

Report Highlights:

- NJDOH is reporting two additional human cases of West Nile virus (WNV) and one additional death (Ocean). The new cases were in Hunterdon and Warren counties. To date, there have been 34 reported WNV cases, including six deaths and six presumptive viremic donors (PVDs) including one that met the case definition. Ninety-one percent of WNV cases were hospitalized. An additional 6 mosquito pools tested positive for WNV since last report, including 2 this week (additional tests pending) for a total of 978 WNV positive pools in 2024.
- No new human or animal cases of Eastern Equine encephalitis (EEE) or mosquito detections are reported this week. To date, there has been one human EEE case from Atlantic County and four horses from Atlantic, Ocean (2), and Salem counties that tested positive for EEE. There has been a total of 17 EEE positive mosquito pools in 2024.
- No new human cases of Jamestown Canyon virus (JCV) or mosquito detections are reported this week. To date, there has been one human case of JCV in Sussex County and detections in three mosquito pools in Cumberland and Monmouth counties.
- No new dengue cases are reported this week. To date in 2024, there are 100 travel-associated dengue cases compared to 98 cases in all of 2023. Cases are associated with outbreaks in several Latin American countries.
- The number of Lyme disease cases is consistent with seasonal trends this week. The number of tick-related emergency department visits increased slightly this week but remains lower than average.

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	174	360
Dengue	100	98	Anaplasmosis	111	195
Eastern equine encephalitis	1	-	Babesiosis	208	407
Jamestown Canyon	1	1	<i>Borrelia miyamotoi</i>	12	18
Malaria	55	102	Ehrlichiosis	71	109
West Nile	34	14	Lyme disease	5,251	7,225
Zika	-	-	Powassan	1	-
			Spotted fever group rickettsioses	10	24
			Tularemia	2	2

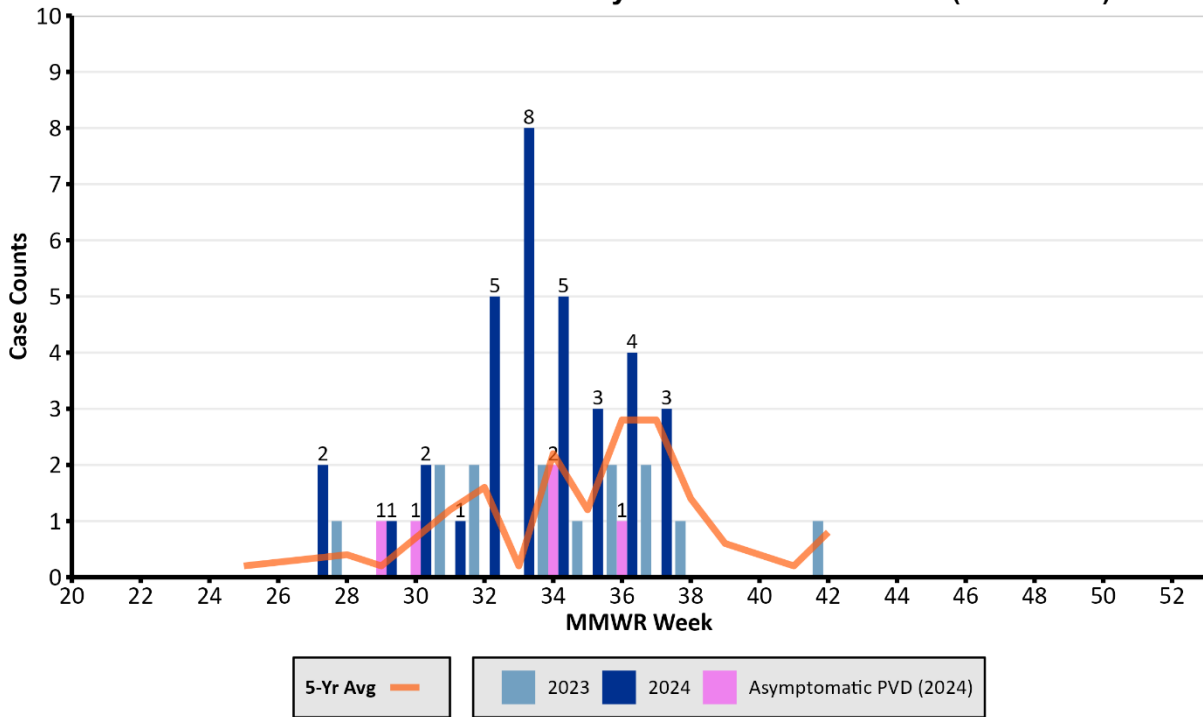
Mosquito-borne Disease Activity*

*Test results may be incomplete as counties submit pools for testing on specific weekdays. Data reflects test results downloaded from JerseySurv on October 17, 2024.

West Nile Virus

- Thirty-four human cases of WNV have been reported in 2024 from Bergen (6), Burlington (2), Camden (3), Cape May, Cumberland (2), Essex (2), Hudson, Hunterdon, Mercer (2), Middlesex (3), Monmouth (4), Ocean (3), Union (2), and Warren (2) counties. There were six deaths reported in Bergen, 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 11,891 mosquito pools submitted for testing, 978 mosquito pools have tested positive for WNV this year with 2 pools positive in week 41 (additional tests pending). The most WNV positive pools have been detected in *Culex pipiens/restuans/salinarius* (823), *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.

