

Report Highlight:

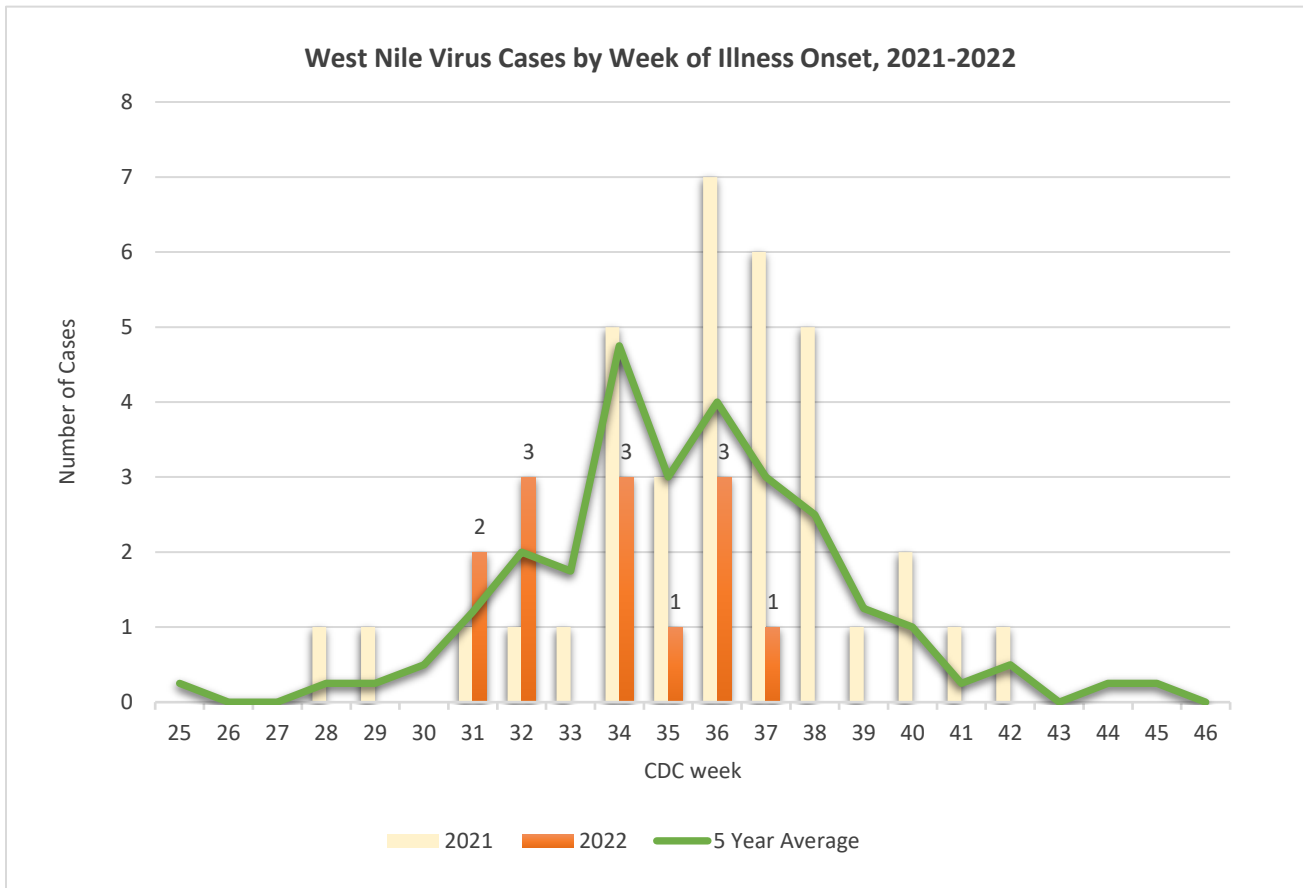
- There are 13 WNV human cases (8 neuroinvasive) in 2022 from Bergen (3), Burlington, Camden (2), Middlesex, Monmouth (2), Morris, Ocean (2), & Union counties. 1 presumptive viremic blood donor was detected in Middlesex County.
- 24 mosquito pools tested positive for West Nile Virus (WNV) in Week 38 for a total of 573 positive pools this year. The number of positive pools continues to decline.
- The number of tick-related ED visits continues to decline and is consistent with the five-year average.
- The number of human dengue cases to date in 2022 is increasing. All human dengue cases in 2022 are travel-associated.

