

### Report Highlights:

- NJDOH is reporting 12 cases, 1 death, and 2 presumptive viremic blood donors (PVD) associated with West Nile Virus (WNV) infection in Bergen (4 cases, 1 death), Middlesex (3 cases), Camden (2 cases, 1 PVD), Atlantic (1 case), Burlington (1 PVD), Monmouth (1 case), and Passaic (1 case) counties.
- An additional 16 mosquito pools tested positive for WNV so far in Week 39, for a total of 801 this year. The number of positive pools in the previous 6 weeks has been higher than in 2022 and higher than the 5-year average (additional tests pending for this week). Bergen County has the highest total number of positive pools, followed by Hudson County. The vector index is highest this week in Hunterdon and Sussex counties.
- Three additional Eastern Equine Encephalitis (EEE) mosquito pools were detected, for a total of 13 this year in Atlantic, Burlington, Camden, Cape May, Cumberland, Hunterdon, Morris, and Somerset counties. One horse tested positive for EEE in Gloucester County in week 37. There are no human cases of EEE in 2023.
- La Crosse Encephalitis (LAC) virus was detected in a mosquito pool in week 38 in Sussex County. This is the first LAC positive mosquito pool in New Jersey since 2019 (Passaic County) and only the 4<sup>th</sup> identification in at least 20 years. There have been no human cases of LAC reported in New Jersey for at least the past 20 years.
- Several tickborne diseases transmitted by blacklegged ticks (anaplasmosis, babesiosis, Lyme disease) are approaching or have exceeded the 2022 total. Lyme disease cases declined this week and is at the same level as this time last year.

## Vector-borne Disease Case Summary

N.J.A.C.8:57 mandates public health reporting of communicable diseases. 2023 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 (with the exception of Lyme disease) may be significantly lower than actual counts and should be interpreted with caution. All 2023 numbers are preliminary and subject to change. "Presumptive positive" cases are pending additional testing. Case counts for 2022 reflect the annual total for that year.

|                             | Mosquito-borne diseases |      | Tickborne Diseases/Conditions                        |       |       |
|-----------------------------|-------------------------|------|--|-------|-------|
|                             | 2023                    | 2022 |  | 2023  | 2022  |
| Chikungunya                 | 8                       | 2    | Alpha-gal syndrome                                   | 125   | 234   |
| Dengue                      | 37                      | 35   | Anaplasmosis   | 145   | 125   |
| Eastern equine encephalitis | -                       | -    | Babesiosis   | 321   | 292   |
| Jamestown Canyon            | -                       | -    | <i>Borrelia miyamotoi</i>                            | 9     | 6     |
| Malaria                     | 58                      | 86   | Ehrlichiosis ( <i>chaffeensis</i> , <i>ewingii</i> ) | 91    | 115   |
| West Nile                   | 12                      | 20   | Lyme disease*  | 5,800 | 5,897 |
| Zika                        | -                       | -    | Powassan   | -     | 2     |
|                             |                         |      | Spotted fever group rickettsioses                    | 20    | 35    |
|                             |                         |      | Tularemia  | 2     | 1     |

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

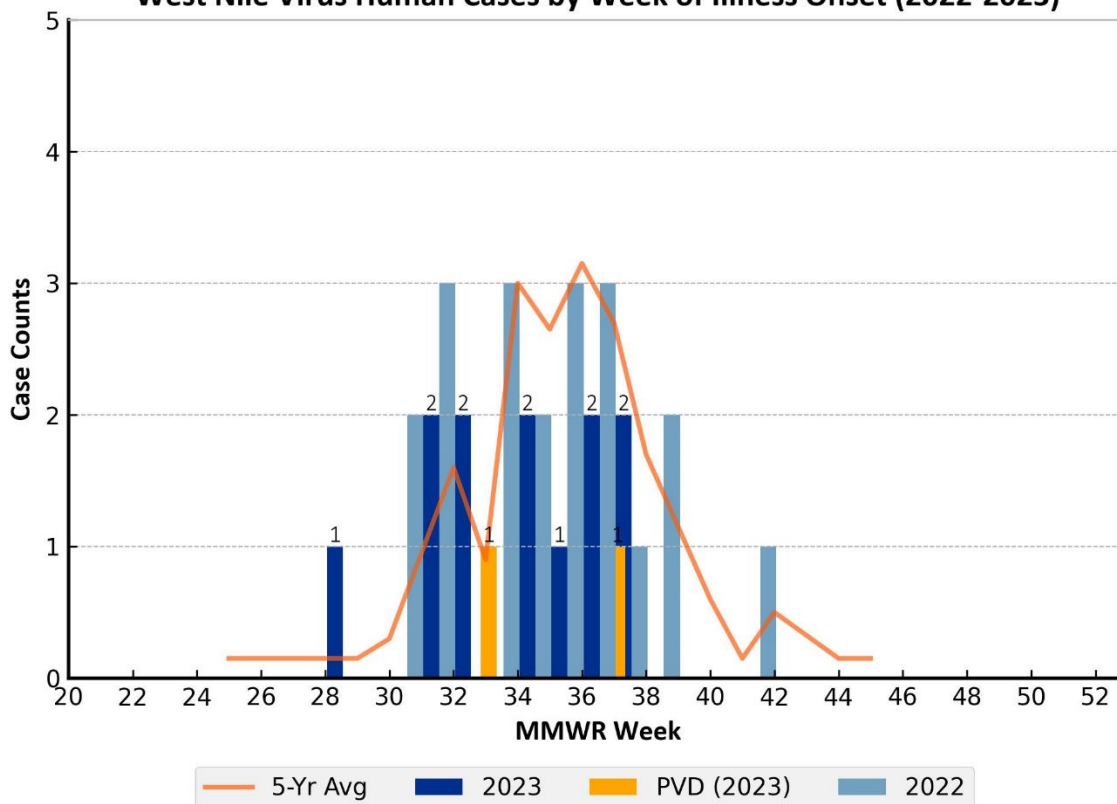
## Mosquito-borne Disease Activity\*

\*Test results may be incomplete as counties submit pools for testing on specific weekdays. Data reflects test results downloaded from JerseySurv on October 4, 2023.

