# Vector-borne Surveillance Report

**CDC WEEK 27: July 3-July 9, 2022**

***Report Highlight:***

- ***Six mosquito pools tested positive for West Nile Virus (WNV) in Week 27 for a total of 15 positive pools this year. WNV positive mosquito pools have been detected in eight counties with the highest number of pools from Morris County.***
- ***Jamestown Canyon Virus was detected in two mosquito pools in Bergen County (Week 22 & 24).***
- ***There have been no WNV or EEE positive cases detected in humans or animals this season.***
- ***In Week 27, the number of tick-related ED visits continues to decline and remains at levels lower than the 5-year average.***

## 1. Human Cases

N.J.A.C.8:57 mandates public health reporting of communicable diseases. 2022 data reflect cases that have been approved by NJDOH and do not include cases under investigation. All 2022 numbers are preliminary and subject to change.

**Human Cases**

| Mosquito-borne diseases | | | Tickborne Diseases/Conditions | | |
|---|---|---|---|---|---|
| | **2022** | 2021 | | **2022** | 2021 |
| Chikungunya | **1** | 4 | Alpha-gal syndrome | **30** | - |
| Dengue | **4** | 12 | Anaplasmosis | **36** | 202 |
| Eastern equine encephalitis | **-** | - | Babesiosis | **17** | 258 |
| Jamestown Canyon | **-** | 2 | *Borrelia miyamotoi* | **-** | 16 |
| Malaria | **15** | 71 | Ehrlichiosis (*chaffeensis, ewingii*) | **33** | 77 |
| West Nile | **-** | 36 | Lyme disease* | **93** | 3,518 |
| Zika | **-** | - | Powassan | **-** | - |
| | | | Spotted fever group rickettsioses | **5** | 39 |
| | | | Tularemia | **-** | 4 |

* Lyme disease surveillance has transitioned to a laboratory-only surveillance approach in 2022; as such, case reporting is delayed.

## 2. Mosquito Testing

The New Jersey Department of Health Public Health and Environmental Laboratories (PHEL) and the Cape May County Department of Mosquito Control Bio-safety Level 3 Laboratory (CMBSL3) perform arboviral testing on mosquito pools collected by county mosquito control agencies throughout New Jersey.

**West Nile virus (WNV):**

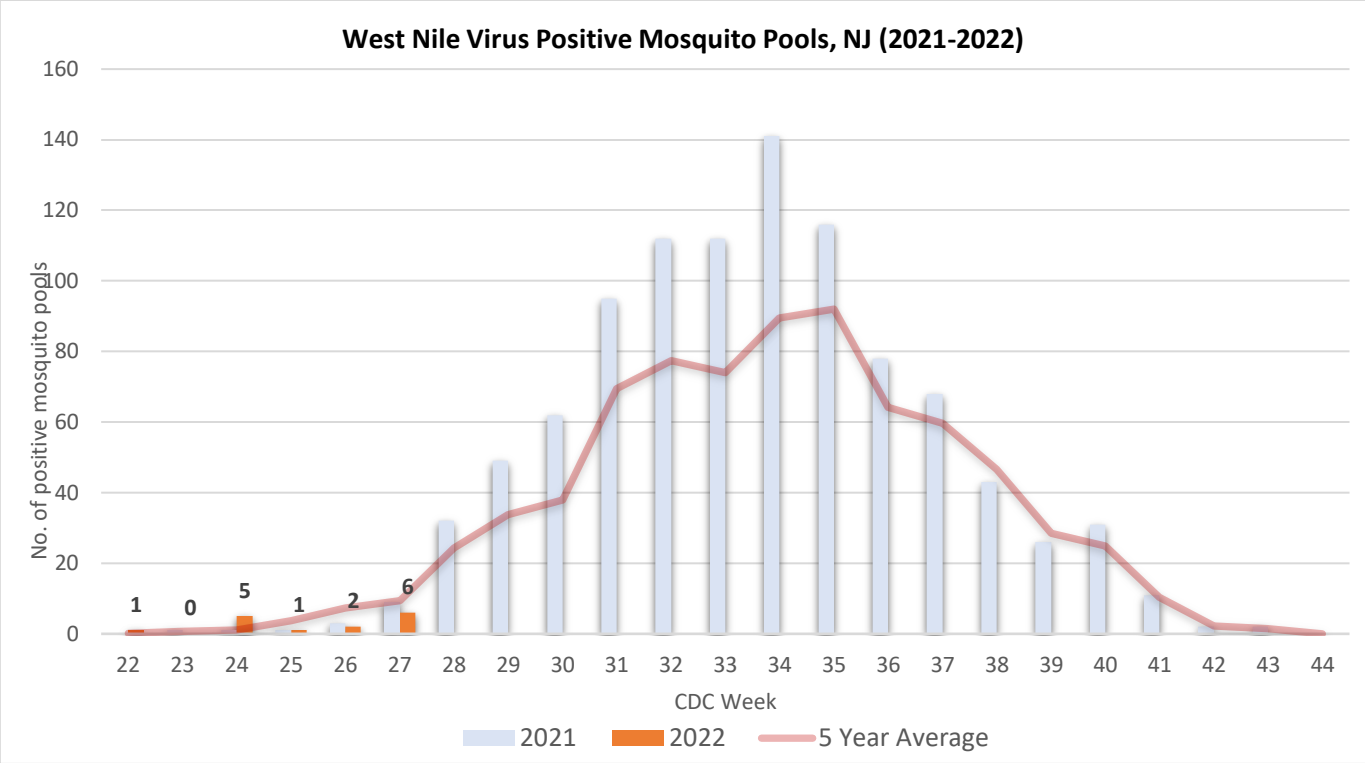
- A total of 2424 mosquito pools from all 21 counties have been tested for WNV.
- Six pools tested positive for WNV in Week 27, in Hudson (2), Middlesex (2), and Morris (2) counties. There have been 15 positive WNV pools so far this year.
- The positive pools were detected in *Aedes cantator* (1), *Ae. triseriatus* (1), *Ae. vexans* (1), *Culex sp.* (4), *Cx. pipiens* (2), and *Cx. pipiens/restuans/salinarius species mix* (6).
- The first WNV positive mosquito pool (*Aedes cantator*) was detected in week 22 from Burlington County. In 2021, the first WNV positive mosquito pool was identified in Week 23 from Somerset County. This is the earliest detection since 2019, when Passaic County had a positive pool in week 22.

