Vector-borne Surveillance Report

CDC WEEK 31: July 28 - Aug 3, 2024

Report Highlights:

- ***New Jersey is reporting one neuroinvasive human case of Eastern Equine Encephalitis (EEE) in week 27 from Atlantic County. This is the first reported human case of EEE in the state since 2019. One horse tested positive for EEE in week 31 from Atlantic County. Two mosquito pools tested positive for EEE this week from Morris and Hunterdon counties. There has been a total of 6 EEE positive pools in 2024.***
- ***One additional West Nile virus (WNV) viremic blood donor (PVD) was reported this week in Passaic County. To date, there are two human cases of WNV from Middlesex and Union counties and two PVDs from Passaic and Somerset counties. Eighty-six mosquito pools tested positive for WNV this week in 11 counties (additional tests pending). The number of positive pools this week is higher than the 5-year average. There has been a total of 412 WNV positive pools in 2024.***
- ***To date, one human case of Jamestown Canyon Virus (JCV) was reported in week 19 from Sussex County and JCV has been detected in two mosquito pools in Cumberland County.***
- ***The number of travel-associated dengue cases is higher in 2024 (59 cases) compared to the same timeframe in 2023 (20 cases), associated with outbreaks in several Latin American countries.***
- ***The number of Lyme disease cases this week continued to decrease and is below the average number reported this week in the past two years. The number of several other tickborne diseases is lower this year than expected.***
- ***In week 31, the number of tick-related ED visits continued to decrease and is lower than the 5-year average. The highest number of visits were 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. All 2024 numbers are preliminary and subject to change. Some cases considered "presumptive positive" are 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	**1**	13	Alpha-gal syndrome	**93**	360
Dengue	**59**	98	Anaplasmosis	**80**	195
Eastern equine encephalitis	**1**	-	Babesiosis	**136**	407
Jamestown Canyon	**1**	1	*Borrelia miyamotoi*	**6**	18
Malaria	**36**	102	Ehrlichiosis	**41**	109
West Nile	**2**	14	Lyme disease*	**4,015**	7,225
Zika	**-**	-	Powassan	**1**	-
			Spotted fever group rickettsioses	**6**	24
			Tularemia	**2**	2

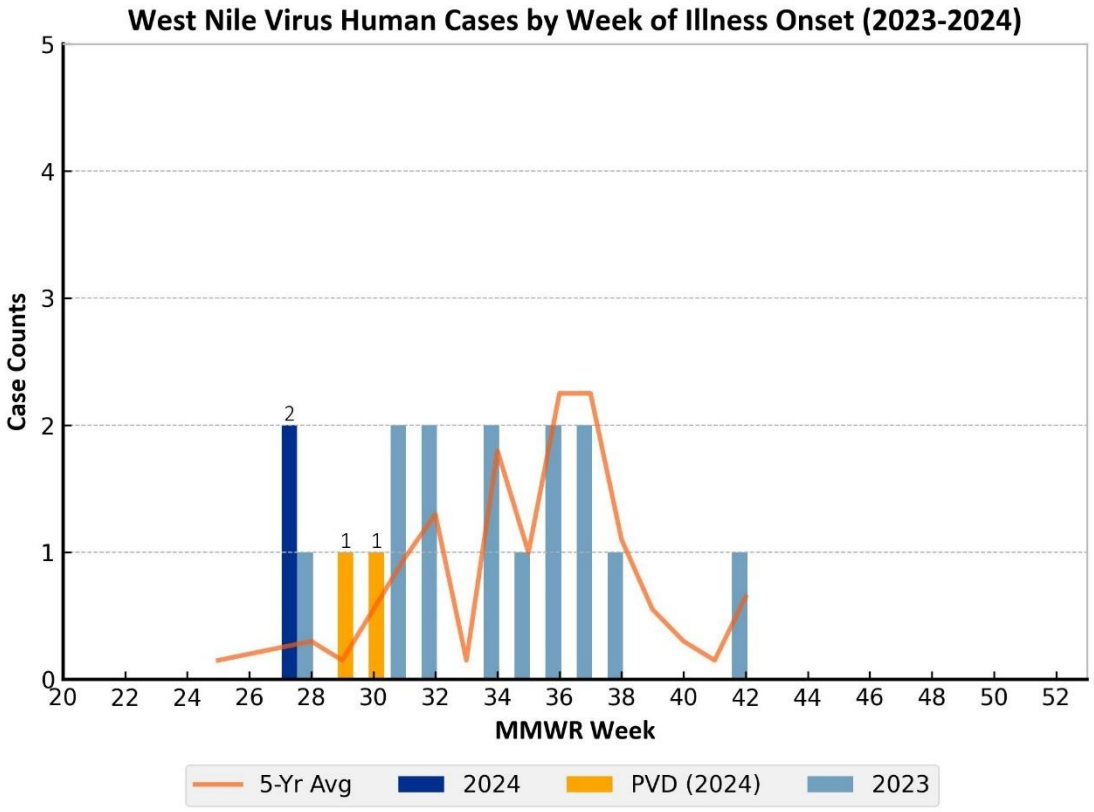
* Lyme disease surveillance transitioned to laboratory-based surveillance in 2022.

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 August 7, 2024.*

West Nile Virus

- Two human cases of WNV have been reported in week 27 from Middlesex and Union counties. There has been two PVDs; in week 29 from Somerset County and in week 31 from Passaic County. No animal cases of WNV have been reported in 2024.
- Out of 6,188 mosquito pools submitted for testing, 412 mosquito pools have tested positive for WNV this year. 86 pools tested positive in week 31 in 11 counties (additional tests pending). WNV has been detected in *Culex pipiens/restuans/salinarius (372), Aedes japonicus (9), Cx. pipiens (8), Cx. restuans (5), Aedes albopictus (13), Aedes triseriatus (2), Coquillettidia perturbans (1), Cx. salinarius (1), and Culiseta melanura (1)* mosquitoes.
- The earliest WNV positive mosquito pools (*Culex 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.

