

Report Highlight:

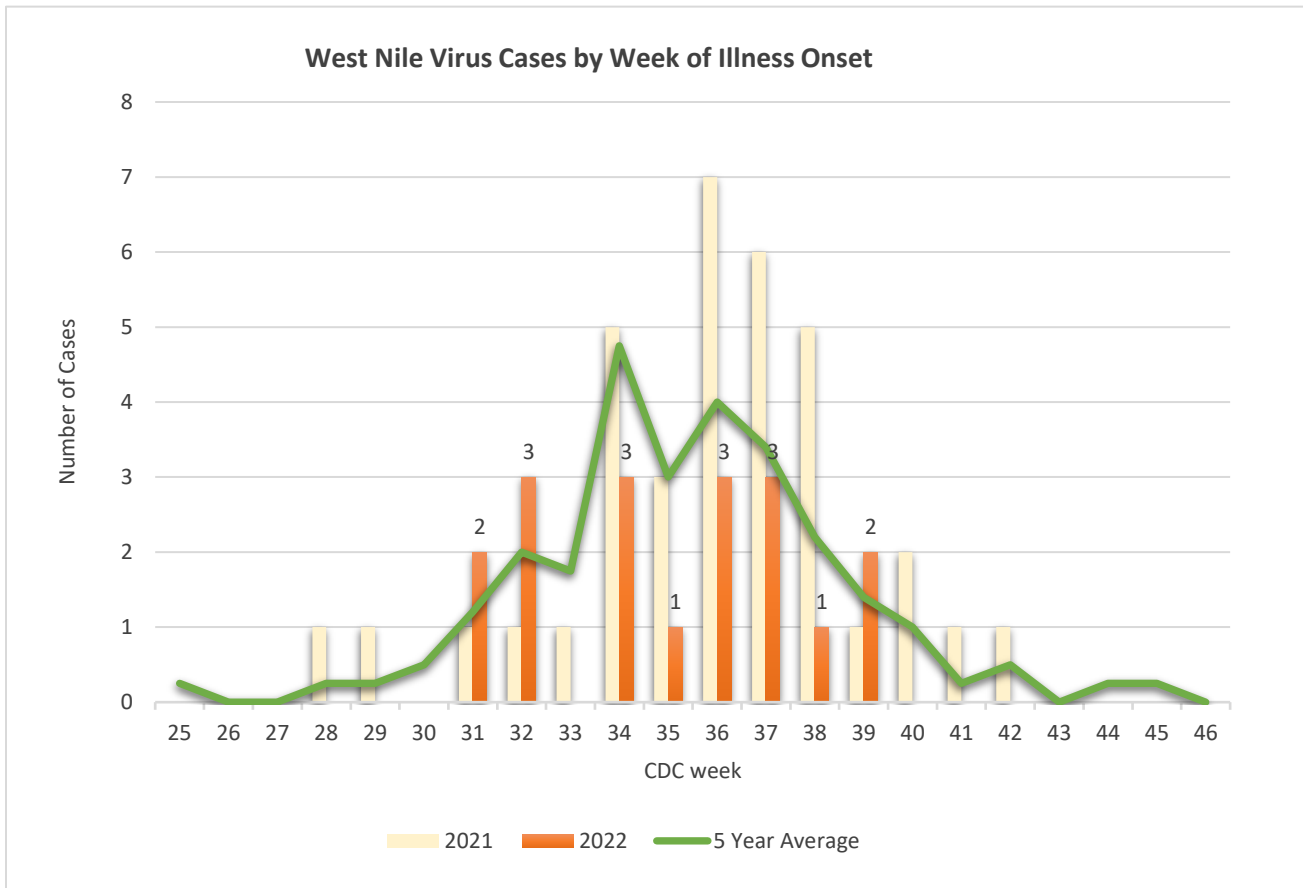
- **Mosquito testing has concluded for the season. This will be the final weekly surveillance report. An annual summary report will be posted online in December/January.**
- **There are 18 reported West Nile Virus (WNV) human cases (11 neuroinvasive and 1 fatality) in 2022 from Bergen (3), Burlington (1), Camden (3), Middlesex (1), Monmouth (4), Morris (1), Ocean (2), Somerset (1) & Union (2) counties. 1 presumptive viremic blood donor was detected in Middlesex County.**
- **2 mosquito pools have been submitted for WNV testing in Week 45, with no positives. There have been 609 WNV positive pools this year.**
- **The number of tick-related ED visits decreased this week but remains significantly above the 5-year average.**

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.

