

## Report Highlights:

- **NJDOH is reporting nine additional human cases of West Nile virus (WNV) including one additional death (Monmouth). The new cases were in Bergen, Camden (2), Cape May, Essex, Monmouth (2), and Ocean (2) counties. To date, there have been 29 reported WNV cases, including four deaths and five presumptive viremic donors (PVDs). Ninety-three percent of WNV cases were hospitalized. An additional 36 mosquito pools tested positive for WNV since last report, including 16 this week (additional tests pending) for a total of 961 WNV positive pools in 2024.**
- **Two additional horses tested positive for Eastern Equine Encephalitis (EEE) in Ocean County since the last report. 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. One additional mosquito pool tested positive for EEE since last report from Salem County, for a total of 16 EEE positive 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.**
- **Nine additional travel-associated dengue cases are reported this week, for a total of 97 cases in 2024 compared to 61 cases during the same timeframe in 2023. Cases are associated with outbreaks in several Latin American countries.**
- **The number of Lyme disease cases is slightly above average this week. The number of tick-related emergency department visits increased this week and is higher 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	4	13	Alpha-gal syndrome	174	360
Dengue	97	98	Anaplasmosis	110	195
Eastern equine encephalitis	1	-	Babesiosis	208	407
Jamestown Canyon	1	1	<i>Borrelia miyamotoi</i>	12	18
Malaria	53	102	Ehrlichiosis	66	109
West Nile	29	14	Lyme disease	5,050	7,225
Zika	-	-	Powassan	1	-
			Spotted fever group rickettsioses	10	24
			Tularemia	2	2

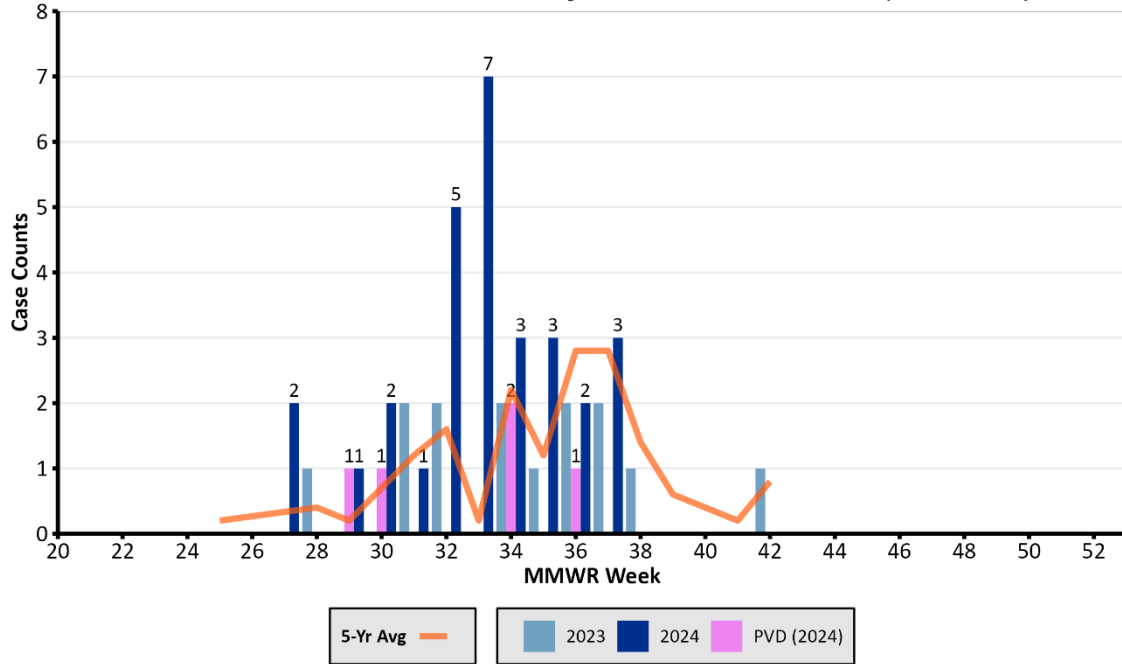
## Mosquito-borne Disease Activity\*

\*Test results may be incomplete as counties submit pools for testing on specific weekdays. Data reflects test results downloaded from JerseySurv on October 3, 2024.

### West Nile Virus

- Twenty-nine human cases of WNV have been reported in 2024 from Bergen (4), Burlington, Camden (3), Cape May, Cumberland (2), Essex (2), Hudson, Mercer (2), Middlesex (3), Monmouth (4), Ocean (3), Union (2), and Warren counties. There were four deaths reported in Cumberland, Mercer, Middlesex, and Monmouth counties. There have been five PVDs in Bergen, Camden, Essex, Passaic, and Somerset counties.
- 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 11,026 mosquito pools submitted for testing, 961 mosquito pools have tested positive for WNV this year with 16 pools positive in week 39 (additional tests pending). The most WNV positive pools have been detected in *Culex pipiens/restuans/salinarius* (811), *Cx. pipiens* (61), and *Ae. albopictus* (40) 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.