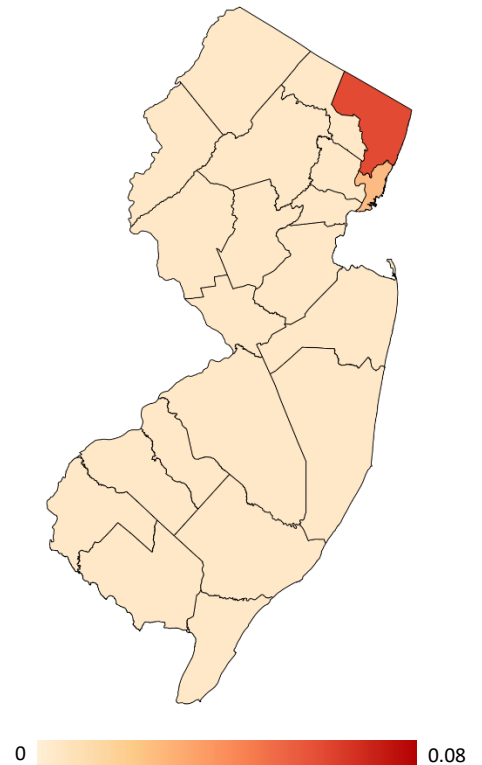
West Nile Virus Human Cases by Week of Illness Onset (2023-2024)



WNV Mosquito Pool Testing

County	WEEK 41 Positive Pools		Cumulative Pos. Total* (WEEK 41)		# Pools Tested*	WEEK 41 Vector Index
	2024	2023	2024	2023	2024	2024 [†]
Bergen ^a	1	2	125	118	398	0.08 (↓)
Middlesex			95	67	375	0.00 (—)
Hudson	1	1	92	81	325	0.07 (↑)
Union			86	57	291	0.00 (—)
Hunterdon			61	64	385	0.00 (↓)
Somerset		2	60	65	301	0.00 (↓)
Cape May			58	26	3,706	0.00 (↓)
Morris			51	41	414	0.00 (—)
Passaic			51	26	270	0.00 (—)
Monmouth			46	33	486	0.00 (—)
Mercer		1	40	54	424	0.00 (↓)
Essex			35	7	449	0.00 (↓)
Gloucester			34	46	743	0.00 (—)
Sussex			33	30	420	0.00 (—)
Warren			28	29	428	0.00 (—)
Burlington			26	27	318	0.00 (—)
Atlantic			25	27	456	0.00 (↓)
Camden			13	20	357	0.00 (—)
Ocean			11	20	381	0.00 (—)
Salem			6	6	551	0.00 (—)
Cumberland			2	1	413	0.00 (—)
Total	2	6	978	845	11,891	-

WNV Vector Index, WEEK 41[†]



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

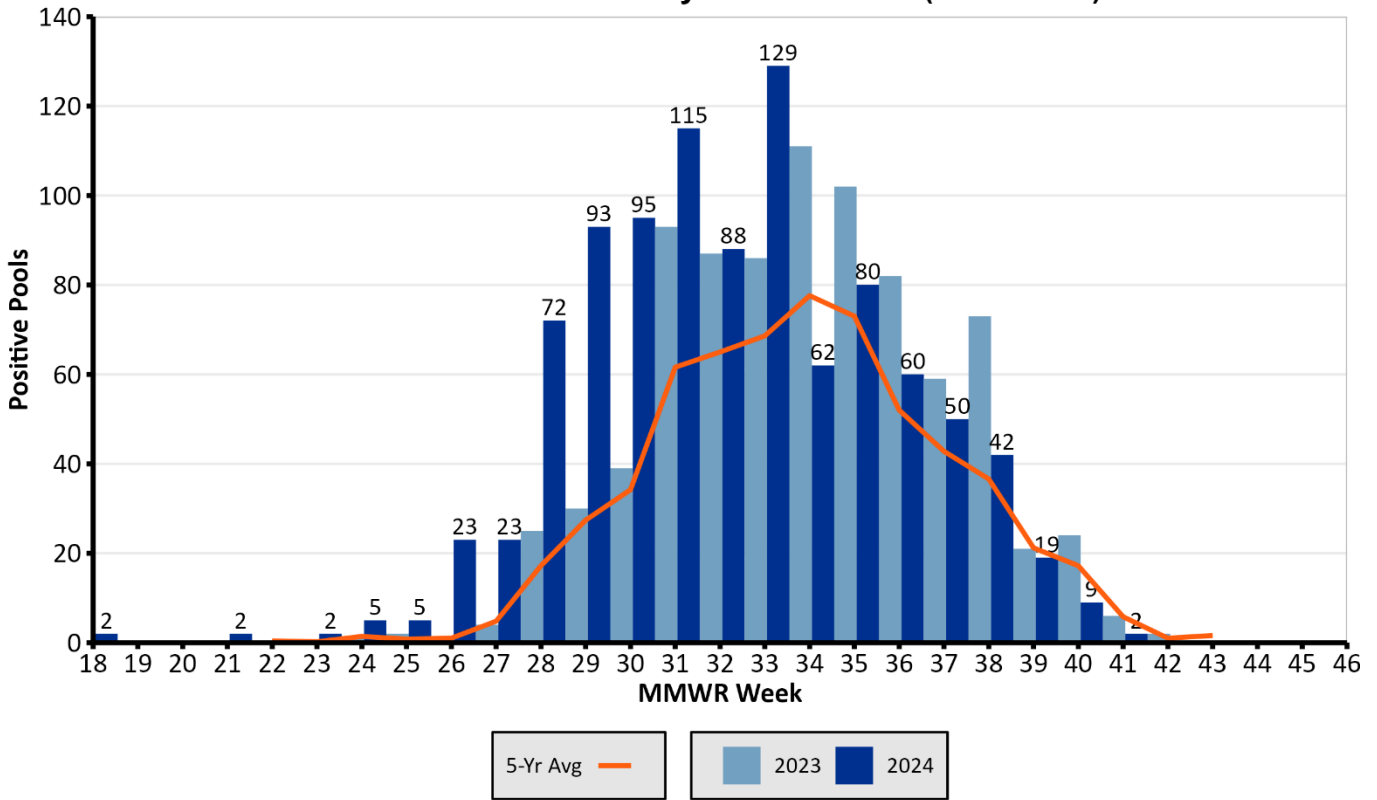
WEEK 41: Oct 8 - 14, 2023; Oct 6 - 12, 2024.