Mosquito-borne diseases			Tickborne Diseases/Conditions		
	2022	2021		2022	2021
Chikungunya	1	4	Alpha-gal syndrome	106	-
Dengue	22	12	Anaplasmosis	65	202
Eastern equine encephalitis	-	-	Babesiosis	196	258
Jamestown Canyon	-	2	<i>Borrelia miyamotoi</i>	6	16
Malaria	37	71	Ehrlichiosis (<i>chaffeensis, ewingii</i>)	79	77
West Nile	18	36	Lyme disease*	196	3,518
Zika	-	-	Powassan	-	-
			Spotted fever group rickettsioses	16	39
			Tularemia	1	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 7693 mosquito pools from 21 counties have been tested for WNV.
- No pools tested positive for WNV in Week 45. There have been 609 positive WNV pools so far this year, detected in all counties.
- The positive pools were detected in *Aedes albopictus* (14), *Ae. canadensis*(1), *Ae. cantator*(1), *Ae. japonicus* (11), *Ae. triseriatus* (2), *Ae. vexans* (1), *Anopheles punctipennis* (1), *An. quadrimaculatus* (1), *Coquillettia perturbans* (1), *Culex sp.* (76), *Cx. erraticus* (2), *Cx. pipiens* (21), *Cx. pipiens/quinqüefasciatus/ restuans species mix* (48), *Cx. pipiens/restuans/ salinarius species mix* (426), and *Cx. restuans* (3).
- The first WNV positive mosquito pool (*Ae. cantator*) was detected in week 22 from Burlington County.

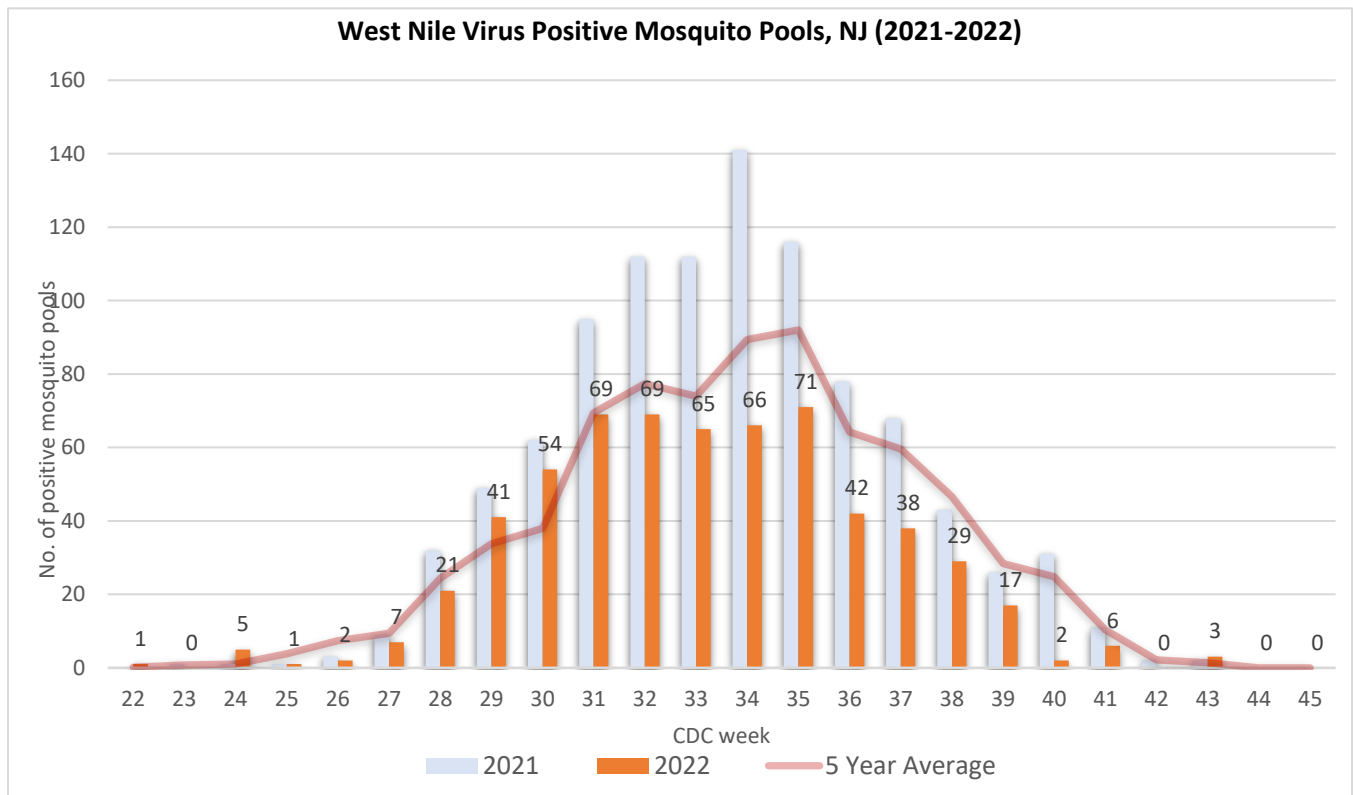
*Test results may be incomplete; counties submit pools for testing on specific weekdays. Mosquito testing data reflects test results received from PHEL and CMBSL3 as of November 17, 2022