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	87	-
Dengue	12	12	Anaplasmosis	64	202
Eastern equine encephalitis	-	-	Babesiosis	179	258
Jamestown Canyon	-	2	<i>Borrelia miyamotoi</i>	4	16
Malaria	32	71	Ehrlichiosis (<i>chaffeensis, ewingii</i>)	79	77
West Nile	13	36	Lyme disease*	193	3,518
Zika	-	-	Powassan	-	-
			Spotted fever group rickettsioses	13	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):

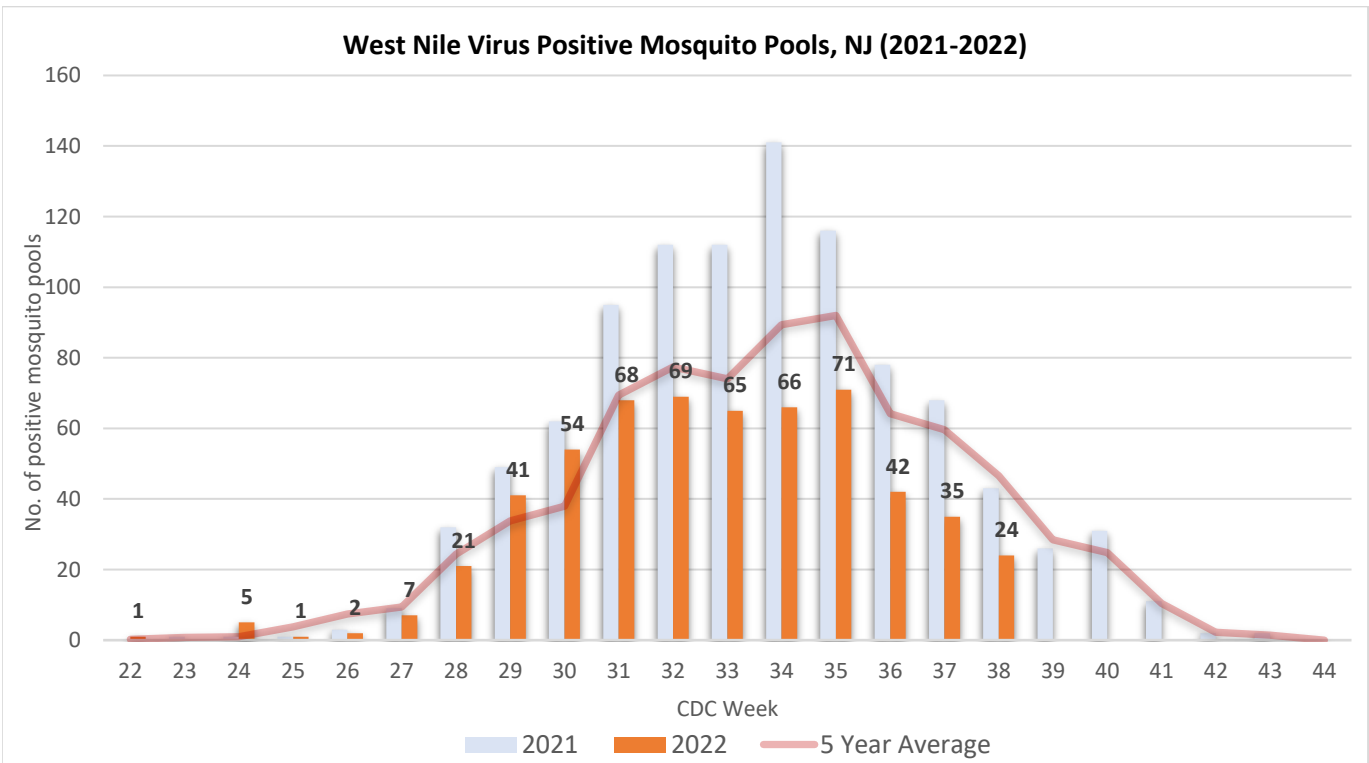
- A total of 6503 mosquito pools from 21 counties have been tested for WNV.
- 24 pools tested positive for WNV in Week 37, in 9 counties. There have been 573 positive WNV pools so far this year, detected in all counties except Cumberland.
- The positive pools were detected in *Aedes albopictus* (13), *Ae. canadensis*(1), *Ae. cantator*(1), *Ae. japonicus* (10), *Ae. triseriatus* (2), *Ae. vexans* (1), *Anopheles punctipennis* (1), *An. quadrimaculatus* (1), *Culex sp.* (73), *Cx. erraticus* (2), *Cx. pipiens* (19), *Cx. pipiens/quinqüefasciatus/ restuans species mix* (44), *Cx. pipiens/restuans/ salinarius species mix* (403), and *Cx. restuans* (1).
- 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 September 29, 2022*

