 183 positive pools this year. The number of positive pools is less than last year but is approaching the 5-year average. WNV positive mosquito pools have been detected in 16 counties with the highest number from Bergen, Hudson, and Union counties.
- There have been no WNV or EEE positive cases detected in humans or animals this season. Jamestown Canyon Virus was detected in two mosquito pools in Bergen County (Week 22 & 24).
- In Week 31, the number of tick-related ED visits increased, particularly in the central east and southeastern parts of the state.

1. Human Cases

N.J.A.C.8:57 mandates public health reporting of communicable diseases. 2022 data reflect cases that have been approved by NJDOH and do not include cases under investigation. All 2022 numbers are preliminary and subject to change.

Human Cases

Mosquito-borne diseases			Tickborne Diseases/Conditions		
	2022	2021		2022	2021
Chikungunya	1	4	Alpha-gal syndrome	51	-
Dengue	6	12	Anaplasmosis	53	202
Eastern equine encephalitis	-	-	Babesiosis	90	258
Jamestown Canyon	-	2	<i>Borrelia miyamotoi</i>	-	16
Malaria	20	71	Ehrlichiosis (<i>chaffeensis</i> , <i>ewingii</i>)	61	77
West Nile	-	36	Lyme disease*	154	3,518
Zika	-	-	Powassan	-	-
			Spotted fever group rickettsioses	10	39
			Tularemia	-	4

* Lyme disease surveillance has transitioned to a laboratory-only surveillance approach in 2022; as such, case reporting is delayed.

2. Mosquito Testing

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

West Nile virus (WNV):

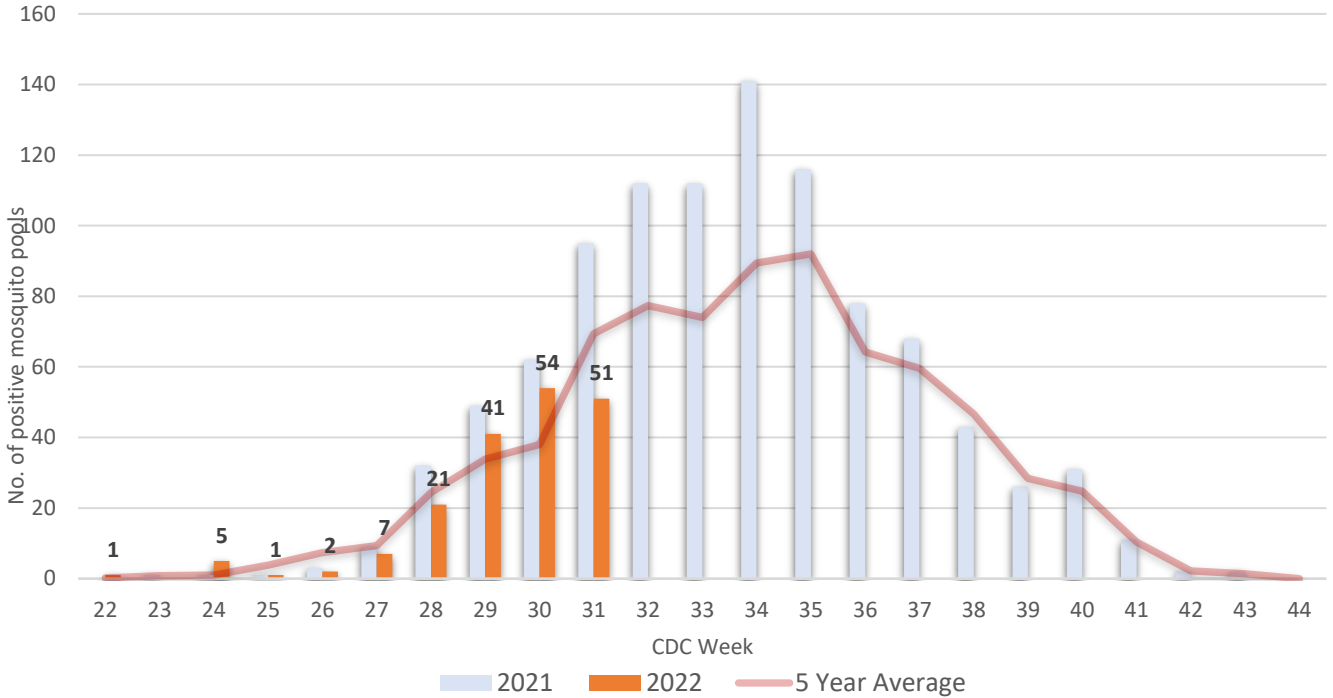
- A total of 3938 mosquito pools from all 21 counties have been tested for WNV.
- 51 pools tested positive for WNV in Week 31, in Hudson (13), Middlesex (13), Passaic (6), Gloucester (4), Morris (3), Somerset (3), Union (3), Burlington (2), Monmouth (2), Camden (1) and Hunterdon (1) counties. There have been 183 positive WNV pools so far this year.
- The positive pools were detected in *Aedes albopictus* (2), *Ae. canadensis* (1), *Ae. cantator* (1), *Ae. triseriatus* (1), *Ae. vexans* (1), *Culex sp.* (26), *Cx. pipiens* (7), *Cx. pipiens/quinguefasciatus/restuans species mix* (14) and *Cx. pipiens/restuans/salinarius species mix* (130).
- The first WNV positive mosquito pool (*Ae. cantator*) was detected in week 22 from Burlington County.

