

Report Highlight:

- There are 11 WNV human cases (7 neuroinvasive) in 2022 from Bergen (3), Camden, Middlesex, Monmouth (2), Morris, Ocean (2), & Union counties. 1 presumptive viremic blood donor was detected in Middlesex County.
- 27 mosquito pools tested positive for West Nile Virus (WNV) in Week 37 for a total of 540 positive pools this year.
- The number of tick-related ED visits remained steady and is higher than historical averages.
- The number of human ehrlichiosis cases to date in 2022 is higher than the 2021 total with the highest number reported in south and central-east counties.
- The number of human dengue cases to date in 2022 is equal to the 2021 total. All human dengue cases in 2022 are travel-associated.

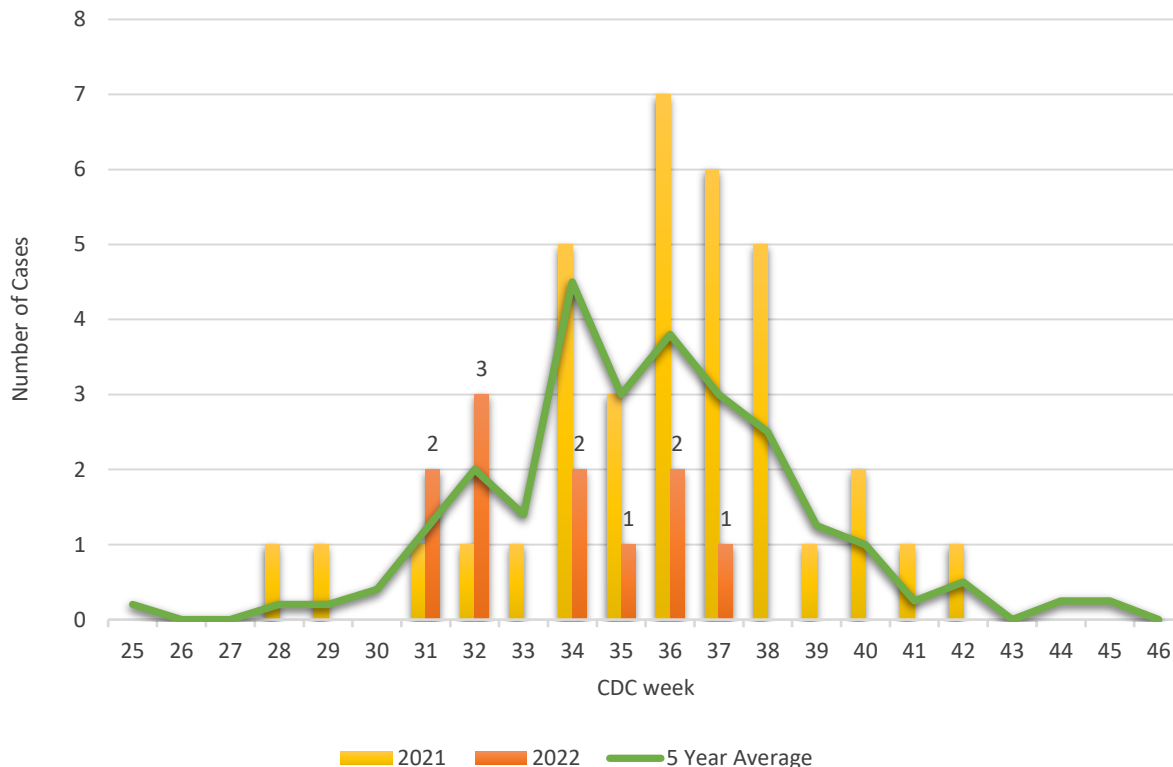
1. Human Cases

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	83	-
Dengue	12	12	Anaplasmosis	64	202
Eastern equine encephalitis	-	-	Babesiosis	177	258
Jamestown Canyon	-	2	<i>Borrelia miyamotoi</i>	4	16
Malaria	31	71	Ehrlichiosis (<i>chaffeensis, ewingii</i>)	79	77
West Nile	11	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.