WNV Mosquito Pool Testing

County	Week 45 Positive Pools		Cumulative Pos. Total (Week 45)		# Pools Tested
	2022*	2021	2022*	2021	2022*
Bergen			97	109	477
Hudson			86	44	301
Middlesex			67	93	307
Passaic			49	20	238
Union			44	104	226
Mercer			34	25	481
Monmouth			34	45	516
Burlington			32	79	362
Morris			29	63	567
Somerset			29	88	299
Camden			24	94	234
Gloucester			21	33	393
Hunterdon			15	59	335
Essex			11	4	154
Ocean			10	23	307
Sussex			8	18	491
Warren			8	25	501
Atlantic			6	40	488
Cape May			2	26	149
Salem			2		455
Cumberland			1	3	412
Total	-	-	609	995	7693

Week 45: Nov 7-13, 2021; Nov 6-12, 2022

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



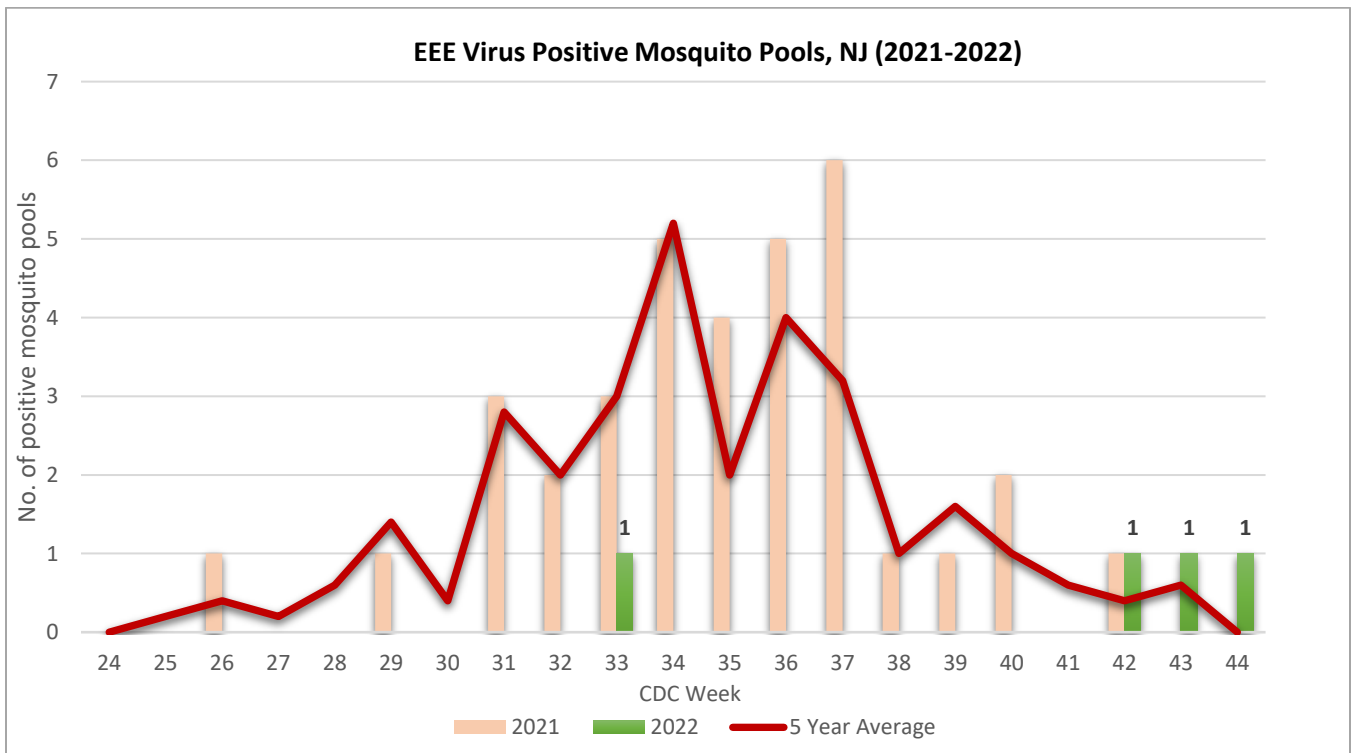
Eastern equine encephalitis virus (EEE)

- A total of 7426 mosquito pools from all 21 counties have been tested for EEE.
- Two EEE positive mosquito pool was identified in Burlington County in Week 43 and Week 44, both in *Cs. melanura* pools.
- One EEE positive mosquito pool was identified in Atlantic County in Week 42, in a *Cs. melanura* pool.
- One EEE positive mosquito pool was identified in Morris County in Week 33, in a *Culex sp.* pool.
- In 2021, the first positive mosquito pool was detected in Week 26 from Gloucester County.

EEE Mosquito Pool Testing

County	Week 45 Positive Pools		Cumulative Pos. Total (Week 45)		# Pools Tested
	2022*	2021	2022*	2021	
Burlington			2	3	359
Atlantic			1	9	488
Morris			1		567
Bergen					438
Camden				13	233
Cape May				2	149
Cumberland				1	412
Essex					154
Gloucester				6	379
Hudson					301
Hunterdon					334