WNV Mosquito Pool Testing

County	Week 38 Positive Pools		Cumulative Pos. Total (Week 38)		# Pools Tested
	2022*	2021	2022*	2021	2022*
Bergen	2	7	92	106	364
Hudson	1		84	43	285
Middlesex	3	1	63	89	288
Passaic	1	2	45	18	218
Union		1	44	100	196
Monmouth	7		33	42	419
Mercer	6	4	32	23	402
Morris	1	3	27	57	482
Burlington		3	26	73	255
Somerset		4	26	83	256
Camden		1	23	84	200
Gloucester		1	19	33	374
Hunterdon	1	6	15	56	296
Essex			11	4	146
Ocean			9	23	270
Sussex		3	8	10	396
Warren		1	7	25	428
Atlantic	2	3	6	36	377
Cape May		3	2	16	149
Salem			1		368
Cumberland				2	334
Total	24	43	573	923	6503

Week 38: Sep 19-25, 2021; Sep 18-24, 2022



Eastern equine encephalitis virus (EEE)

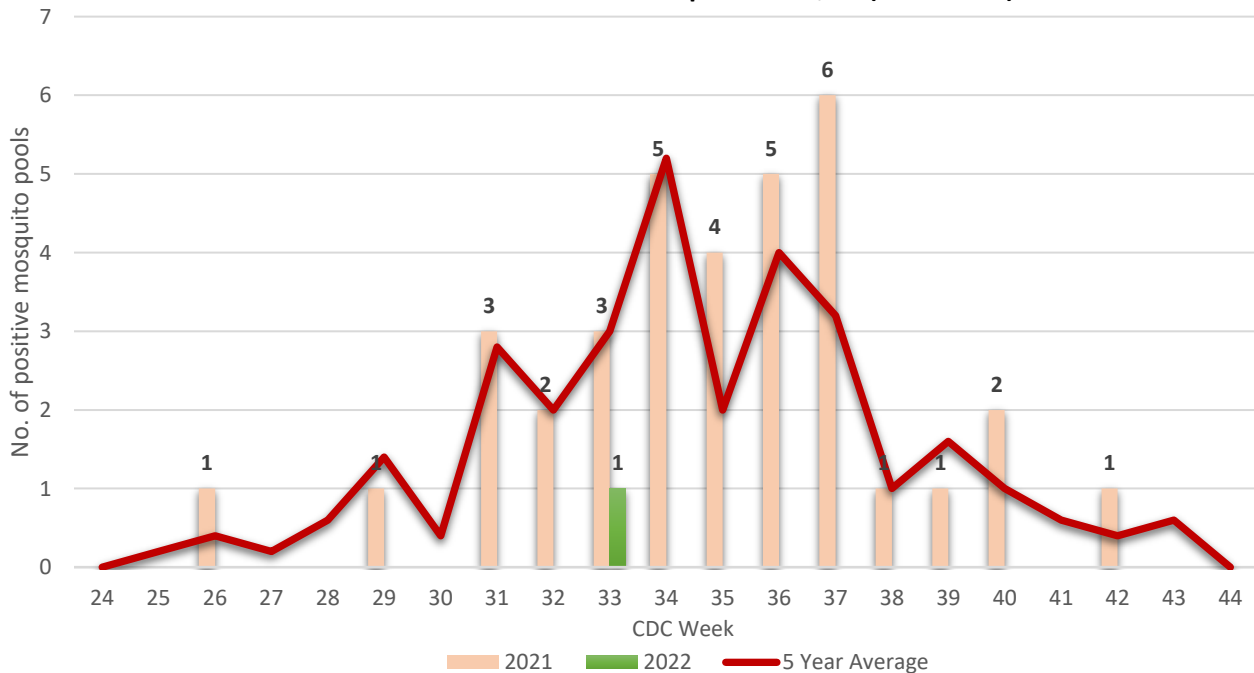
- A total of 6368 mosquito pools from all 21 counties have been tested for EEE.
- One EEE positive mosquito pool was identified in Morris County in Week 33, in a *Culex sp.* pool.
- In 2021, the first positive mosquito pool was detected in Week 26 from Gloucester County.