West Nile Virus Cases by Week of Illness Onset, 2021-2022



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):

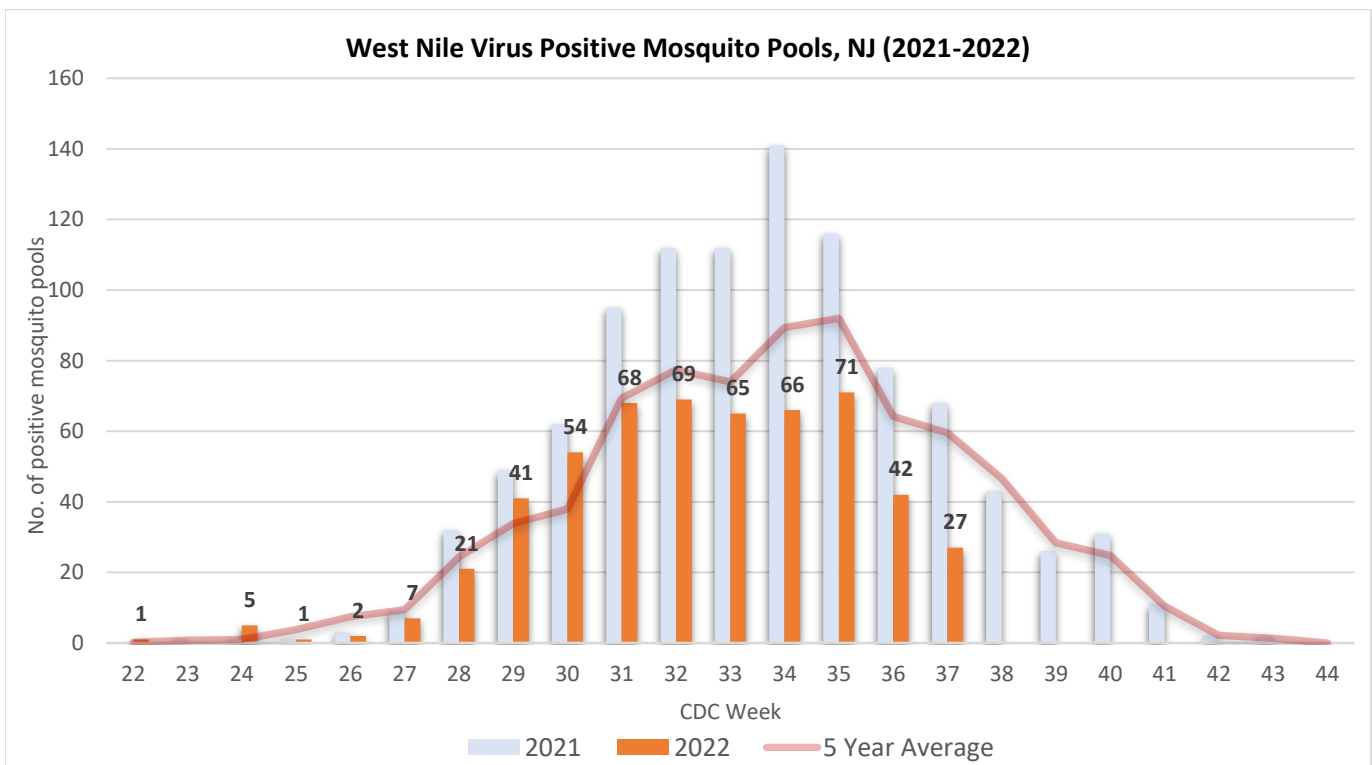
- A total of 6114 mosquito pools from 21 counties have been tested for WNV.
- 27 pools tested positive for WNV in Week 37, in 8 counties. There have been 540 positive WNV pools so far this year, detected in all counties except Cumberland.
- The positive pools were detected in *Aedes albopictus* (11), *Ae. canadensis*(1), *Ae. cantator*(1), *Ae. japonicus* (9), *Ae. triseriatus* (2), *Ae. vexans* (1), *Anopheles punctipennis* (1), *An. quadrimaculatus* (1), *Culex sp.* (67), *Cx. erraticus* (1), *Cx. pipiens* (18), *Cx. pipiens/quinqüefasciatus/ restuans species mix* (42), *Cx. pipiens/restuans/ salinarius species mix* (384), 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 22, 2022

