

Report Highlights:

- **This is the final weekly report for the 2024 vector-borne disease season. The data dashboard (<https://bit.ly/VectorBorne>) will continue to be updated weekly and a final season summary report will be posted online in early 2025. Week 46 was the last week of mosquito testing.**
- **NJDOH is reporting one additional human case of West Nile Virus (WNV) in Salem County. To date, there have been 37 reported WNV cases, including seven deaths and six presumptive viremic donors (PVDs) including one that met the case definition. Ninety-two percent of WNV cases were hospitalized. An additional 2 mosquito pools tested positive for WNV since last report, for a total of 995 WNV positive pools in 2024.**
- **No new human or animal cases or mosquito detections of Eastern Equine Encephalitis (EEE) or Jamestown Canyon virus (JCV) are reported this week. To date, there have been two human EEE cases, four horses, and 17 mosquito pools that tested positive for EEE in 2024; and one human JCV case and four mosquito pools that tested positive for JCV in 2024.**
- **Two additional travel-associated dengue cases are reported this week, for a total of 112 travel-associated dengue cases in 2024. Cases are associated with outbreaks in several Latin American countries.**
- **The number of Lyme disease cases and the number of tick-related emergency department (ED) visits increased but remain slightly below average this week. The highest number of ED visits was in the Northwest region.**

Human Vector-borne Disease Cases

N.J.A.C. 8:57 mandates public health reporting of communicable diseases. 2024 data reflect cases that have been approved by NJDOH and do not include cases under investigation. Due to the time needed for public health investigation, the number of tickborne diseases (except for Lyme disease) may be significantly lower than actual counts and should be interpreted with caution. Lyme disease surveillance transitioned to laboratory-based surveillance in 2022. All 2024 numbers are preliminary and subject to change. Some cases are considered “presumptive positive” and may be pending additional testing. Case counts for 2023 reflect the annual total for that year.

	Mosquito-borne diseases		Tickborne Diseases/Conditions		
	2024	2023		2024	2023
Chikungunya	8	13	Alpha-gal syndrome	247	360
Dengue	112	98	Anaplasmosis	135	195
Eastern equine encephalitis	2	-	Babesiosis	238	407
Jamestown Canyon	1	1	<i>Borrelia miyamotoi</i>	13	18
Malaria	66	102	Ehrlichiosis	75	109
West Nile	37	14	Lyme disease	5,693	7,225
Zika	-	-	Powassan	1	-
			Spotted fever group rickettsioses	22	24
			Tularemia	2	2

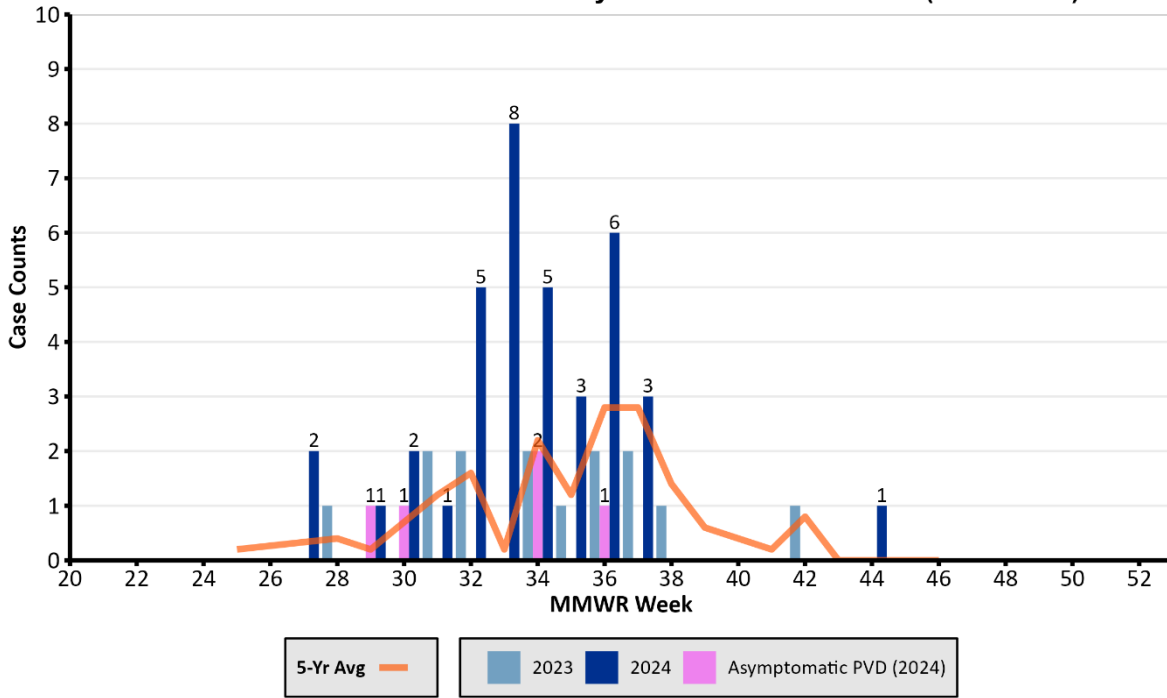
Mosquito-borne Disease Activity*

*Test results may be incomplete as counties submit pools for testing on specific weekdays. Data reflects test results downloaded from JerseySurv on November 21, 2024.

West Nile Virus

- Thirty-seven human cases of WNV have been reported in 2024 from Bergen (6), Burlington (2), Camden (5), Cape May, Cumberland (2), Essex (2), Hudson, Hunterdon, Mercer (2), Middlesex (3), Monmouth (4), Ocean (3), Union (2), Warren (2), and Salem counties. There were seven deaths reported in Bergen, Camden, Cumberland, Mercer, Middlesex, Monmouth, and Ocean counties. There have been six PVDs in Bergen, Camden (2), Essex, Passaic, and Somerset counties including one that met the case definition.
- One emu tested positive for WNV in week 36 from Monmouth County. Three red-tailed hawks tested positive for WNV in week 28 in Essex and Morris counties.
- Out of 12,750 mosquito pools submitted for testing, 995 mosquito pools have tested positive for WNV this year. The most WNV positive pools have been detected in *Culex pipiens/restuans/salinarius* (840), *Cx. pipiens* (63), and *Ae. albopictus* (41) mosquitoes.
- The earliest WNV positive mosquito pools (*Cx. pipiens/restuans/salinarius*) were detected in week 18 from Gloucester County (2), considerably earlier than 2023, when WNV was initially detected in week 24 from Bergen County.