EEE Mosquito Pool Testing

County	Week 38 Positive Pools		Cumulative Pos. Total (Week 38)		# Pools Tested
	2022*	2021	2022*	2021	2022*
Morris			1		482
Atlantic		1		9	377
Bergen					325
Burlington				1	253
Camden				11	199
Cape May				2	149
Cumberland				1	334
Essex					146
Gloucester				6	360
Hudson					285
Hunterdon					296
Mercer					388
Middlesex					288
Monmouth					418
Ocean				1	269
Passaic					211
Salem					353
Somerset					256
Sussex					386
Union					194
Warren					399
Total	-	1	1	31	6368

Week 38: Sep 19-25, 2021; Sep 18-24, 2022

EEE Virus Positive Mosquito Pools, NJ (2021-2022)



Other viruses:

Mosquito pools from 21 counties have been tested for other arboviruses. Three 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	377		377				4		4		4	
Bergen	325		325	2	17		2		2		2	
Burlington	253		253		2		2		2		2	
Camden	199		185		1		13		13		13	
Cape May	149											
Cumberland	334		334									
Essex	146		146									
Gloucester	360		348		14							
Hudson	285		285									
Hunterdon	296		296									
Mercer	388		388		14							
Middlesex	288		288									
Monmouth	418		418		1							
Morris	482		482									
Ocean	269		269		1							
Passaic	211		211		7							
Salem	353		341		16		1		1		1	
Somerset	256		256									
Sussex	386		386	1	9							
Union	194		194		2							
Warren	399		399		29							
Total	6368	-	6181	3	113	-	22	-	22	-	22	-

^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):

- The first mosquito pool (*Anopheles punctipennis*) in Sussex County tested positive for JCV in Week 33. In 2021, the first positive pool was also detected in Sussex County, 6 weeks earlier in Week 27.
- Two mosquito pools (*Ae. cantator*) from Bergen County tested positive for JCV in Week 22 and Week 24.
- In 2021, eight positive JCV pools were reported in Atlantic, Camden, Essex, Gloucester, and Sussex counties.
- 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.

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.

- 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 38		Cum. Total (Week 38)	
	2022*	2021	2022*	2021
Equine (EEE)				
Equine (WNV)				
Avian (WNV)		1	5	8
Other				

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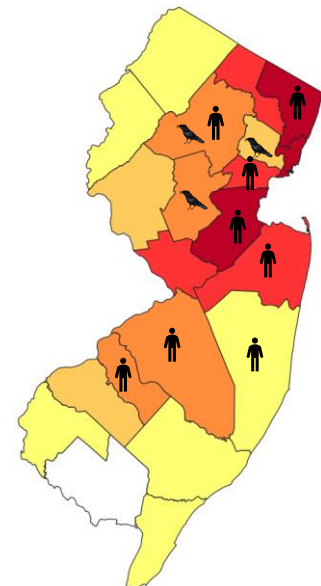
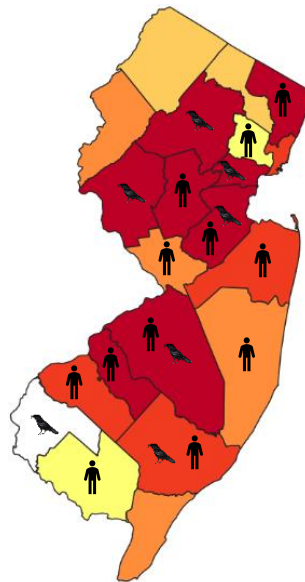
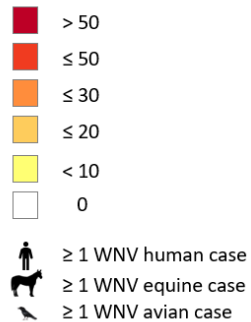
4. Surveillance Maps