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

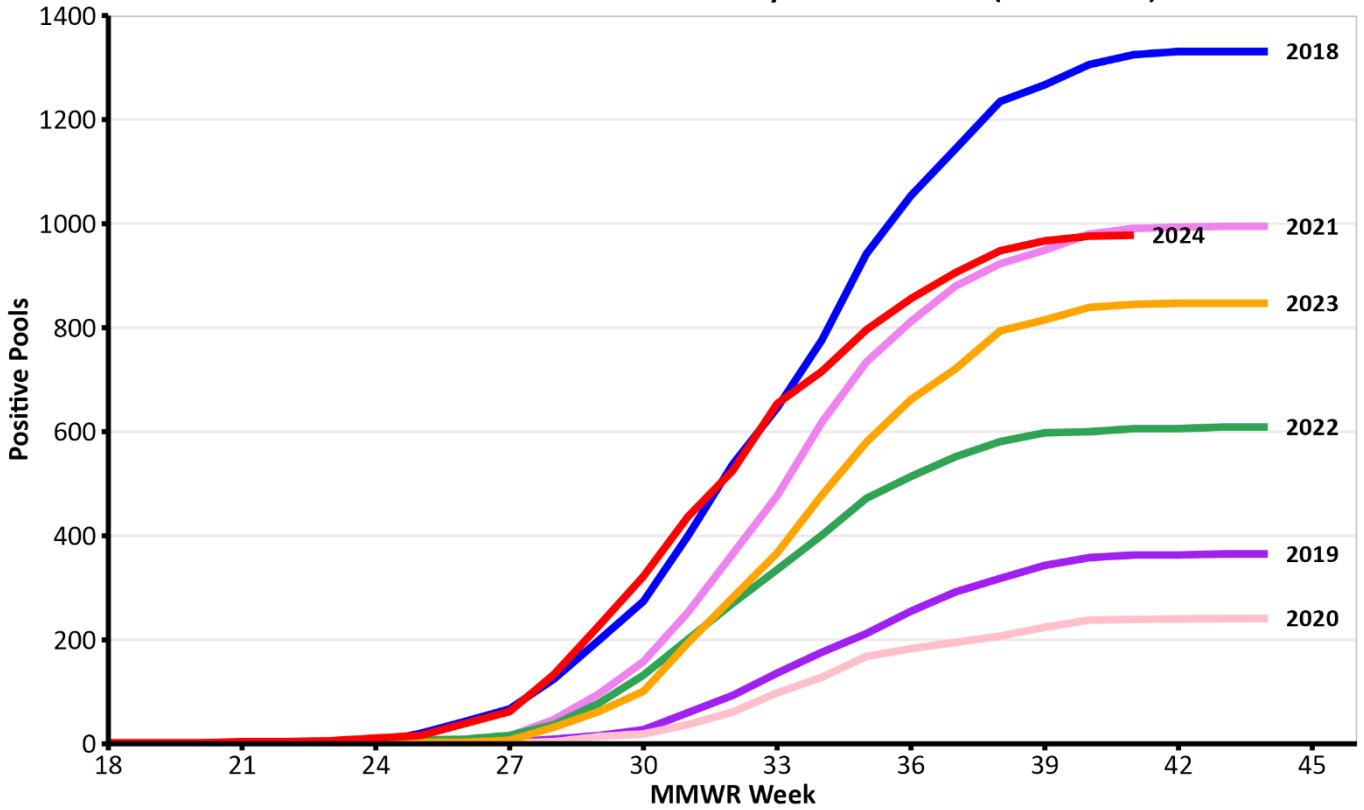
*If all tested pools are positive, Vector Index cannot be calculated. In these situations, the county is shown on the map with red stripes to indicate elevated activity.

^a Prior 2024 reports included results from rapid tests for Bergen County. Numbers have been

WNV Positive Pools by MMWR Week (2023-2024)



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

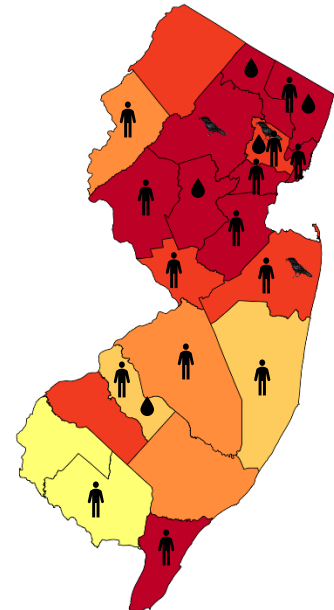
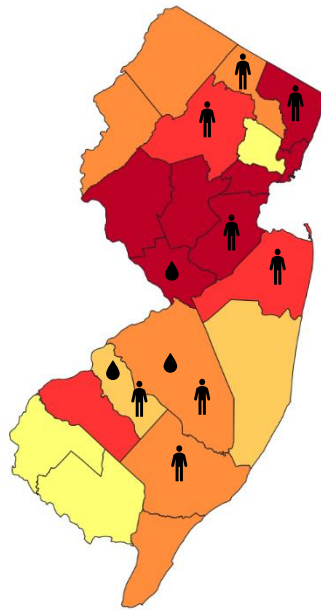


2023 WNV Activity

Cumulative WNV Activity, 2024

WNV Positive Pools

- > 50
- ≤ 50
- ≤ 30
- ≤ 20
- < 10
- 0
- ≥ 1 WNV human case
- ≥ 1 WNV presumptive viremic donor
- ≥ 1 WNV avian case



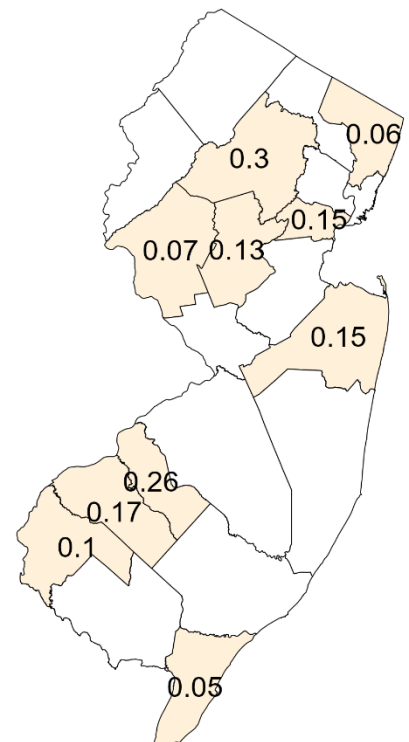
Eastern Equine Encephalitis (EEE)

- One human case of EEE was reported in week 27 in Atlantic 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 11,800 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. In 2023, the first EEE positive pool was detected in week 30 from Cumberland County.