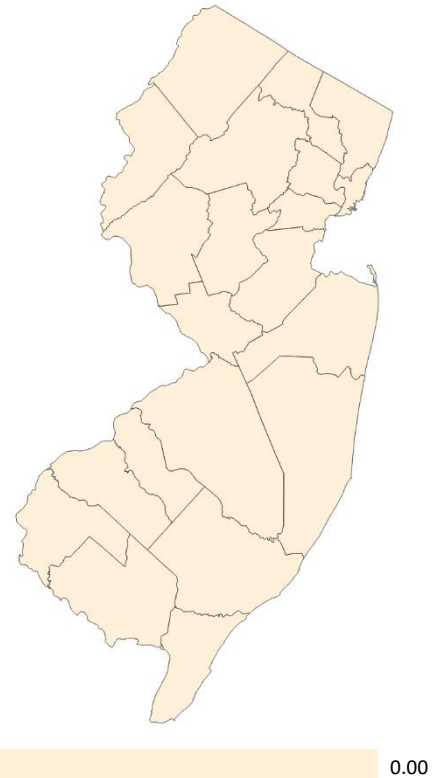
West Nile Virus Human Cases by Week of Illness Onset (2023-2024)



WNV Mosquito Pool Testing

County	WEEK 46 Positive Pools		Cumulative Pos. Total* (WEEK 46)		# Pools Tested*	WEEK 46 Vector Index	
	2024	2023	2024	2023	2024	2024 ^t	
Bergen ^a			129	118	444	0.00	(-)
Hudson			96	81	360	0.00	(-)
Middlesex			95	67	404	0.00	(-)
Union			86	57	291	0.00	(-)
Somerset			62	65	325	0.00	(-)
Hunterdon			61	64	385	0.00	(-)
Cape May			58	27	3,742	0.00	(-)
Morris			52	41	449	0.00	(-)
Passaic			51	26	285	0.00	(-)
Monmouth			48	33	572	0.00	(-)
Mercer			40	54	502	0.00	(-)
Essex			36	7	504	0.00	(-)
Gloucester			36	47	830	0.00	(-)
Sussex			33	30	462	0.00	(-)
Warren			28	29	485	0.00	(-)
Burlington			26	27	324	0.00	(-)
Atlantic			25	27	484	0.00	(-)
Camden			13	20	360	0.00	(-)
Ocean			11	20	456	0.00	(-)
Salem			7	6	647	0.00	(-)
Cumberland			2	1	439	0.00	(-)
Total	0	0	995	847	12,750	-	

WNV Vector Index, WEEK 46^t



^t Vector Index is calculated based on *Ae. taeniorhynchus*, *An. quadrimaculatus*, and all *Culex* species caught in gravid traps only.

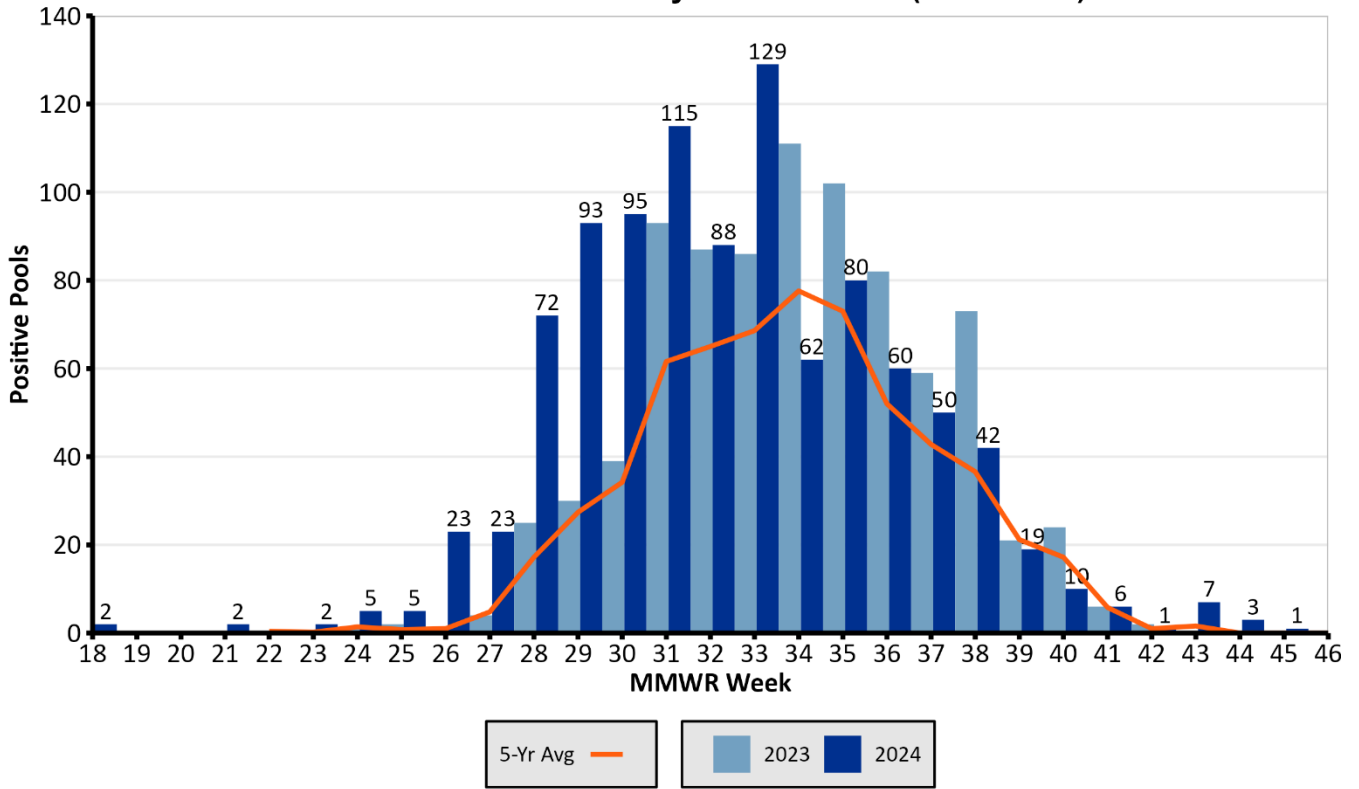
WEEK 46: Nov 12 - 18, 2023; Nov 10 - 16, 2024.