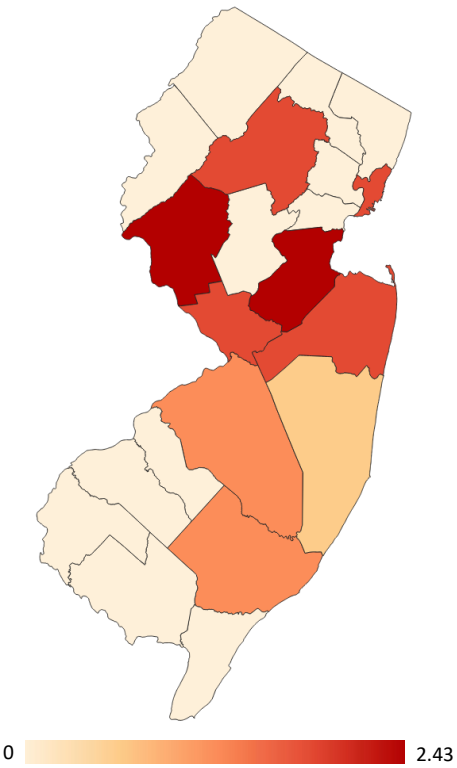


WNV Mosquito Pool Testing

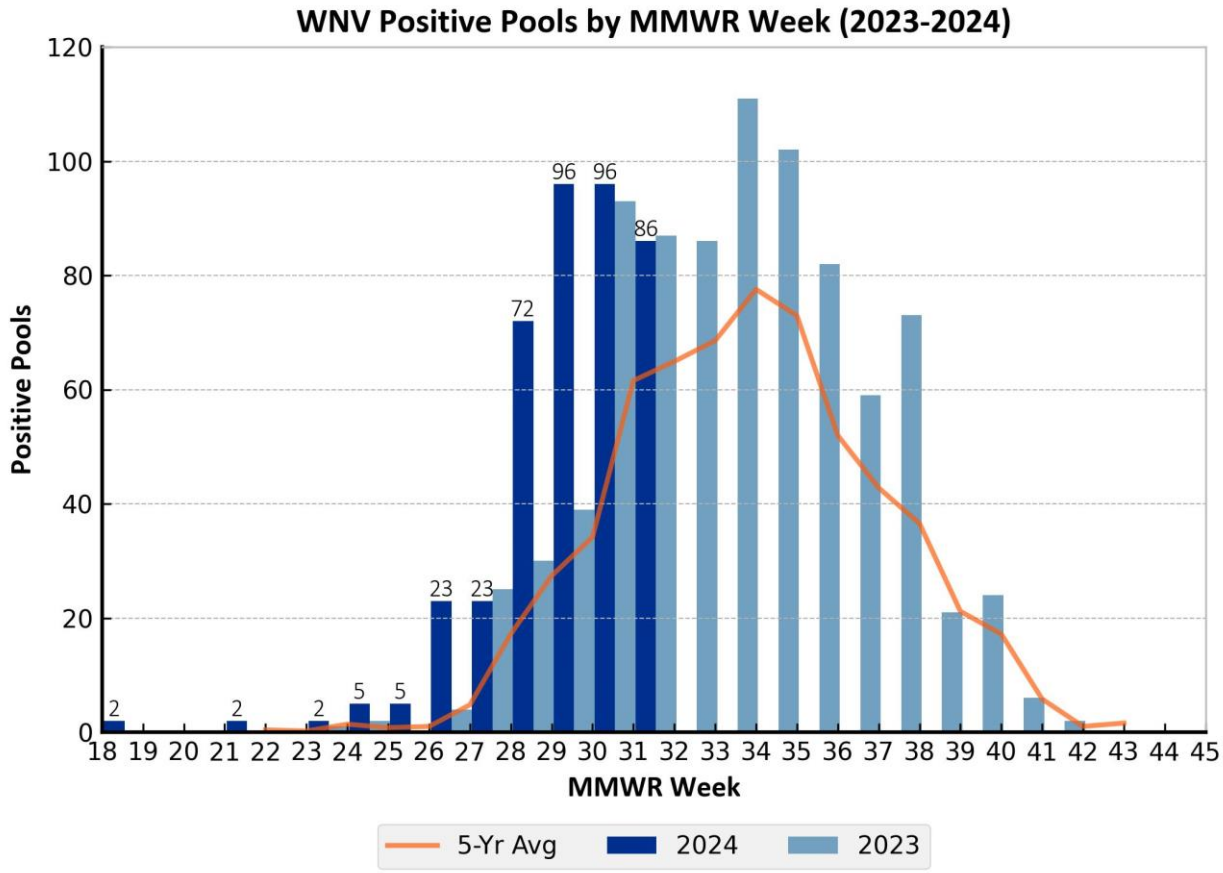
	WEEK 31 Positive Pools		Cumulative Pos. Total* (WEEK 31)		# Pools Tested*	WEEK 31 Vector Index	
County	**2024**	2023	**2024**	2023	**2024**	**2024[t]**	
Bergen	22	6	70	37	206	0.00	(–)
Middlesex	14	15	52	21	199	2.43	(↓)
Hudson	9	14	43	23	155	1.56	(↓)
Union		1	40	15	153	0.00	(–)
Passaic		10	24	10	155	0.00	(–)
Essex	13		23		192	0.00	(↓)
Hunterdon	7	1	22	7	213	2.26	(↑)
Monmouth	6		20		249	0.67	(↓)
Somerset		7	18	12	150	0.00	(–)
Gloucester		10	17	13	362	0.00	(–)
Mercer	6	2	17	6	238	0.71	(↑)
Morris	5	6	17	12	238	0.76	(↑)
Burlington	2	7	12	8	108	0.22	(↓)
Cape May		3	11	6	2067	0.00	(–)
Warren		1	10	3	219	0.00	(–)
Ocean	1	3	6	3	200	0.17	(↑)
Atlantic	1	2	3	6	233	0.56	(↑)
Salem		1	3	2	256	0.00	(–)
Camden			2	6	135	0.00	(↓)
Sussex		4	2	4	220	0.00	(–)
Cumberland					240	0.00	(–)
Total	**86**	**93**	**412**	**194**	**6,188**	**-**	