WNV Mosquito Pool Testing

County	Week 37 Positive Pools		Cumulative Pos. Total (Week 37)		# Pools Tested 2022*
	2022*	2021	2022*	2021	
Bergen		6	90	99	331
Hudson	4		83	43	271
Middlesex	6		60	88	276
Passaic	6		43	16	206
Union		6	42	99	172
Burlington	2	9	26	70	234
Mercer	2		26	19	380
Monmouth	3	1	25	42	394
Somerset		4	25	79	244
Morris		8	24	54	457
Camden	2	7	23	83	190
Gloucester		6	18	32	345
Hunterdon		11	14	50	283
Essex			11	4	131
Ocean		2	9	23	257
Sussex		2	7	7	377
Warren			7	24	408
Atlantic		2	4	33	344
Cape May	2	4	2	13	149
Salem			1		348
Cumberland				2	317
Total	27	68	540	880	6114

Week 37: Sep 12-18, 2021; Sep 11-17, 2022

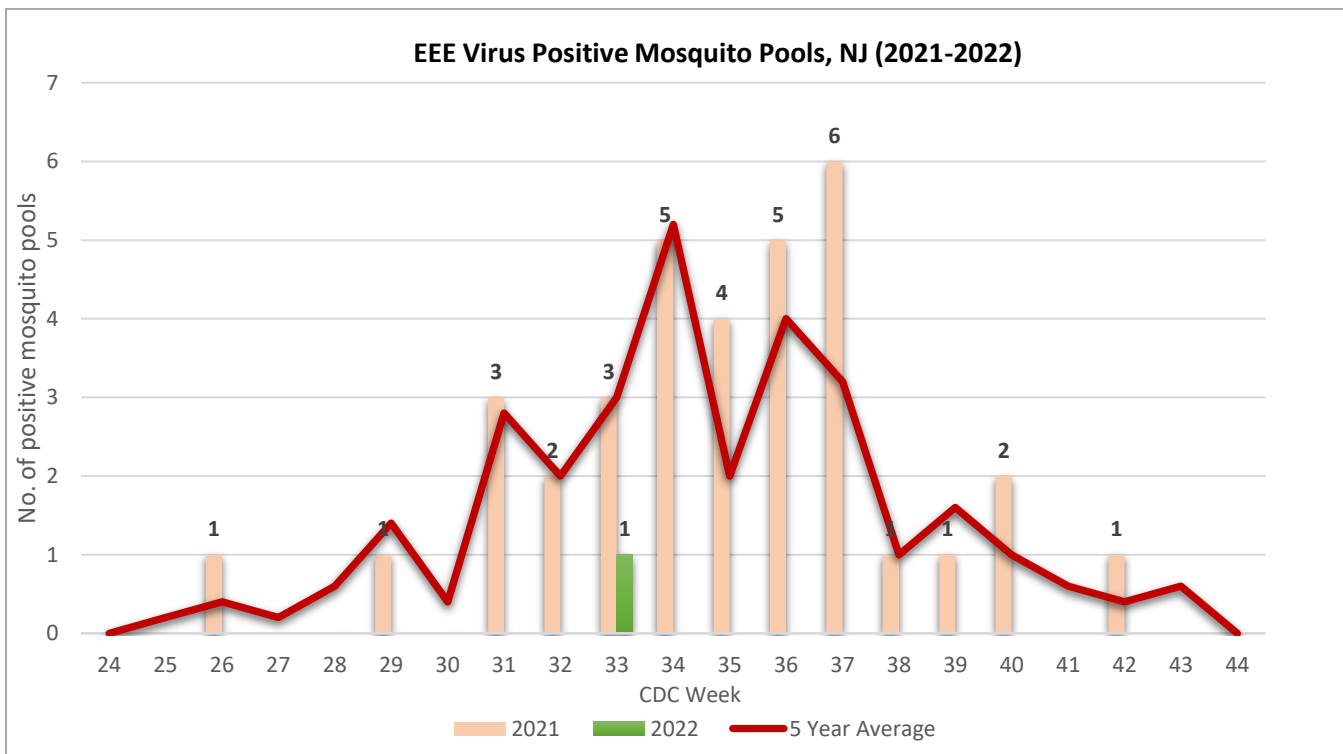


Eastern equine encephalitis virus (EEE)