**Test results may be incomplete; counties submit pools for testing on specific weekdays. Mosquito testing data reflects test results received from PHEL and CMBSL3 as of July 14, 2022*

**WNV Positive Mosquito Pools**

| | Week 27 | | Cumulative Total (Week 27) | |
|---|---|---|---|---|
| **County** | **2022*** | 2021 | **2022*** | 2021 |
| Morris | 2 | | 4 | |
| Bergen | | | 2 | 3 |
| Gloucester | | | 2 | |
| Hudson | 2 | 1 | 2 | 1 |
| Middlesex | 2 | 1 | 2 | 1 |
| Burlington | | 1 | 1 | 1 |
| Salem | | | 1 | |
| Somerset | | | 1 | 1 |
| Atlantic | | | | |
| Camden | | 2 | | 2 |
| Cape May | | | | |
| Cumberland | | | | |
| Essex | | | | 1 |
| Hunterdon | | | | |
| Mercer | | | | |
| Monmouth | | | | |
| Ocean | | 3 | | 3 |
| Passaic | | | | |
| Sussex | | | | |
| Union | | | | |
| Warren | | 1 | | 2 |
| **Total** | **6** | 9 | **15** | 15 |

Week 27: July 4-10, 2021; July 3-9, 2022



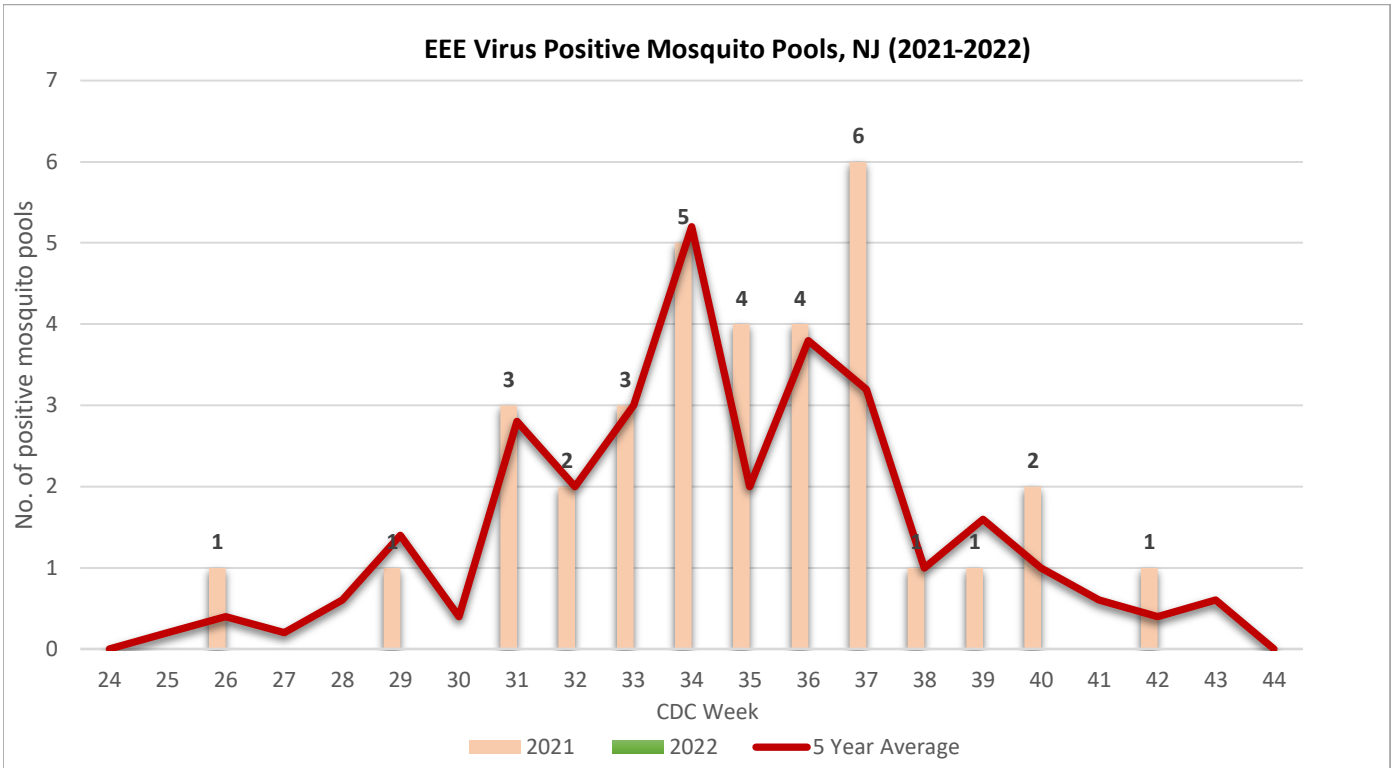

## Eastern equine encephalitis virus (EEE)

- A total of 2399 mosquito pools from all 21 counties have been tested for EEE.
- No EEE positive mosquito pools have been identified in 2022. In 2021, the first positive mosquito pool was detected in Week 26 from Gloucester County.

**EEE Positive Mosquito Pools**

| | WEEK 27 | | Cumulative Total (WEEK 27) | |
|---|---|---|---|---|
| **County** | **2022*** | 2021 | **2022*** | 2021 |
| Atlantic | | | | |
| Bergen | | | | |
| Burlington | | | | |
| Camden | | | | |
| Cape May | | | | |
| Cumberland | | | | |
| Essex | | | | |
| Gloucester | | | | 1 |
| Hudson | | | | |
| Hunterdon | | | | |
| Mercer | | | | |
| Middlesex | | | | |