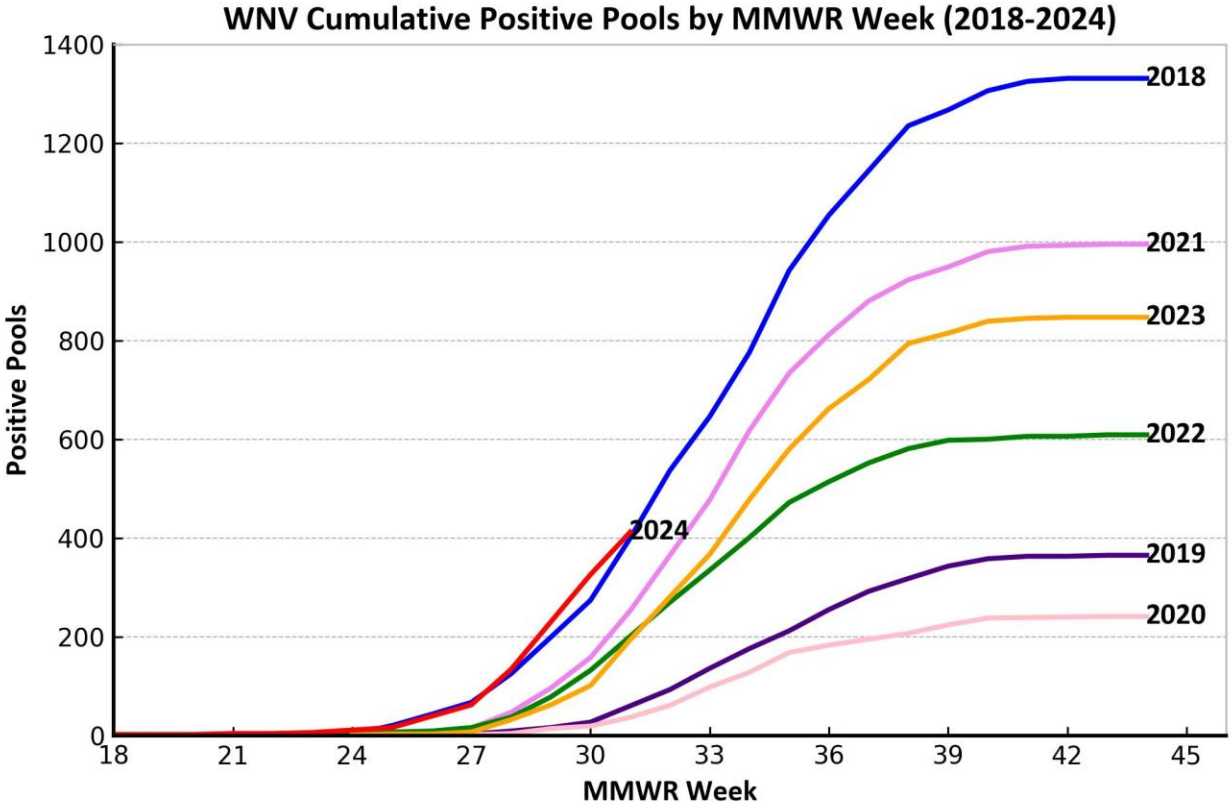
WEEK 31: July 30 - Aug 5, 2023; July 28 - Aug 3, 2024.
*184 mosquito pools submitted by 8 counties are considered "early season" samples (collected prior to Week 20).

WNV Vector Index, WEEK 31[t]

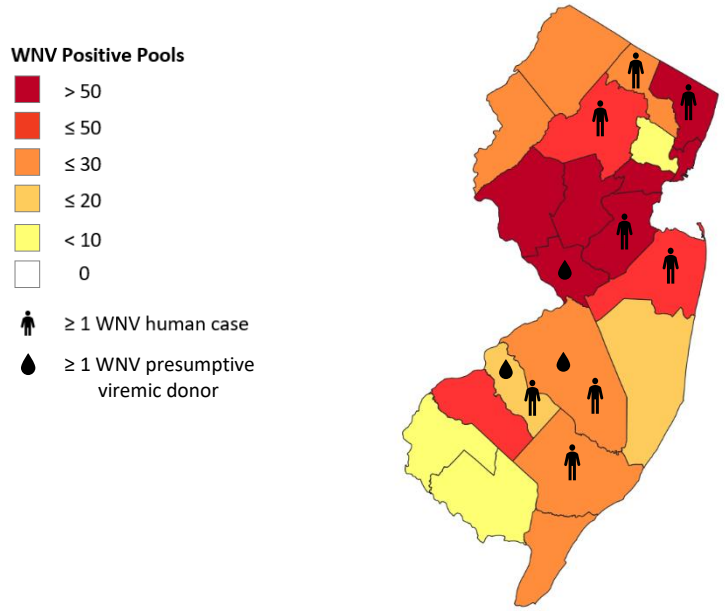


[t] Vector Index is calculated based on *Ae. taeniorhynchus, An. quadrimaculatus,* and all *Culex* species caught in gravid traps only.

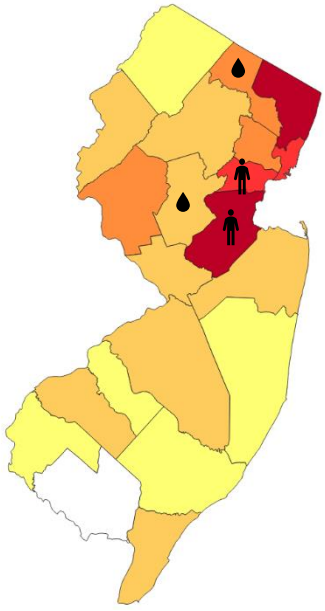

WNV Positive Pools by MMWR Week (2023-2024)
Positive Pools
MMWR Week
5-Yr Avg
2024
2023
2
2
2
5
5
23
23
72
96
96
86


WNV Cumulative Positive Pools by MMWR Week (2018-2024)
Positive Pools
MMWR Week
2018
2021
2023
2022
2024
2019
2020

2023 WNV Activity



Cumulative WNV Activity, 2024



Eastern Equine Encephalitis (EEE)

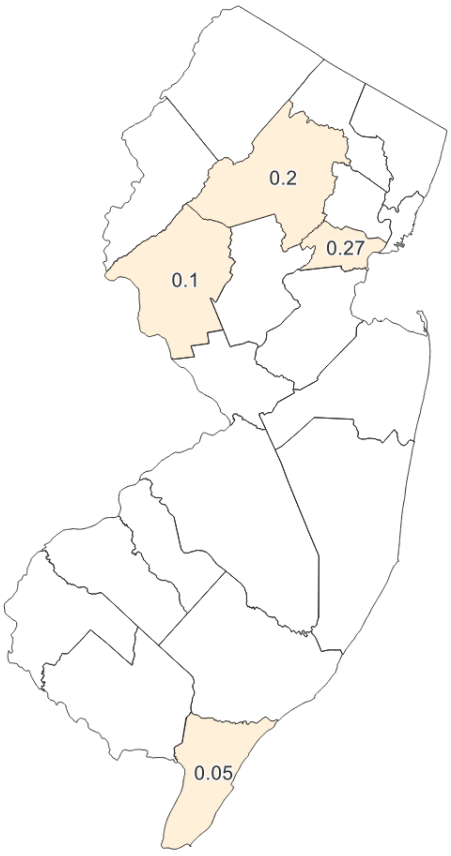
- One human case of EEE has been reported in week 27 from Atlantic County. EEE human cases were last reported in 2019 (4 cases).
- One horse tested positive for EEE in week 31 from Atlantic County. The horse was not current on EEE vaccination.
- Out of 6,115 mosquito pools tested for EEE, 6 pools have tested positive in 2024. The positive pools were found in *Coquillettidia perturbans (1), Cx. restuans (1), Culiseta morsitans (1),* and *Cx. pipiens/restuans/salinarius (3)* 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.