Mercer					465
Middlesex					306
Monmouth					515
Ocean				1	306
Passaic					231
Salem					440
Somerset					299
Sussex					479
Union					214
Warren					464
Total	-	-	4	35	7533

Week 45: Nov 7-13, 2021; Nov 6-12, 2022



Other viruses:

Mosquito pools from 21 counties have been tested for other arboviruses. Four 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	488		488				4		4		4	
Bergen	438		438	2	17		2		2		2	
Burlington	359		359		3		8		8		8	
Camden	233		218		1		13		13		13	
Cape May	149											
Cumberland	412		412									
Essex	154		154									
Gloucester	379		367		14							
Hudson	301		301									
Hunterdon	334		334		1							
Mercer	465		465		16							
Middlesex	306		306		1							
Monmouth	515		515		1							
Morris	567		567				4		4		4	
Ocean	306		306		1							
Passaic	231		231		7							
Salem	440		427		16		4		4		4	
Somerset	299		299									
Sussex	479		479	1	11							
Union	214		214		12							
Warren	464		464		37							
Total	7533	-	7344	3	138	-	36	-	36	-	36	-

^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):

- Three JCV-positive pools have been detected in 2022 from 2 counties (Bergen, Sussex), compared to 8 JCV-positive pools detected in 2021 in 5 counties (Atlantic, Camden, Essex, Gloucester, Sussex).
- Jamestown Canyon virus has not been detected in humans in 2022. NJ reported 2 human JCV cases in 2021 in Sussex County (week 18) and in Essex County (Week 37). The first NJ JCV case was reported in 2015 in Sussex County.
- The first mosquito pool (*Ae. cantator*) positive for JCV was from Bergen county in Week 22.