### West Nile Virus

- There are 12 human WNV cases with dates of illness onset ranging from week 28 (week ending 7/15/23) to week 36 (week ending 9/9/23).
- WNV cases have been reported in Bergen (4 cases, 1 death), Middlesex (3 cases), Camden (2 cases and 1 presumptive viremic blood donor (PVD)), Atlantic (1 case), Monmouth (1 case), and Passaic (1 case) counties and an additional PVD in Burlington County.
- There have been no animal cases of WNV reported in New Jersey in 2023.
- 8,707 pools from 21 counties have been tested for WNV. 16 pools tested positive in Week 39 in 6 counties and a total of 801 mosquito pools have tested positive for WNV so far this year. The positive pools were found in: *Aedes albopictus* (11), *Aedes japonicus* (4), *Aedes taeniorhynchus* (1), *Aedes triseriatus* (3), *Anopheles punctipennis* (2), *Culex* (107), *Culex erraticus* (4), *Culex pipiens* (23), *Culex pipiens/restuans/salinarius* (639), *Culex restuans* (3), *Culiseta melanura* (3), and *Psorophora ferox* (1).

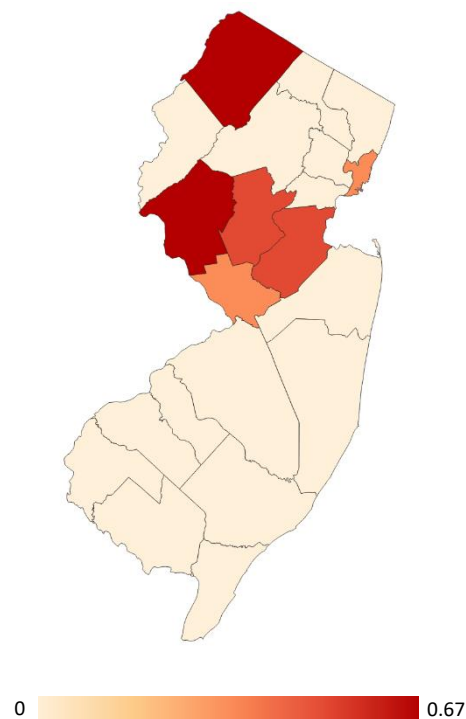
### West Nile Virus Human Cases by Week of Illness Onset (2022-2023)



### WNV Mosquito Pool Testing

| County       | WEEK 39 Positive Pools |           | Cumulative Pos. Total* (WEEK 39) |            | # Pools Tested* | WEEK 39 Vector Index |     |
|--------------|------------------------|-----------|----------------------------------|------------|-----------------|----------------------|-----|
|              | 2023                   | 2022      | 2023                             | 2022       |                 | 2023 <sup>t</sup>    |     |
| Bergen       |                        | 3         | 115                              | 95         | 332             | 0.00                 | (↓) |
| Hudson       | 2                      | 2         | 80                               | 86         | 264             | 0.14                 | (↓) |
| Middlesex    | 3                      | 4         | 67                               | 67         | 306             | 0.37                 | (↑) |
| Hunterdon    | 6                      |           | 62                               | 15         | 376             | 0.67                 | (↓) |
| Somerset     | 2                      | 2         | 57                               | 29         | 284             | 0.28                 | (↓) |
| Union        |                        |           | 55                               | 44         | 198             | 0.00                 | (↓) |
| Mercer       | 1                      | 1         | 49                               | 33         | 395             | 0.11                 | (↑) |
| Morris       |                        |           | 39                               | 28         | 418             | 0.00                 | (↓) |
| Gloucester   |                        |           | 37                               | 19         | 696             | 0.00                 | (-) |
| Monmouth     |                        | 1         | 33                               | 34         | 415             | 0.00                 | (↓) |
| Sussex       | 2                      |           | 29                               | 8          | 624             | 0.65                 | (↑) |
| Warren       |                        |           | 29                               | 8          | 414             | 0.00                 | (-) |
| Atlantic     |                        |           | 26                               | 6          | 360             | 0.00                 | (↓) |
| Burlington   |                        | 1         | 26                               | 27         | 285             | 0.00                 | (↓) |
| Passaic      |                        | 1         | 25                               | 49         | 239             | 0.00                 | (-) |
| Cape May     |                        |           | 24                               | 2          | 1387            | 0.00                 | (↓) |
| Ocean        |                        | 1         | 20                               | 10         | 371             | 0.00                 | (-) |
| Camden       |                        | 1         | 17                               | 24         | 292             | 0.00                 | (-) |
| Salem        |                        |           | 6                                | 2          | 427             | 0.00                 | (-) |
| Essex        |                        |           | 5                                | 11         | 266             | 0.00                 | (↓) |
| Cumberland   |                        |           |                                  | 1          | 358             | 0.00                 | (-) |
| <b>Total</b> | <b>16</b>              | <b>17</b> | <b>801</b>                       | <b>598</b> | <b>8707</b>     | -                    |     |