EEE Mosquito Pool Testing

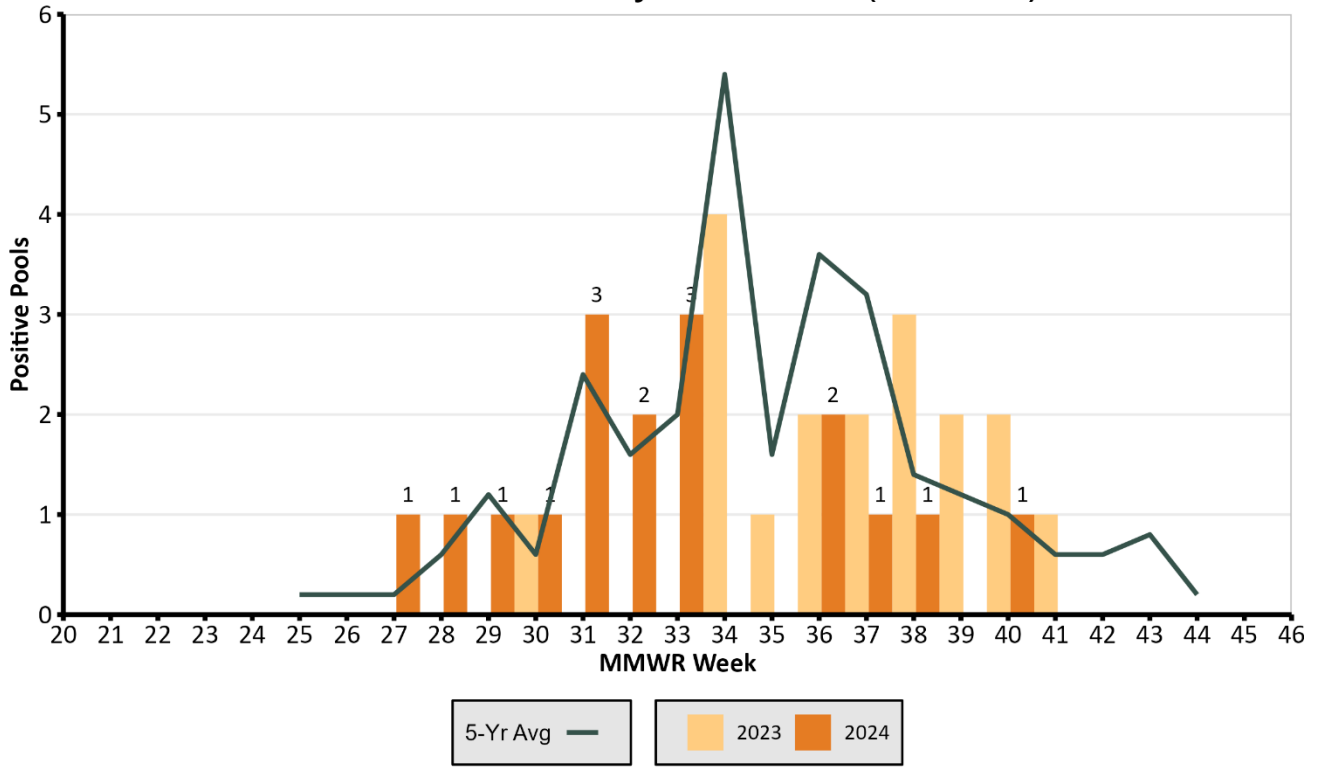
County	WEEK 41 Positive Pools		Cumulative Pos. Total* (WEEK 41)		# Pools Tested 2024	Cumulative MFIR 2024
	2024	2023	2024	2023		
Morris			4	1	414	0.30
Cape May		1	2	2	3,706	0.05
Gloucester			2		743	0.17
Monmouth			2		486	0.15
Union			2		291	0.15
Bergen			1		398	0.06
Camden			1	2	348	0.26
Hunterdon			1	1	382	0.07
Salem			1		551	0.10
Somerset			1	1	301	0.13
Atlantic				3	456	
Burlington				3	315	
Cumberland				3	413	
Essex					449	
Hudson					325	
Mercer					422	
Middlesex					369	
Ocean					379	
Passaic					270	
Sussex				2	380	
Warren					402	
Total	0	1	17	18	11,800	-

Cumulative EEE MFIR, 2024



WEEK 41: Oct 8 - 14, 2023; Oct 6 - 12, 2024

EEE Positive Pools by MMWR Week (2023-2024)