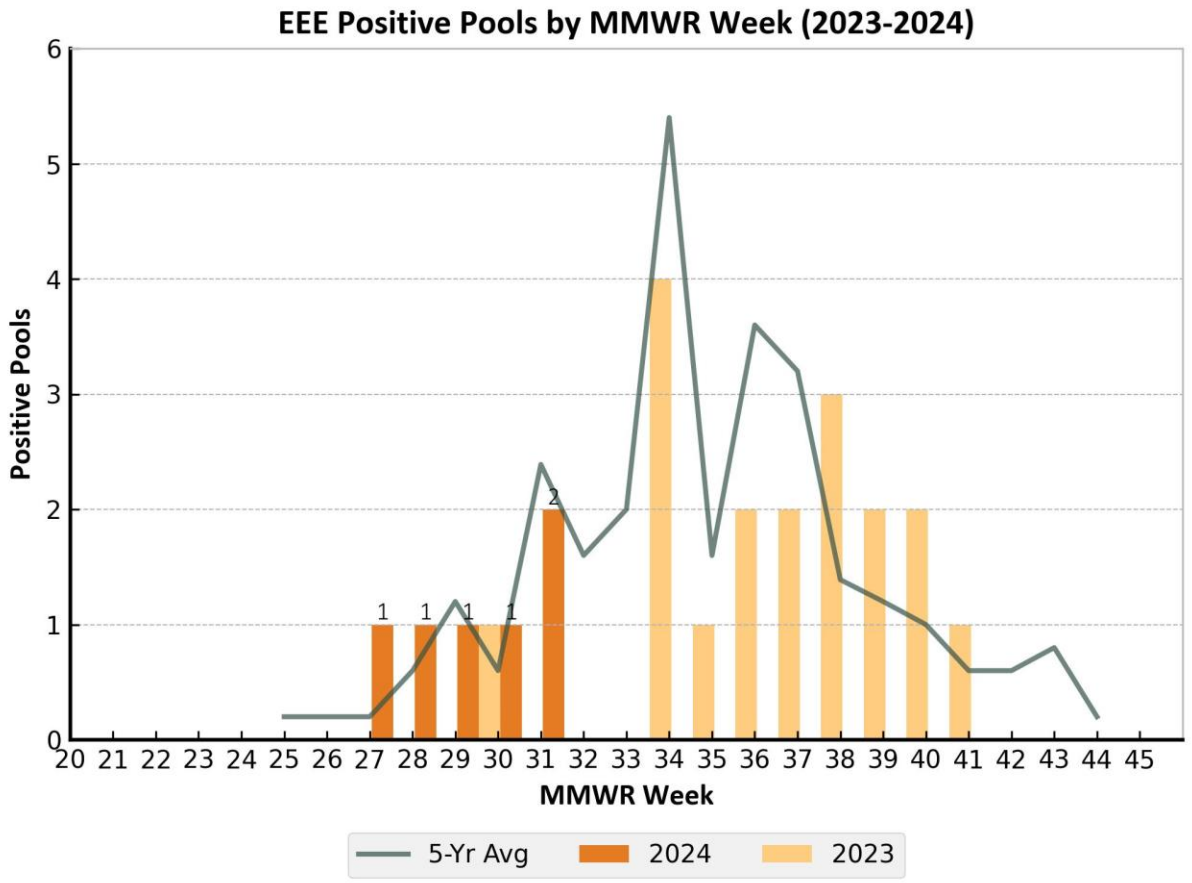
EEE Mosquito Pool Testing

	WEEK 31 Positive Pools		Cumulative Pos. Total* (WEEK 31)		# Pools Tested	Cumulative MFIR
County	**2024**	2023	**2024**	2023	**2024**	**2024**
Morris	1		2		238	0.20
Union			2		153	0.27
Cape May			1		2067	0.05
Hunterdon	1		1		210	0.10
Atlantic					233	
Bergen					185	
Burlington					107	
Camden					128	
Cumberland				1	240	
Essex					192	
Gloucester					362	
Hudson					155	
Mercer					236	
Middlesex					193	
Monmouth					249	
Ocean					198	
Passaic					155	
Salem					256	
Somerset					150	
Sussex					200	
Warren					208	
Total	**2**	**0**	**6**	**1**	**6,115**	**-**