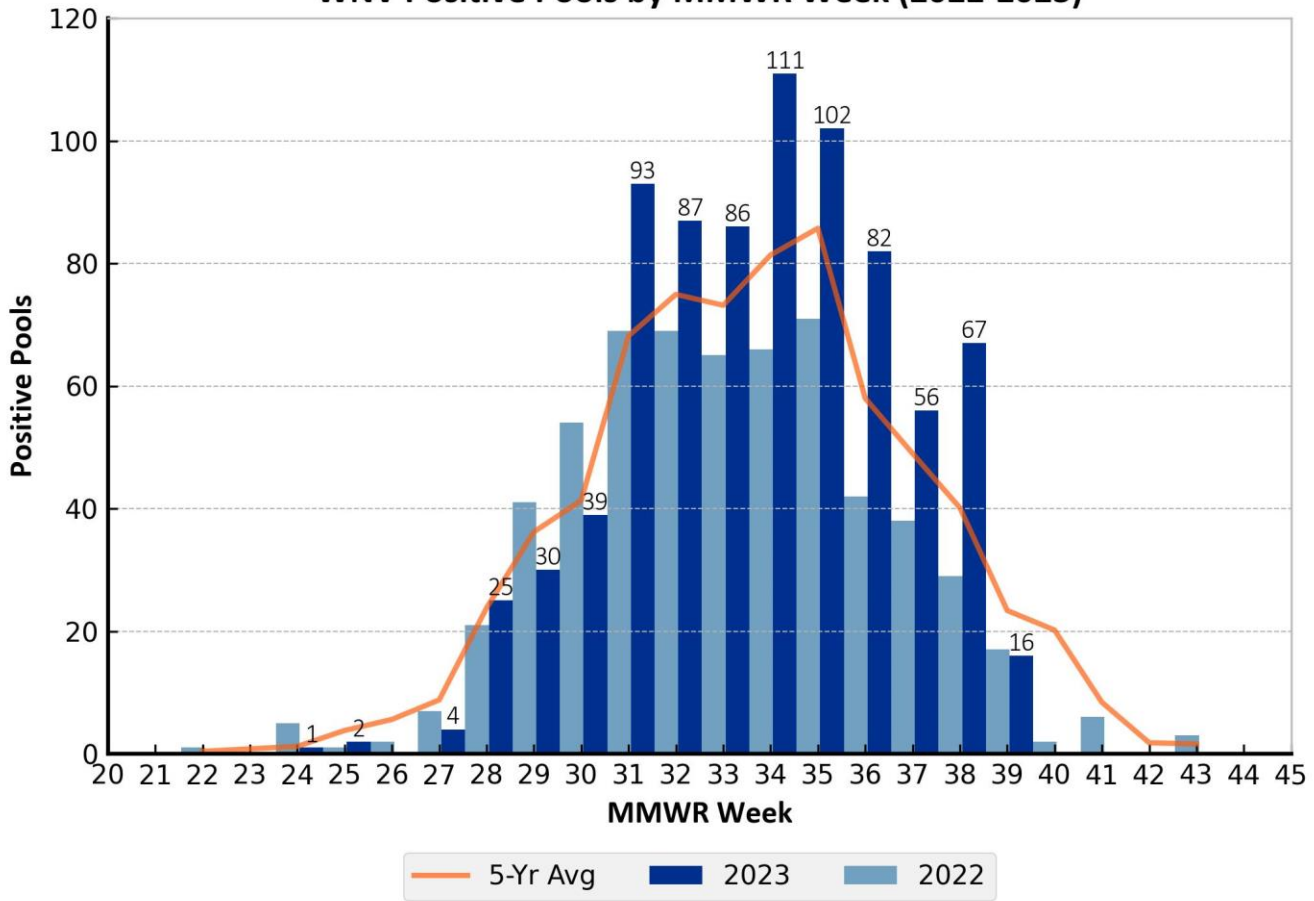
### WNV Vector Index, WEEK 39<sup>t</sup>



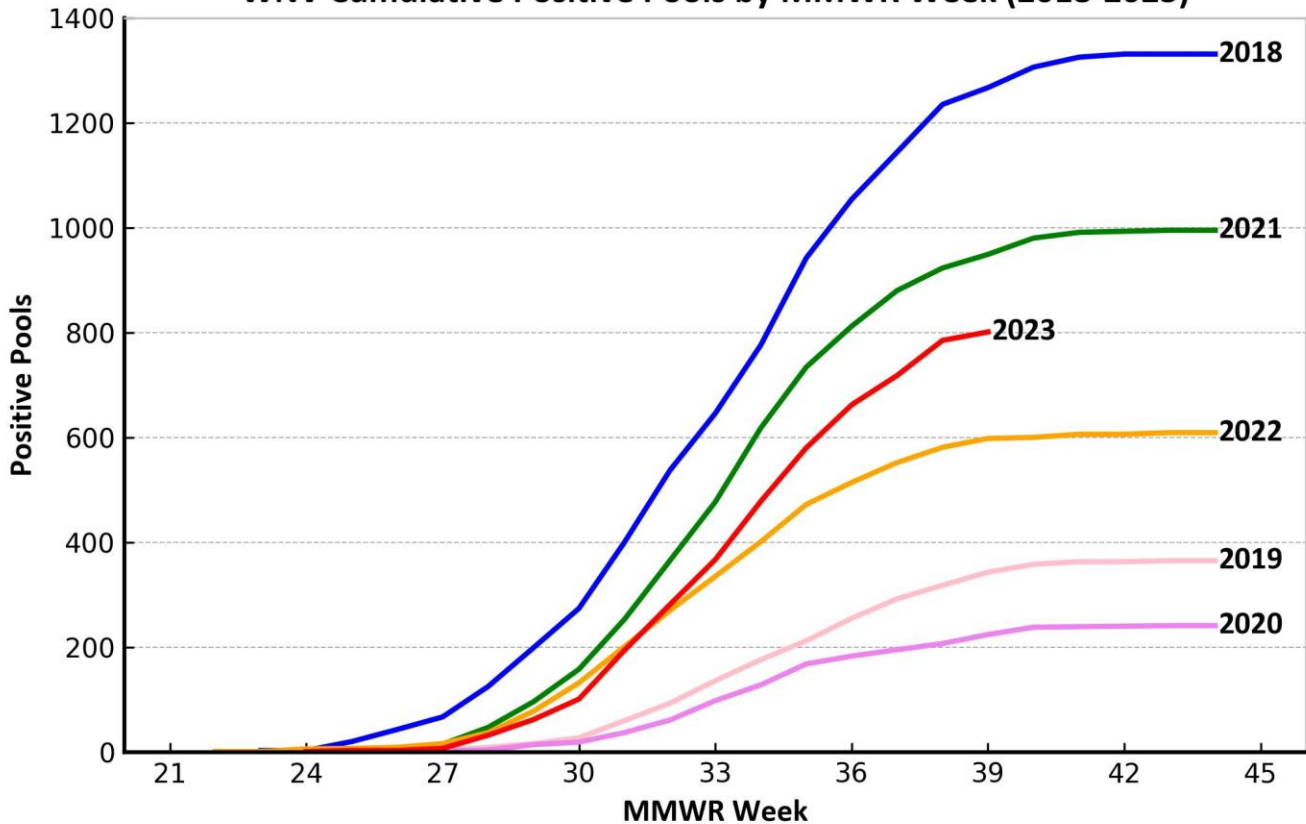
<sup>t</sup> Vector Index is calculated based on *Ae. taeniorhynchus*, *An. quadrimaculatus*, and all *Culex* species caught in gravid traps only.