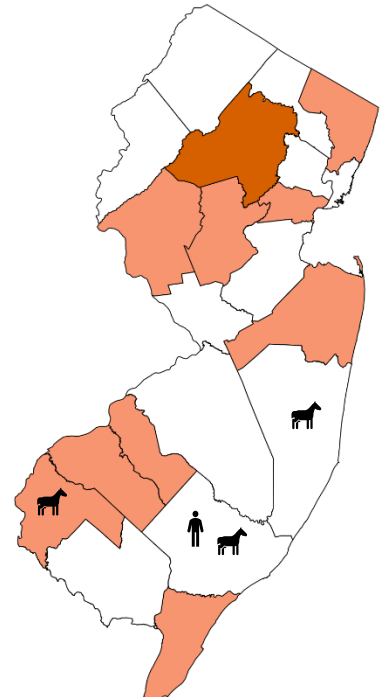
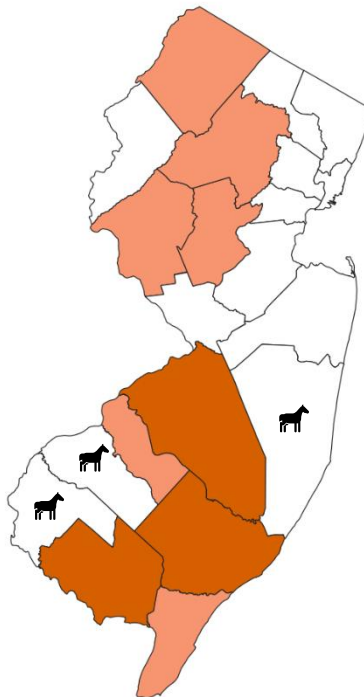


2023 EEE Activity

Cumulative EEE Activity, 2024

EEE Positive Pools

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



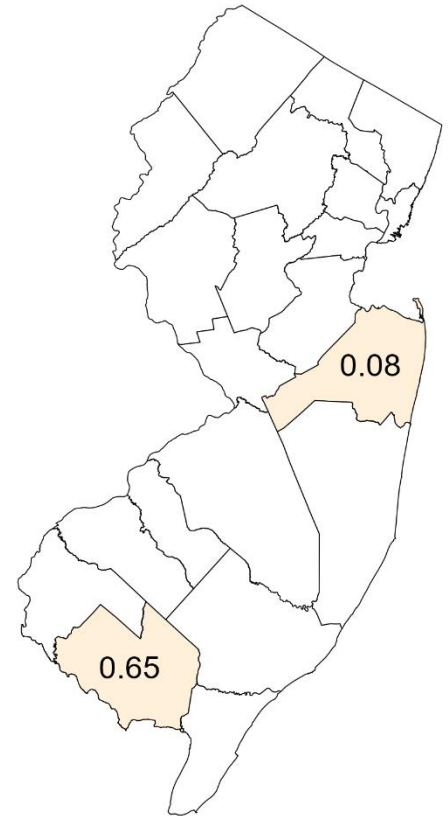
Jamestown Canyon Virus (JCV)

- 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 11,800 mosquito pools tested for JCV, 3 pools have tested positive in 2024. The positive pools were found in *Aedes cantator* (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

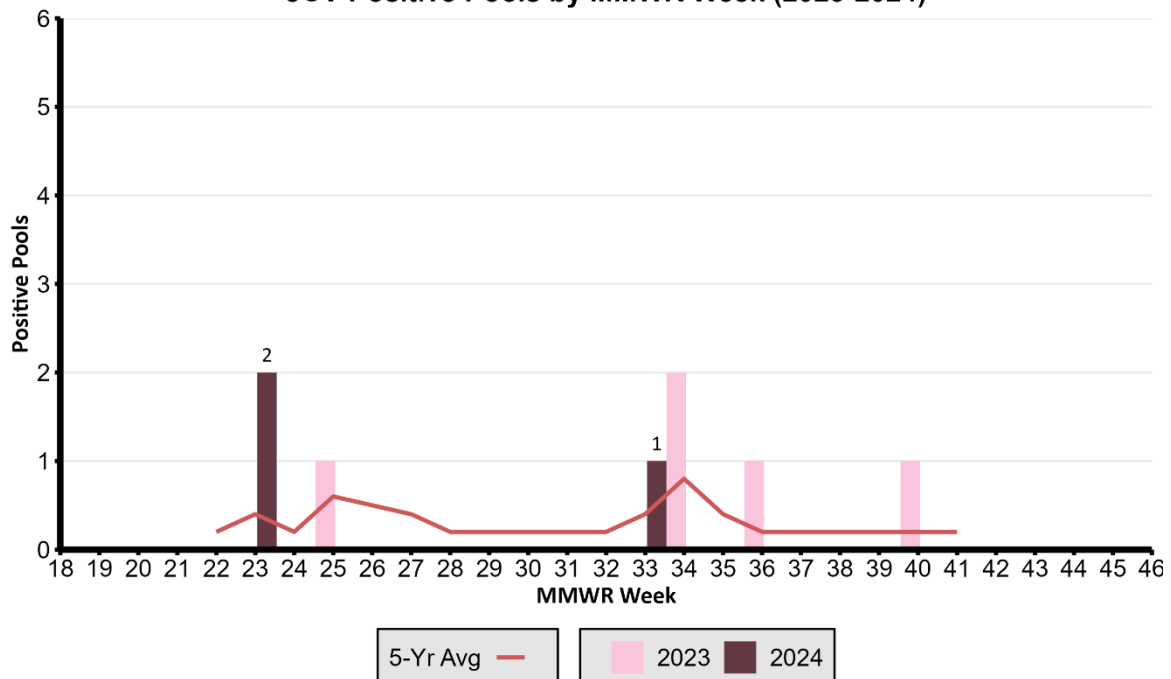
County	WEEK 41 Positive Pools		Cumulative Pos. Total* (WEEK 41)		# Pools Tested	Cumulative MFIR
	2024	2023	2024	2023		
Cumberland			2	1	413	0.65
Monmouth			1		486	0.08
Atlantic					456	
Bergen					398	
Burlington					315	
Camden					348	
Cape May					3,706	
Essex					449	
Gloucester				1	743	
Hudson					325	
Hunterdon					382	
Mercer					422	
Middlesex					369	
Morris					414	
Ocean					379	
Passaic					270	
Salem				1	551	
Somerset					301	
Sussex		1		2	380	
Union					291	
Warren					402	
Total	0	1	3	5	11,800	-

Cumulative JCV MFIR, 2024



WEEK 41: Oct 8 - 14, 2023; Oct 6 - 12, 2024

JCV Positive Pools by MMWR Week (2023-2024)