- A total of 5998 mosquito pools from all 21 counties have been tested for EEE.
- The first EEE positive mosquito pool of 2022 has been identified in Morris County on Week 33. It was detected 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 37 Positive Pools		Cumulative Pos. Total (Week 37)		# Pools Tested
	2022*	2021	2022*	2021	
Morris			1		457
Atlantic				8	344
Bergen					303
Burlington				1	232
Camden		4		11	189
Cape May				2	149
Cumberland		1		1	317
Essex					131
Gloucester		1		6	335
Hudson					271
Hunterdon					283
Mercer					367
Middlesex					276
Monmouth					394
Ocean				1	256
Passaic					199
Salem					333
Somerset					244
Sussex					367
Union					170
Warren					381
Total	-	6	1	30	5998



Week 37: Sep 12-18, 2021; Sep 11-17, 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	344		344				4		4		4	
Bergen	303		303	2	17		2		2		2	
Burlington	232		232		2		2		2		2	
Camden	189		176		1		13		13		13	
Cape May	149											
Cumberland	317		317									
Essex	131		131									
Gloucester	335		324		10							
Hudson	271		271									
Hunterdon	283		283									
Mercer	367		367		13							
Middlesex	276		276									
Monmouth	394		394									
Morris	457		457									
Ocean	256		256		1							
Passaic	199		199		7							
Salem	333		322		16		1		1		1	
Somerset	244		244									
Sussex	367		367	1	9							
Union	170		170		1							
Warren	381		381		27							
Total	5998	-	5814	3	105	-	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 37		Cum. Total (Week 37)	
	2022*	2021	2022*	2021
Equine (EEE)				
Equine (WNV)				
Avian (WNV)		1	5	8
Other				

Week 37: Sep 12-18, 2021; Sep 11-17, 2022

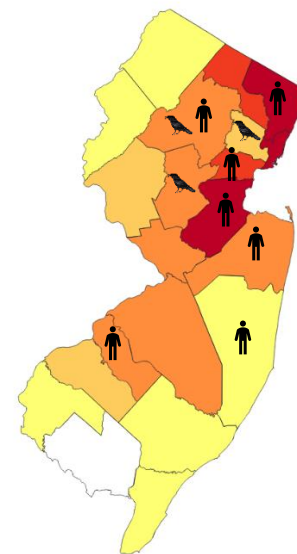
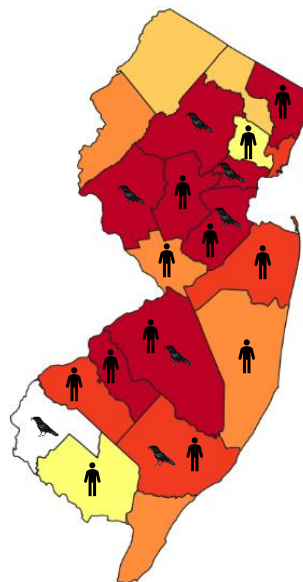
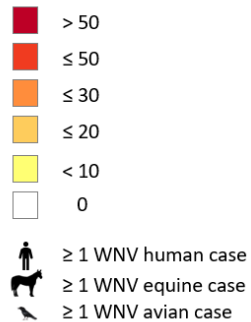
4. Surveillance Maps

West Nile Virus (WNV)