WEEK 39: Sep 25 - Oct 1, 2022; Sep 24 - 30, 2023. \*The number of pools tested for 9 counties includes early season collections that were specifically targeting JCV: Camden (9), Cape May (15), Cumberland (13), Essex (3), Gloucester (100), Mercer (7), Morris (18), Salem (8), Sussex (92), and Warren (27).

**WNV Positive Pools by MMWR Week (2022-2023)**



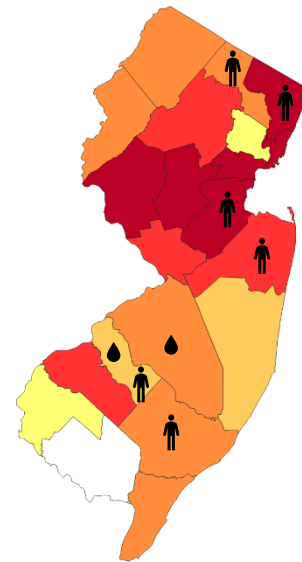
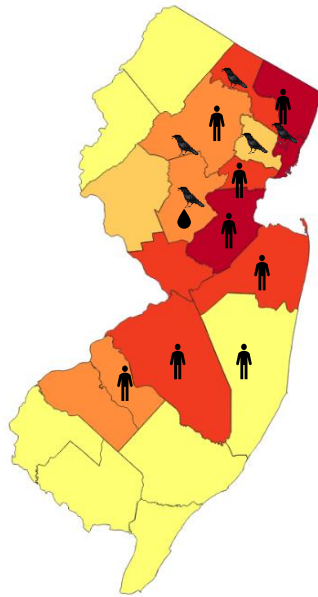
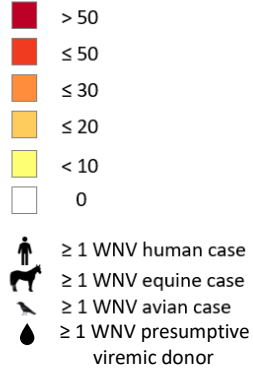
**WNV Cumulative Positive Pools by MMWR Week (2018-2023)**



### 2022 WNV Activity

### Cumulative WNV Activity, 2023

#### WNV Positive Pools



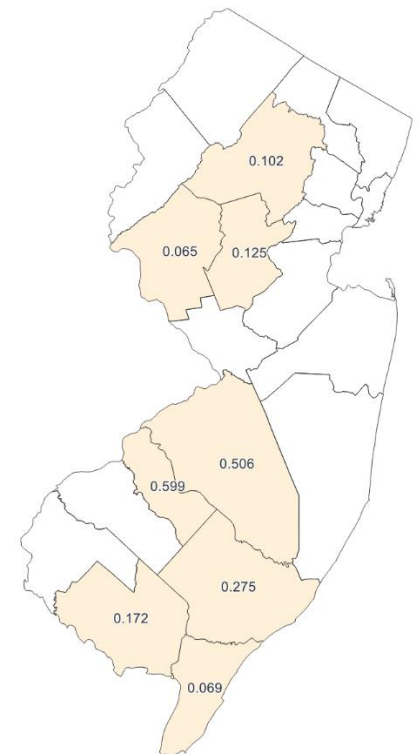
### Eastern Equine Encephalitis

- There have been no human cases of EEE in New Jersey in 2023. EEE human cases were last reported in 2019 (4 cases).
- New Jersey Department of Agriculture reported 1 equine case of EEE in Gloucester County in week 37. The case had been vaccinated in the past for EEE, but their vaccination was not up to date.
- A total of 8,531 mosquito pools from 21 counties have been tested for EEE with 13 pools testing positive in Atlantic, Burlington, Camden, Cape May, Cumberland, Hunterdon, Morris, and Somerset counties. The positive pools were found in: *Culex* (1), *Culex pipiens* (1), *Culex pipiens/restuans/salinarius* (2) and *Culiseta melanura* (9). The first positive EEE pool (*Culiseta melanura*) was identified in Cumberland County in week 30.