*Test results may be incomplete; counties submit pools for testing on specific weekdays. Mosquito testing data reflects test results received from PHEL and CMBSL3 as of August 11, 2022

WNV Mosquito Pool Testing

County	Week 31 Positive Pools		Cumulative Pos. Total (Week 31)		# Pools Tested 2022*
	2022*	2021	2022*	2021	
Bergen		14	31	46	189
Hudson	13	6	29	12	165
Union	3	11	24	26	104
Middlesex	13	17	22	30	167
Passaic	6	2	14	3	139
Burlington	2	10	11	16	117
Mercer		1	10	5	235
Morris	3	11	10	13	297
Gloucester	4	1	7	3	233
Somerset	3	9	6	25	168
Camden	1	6	5	37	91
Monmouth	2	4	5	16	260
Ocean			4	6	169
Essex			3	1	81
Hunterdon	1	2	1	4	182
Salem			1		226
Atlantic				3	193
Cape May				1	146
Cumberland					225
Sussex				1	244
Warren		1		5	307
Total	51	95	183	253	3938

West Nile Virus Positive Mosquito Pools, NJ (2021-2022)



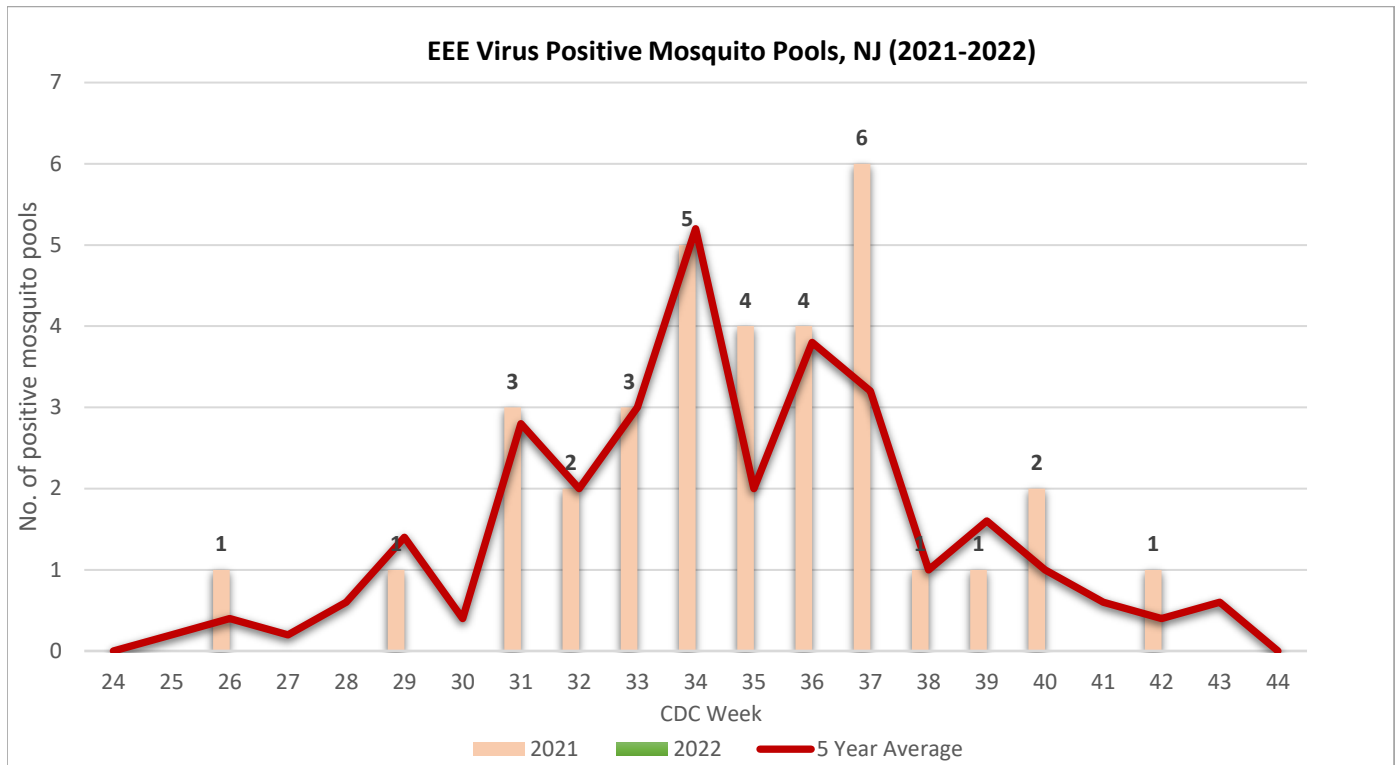
Eastern equine encephalitis virus (EEE)

- A total of 3868 mosquito pools from all 21 counties have been tested for EEE.
- No EEE positive mosquito pools have been identified in 2022. In 2021, the first positive mosquito pool was detected in Week 26 from Gloucester County.

EEE Mosquito Pool Testing

County	Week 31 Positive Pools		Cumulative Pos. Total (Week 31)		# Pools Tested
	2022*	2021	2022*	2021	
Atlantic		2		2	193
Bergen					177
Burlington					116
Camden				1	90
Cape May					146
Cumberland					225
Essex					81
Gloucester		1		2	233
Hudson					165
Hunterdon					182
Mercer					222
Middlesex					167
Monmouth					260
Morris					297
Ocean					169
Passaic					132
Salem					218
Somerset					168
Sussex					237
Union					103
Warren					287
Total	-	3	-	5	3399

Week 31: August 1-7, 2021; July 31-August 6, 2022



Other viruses:

Mosquito pools from 21 counties have been tested for other arboviruses. Two pools tested positive for JCV.

Cumulative 2022 Mosquito Pool Testing (Other Viruses^a)

County	SLE		JCV		LAC		CHIKV		DENV		ZIKV	
	Pools	Pos	Pools	Pos	Pools	Pos	Pools	Pos	Pools	Pos	Pools	Pos
Atlantic	193		193				4		4		4	
Bergen	177		177	2	12		1		1		1	
Burlington	116		116		1							
Camden	90		80		1		3		3		3	
Cape May	146											
Cumberland	225		225									
Essex	81		81									
Gloucester	233		224									
Hudson	165		165									
Hunterdon	182		182									
Mercer	222		222		13							
Middlesex	167		167									
Monmouth	260		260									
Morris	297		297									
Ocean	169		169									
Passaic	132		132		7							
Salem	218		208		8							
Somerset	168		168									
Sussex	237		237		6							
Union	103		103		1							
Warren	287		287		20							
Total	3868	-	3693	2	69	-	8	-	8	-	8	-

^a St. Louis encephalitis virus (SLE), Jamestown Canyon Virus (JCV), La Crosse encephalitis virus (LAC), Chikungunya virus (CHIKV), Dengue virus (DENV), Zika Virus (ZIKV)
 Numbers in white columns represent number of pools tested to date in 2022

Numbers in green shaded columns represent positive pools in 2022

Jamestown Canyon virus (JCV):

- Two mosquito pools (*Ae. cantator*) from Bergen County tested positive for JCV on Week 22 and Week 24. In 2021, the first positive pool was detected on Week 27 from Sussex County.
- Jamestown Canyon virus has not been detected in humans in 2022.
- NJ reported 2 human JCV cases last year in Sussex County (week 18) and in Essex County (week 36). The first NJ JCV case was reported in 2015 in Sussex County.
- In 2021, eight positive JCV pools were reported in Atlantic, Camden, Essex, Gloucester, and Sussex counties.