*184 mosquito pools submitted by 8 counties were collected prior to Week 20.

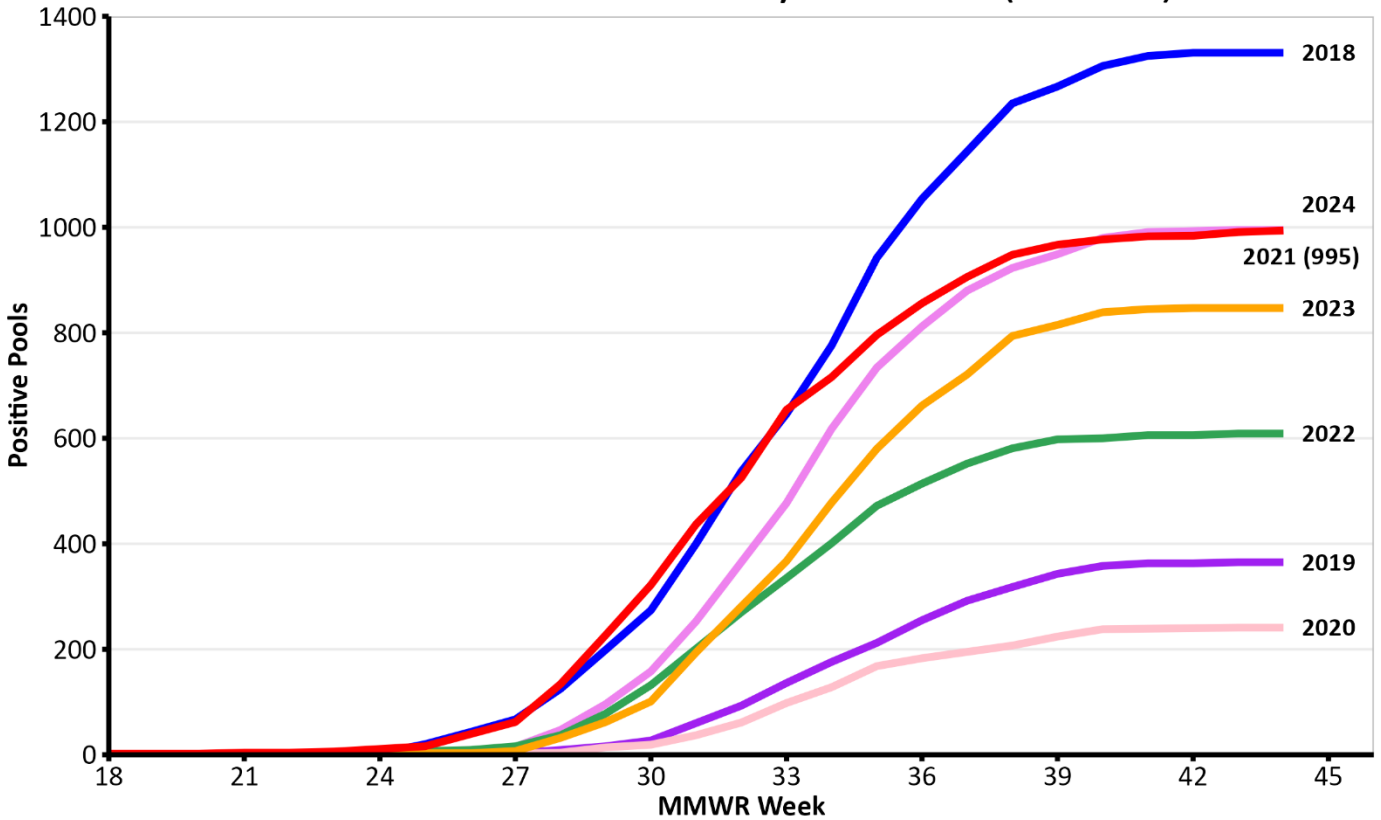
*If all tested pools are positive, Vector Index cannot be calculated. In these situations, the county is shown on the map with red stripes to indicate elevated activity.

^a Prior 2024 reports included results from rapid tests for Bergen County. Numbers have been amended to exclude these test results.

WNV Positive Pools by MMWR Week (2023-2024)



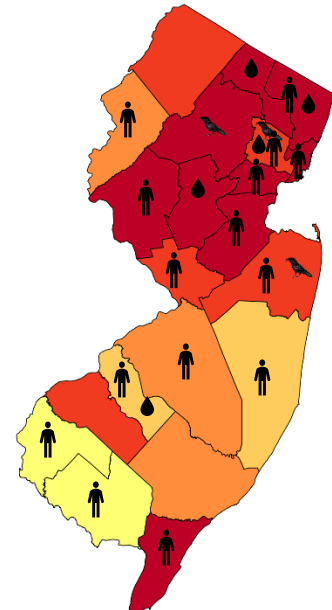
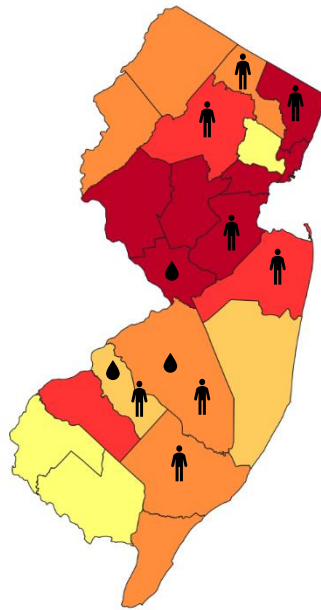
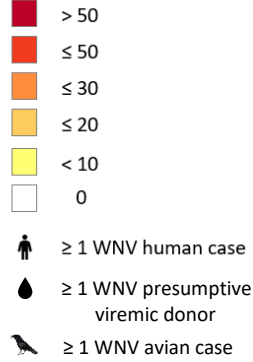
WNV Cumulative Positive Pools by MMWR Week (2018-2024)