#### EEE Mosquito Pool Testing

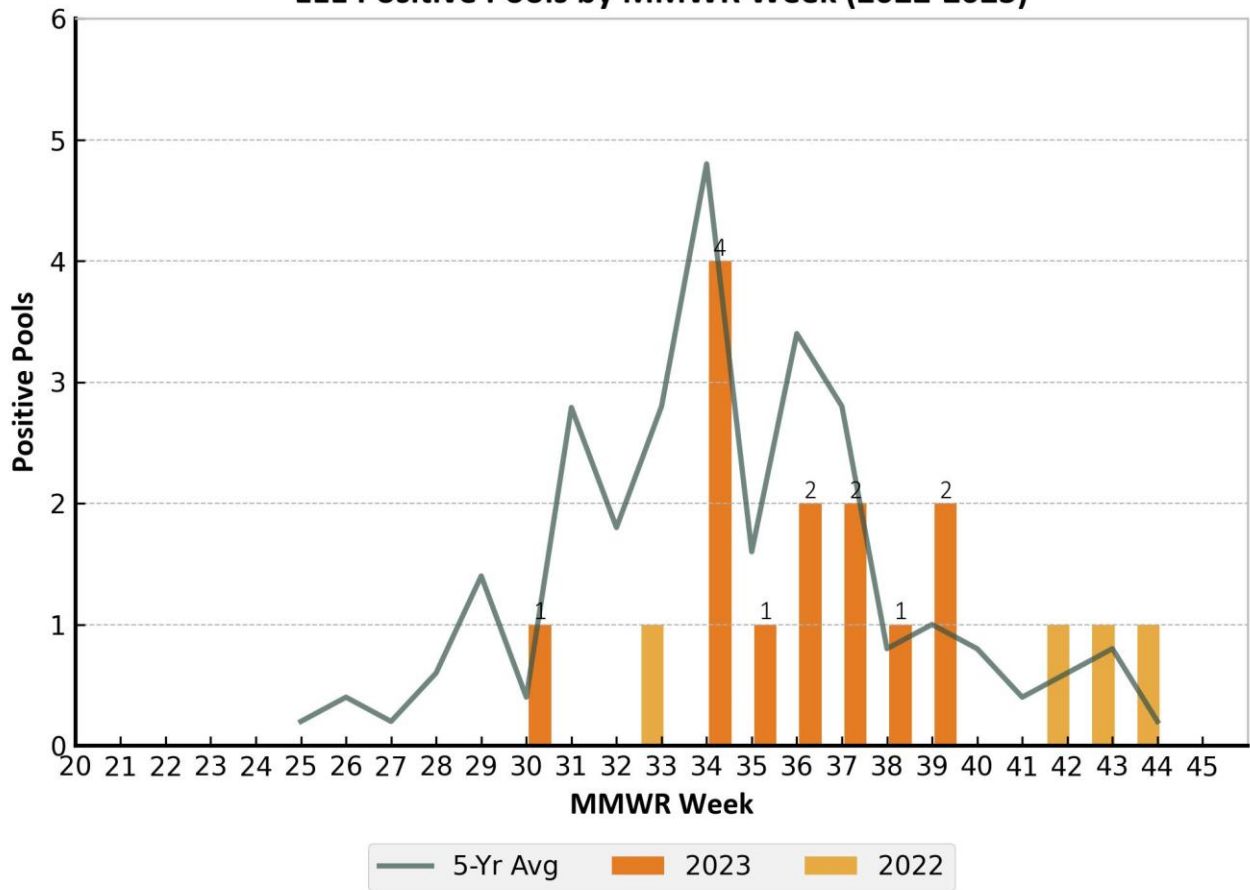
| County       | WEEK 39 Positive Pools |          | Cumulative Pos. Total* (WEEK 39) |          | # Pools Tested | Cumulative MFIR |
|--------------|------------------------|----------|----------------------------------|----------|----------------|-----------------|
|              | 2023                   | 2022     | 2023                             | 2022     |                |                 |
| Atlantic     |                        |          | 3                                |          | 360            | 0.275           |
| Burlington   | 1                      |          | 3                                |          | 280            | 0.506           |
| Camden       |                        |          | 2                                |          | 284            | 0.599           |
| Cape May     |                        |          | 1                                |          | 1316           | 0.069           |
| Cumberland   |                        |          | 1                                |          | 358            | 0.172           |
| Hunterdon    | 1                      |          | 1                                |          | 373            | 0.065           |
| Morris       |                        |          | 1                                | 1        | 418            | 0.102           |
| Somerset     |                        |          | 1                                |          | 284            | 0.125           |
| Bergen       |                        |          |                                  |          | 332            |                 |
| Essex        |                        |          |                                  |          | 266            |                 |
| Gloucester   |                        |          |                                  |          | 690            |                 |
| Hudson       |                        |          |                                  |          | 264            |                 |
| Mercer       |                        |          |                                  |          | 382            |                 |
| Middlesex    |                        |          |                                  |          | 306            |                 |
| Monmouth     |                        |          |                                  |          | 415            |                 |
| Ocean        |                        |          |                                  |          | 365            |                 |
| Passaic      |                        |          |                                  |          | 239            |                 |
| Salem        |                        |          |                                  |          | 406            |                 |
| Sussex       |                        |          |                                  |          | 606            |                 |
| Union        |                        |          |                                  |          | 198            |                 |
| Warren       |                        |          |                                  |          | 389            |                 |
| <b>Total</b> | <b>2</b>               | <b>0</b> | <b>13</b>                        | <b>1</b> | <b>8531</b>    | <b>-</b>        |

#### Cumulative EEE MFIR, 2023



WEEK 39: Sep 25 - Oct 1, 2022; Sep 24 - 30, 2023 \*includes early season pools from 9 counties: Camden (9), Cape May (15), Cumberland (13), Essex (3), Gloucester (100), Mercer (7), Morris (18), Salem (8), Sussex (92), and Warren (27).

### EEE Positive Pools by MMWR Week (2022-2023)



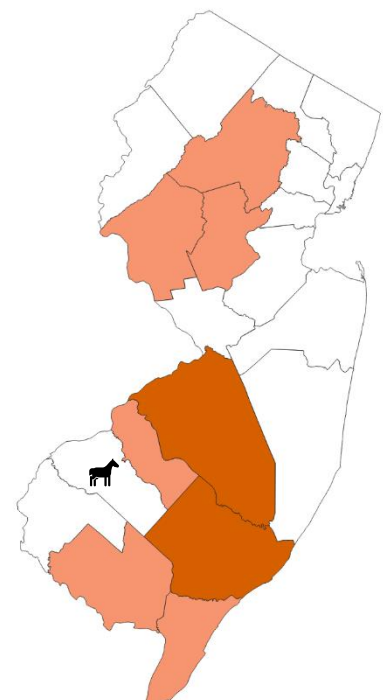
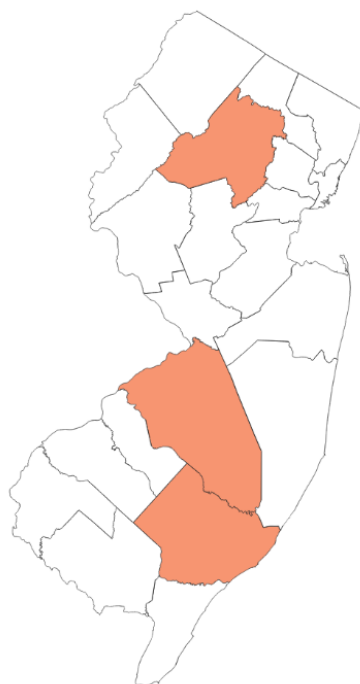
#### 2022 EEE Activity