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.

- No animals have tested positive for WNV or EEE in 2022.
- Routine avian testing has been discontinued but is available upon request at PHEL.

WNV/EEE Positive Test Results

	WEEK 26		Cum. Total (Year)	
	2022*	2021	2022*	2021
Equine (EEE)				
Equine (WNV)				
Avian (WNV)				
Other				

Week 31: July 18-24, 2021; July 31-August 6, 2022

4. Surveillance Maps

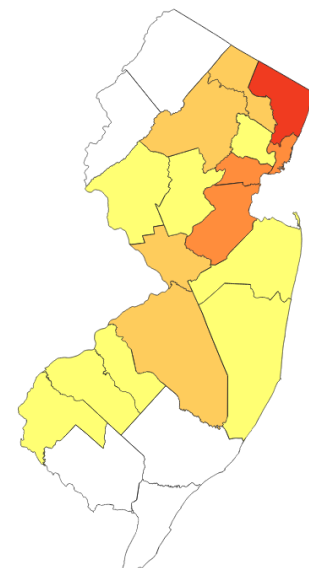
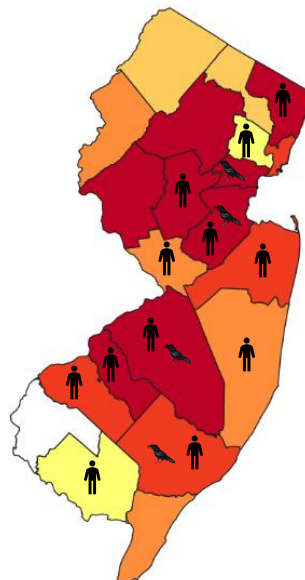
West Nile Virus (WNV)

2021 WNV Activity

Cumulative WNV Activity 2022

WNV Positive Pools

- > 50
 - ≤ 50
 - ≤ 30
 - ≤ 20
 - < 10
 - 0
-
- ≥ 1 WNV human case
 - ≥ 1 WNV equine case
 - ≥ 1 WNV avian case



Eastern equine encephalitis (EEE)