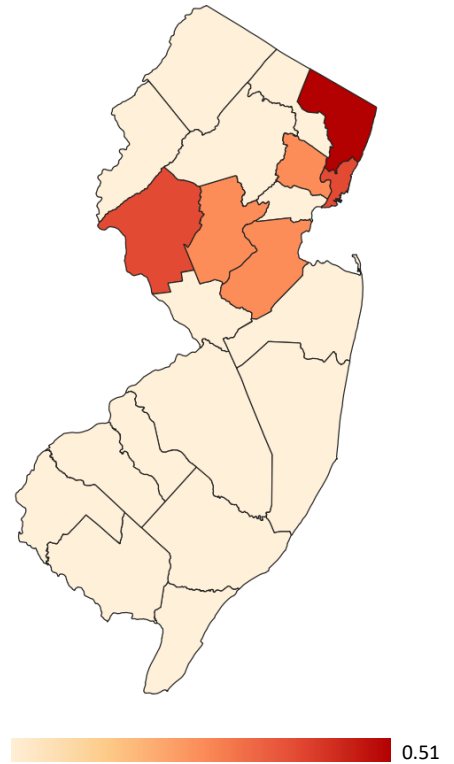
West Nile Virus Human Cases by Week of Illness Onset (2023-2024)



WNV Mosquito Pool Testing

County	WEEK 39 Positive Pools		Cumulative Pos. Total* (WEEK 39)		# Pools Tested*	WEEK 39 Vector Index	
	2024	2023	2024	2023		2024	2024 <sup>†</sup>
Bergen <sup>a</sup>	2	1	121	116	352	0.51	(↓)
Middlesex	2	3	95	67	346	0.18	(↓)
Hudson	3	2	91	80	293	0.27	(↑)
Union		2	86	57	291	0.00	(-)
Hunterdon	4	6	60	62	354	0.27	(↓)
Somerset	2	2	59	57	286	0.14	(↓)
Cape May			57	24	3,603	0.00	(-)
Morris			51	39	394	0.00	(-)
Passaic			51	26	262	0.00	(-)
Monmouth			46	33	439	0.00	(-)
Mercer	1	1	39	49	402	0.00	(↑)
Essex	1		34	5	402	0.07	(↓)
Gloucester			32	44	631	0.00	(-)
Sussex		2	31	29	380	0.00	(-)
Warren			28	29	408	0.00	(-)
Burlington			26	26	278	0.00	(-)
Atlantic	1	1	24	27	421	0.00	(-)
Camden		1	11	18	233	0.00	(↓)
Ocean			11	20	363	0.00	(-)
Salem			6	6	508	0.00	(-)
Cumberland			2	1	380	0.00	(-)
<b>Total</b>	<b>16</b>	<b>21</b>	<b>961</b>	<b>815</b>	<b>11,026</b>	-	

WNV Vector Index, WEEK 39<sup>†</sup>



<sup>†</sup> Vector Index is calculated based on *Ae. taeniorhynchus*, *An. quadrimaculatus*, and all *Culex* species caught in gravid traps only.

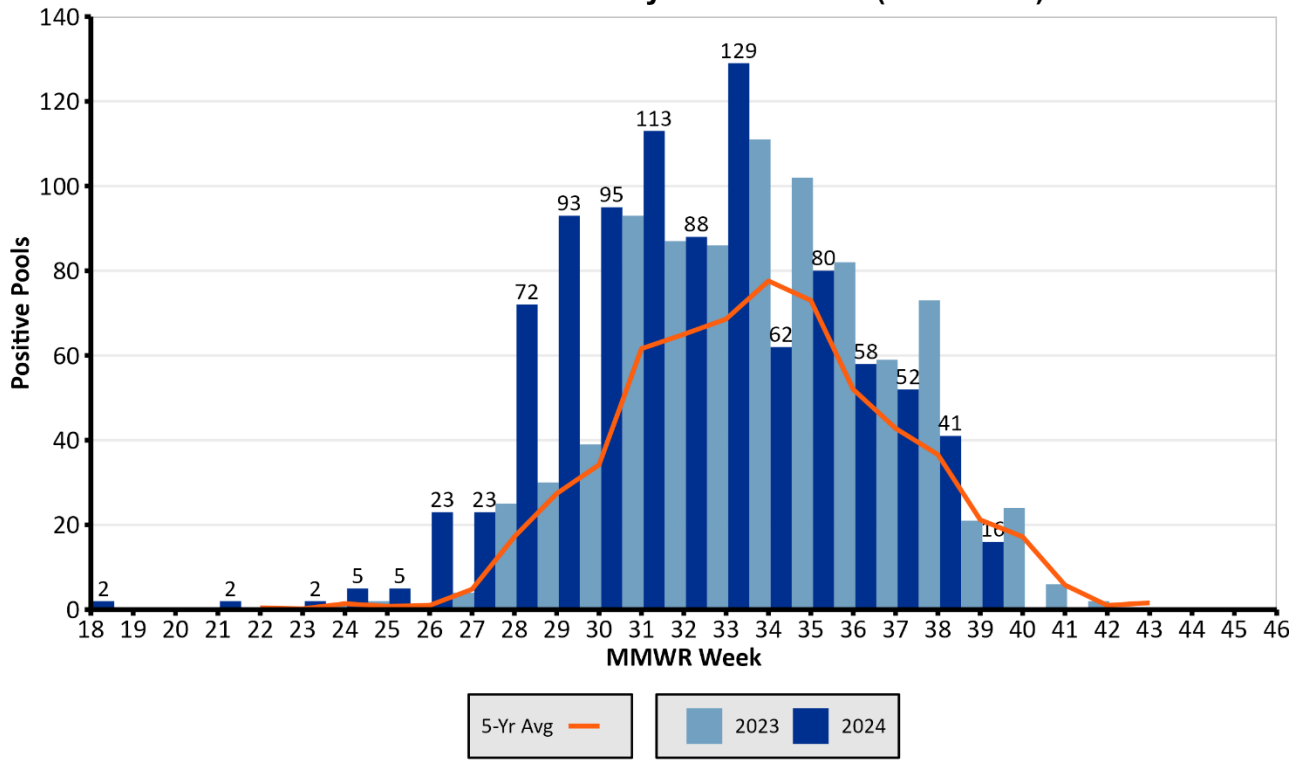
WEEK 39: Sep 24 - 30, 2023; Sep 22 - 28, 2024.