#### Cumulative EEE Activity, 2023

##### EEE Positive Pools

- > 10
- ≤ 10
- ≤ 6
- ≤ 2
- No EEE activity

- Human case
- Equine case
- Alpaca case
- Deer case



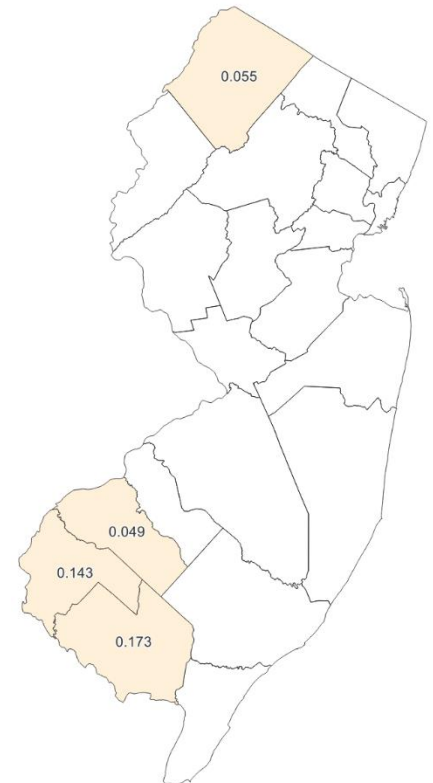
## Jamestown Canyon Virus

- There have been no human cases of JCV in New Jersey in 2023.
- 7,673 mosquito pools from 21 counties have been tested for JCV with 4 pools testing positive in Cumberland, Gloucester, Salem, and Sussex counties. The positive pools were found in: *Anopheles quadrimaculatus s.l.* (1), *Anopheles punctipennis* (2), and *Coquillettidia perturbans* (1). The first positive JCV pool was identified in Cumberland County in week 25.
- JCV can be detected in early-season mosquitoes. Nine counties submitted early season mosquito pools for JCV testing, with collection dates starting the 1<sup>st</sup> week of April. These are Camden (9), Cape May (15), Cumberland (13), Essex (3), Gloucester (100), Mercer (7), Morris (18), Salem (8), Sussex (92), and Warren (27). None of the early-season pools was positive for JCV.

JCV Mosquito Pool Testing

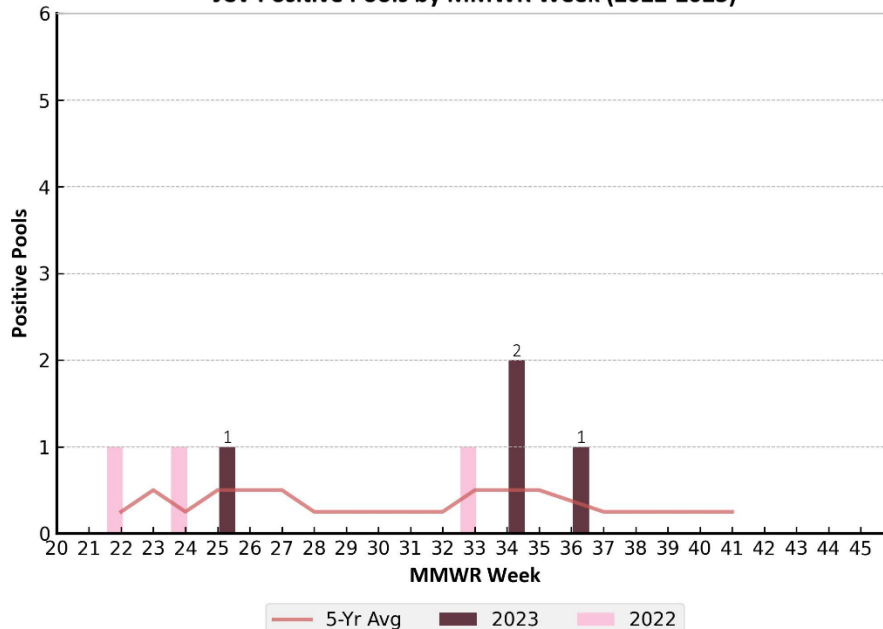
| County       | WEEK 39 Positive Pools |          | Cumulative Pos. Total* (WEEK 39) |          | # Pools Tested | Cumulative MFIR |
|--------------|------------------------|----------|----------------------------------|----------|----------------|-----------------|
|              | 2023                   | 2022     | 2023                             | 2022     | 2023           | 2023            |
| Cumberland   |                        |          | 1                                |          | 358            | 0.173           |
| Gloucester   |                        |          | 1                                |          | 682            | 0.049           |
| Salem        |                        |          | 1                                |          | 393            | 0.143           |
| Sussex       |                        |          | 1                                | 1        | 606            | 0.055           |
| Atlantic     |                        |          |                                  |          | 360            |                 |
| Bergen       |                        |          |                                  | 2        | 332            |                 |
| Burlington   |                        |          |                                  |          | 280            |                 |
| Camden       |                        |          |                                  |          | 260            |                 |
| Cape May     |                        |          |                                  |          | 503            |                 |
| Essex        |                        |          |                                  |          | 266            |                 |
| Hudson       |                        |          |                                  |          | 264            |                 |
| Hunterdon    |                        |          |                                  |          | 373            |                 |
| Mercer       |                        |          |                                  |          | 382            |                 |
| Middlesex    |                        |          |                                  |          | 306            |                 |
| Monmouth     |                        |          |                                  |          | 415            |                 |
| Morris       |                        |          |                                  |          | 418            |                 |
| Ocean        |                        |          |                                  |          | 365            |                 |
| Passaic      |                        |          |                                  |          | 239            |                 |
| Somerset     |                        |          |                                  |          | 284            |                 |
| Union        |                        |          |                                  |          | 198            |                 |
| Warren       |                        |          |                                  |          | 389            |                 |
| <b>Total</b> | <b>0</b>               | <b>0</b> | <b>4</b>                         | <b>3</b> | <b>7673</b>    | <b>-</b>        |

Cumulative JCV MFIR, 2023



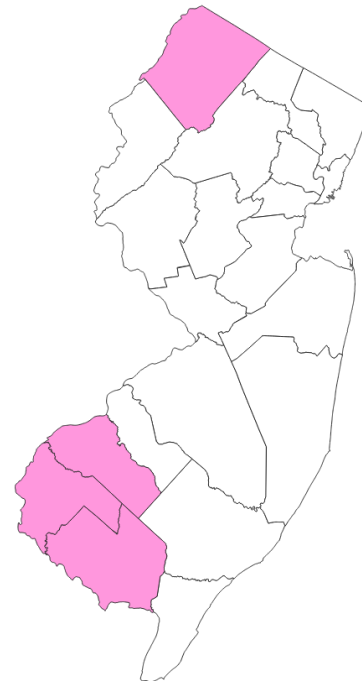
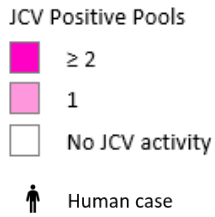
WEEK 39: Sep 25 - Oct 1, 2022; Sep 24 - 30, 2023 \*includes early season pools from 9 counties

JCV Positive Pools by MMWR Week (2022-2023)



### 2022 JCV Activity

### Cumulative JCV Activity, 2023



### Other Mosquito-borne Viruses

- There was 1 positive pool of LAC in Sussex County in week 38. The positive pool was in *Ae. triseriatus*. The last positive LAC pool in New Jersey was in week 22 of 2019 in Passaic County.