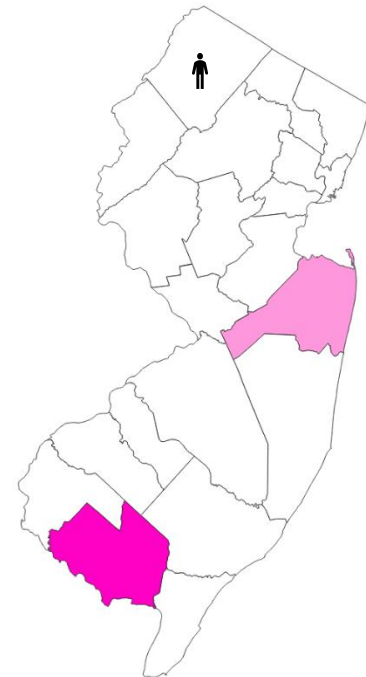
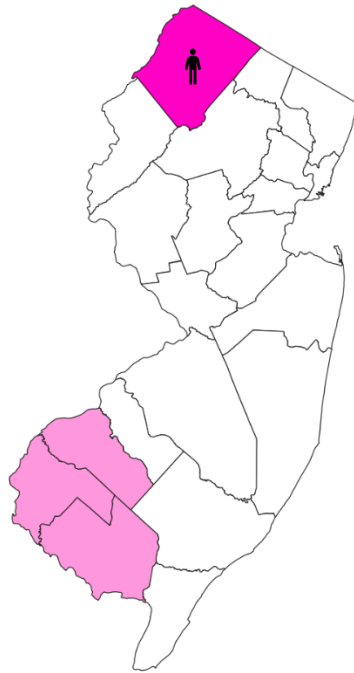


2023 JCV Activity

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	456				5		5		5	
Bergen	398		9		12		12		12	
Burlington	315		3							
Camden	348		9		5		5		5	
Cape May	3706		217		242		242		242	
Cumberland	413									
Essex	449				3		3		3	
Gloucester	743				7		7		7	
Hudson	325									
Hunterdon	382		3		3		3		3	
Mercer	422		2		3		3		3	
Middlesex	369		6		5		5		5	
Monmouth	486									
Morris	414				6		6		6	
Ocean	379		2		1		1		1	
Passaic	270		3							
Salem	551		19							
Somerset	301									
Sussex	380		40							
Union	291									
Warren	402		26		3		3		3	
Total	11800	-	339	-	295	-	295	-	295	-

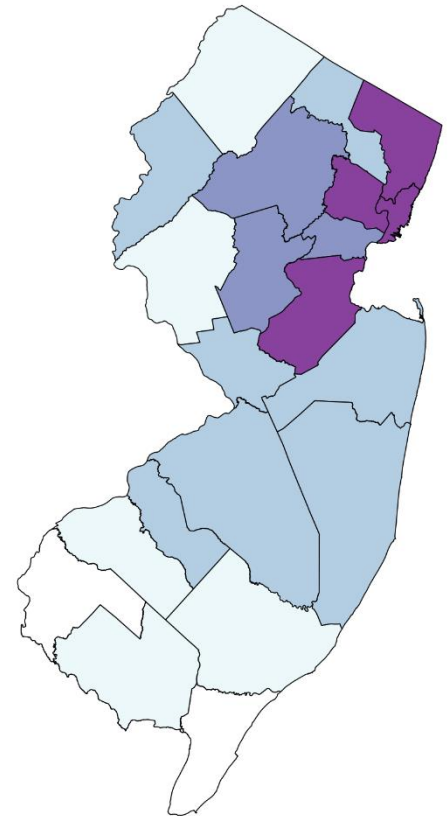
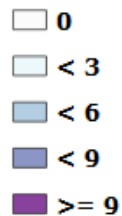
^a St. Louis virus (SLE), La Crosse encephalitis (LAC), Chikungunya virus (CHIKV), Dengue virus (DENV), Zika Virus (ZIKV)
 Numbers in white columns represent number of pools tested to date in 2024
 Number in green shaded columns represent positive pools in 2024

Human Dengue Virus Cases

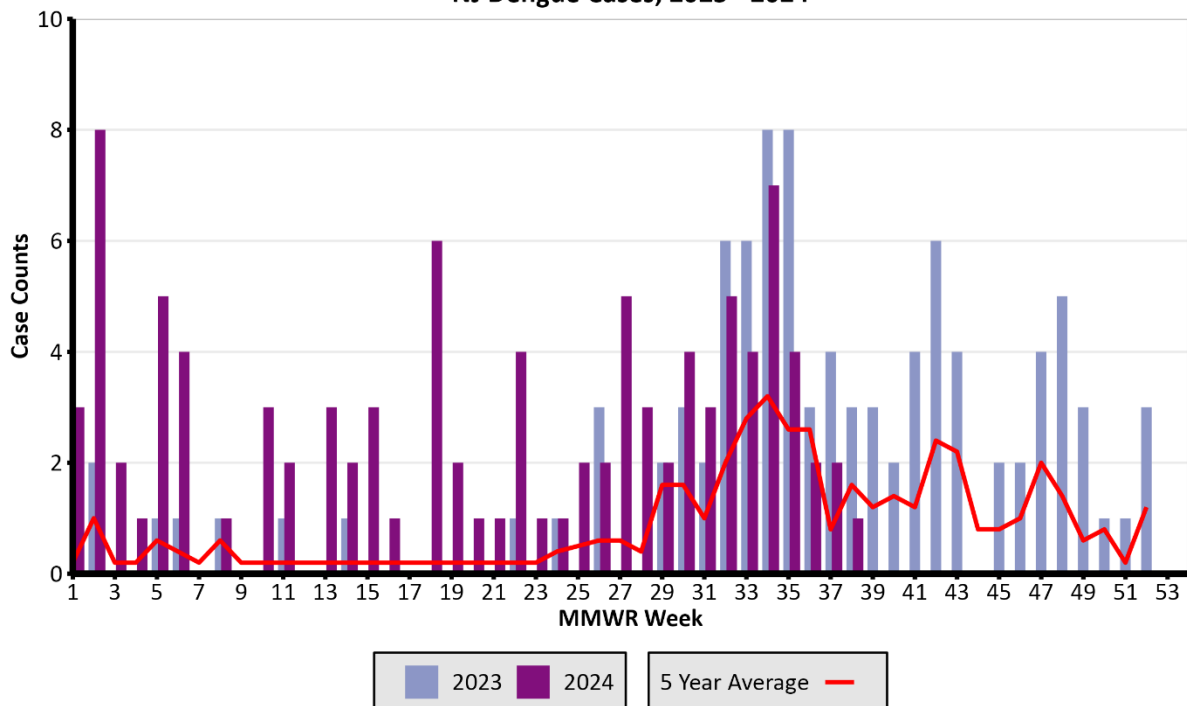
- There have been 100 cases of dengue virus reported to date in 2024, which is considerably higher than the number reported this time last year (68).
- All dengue cases are travel-associated, and the high case count is driven by outbreaks in several Latin American countries. Most NJ cases reported travel 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 (15), Middlesex (13), and Essex (11) counties.