JCV Positive Test Results

County	Week 45		Cum. Total (Week 45)	
	2022*	2021	2022*	2021
Atlantic				1
Bergen			2	
Camden				3
Essex				1
Gloucester				2
Sussex			1	1
Total	-	-	3	8

Week 45: Nov 7-13, 2021; Nov 6-12, 2022

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.

- A blue jay tested positive for WNV in Week 41 in Passaic County.
- A red-tailed hawk tested positive for WNV in Week 36 in Bergen County.
- Four raptors tested positive for WNV in Week 34: a Cooper's hawk in Morris County and red-tailed hawks in Morris, Essex, and Somerset counties.
- A red-tailed hawk tested positive for WNV in Week 31 in Somerset County.
- No animals have tested positive for EEE in 2022.
- Routine avian testing has been discontinued but is available upon request at PHEL.

WNV/EEE Positive Test Results

	Week 45		Cum. Total (Week 45)	
	2022*	2021	2022*	2021
Equine (EEE)				3
Equine (WNV)				
Avian (WNV)			7	13
Other				

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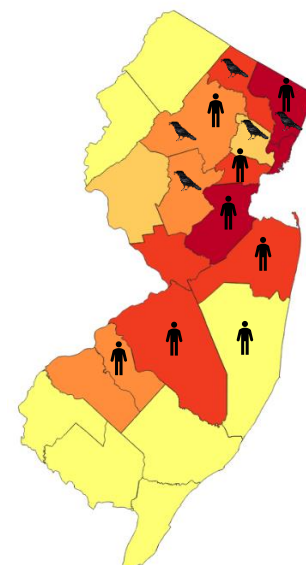
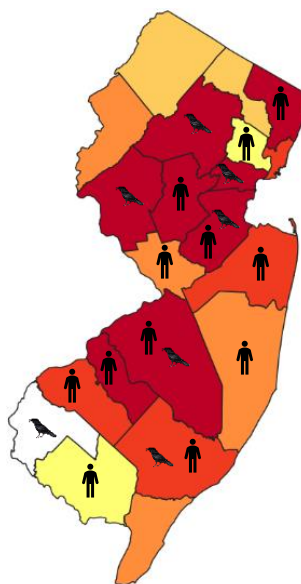
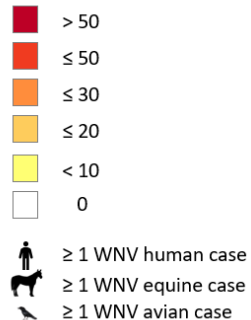
4. Surveillance Maps

West Nile Virus (WNV)

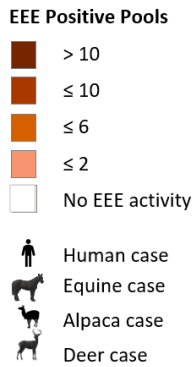
2021 WNV Activity

Cumulative WNV Activity 2022

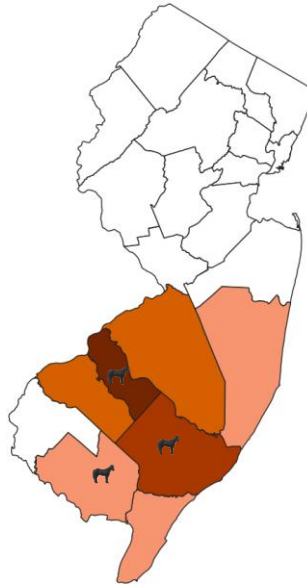
WNV Positive Pools



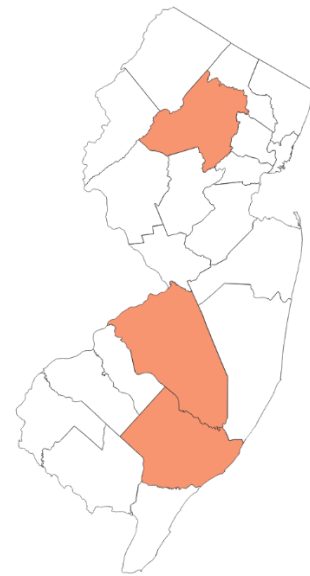
Eastern equine encephalitis (EEE)