### Cumulative 2023 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     | 360         |          | 4          |          | 4          |          | 4         |          | 4          |          |
| Bergen       | 332         |          |            |          | 4          |          | 4         |          | 4          |          |
| Burlington   | 280         |          | 5          |          | 2          |          | 2         |          | 2          |          |
| Camden       | 277         |          | 11         |          | 4          |          | 4         |          | 4          |          |
| Cape May     | 1216        |          | 32         |          | 185        |          |           |          | 185        |          |
| Cumberland   | 358         |          |            |          |            |          |           |          |            |          |
| Essex        | 266         |          |            |          |            |          |           |          |            |          |
| Gloucester   | 689         |          | 5          |          |            |          |           |          |            |          |
| Hudson       | 264         |          |            |          |            |          |           |          |            |          |
| Hunterdon    | 373         |          | 3          |          |            |          |           |          |            |          |
| Mercer       | 382         |          | 13         |          | 11         |          | 11        |          | 11         |          |
| Middlesex    | 306         |          |            |          | 2          |          | 2         |          | 2          |          |
| Monmouth     | 415         |          |            |          | 2          |          | 2         |          | 2          |          |
| Morris       | 418         |          |            |          | 10         |          | 10        |          | 10         |          |
| Ocean        | 365         |          | 6          |          | 2          |          | 2         |          | 2          |          |
| Passaic      | 239         |          | 12         |          | 1          |          | 1         |          | 1          |          |
| Salem        | 403         |          | 21         |          | 1          |          | 1         |          | 1          |          |
| Somerset     | 284         |          |            |          |            |          |           |          |            |          |
| Sussex       | 606         |          | 20         | 1        |            |          |           |          |            |          |
| Union        | 198         |          |            |          |            |          |           |          |            |          |
| Warren       | 389         |          | 26         |          |            |          |           |          |            |          |
| <b>Total</b> | <b>8420</b> | <b>-</b> | <b>158</b> | <b>1</b> | <b>228</b> | <b>-</b> | <b>43</b> | <b>-</b> | <b>228</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 2023

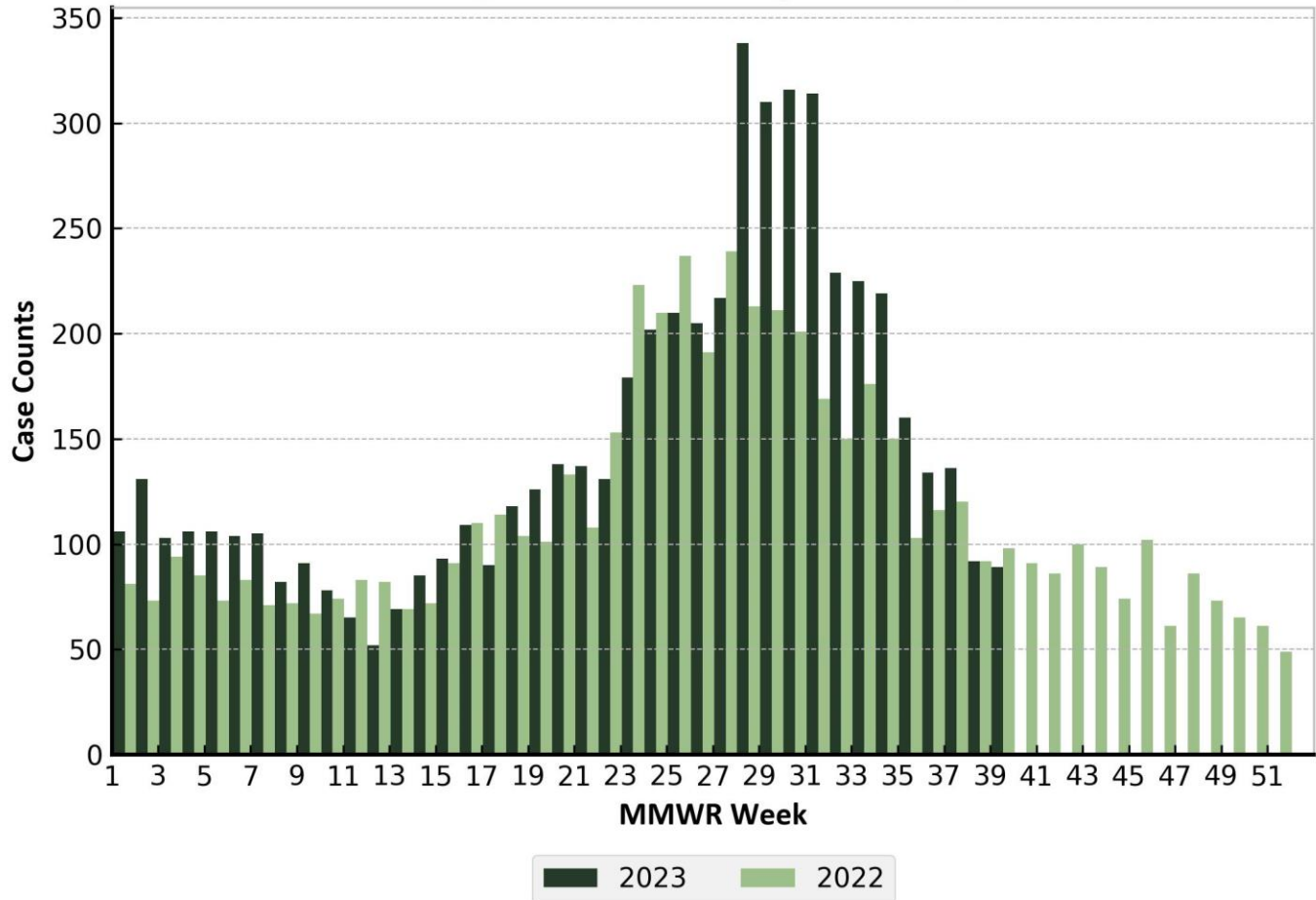
Number in blue shaded columns represent positive pools in 2023

## Tick-borne Disease Activity

### Lyme Disease

- There have been 5,800 cases of Lyme disease reported in New Jersey in 2023 in 21 counties.
- The number of cases in Week 39 slightly decreased and is around the amount this week last year.