2023 WNV Activity

Cumulative WNV Activity, 2024

WNV Positive Pools



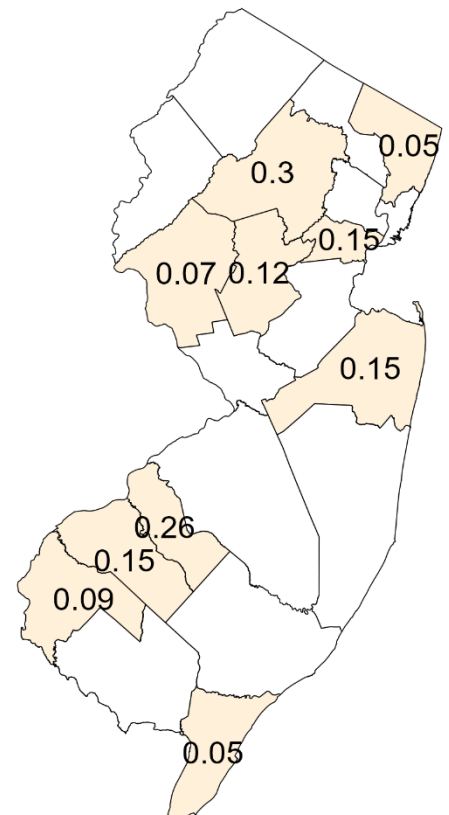
Eastern Equine Encephalitis (EEE)

- Two human cases of EEE were reported in week 27 in Atlantic County and week 39 in Sussex County. EEE human cases were last reported in 2019 (4 cases).
- Four horses tested positive for EEE in week 31 in Atlantic County, week 33 in Ocean County (2), and in week 36 in Salem County. None of the horses were vaccinated.
- Out of 12,655 mosquito pools tested for EEE, 17 pools have tested positive in 2024. The positive pools were found in *Coquillettidia perturbans* (1), *Cx. restuans* (1), *Culiseta melanura* (9), *Culiseta morsitans* (1), and *Cx. pipiens/restuans/salinarius* (5) mosquitoes.
- The earliest EEE positive mosquito pool (*Cx. restuans*) was detected in week 27 from Cape May County.

EEE Mosquito Pool Testing

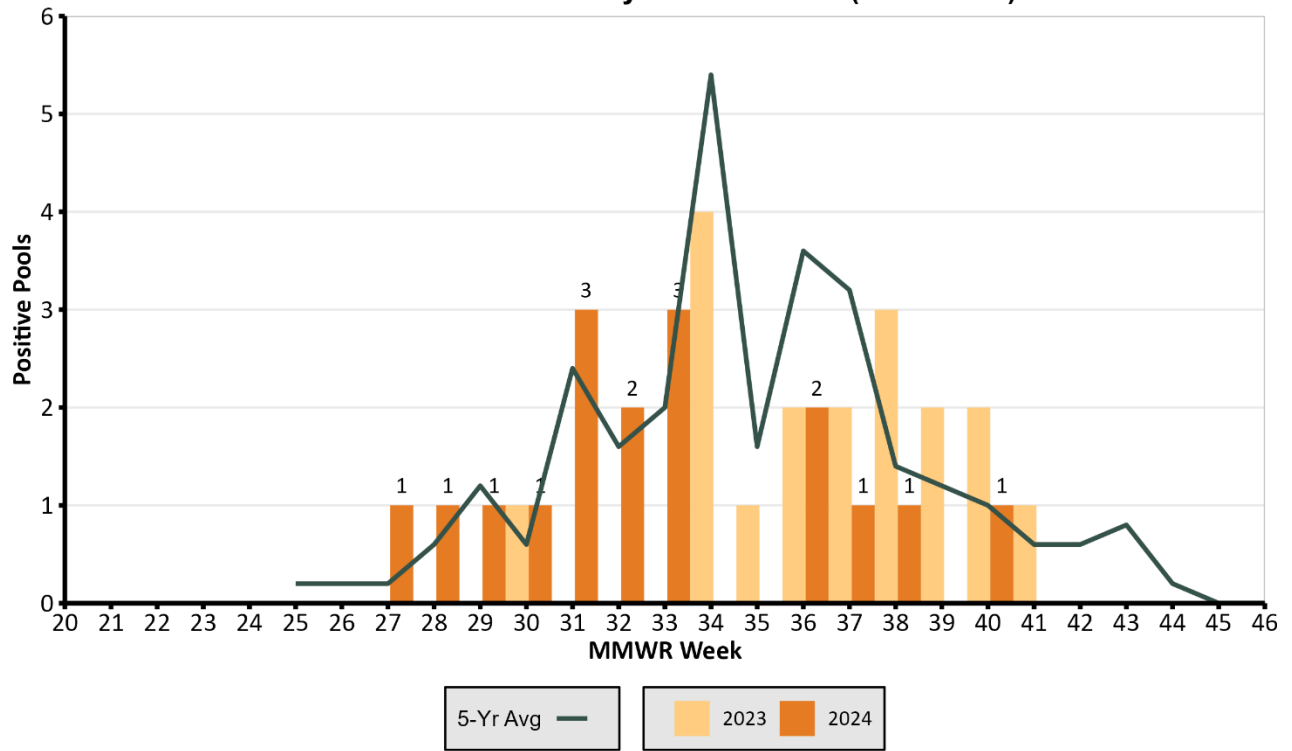
County	WEEK 46 Positive Pools		Cumulative Pos. Total* (WEEK 46)		# Pools Tested	Cumulative MFIR
	2024	2023	2024	2023		
Morris			4	1	449	0.30
Cape May			2	2	3,742	0.05
Gloucester			2		830	0.15
Monmouth			2		572	0.15
Union			2		291	0.15
Bergen			1		444	0.05
Camden			1	2	351	0.26
Hunterdon			1	1	382	0.07
Salem			1		647	0.09
Somerset			1	1	325	0.12
Atlantic				3	484	
Burlington				3	321	
Cumberland				3	439	
Essex					504	
Hudson					360	
Mercer					500	
Middlesex					398	
Ocean					454	
Passaic					285	
Sussex				2	418	
Warren					459	
Total	0	0	17	18	12,655	-

Cumulative EEE MFIR, 2024



WEEK 46: Nov 12 - 18, 2023; Nov 10 - 16, 2024

EEE Positive Pools by MMWR Week (2023-2024)