West Nile Virus (WNV)

2021 WNV Activity

Cumulative WNV Activity 2022

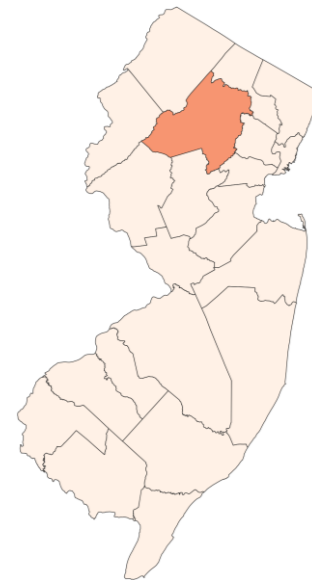
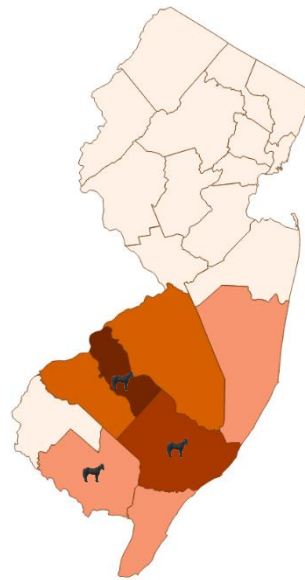
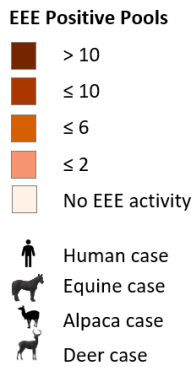
WNV Positive Pools



Eastern equine encephalitis (EEE)

2021 EEE Activity

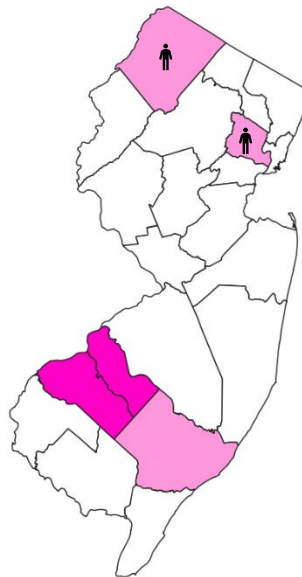
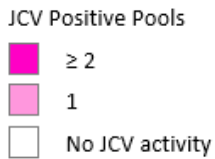
Cumulative EEE Activity 2022



Jamestown Canyon Virus

2021 JCV Activity

Cummulative JCV Activity 2022



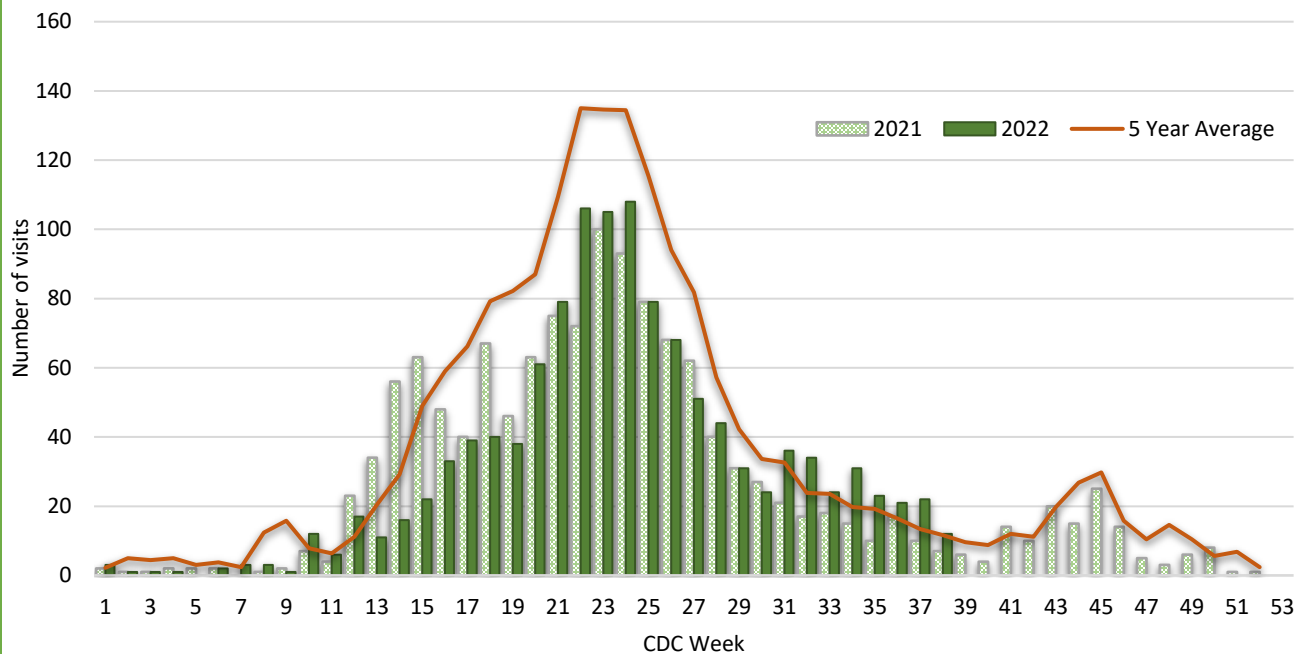
5. Syndromic Surveillance for Tick-related Emergency Department Visits