Travel Destination(s) of Dengue Cases	
Country/U.S. Territory of Travel	Count
Puerto Rico	14
Dominican Republic	12
Colombia	9
Guatemala	9
Mexico	8
Brazil	7
India	6
El Salvador	5
Honduras	4
Trinidad & Tobago	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

Dengue Cases



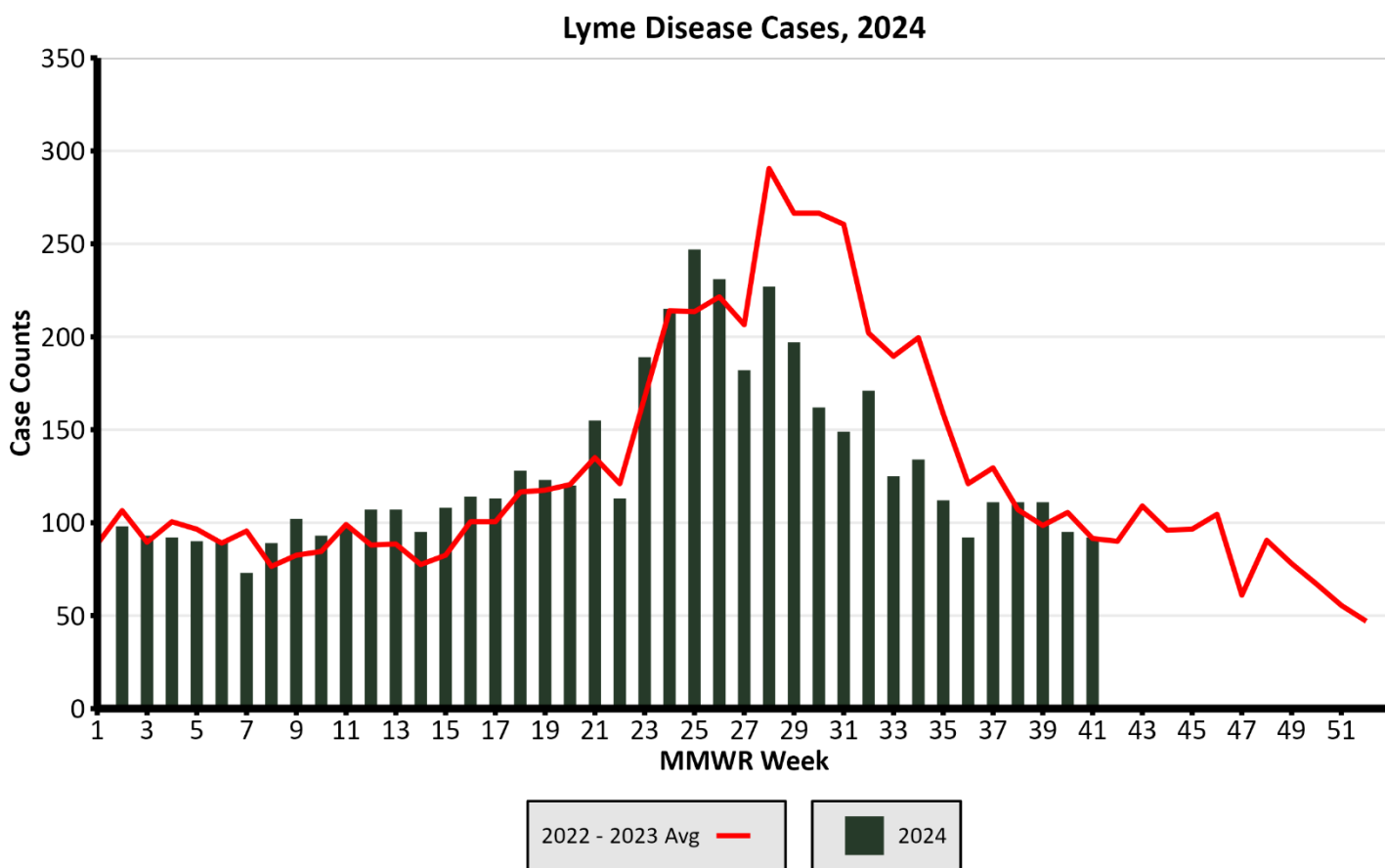
NJ Dengue Cases, 2023 - 2024



Tickborne Disease Activity

Lyme Disease

- There have been 5,251 cases of Lyme disease reported in New Jersey in 2024.
- The number of cases in Week 41 decreased slightly and is roughly equal to the average number of cases reported this week.