### Lyme Disease Cases (2022-2023)

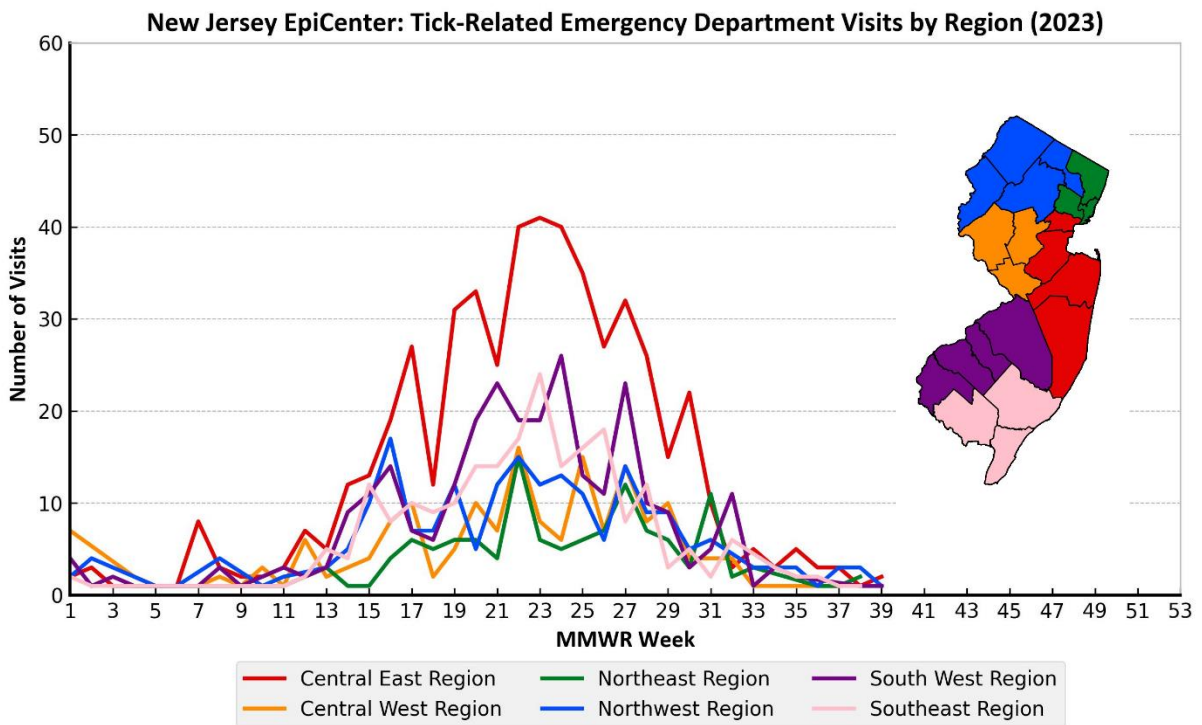
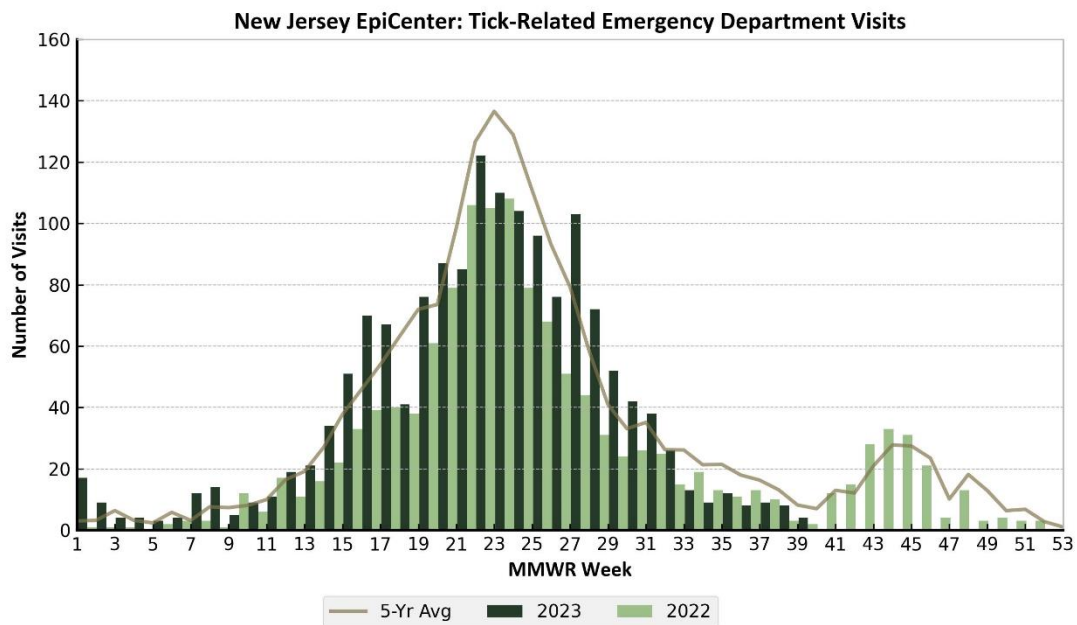


### Tick-related Emergency Department Visits

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 remained at low levels and is below the 5-year average.





Data reflects ED visits downloaded from EpiCenter as of October 4, 2023

#### 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/>