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.

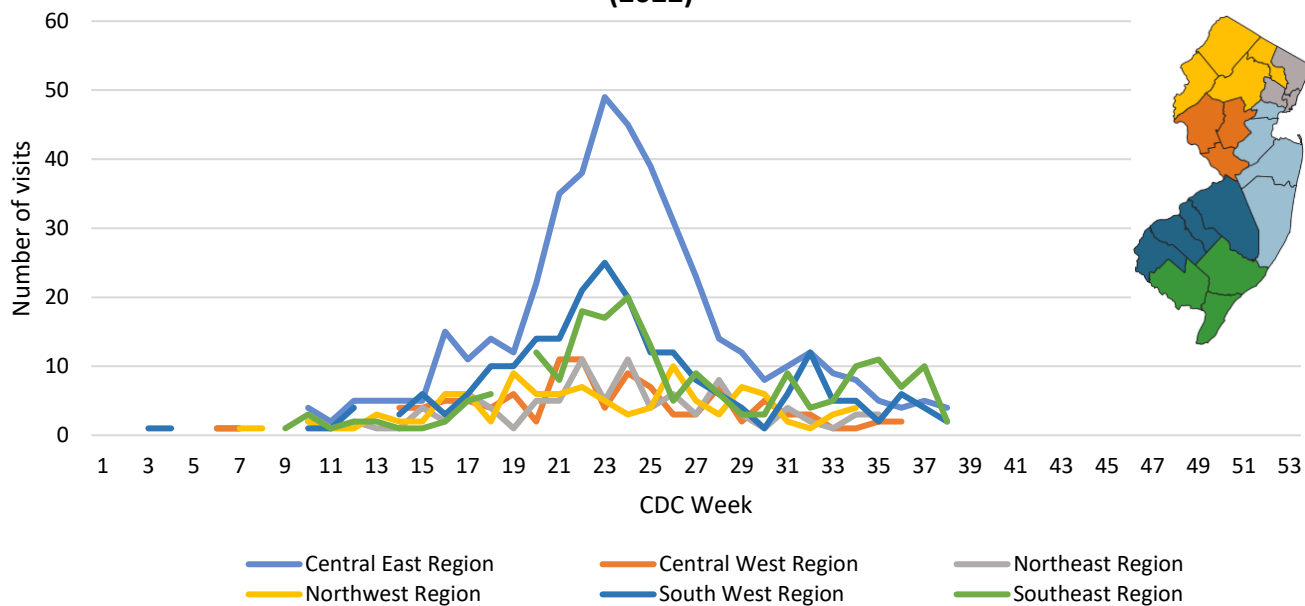
The chart below represents NJ residents seen at emergency departments statewide with a tick-bite complaint or signs/symptoms associated with a reported tick-bite. Tick-related ED visits occur throughout the year with peak number of visits in the summer months and a smaller peak in the fall weeks when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

In Week 38, the number of tick-related ED visits is at the 5-year average. ED visits were highest in the central east region of the state.

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 September 29, 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/>