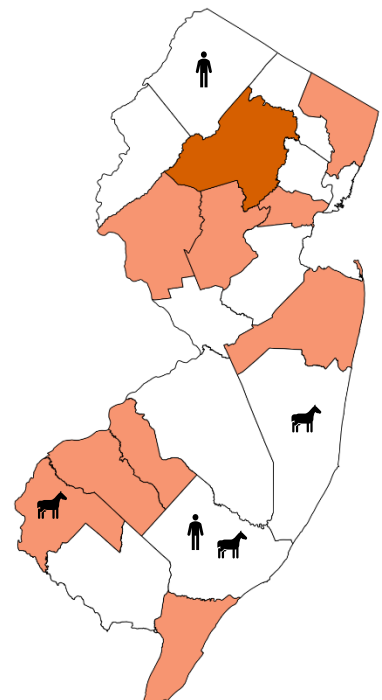
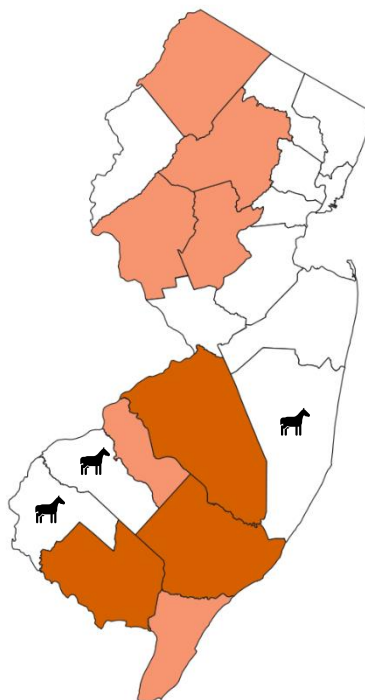


2023 EEE Activity

Cumulative EEE Activity, 2024

EEE Positive Pools

- > 10
- ≤ 10
- ≤ 6
- ≤ 2
- No EEE activity
- ≥ 1 EEE human case
- ≥ 1 EEE equine case



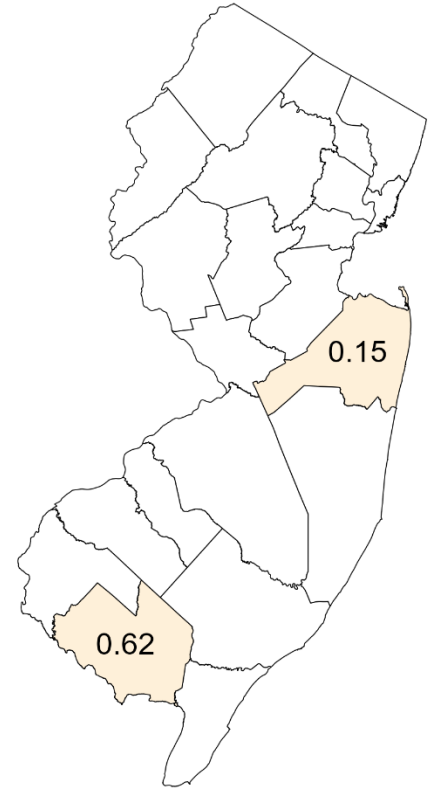
Jamestown Canyon Virus (JCV)

- There was one human case of JCV reported in New Jersey in 2024 in week 19 in Sussex County. In 2023, there was one human case of JCV in week 42 in Sussex County.
- Out of 12,655 mosquito pools tested for JCV, 4 pools have tested positive this year. The positive pools were found in *Ae. cantator* (1), *Anopheles punctipennis* (1), *Cx. salinarius* (1), and *Psorophora columbiae* (1) mosquitoes.
- In 2023, the first JCV positive pool was detected in week 23 from Cumberland County.

JCV Mosquito Pool Testing

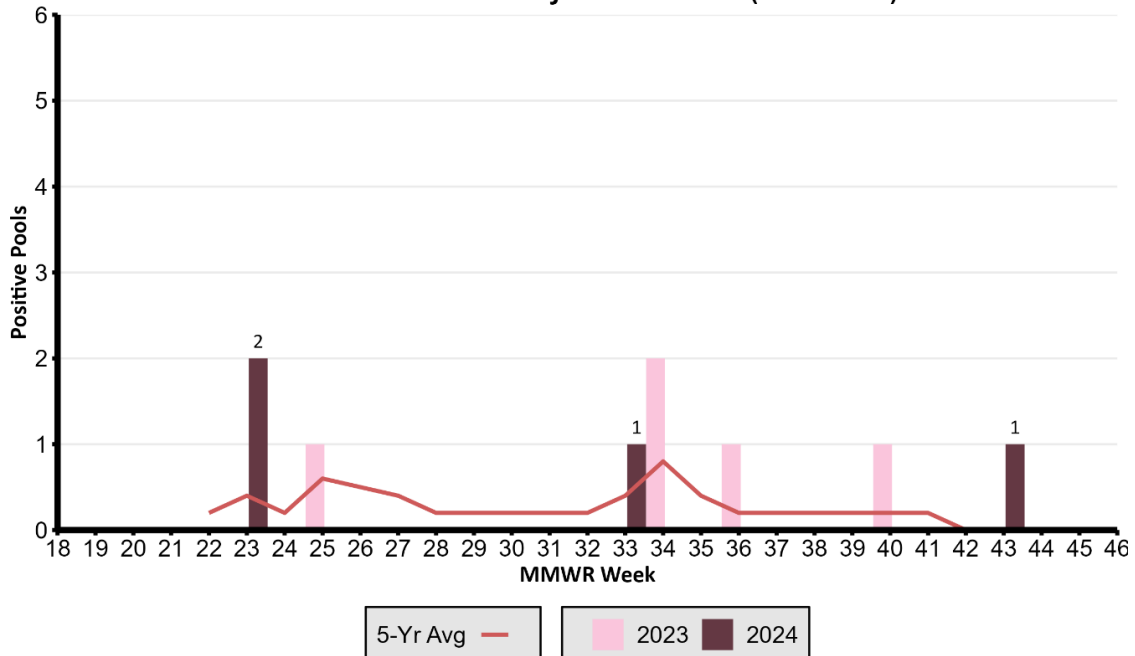
County	WEEK 46 Positive Pools		Cumulative Pos. Total* (WEEK 46)		# Pools Tested	Cumulative MFIR
	2024	2023	2024	2023		
Cumberland			2	1	439	0.62
Monmouth			2		572	0.15
Atlantic					484	
Bergen					444	
Burlington					321	
Camden					351	
Cape May					3,742	
Essex					504	
Gloucester				1	830	
Hudson					360	
Hunterdon					382	
Mercer					500	
Middlesex					398	
Morris					449	
Ocean					454	
Passaic					285	
Salem				1	647	
Somerset					325	
Sussex				2	418	
Union					291	
Warren					459	
Total	0	0	4	5	12,655	-

Cumulative JCV MFIR, 2024



WEEK 46: Nov 12 - 18, 2023; Nov 10 - 16, 2024

JCV Positive Pools by MMWR Week (2023-2024)