2021 WNV Activity

Cumulative WNV Activity 2022

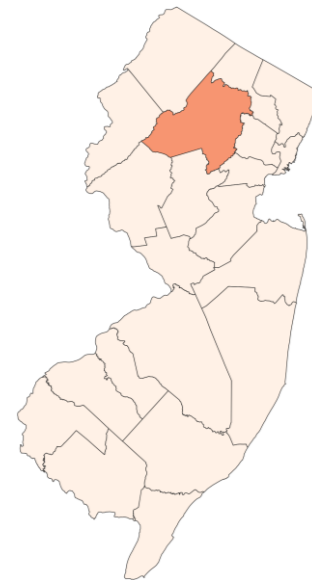
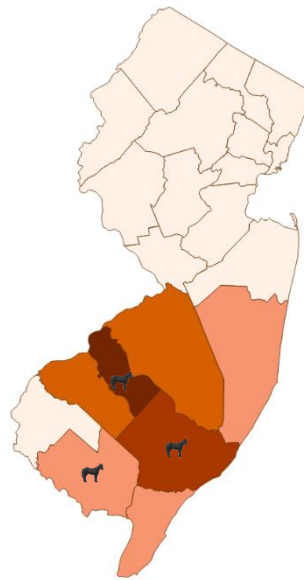
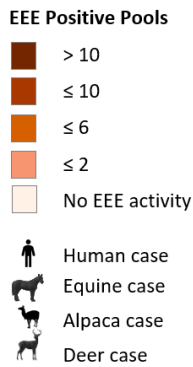
WNV Positive Pools



Eastern equine encephalitis (EEE)

2021 EEE Activity

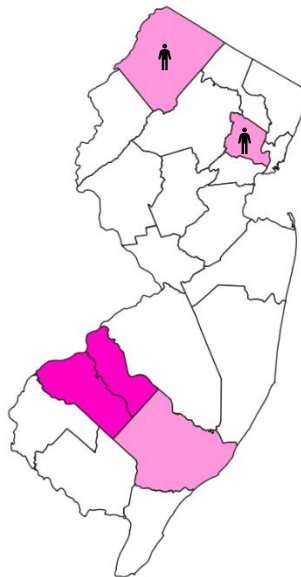
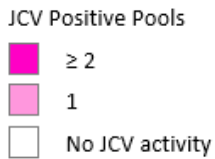
Cumulative EEE Activity 2022



Jamestown Canyon Virus

2021 JCV Activity

Cummulative JCV Activity 2022



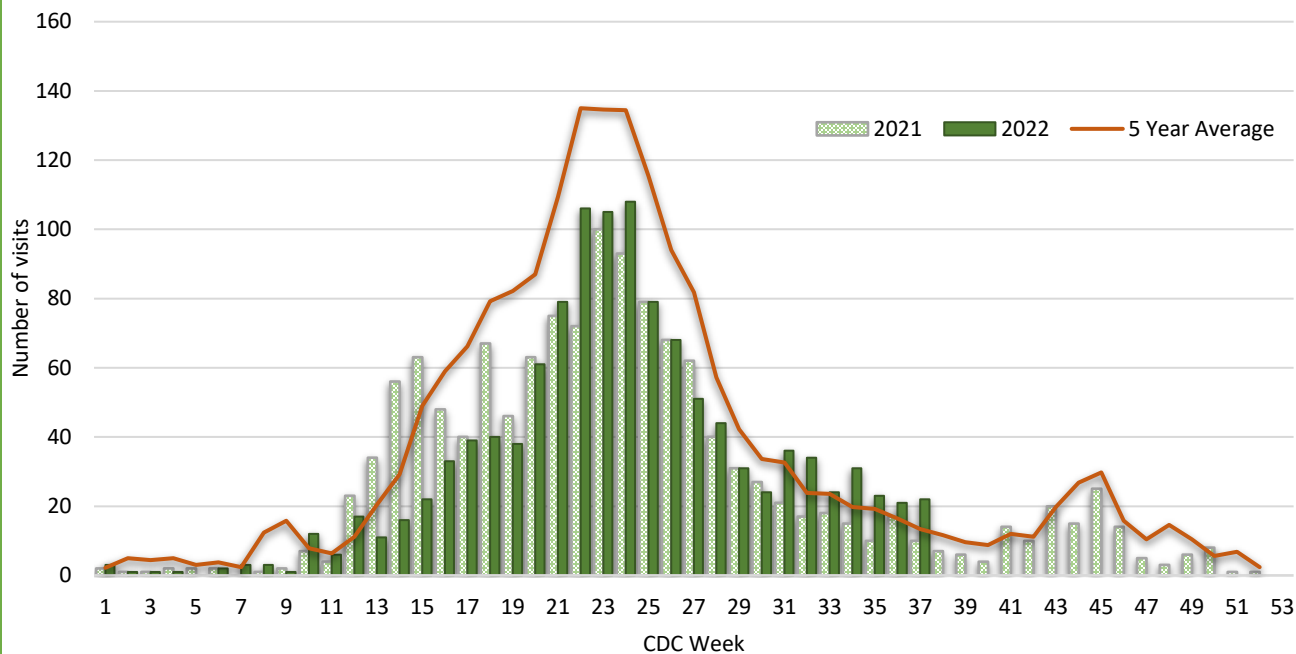
5. Syndromic Surveillance for Tick-related Emergency Department Visits