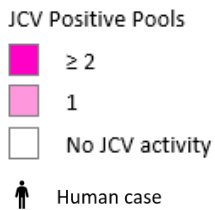
2021 EEE Activity



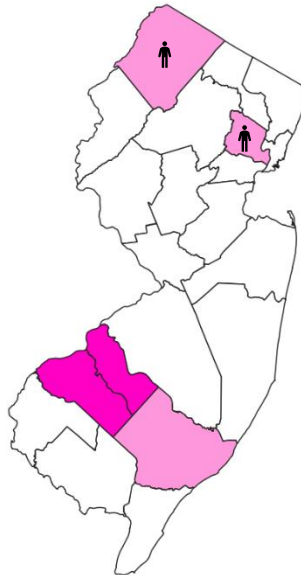
Cumulative EEE Activity 2022



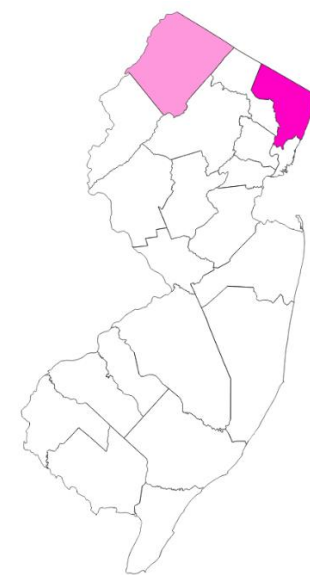
Jamestown Canyon Virus



2021 JCV Activity



Cummulative JCV Activity 2022



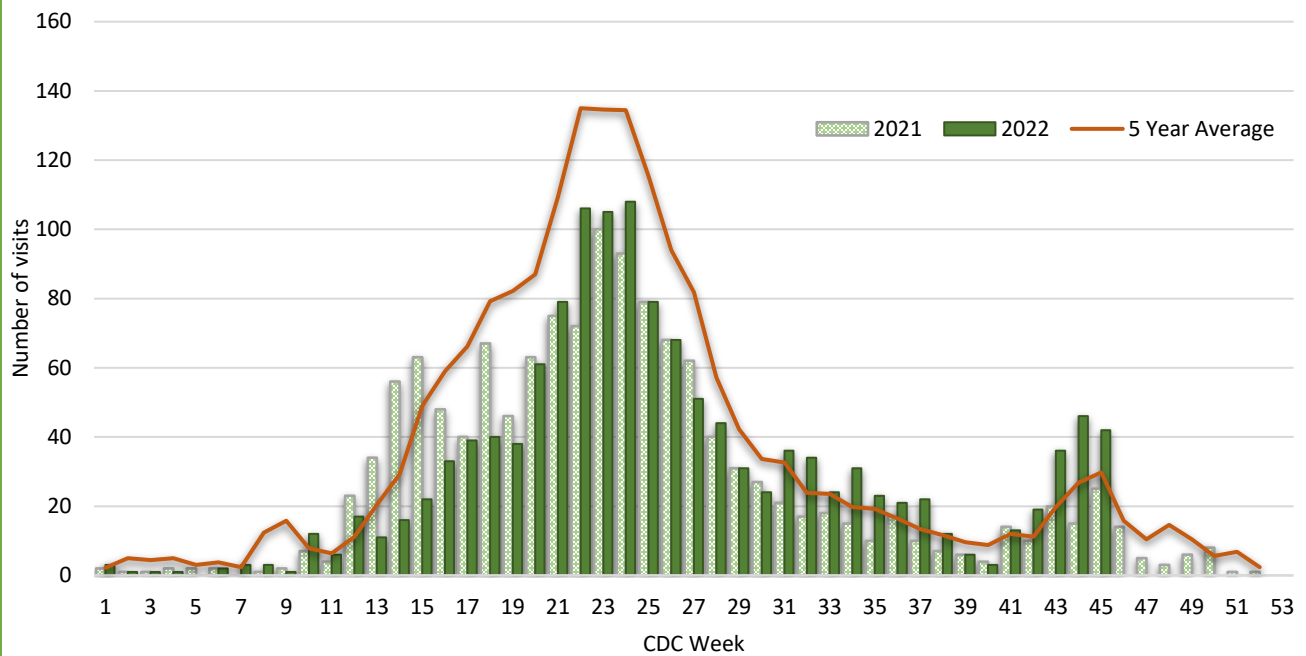
5. Syndromic Surveillance for Tick-related Emergency Department Visits