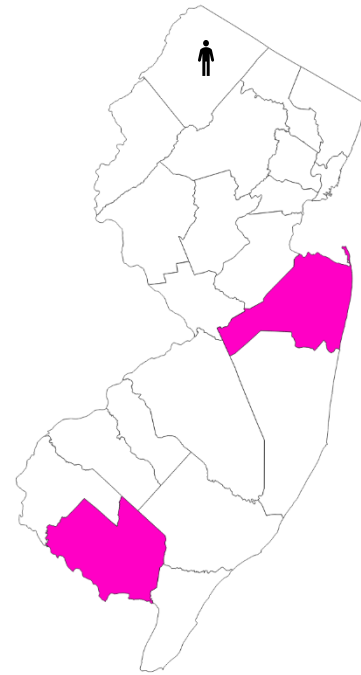
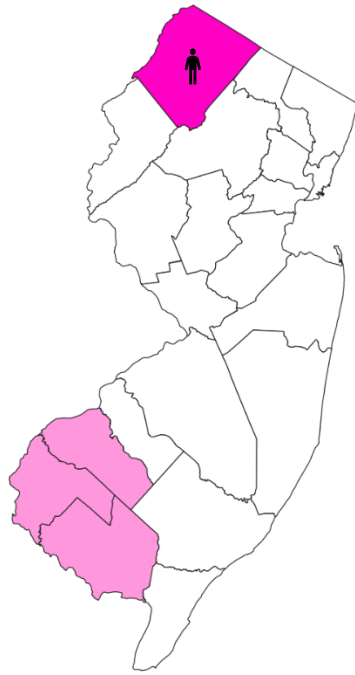


2023 JCV Activity

Cumulative JCV Activity, 2024

JCV Positive Pools

- ≥ 2
- 1
- No JCV activity
- ≥ 1 JCV human case



Other Mosquito-borne Viruses

- Mosquito pools have been tested for other arboviruses with no positive results.

Cumulative 2024 Mosquito Pool Testing (Other Viruses^a)

County	SLE		LAC		CHIKV		DENV		ZIKV	
	Pools	Pos	Pools	Pos	Pools	Pos	Pools	Pos	Pools	Pos
Atlantic	484				5		5		5	
Bergen	444		9		12		12		12	
Burlington	321		3							
Camden	351		9		5		5		5	
Cape May	3,742		217		242		242		242	
Cumberland	439									
Essex	504				3		3		3	
Gloucester	830				7		7		7	
Hudson	360									
Hunterdon	382		3		3		3		3	
Mercer	500		2		3		3		3	
Middlesex	398		6		5		5		5	
Monmouth	572									
Morris	449				6		6		6	
Ocean	454		2		1		1		1	
Passaic	285		3							
Salem	647		19							
Somerset	325									
Sussex	418		44							
Union	291									
Warren	459		26		3		3		3	
Total	12,655	-	343	-	295	-	295	-	295	-

^a St. Louis virus (SLE), La Crosse encephalitis (LAC), Chikungunya virus (CHIKV), Dengue virus (DENV), Zika Virus (ZIKV)

Numbers in white columns represent number of pools tested to date in 2024

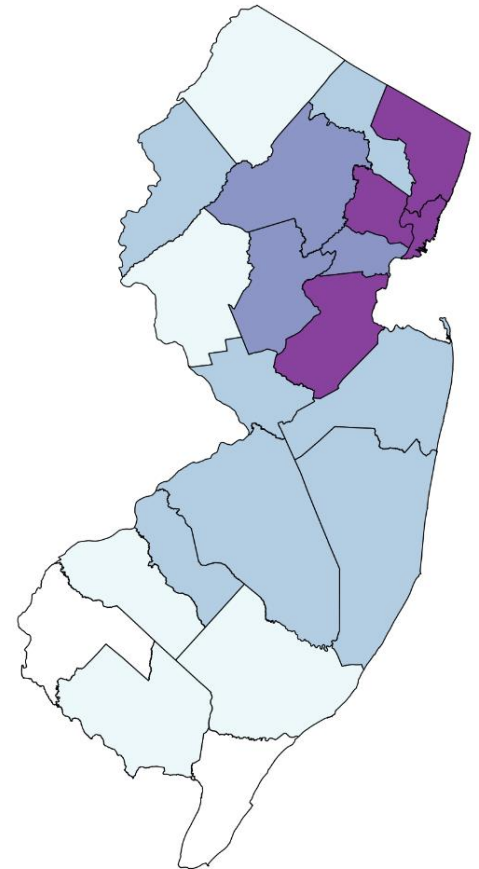
Number in green shaded columns represent positive pools in 2024

Human Dengue Virus Cases

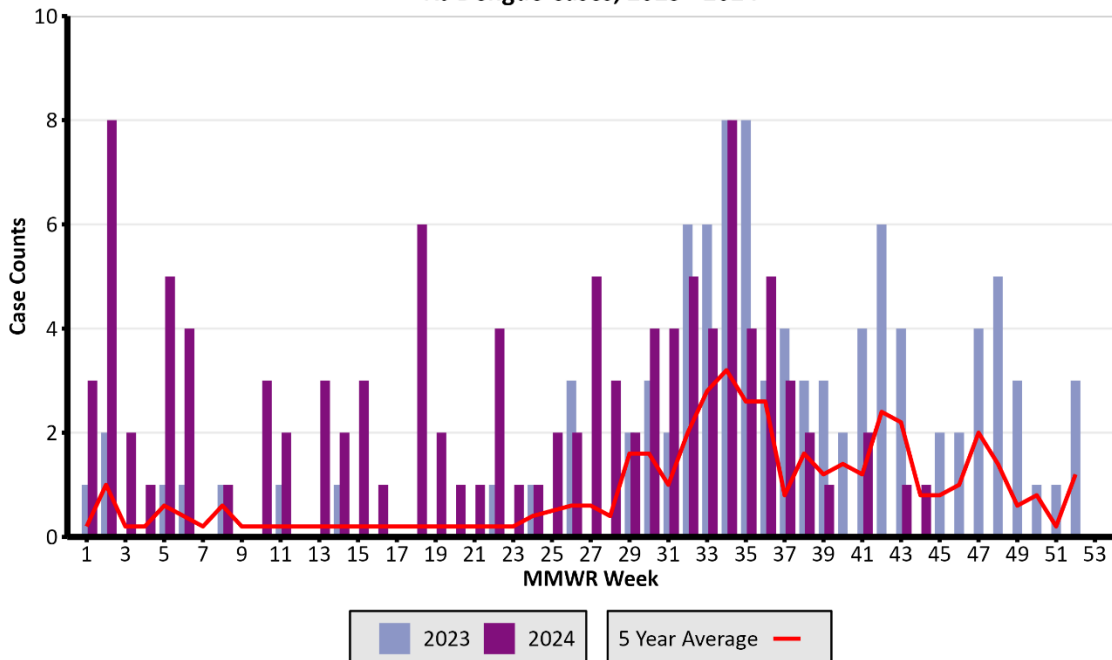
- There have been 112 cases of dengue virus reported to date in 2024, which is considerably higher than the number reported this time last year (81).
- All dengue cases are travel-associated and the high case count is driven by outbreaks in several Latin American countries. Most NJ cases reported travel to a country or US territory in Latin America or the Caribbean.
- Many of the NJ cases are concentrated in the northeast region, with most cases residing in Bergen (18), Middlesex (16), and Essex (13) counties.