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

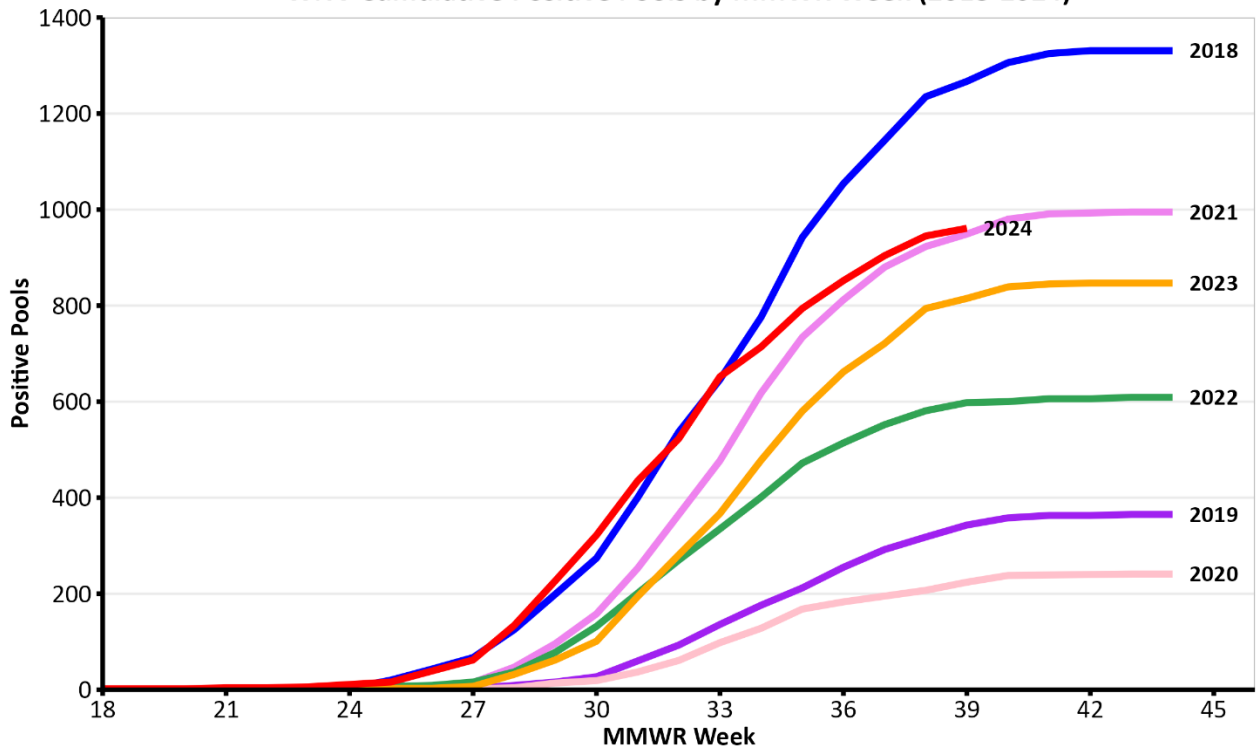
\*Vector Index cannot be calculated because all tested pools were positive. In these situations, the county is shown on the map with red stripes to indicate elevated activity.

<sup>a</sup> Past 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)**

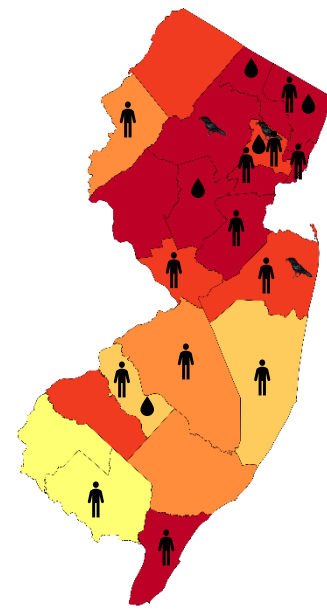
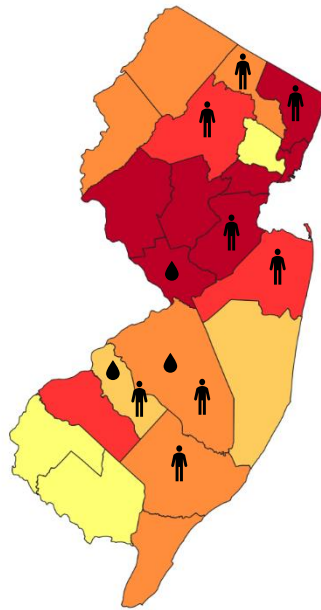


### 2023 WNV Activity

### Cumulative WNV Activity, 2024

#### WNV Positive Pools

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



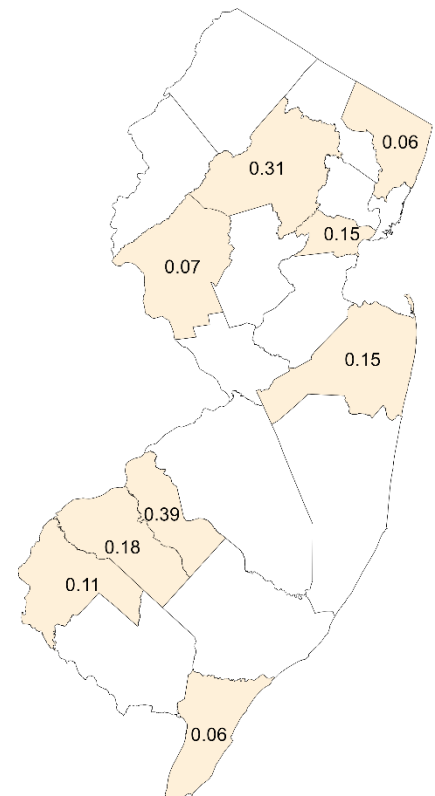
### Eastern Equine Encephalitis (EEE)

- 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 10,944 mosquito pools tested for EEE, 16 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* (4) 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