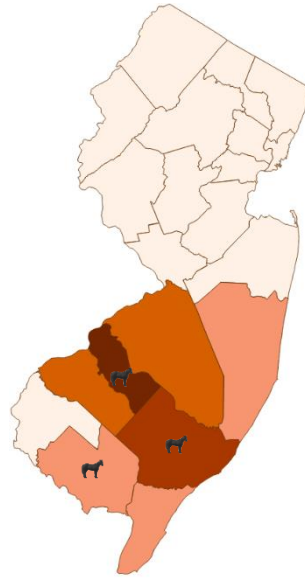
2021 EEE Activity

Cumulative EEE Activity 2022

EEE Positive Pools

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

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



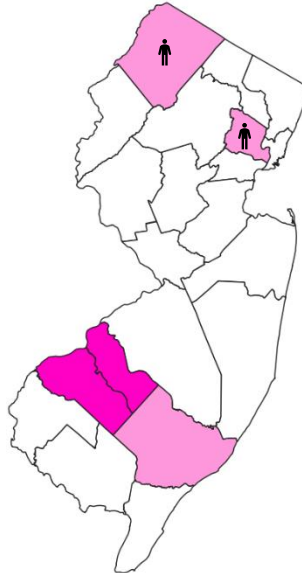
Jamestown Canyon Virus

2021 JCV Activity

Cummulative JCV Activity 2022

JCV Positive Pools

- ≥ 2
- 1
- No JCV activity



La Crosse Virus Activity 2022

2021 LAC Activity

Cummulative LAC Activity 2022

LAC Positive Pools

- ≥ 1
- No LAC activity

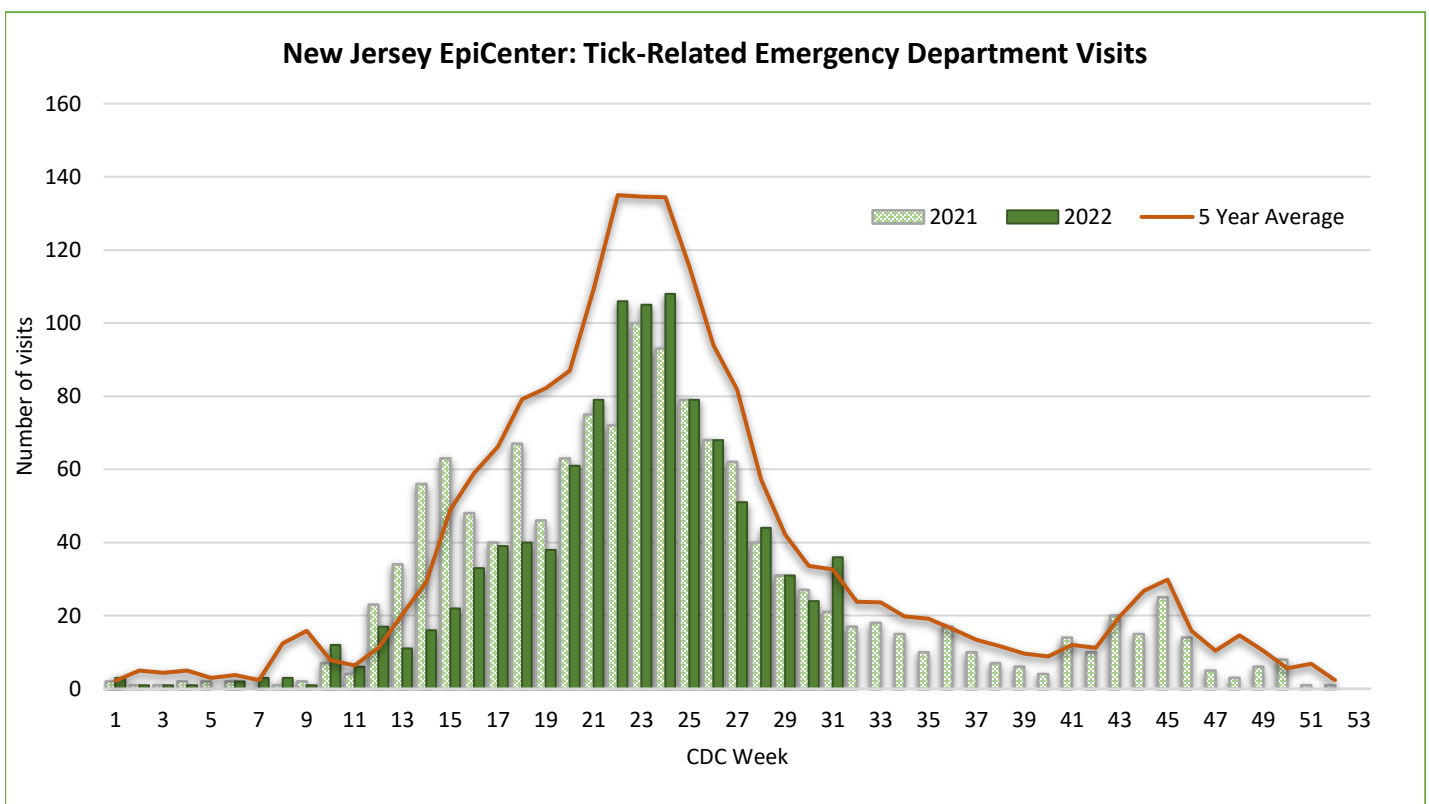


5. Syndromic Surveillance for Tick-related Emergency Department Visits

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 31, the number of tick-related ED visits increased and were at levels higher than the 5-year average.



Data reflects ED visits downloaded from EpiCenter as of August 11, 2022

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/>