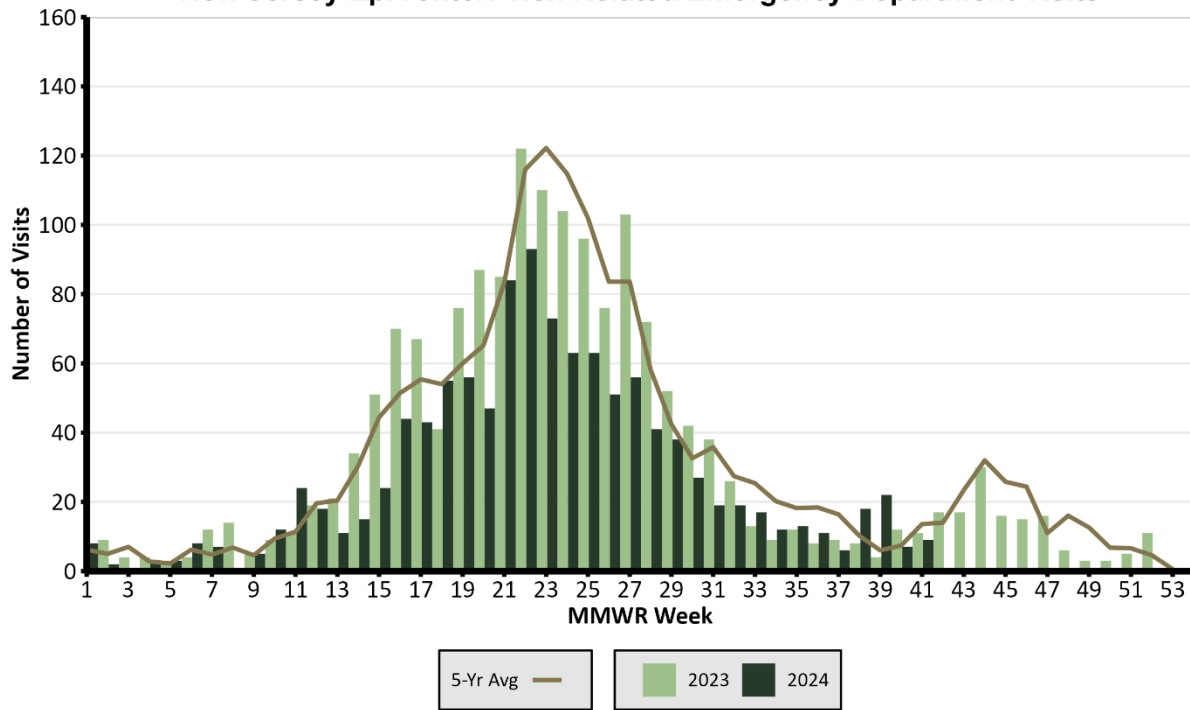


Tick-related Emergency Department Visits

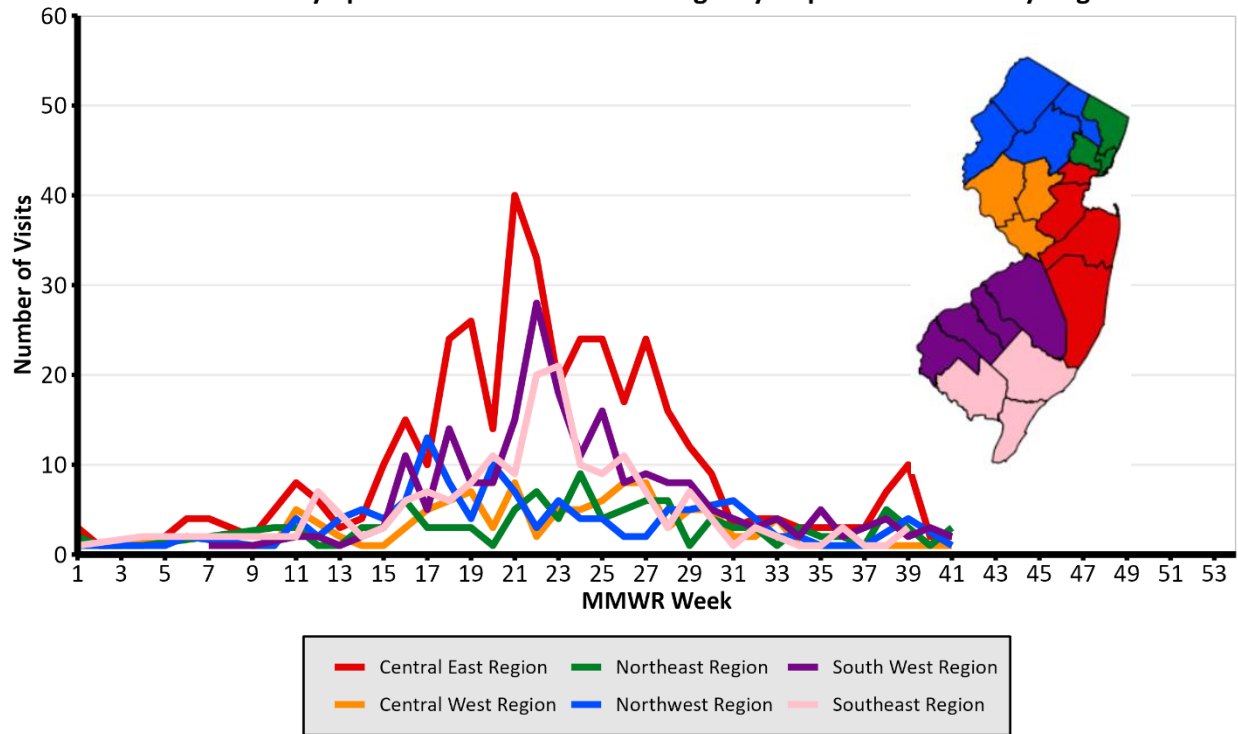
New Jersey's syndromic surveillance system, known as EpiCenter, receives real time Emergency Department (ED) data from 78 acute care and satellite health (99 percent reporting) facilities statewide. The system collects "chief complaint" information and limited patient registration data from existing 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 41, the number of tick-related ED visits increased slightly but remains below the 5-year average.

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/>