WEEK 31: July 30 - Aug 5, 2023; July 28 - Aug 3, 2024

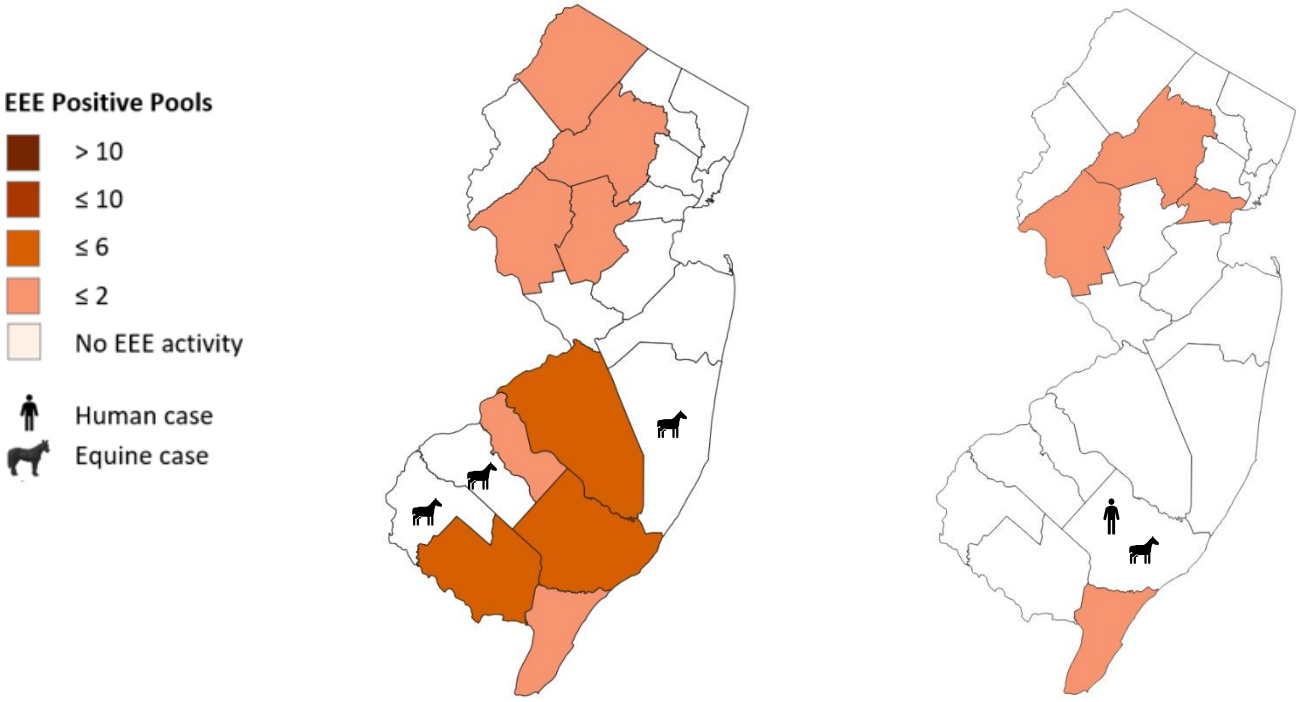
Cumulative EEE MFIR, 2024





2023 EEE Activity

Cumulative EEE Activity, 2024



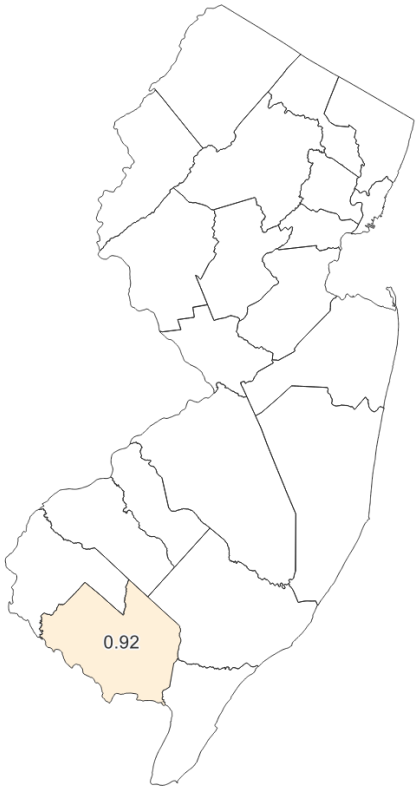
Jamestown Canyon Virus (JCV)

- There has been one human case of JCV reported in New Jersey in 2024 in week 19 from Sussex County. In 2023, there was one human case of JCV in week 42 from Sussex County.
- Out of 6,115 mosquito pools tested for JCV, two pools tested positive in week 23 from Cumberland County. The positive pools were found in *Aedes cantator (1) and Cx. salinarius (1)* mosquitoes.
- In 2023, the first JCV positive pool was detected in week 23 from Cumberland County.

JCV Mosquito Pool Testing

	WEEK 31 Positive Pools		Cumulative Pos. Total* (WEEK 31)		# Pools Tested	Cumulative MFIR
County	**2024**	2023	**2024**	2023	**2024**	**2024**
Cumberland			2	1	240	0.92
Atlantic					233	
Bergen					185	
Burlington					107	
Camden					128	
Cape May					2067	
Essex					192	
Gloucester					362	
Hudson					155	
Hunterdon					210	
Mercer					236	
Middlesex					193	
Monmouth					249	
Morris					238	
Ocean					198	
Passaic					155	
Salem					256	
Somerset					150	
Sussex					200	
Union					153	
Warren					208	
Total	**0**	**0**	**2**	**1**	**6,115**	**-**

Cumulative JCV MFIR, 2024



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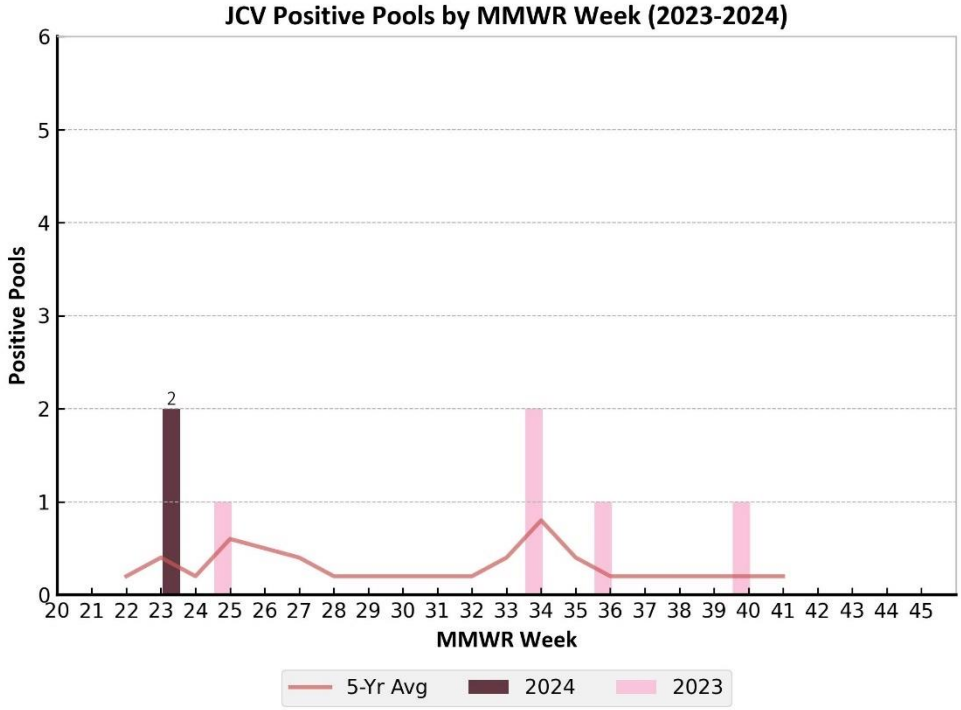
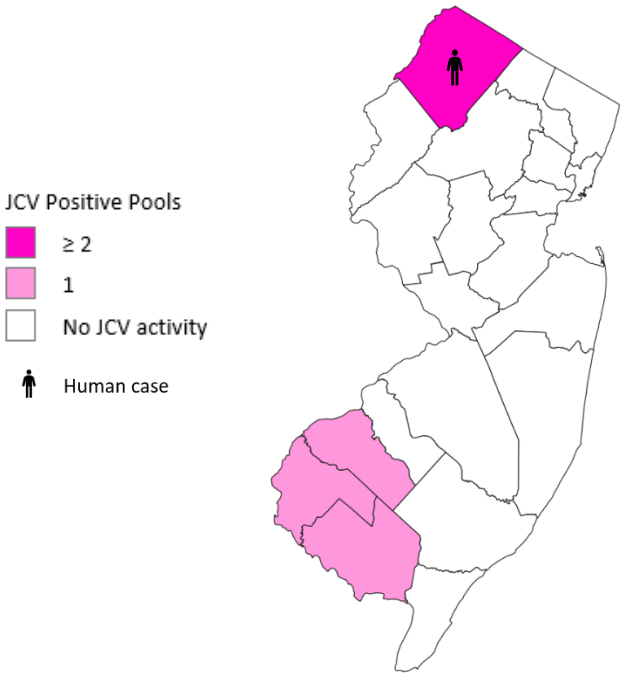
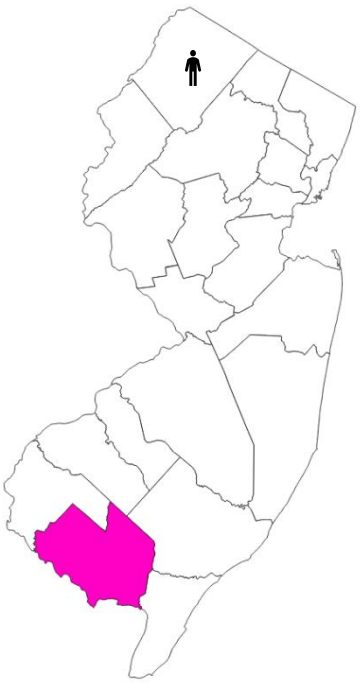