Travel Destination(s) of Dengue Cases	
Country/U.S. Territory of Travel	Count
Puerto Rico	14
Dominican Republic	13
India	10
Mexico	10
Colombia	9
Guatemala	9
Brazil	7
El Salvador	6
Trinidad & Tobago	5
Honduras	4
U.S. Virgin Islands	4
Ecuador	3
Aruba	2
Costa Rica	2
Grenada	2
Guyana	2
Martinique	2
Peru	2
Antigua and Barbuda	1
Cuba	1
Indonesia	1
Paraguay	1
Philippines	1
St. Vincent and the Grenadines	1

Dengue Cases



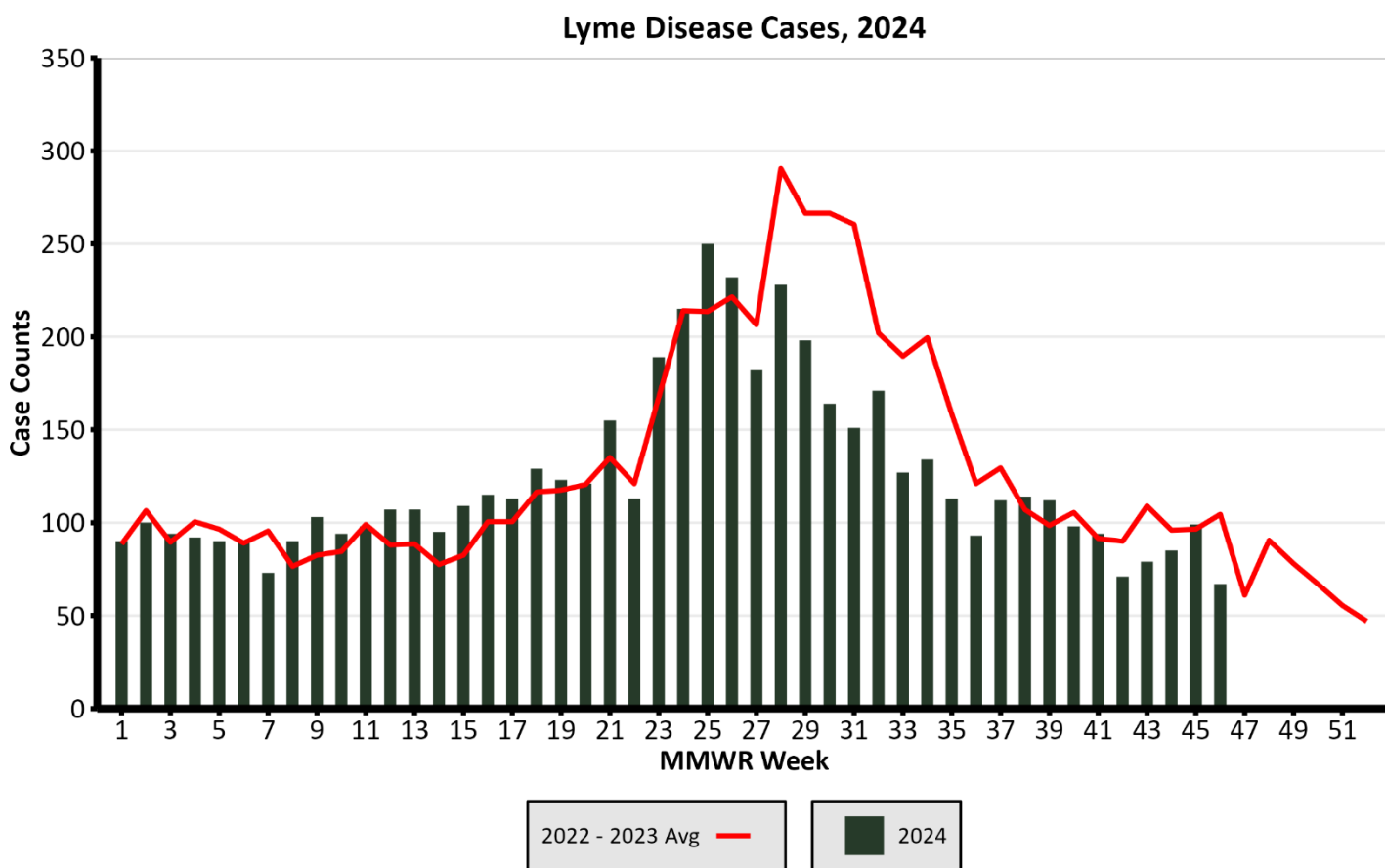
NJ Dengue Cases, 2023 - 2024



Tickborne Disease Activity

Lyme Disease

- There have been 5,693 cases of Lyme disease reported in New Jersey in 2024.
- The number of cases in Week 46 decreased and remains below the average number of cases reported this week.