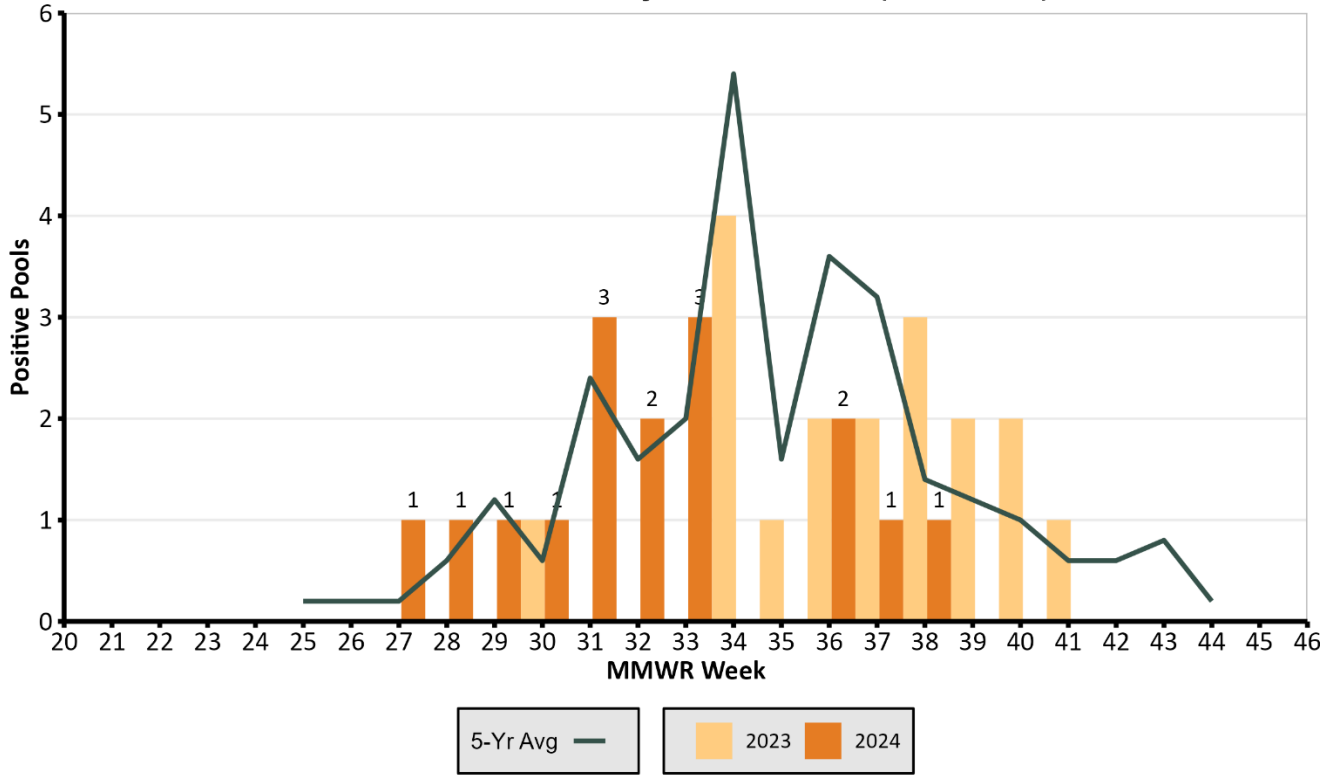
County	WEEK 39 Positive Pools		Cumulative Pos. Total* (WEEK 39)		# Pools Tested 2024	Cumulative MFIR 2024
	2024	2023	2024	2023		
Morris			4	1	394	0.31
Cape May			2	1	3,603	0.06
Gloucester			2		631	0.18
Monmouth			2		439	0.15
Union			2		291	0.15
Bergen			1		352	0.06
Camden			1	2	224	0.39
Hunterdon		1	1	1	351	0.07
Salem			1		508	0.11
Atlantic				3	421	
Burlington		1		3	275	
Cumberland				3	380	
Essex					402	
Hudson					293	
Mercer					400	
Middlesex					340	
Ocean					361	
Passaic					262	
Somerset				1	286	
Sussex					344	
Warren					387	
<b>Total</b>	<b>0</b>	<b>2</b>	<b>16</b>	<b>15</b>	<b>10,944</b>	<b>-</b>

#### Cumulative EEE MFIR, 2024



WEEK 39: Sep 24 - 30, 2023; Sep 22 - 28, 2024

### EEE Positive Pools by MMWR Week (2023-2024)

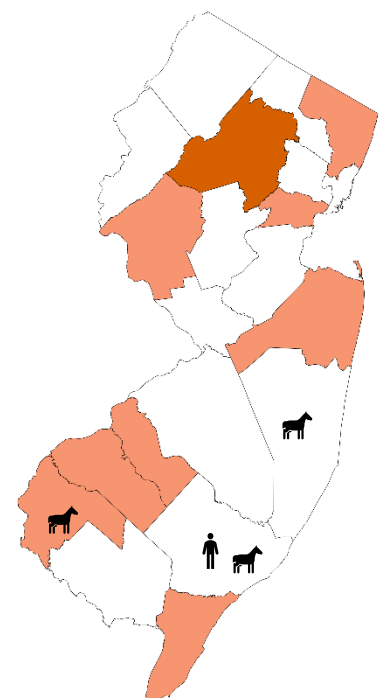
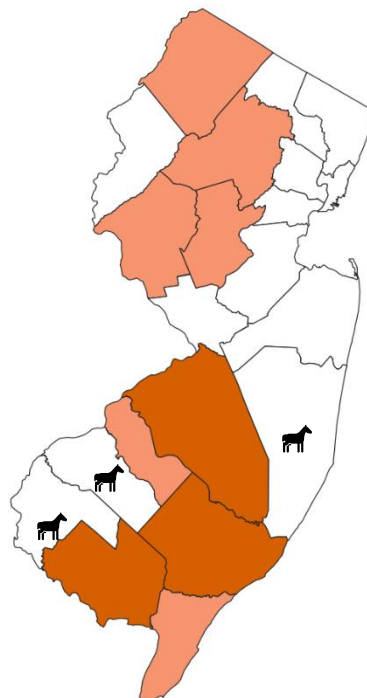