2023 JCV Activity



Cumulative JCV Activity, 2024



Other Mosquito-borne Viruses

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

Cumulative 2024 Mosquito Pool Testing (Other Viruses[a])

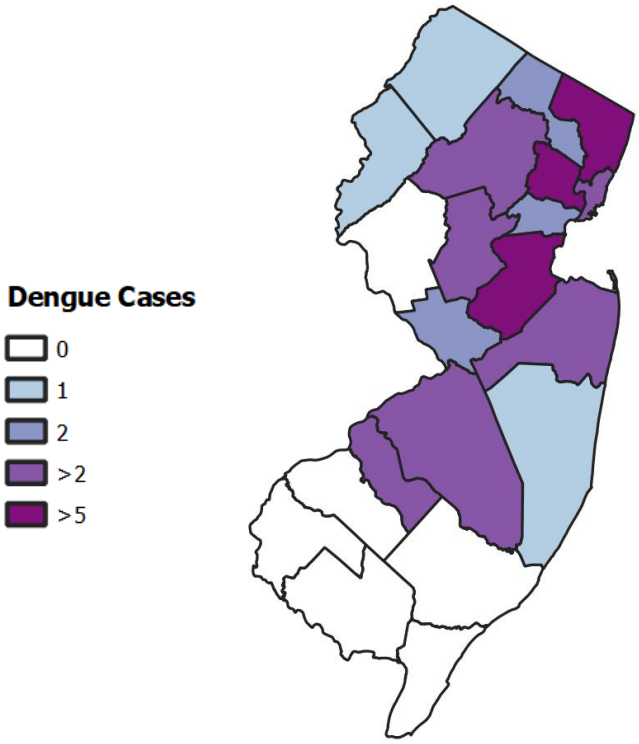
	SLE		LAC		CHIKV		DENV		ZIKV	
County	Pools	Pos	Pools	Pos	Pools	Pos	Pools	Pos	Pools	Pos
Atlantic	233									
Bergen	185		4		6		6		6	
Burlington	107		1							
Camden	128		7		1		1		1	
Cape May	2067		116		60		60		60	
Cumberland	240									
Essex	192				1		1		1	
Gloucester	362									
Hudson	155									
Hunterdon	210		3		3		3		3	
Mercer	236		2		1		1		1	
Middlesex	193		6							
Monmouth	249									
Morris	238				2		2		2	
Ocean	198		2							
Passaic	155		3							
Salem	256		11							
Somerset	150									
Sussex	200		20							
Union	153									
Warren	208		11							
Total	**6,115**	**-**	**186**	**-**	**74**	**-**	**74**	**-**	**74**	**-**

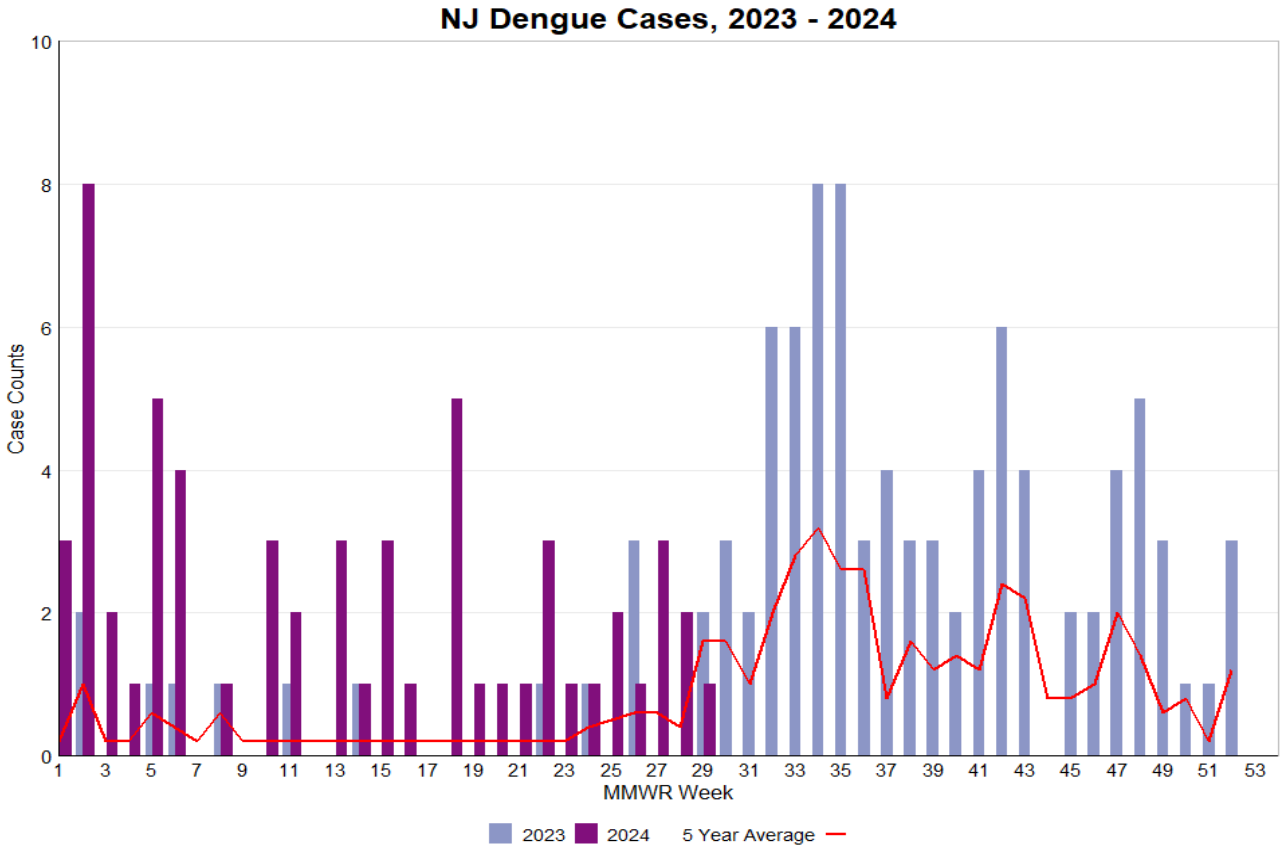
[a] St. Louis virus (SLE), La Crosse encephalitis (LAC), Chikungunya virus (CHIKV), Dengue virus (DENV), Zika Virus (ZIKV)
Numbers in white columns represent number of pools tested to date in 2024
Number in green shaded columns represent positive pools in 2024