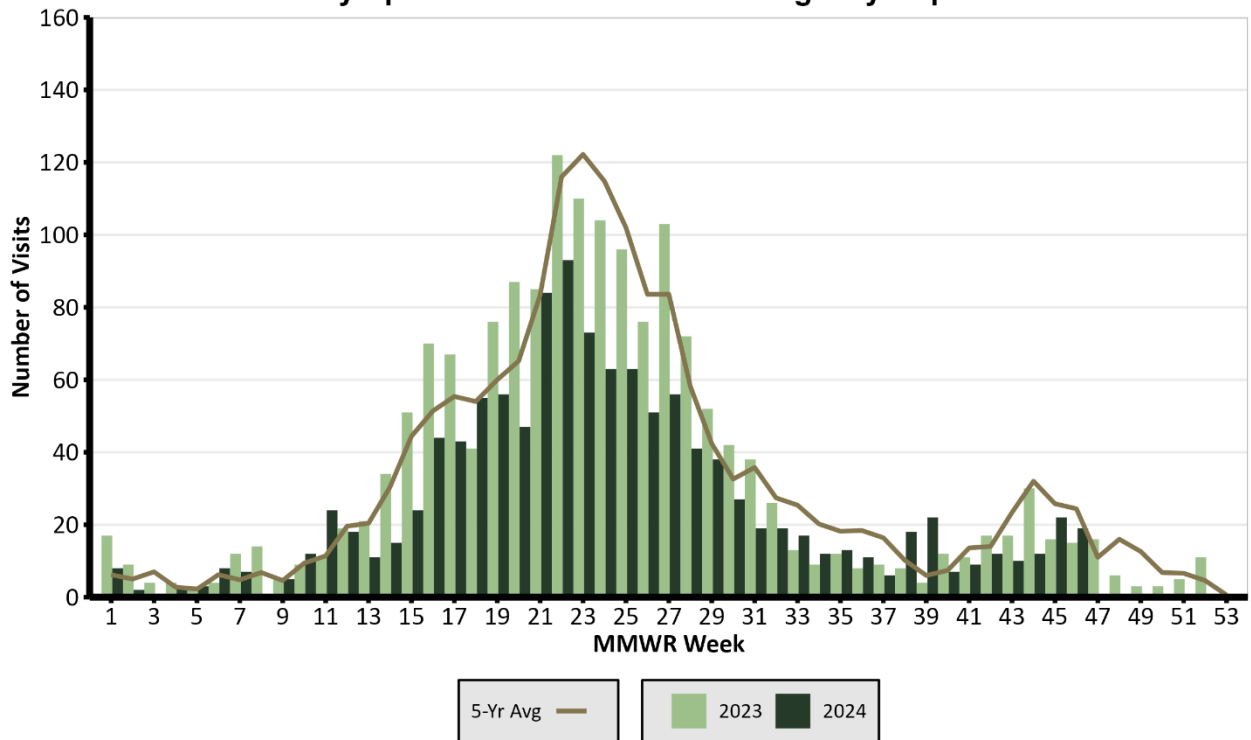


Tick-related Emergency Department Visits

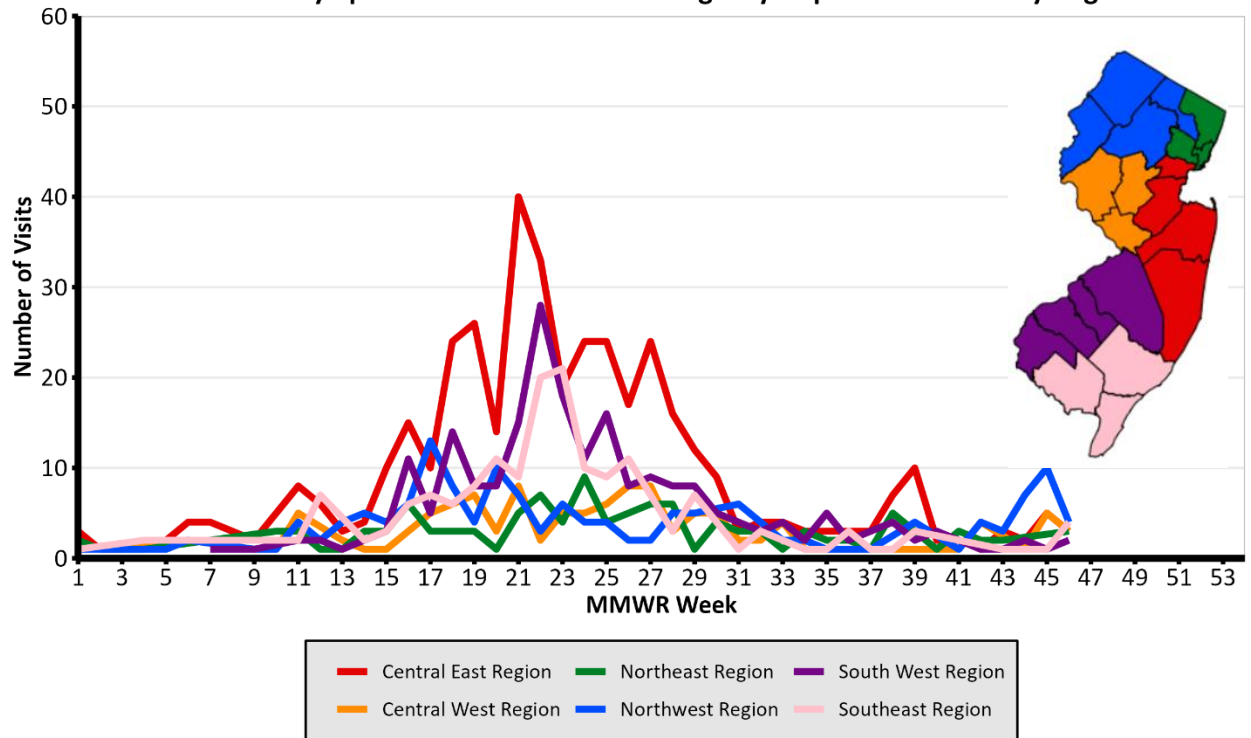
New Jersey's syndromic surveillance system, known as EpiCenter, receives real time Emergency Department (ED) data from 78 acute care and satellite health (99 percent reporting) facilities statewide. The system collects "chief complaint" information and limited patient registration data from existing ED computer systems. The chart below represents N.J. 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 46, the number of tick-related ED visits decreased and is similar to the 5-year average. The highest number of visits was in the Northwest region.

New Jersey EpiCenter: Tick-Related Emergency Department Visits



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



For more information

- NJDOH Communicable Disease Service: <https://www.nj.gov/health/cd/topics/vectorborne.shtml>
- New Jersey Vector-borne Disease Dashboard: https://dashboards.doh.nj.gov/views/public_dashboard/Intro
- New Jersey Arboviral Activity Maps: <http://bit.ly/JerseySurv>
- NJDEP Office of Mosquito Control Coordination: <https://www.nj.gov/dep/mosquito/>
- NJDA Division of Animal Health: <https://www.nj.gov/agriculture/divisions/ah/>