### 2023 EEE Activity

### Cumulative EEE Activity, 2024

#### EEE Positive Pools

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



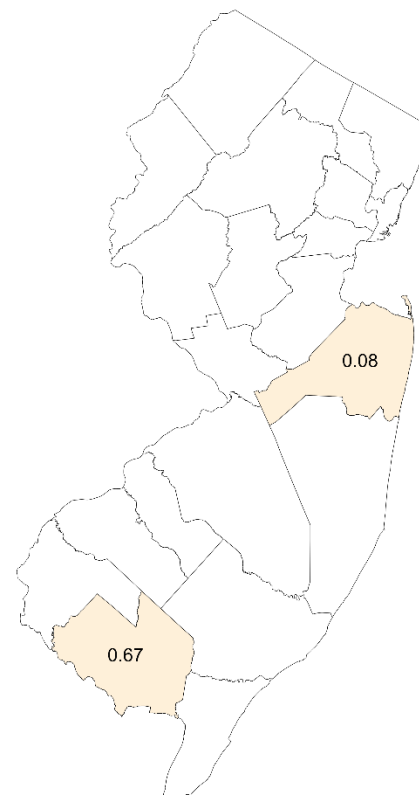
## Jamestown Canyon Virus (JCV)

- 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 10,944 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**

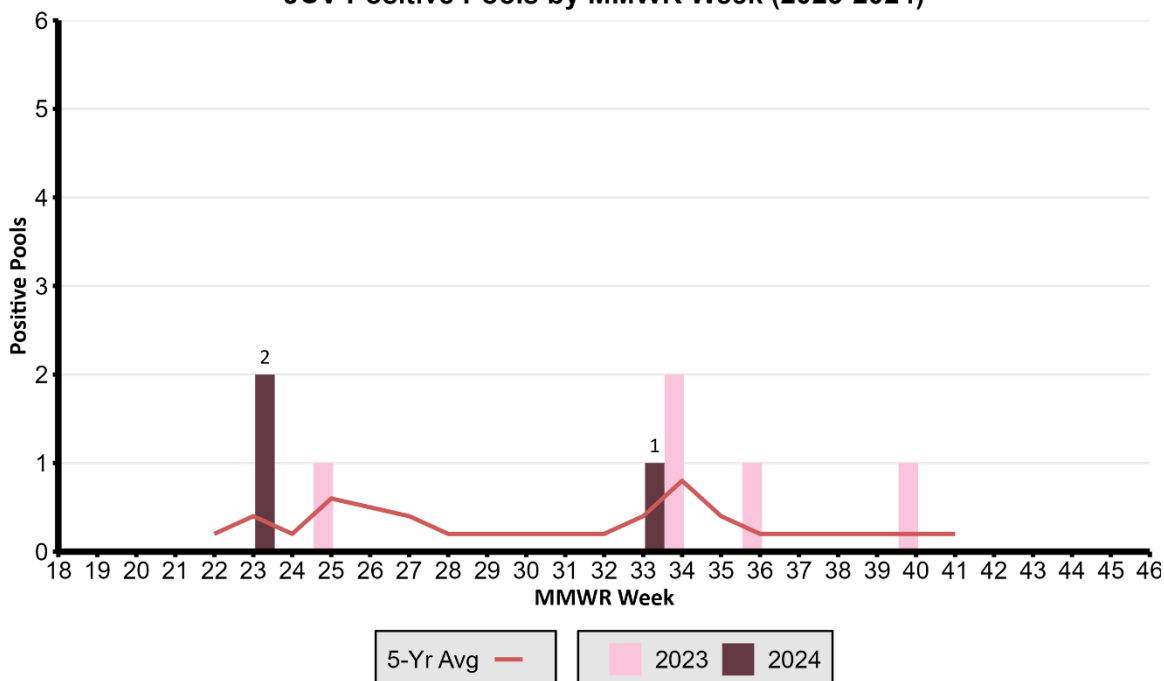
County	WEEK 39 Positive Pools		Cumulative Pos. Total* (WEEK 39)		# Pools Tested	Cumulative MFIR
	2024	2023	2024	2023		
Cumberland			2	1	380	0.67
Monmouth			1		439	0.08
Atlantic					421	
Bergen					352	
Burlington					275	
Camden					224	
Cape May					3,603	
Essex					402	
Gloucester				1	631	
Hudson					293	
Hunterdon					351	
Mercer					400	
Middlesex					340	
Morris					394	
Ocean					361	
Passaic					262	
Salem				1	508	
Somerset					286	
Sussex				1	344	
Union					291	
Warren					387	
<b>Total</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>4</b>	<b>10,944</b>	<b>-</b>