Human Dengue Virus Cases

- There have been 59 cases of dengue virus reported so far in 2024, which is considerably higher than the number reported this time last year (20).
- All dengue cases are travel-associated, and the high case count is driven by outbreaks in several Latin American countries. Almost all (57) cases have reported travel to a country or U.S. territory in Latin America or the Caribbean.
- Many of the NJ cases are concentrated in the northeast region, with most cases residing in Bergen (11), Essex (8), and Middlesex (7) counties.

Travel Destination(s) of Dengue Cases	
Country/U.S. Territory of Travel	**Count**
Dominican Republic	11
Puerto Rico	8
Brazil	6
Mexico	5
Colombia	4
Guatemala	4
Ecuador	3
Aruba	2
Costa Rica	2
Guyana	2
India	2
Martinique	2
Peru	2
Antigua and Barbuda	1
Cuba	1
El Salvador	1
Honduras	1
Paraguay	1
U.S. Virgin Islands	1

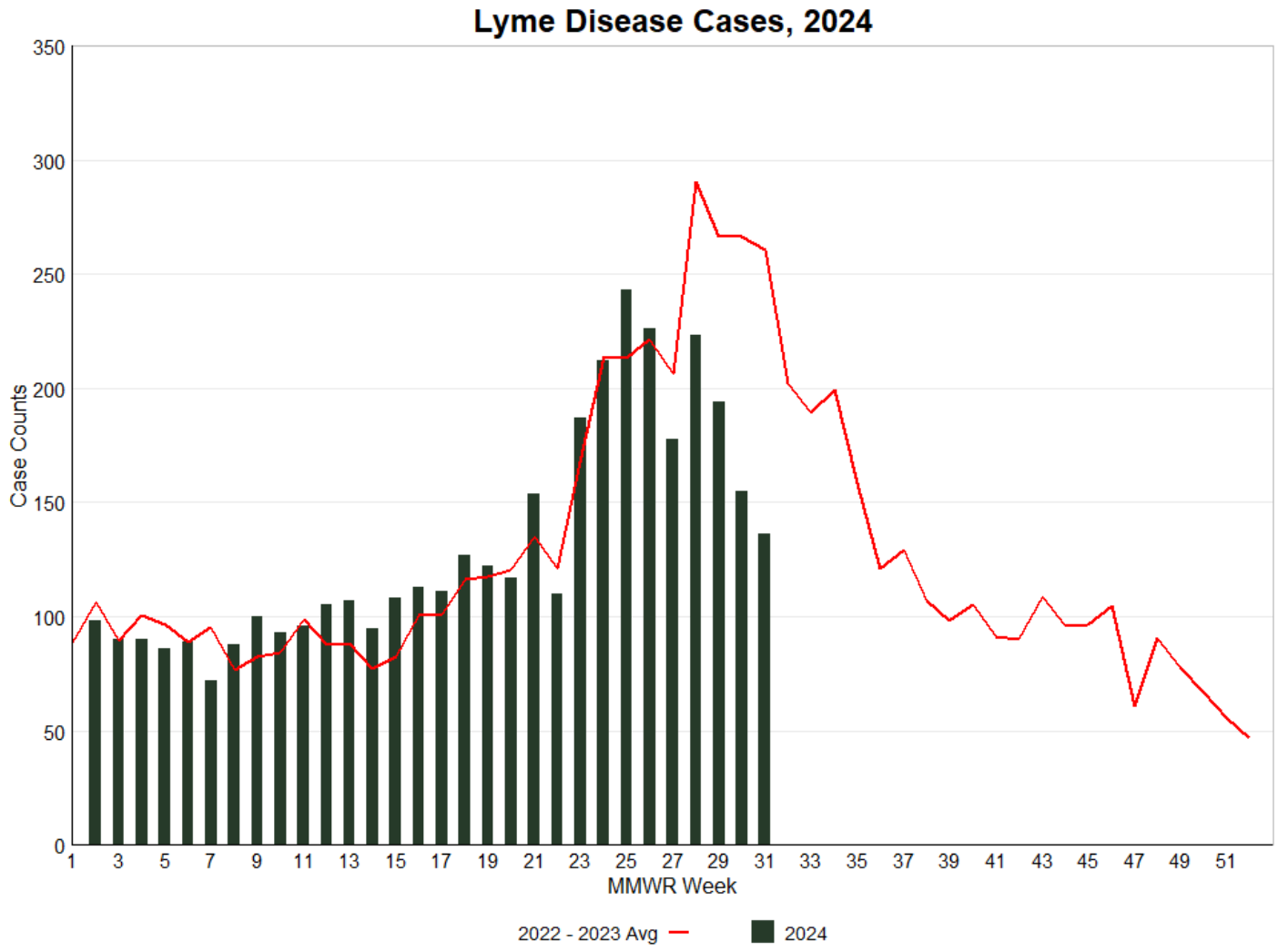




Tickborne Disease Activity

Lyme Disease

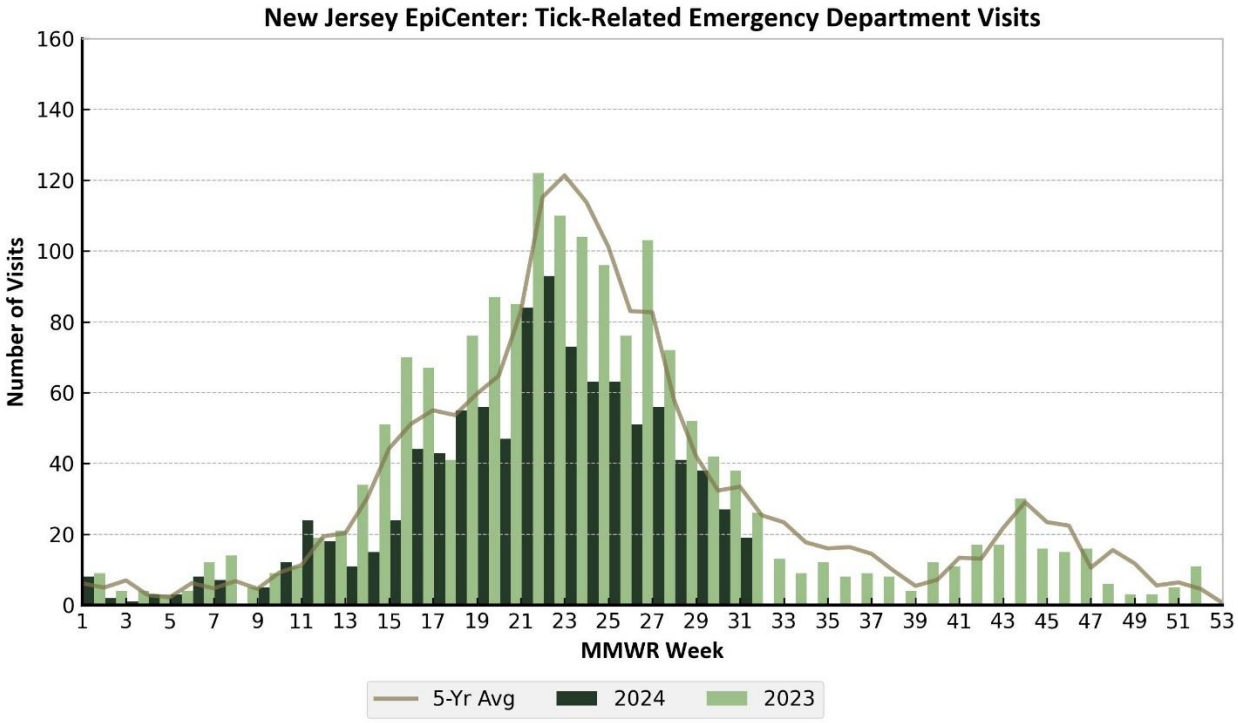
- There have been 4,015 cases of Lyme disease reported in New Jersey in 2024.
- The number of cases in week 31 continued to decrease and is below the average number of cases reported this week.

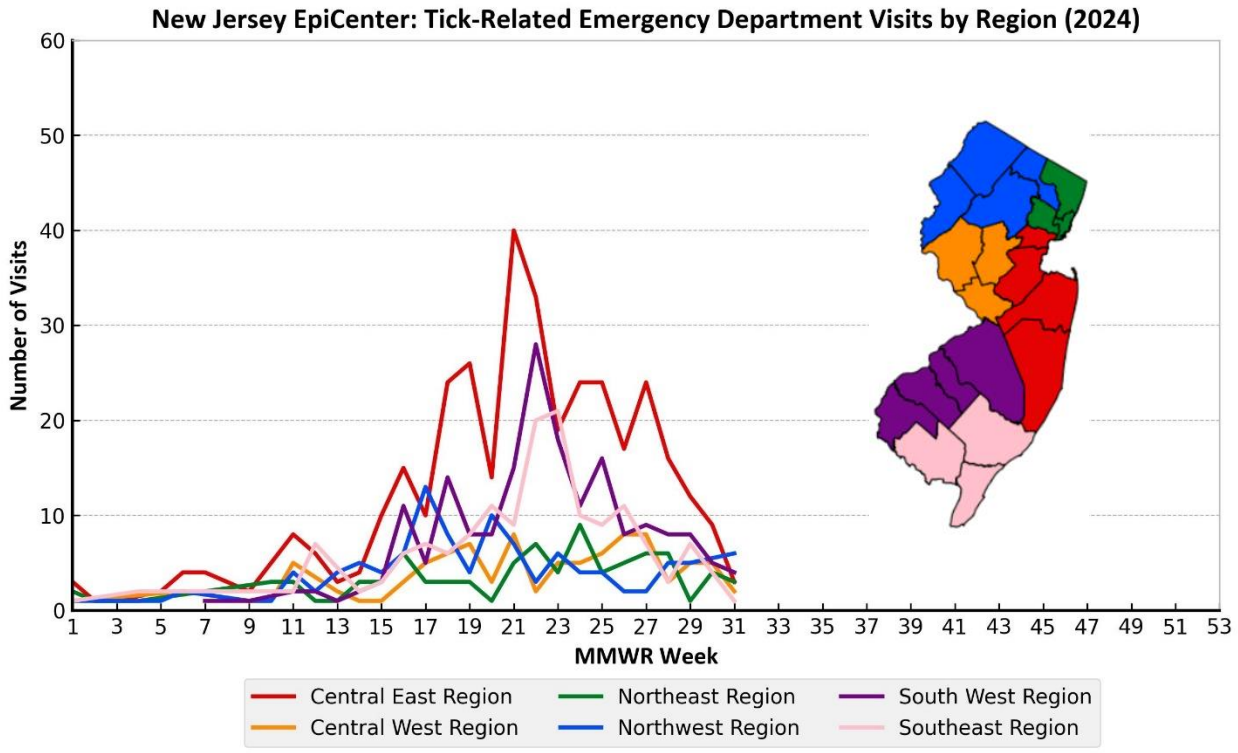


Tick-related Emergency Department Visits

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 31, the number of tick-related ED visits continued to decrease and is lower than the 5-year average.





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/