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.

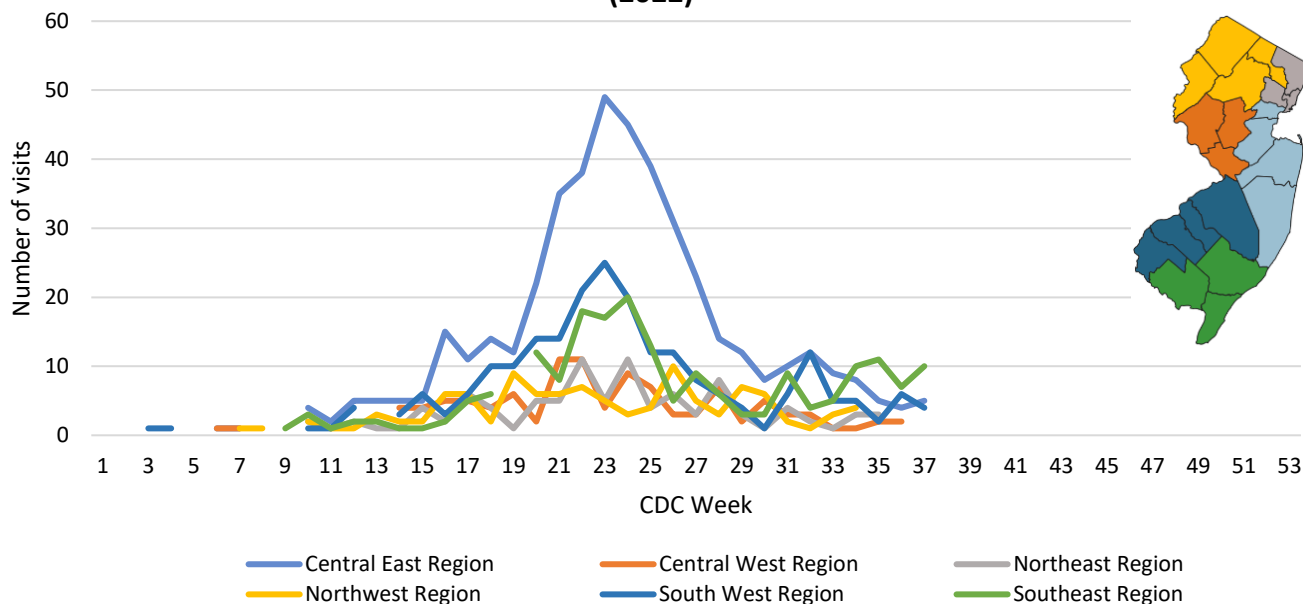
The chart below represents NJ residents seen at emergency departments statewide with a tick-bite complaint or signs/symptoms associated with a reported tick-bite. Tick-related ED visits occur throughout the year with peak number of visits in the summer months and a smaller peak in the fall weeks when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

In Week 37, the number of tick-related ED visits remained above the 5-year average. ED visits were highest in the southeast 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 22, 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/>