**Cumulative JCV MFIR, 2024**



WEEK 39: Sep 24 - 30, 2023; Sep 22 - 28, 2024

**JCV Positive Pools by MMWR Week (2023-2024)**

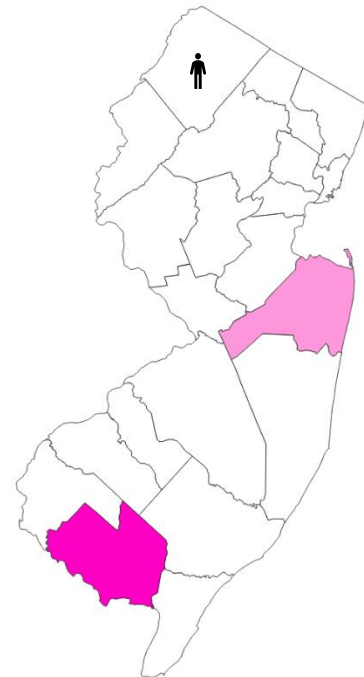
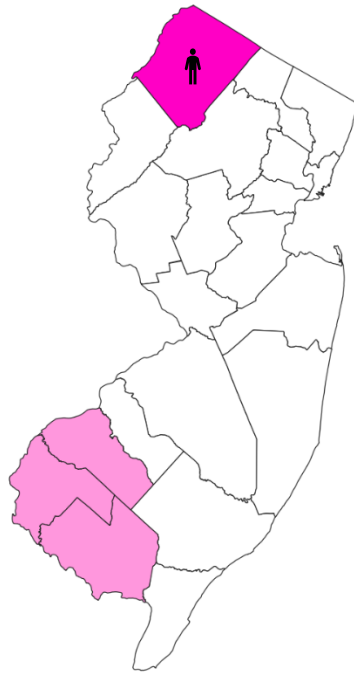


### 2023 JCV Activity

### 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<sup>a</sup>)

County	SLE		LAC		CHIKV		DENV		ZIKV	
	Pools	Pos	Pools	Pos	Pools	Pos	Pools	Pos	Pools	Pos
Atlantic	421				5		5		5	
Bergen	352		9		10		10		10	
Burlington	275		3							
Camden	224		9		5		5		5	
Cape May	3603		217		242		242		242	
Cumberland	380									
Essex	402				1		1		1	
Gloucester	631				7		7		7	
Hudson	293									
Hunterdon	351		3		3		3		3	
Mercer	400		2		3		3		3	
Middlesex	340		6		5		5		5	
Monmouth	439									
Morris	394				6		6		6	
Ocean	361		2		1		1		1	
Passaic	262		3							
Salem	508		19							
Somerset	286									
Sussex	344		36							
Union	291									
Warren	387		21		3		3		3	
<b>Total</b>	<b>10,944</b>	<b>-</b>	<b>330</b>	<b>-</b>	<b>291</b>	<b>-</b>	<b>291</b>	<b>-</b>	<b>291</b>	<b>-</b>

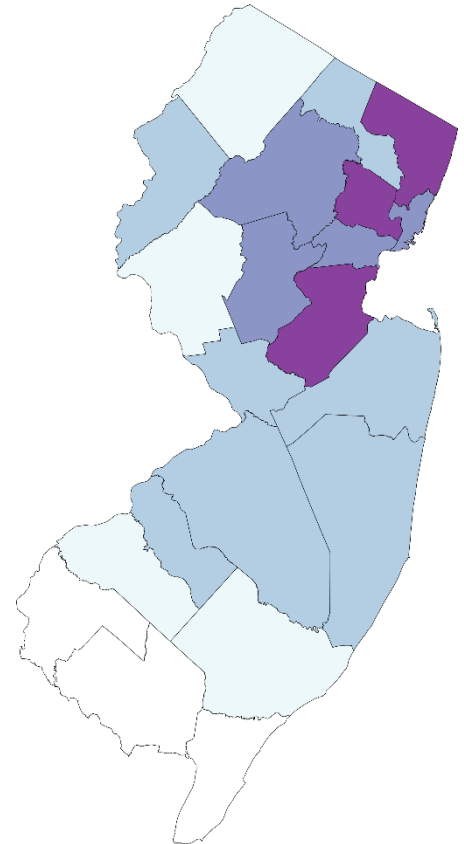
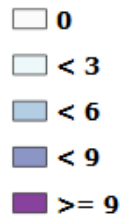
<sup>a</sup> St. Louis virus (SLE), La Crosse encephalitis (LAC), Chikungunya virus (CHIKV), Dengue virus (DENV), Zika Virus (ZIKV)  
 Numbers in white columns represent number of pools tested to date in 2024  
 Number in green shaded columns represent positive pools in 2024

## Human Dengue Virus Cases

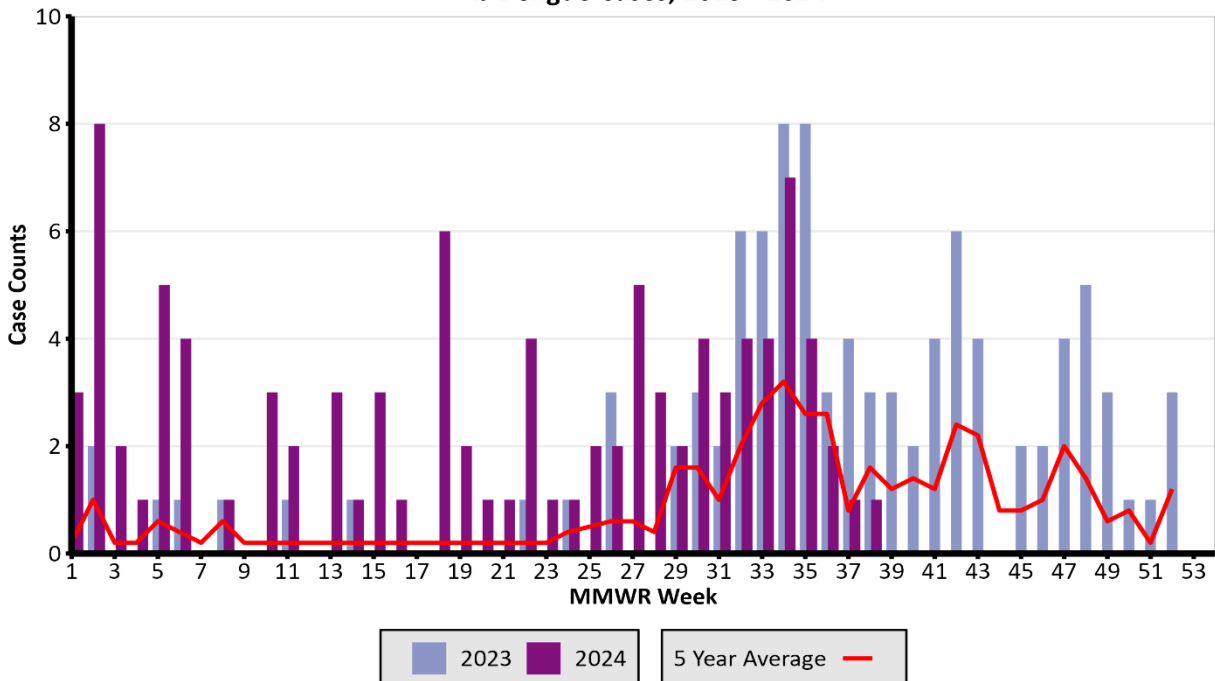
- There have been 97 cases of dengue virus reported to date in 2024, which is considerably higher than the number reported this time last year (61).
- All dengue cases are travel-associated, and the high case count is driven by outbreaks in several Latin American countries. Most NJ cases reported travel 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 (10) 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	7
Brazil	6
India	6
El Salvador	5
Trinidad & Tobago	4
U.S. Virgin Islands	4
Ecuador	3
Honduras	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