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.

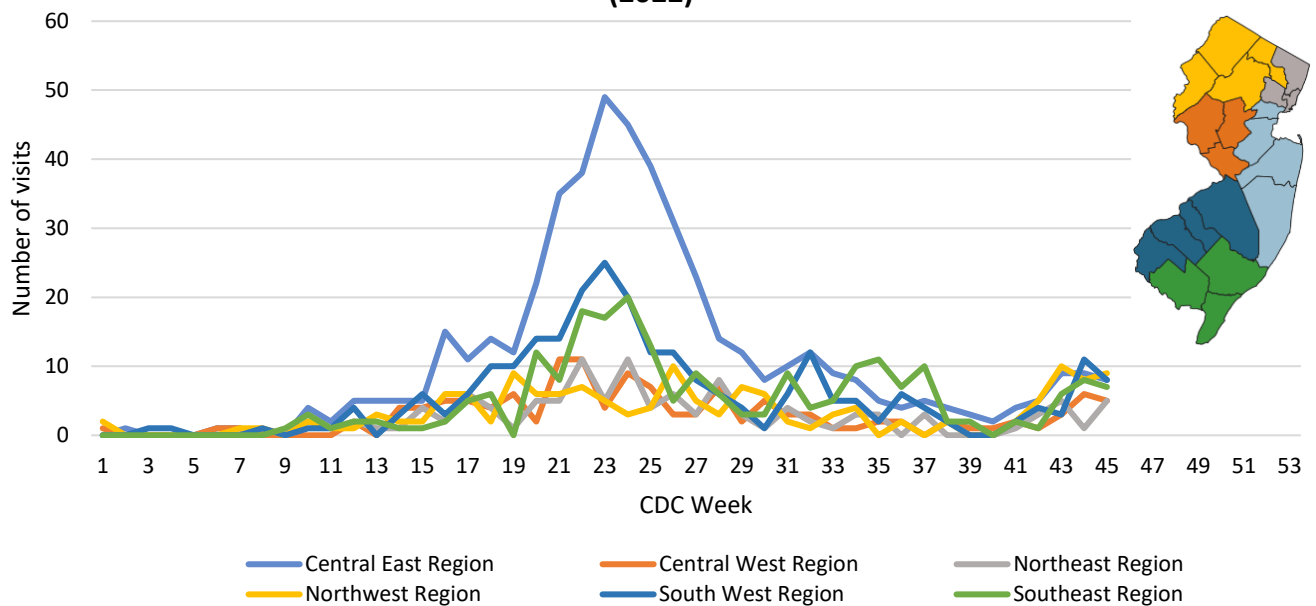
The chart below represents NJ residents seen at emergency departments statewide with a tick-bite complaint or signs/symptoms associated with a reported tick-bite. Tick-related ED visits occur throughout the year with peak number of visits in the summer months and a smaller peak in the fall weeks when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

In Week 45, the number of tick-related ED visits decreased, but remained above the 5-year average.

New Jersey EpiCenter: Tick-Related Emergency Department Visits



New Jersey EpiCenter: Tick-Related Emergency Department Visits by Region (2022)



Data reflects ED visits downloaded from EpiCenter as of November 17, 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/>