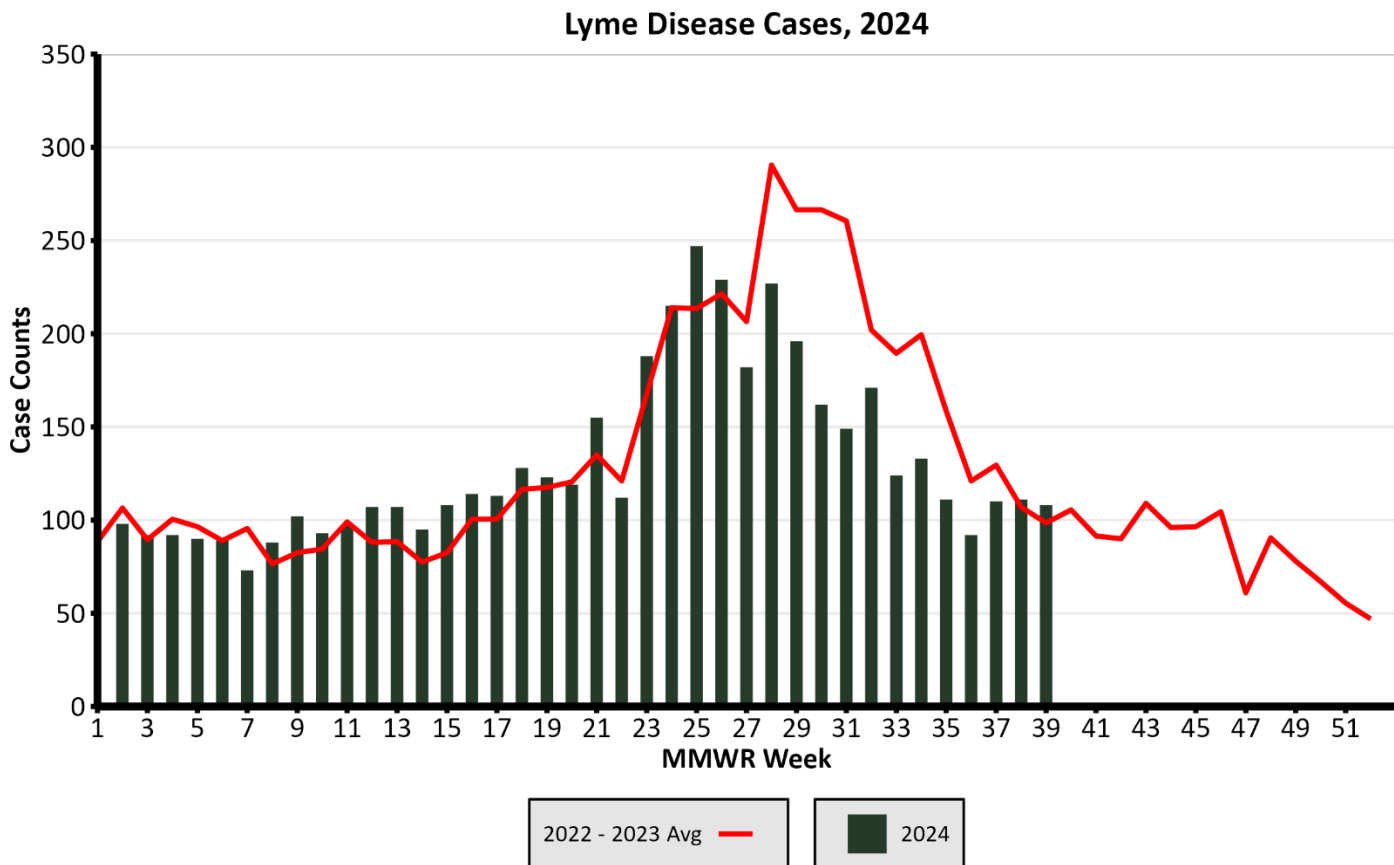




## Tickborne Disease Activity

### Lyme Disease

- There have been 5,050 cases of Lyme disease reported in New Jersey in 2024.
- The number of cases in Week 39 decreased slightly but remains above the average number of cases reported this week.

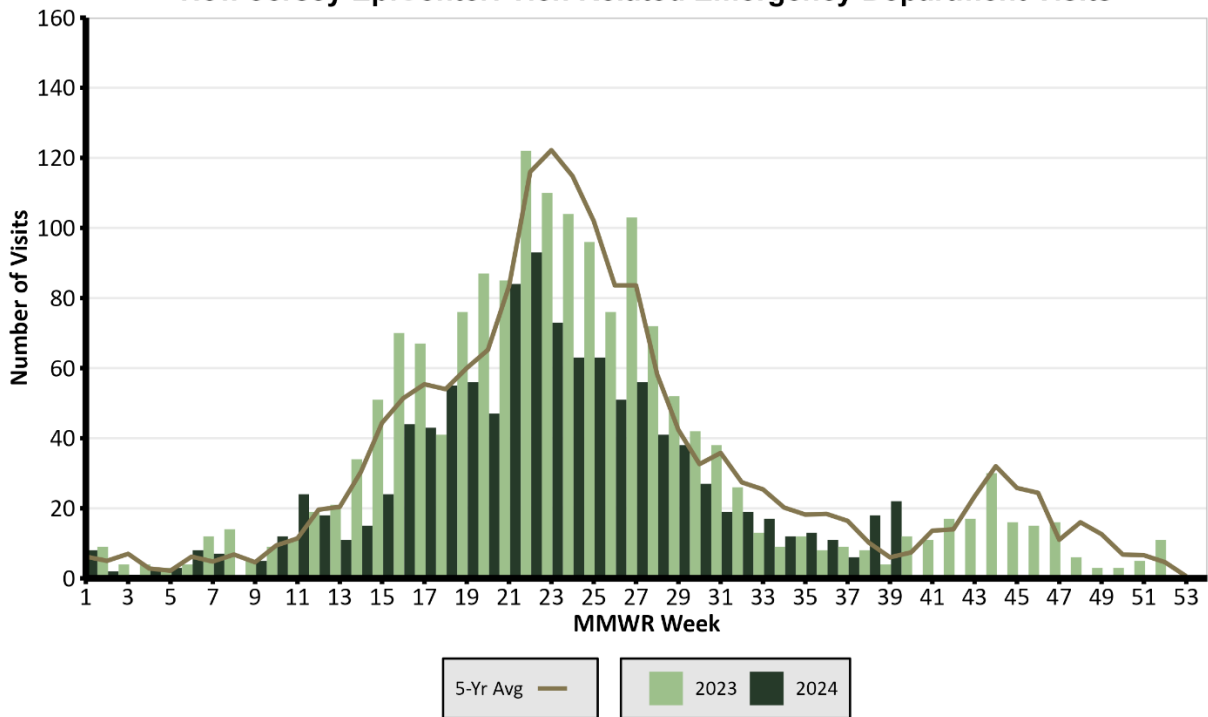


### Tick-related Emergency Department Visits

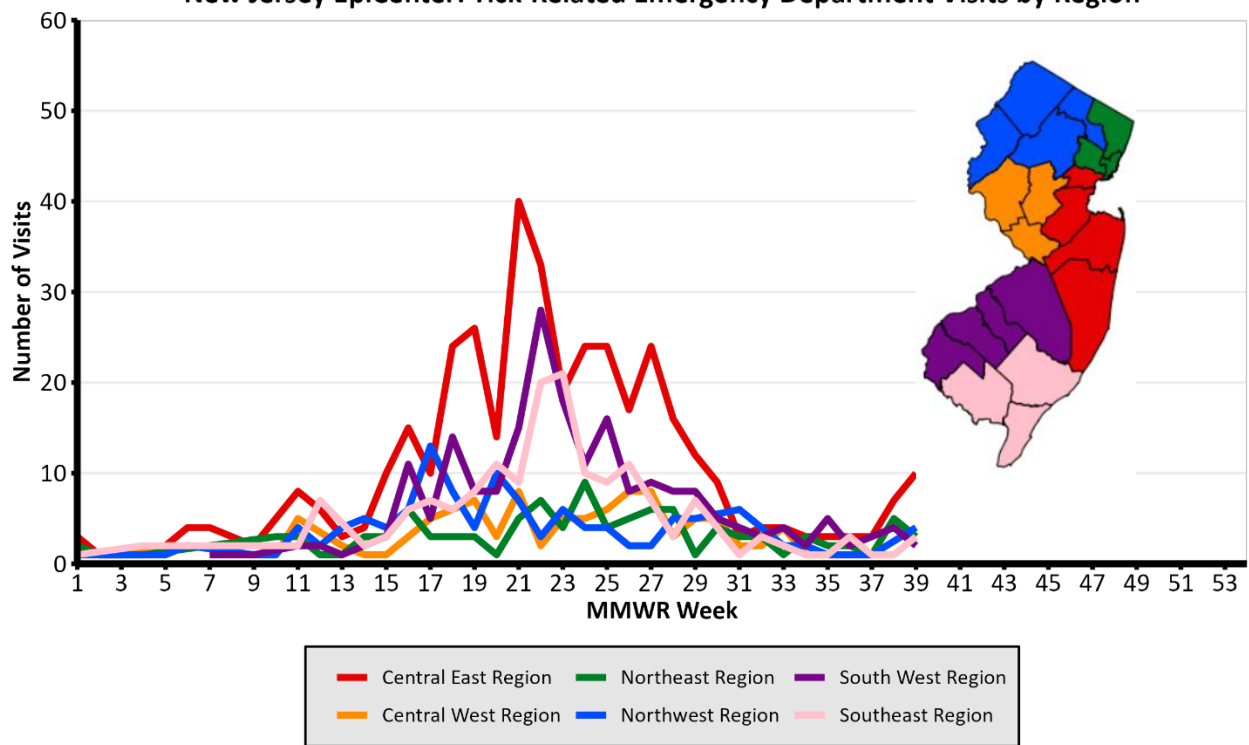
New Jersey's syndromic surveillance system, known as EpiCenter, receives real time Emergency Department (ED) data from 78 acute care and satellite health (99 percent reporting) facilities statewide. The system collects "chief complaint" information and limited patient registration data from existing 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 39, the number of tick-related ED visits increased and remains higher than 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](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/>