| Monmouth | | | | |
| Morris | | | | |
| Ocean | | | | |
| Passaic | | | | |
| Salem | | | | |
| Somerset | | | | |
| Sussex | | | | |
| Union | | | | |
| Warren | | | | |
| **Total** | - | - | - | 1 |

Week 27: July 4-10, 2021; July 3-9, 2022




**Other viruses:**

Mosquito pools from 21 counties have been tested for other arboviruses. Two pools tested positive for JCV.

**Cumulative 2022 Mosquito Pool Testing (Other Viruses [a])**

| | SLE | | JCV | | LAC | | CHIKV | | DENV | | ZIKV | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **County** | Pools | Pos | Pools | Pos | Pools | Pos | Pools | Pos | Pools | Pos | Pools | Pos |
| Atlantic | 102 | | 102 | | | | 4 | | 4 | | 4 | |
| Bergen | 101 | | 101 | 2 | | | | | | | | |
| Burlington | 32 | | 32 | | | | | | | | | |
| Camden | 28 | | 20 | | | | | | | | | |
| Cape May | 144 | | | | | | | | | | | |
| Cumberland | 157 | | 157 | | | | | | | | | |
| Essex | 42 | | 42 | | | | | | | | | |
| Gloucester | 126 | | 120 | | | | | | | | | |
| Hudson | 86 | | 86 | | | | | | | | | |
| Hunterdon | 125 | | 125 | | | | | | | | | |
| Mercer | 159 | | 159 | | 11 | | | | | | | |
| Middlesex | 87 | | 87 | | | | | | | | | |
| Monmouth | 172 | | 172 | | | | | | | | | |
| Morris | 197 | | 197 | | | | | | | | | |
| Ocean | 99 | | 99 | | | | | | | | | |
| Passaic | 72 | | 72 | | 2 | | | | | | | |
| Salem | 145 | | 138 | | 3 | | | | | | | |
| Somerset | 108 | | 108 | | | | | | | | | |
| Sussex | 179 | | 179 | | | | | | | | | |
| Union | 39 | | 39 | | | | | | | | | |
| Warren | 199 | | 199 | | 9 | | | | | | | |
| **Total** | **2399** | **-** | **2234** | **2** | **25** | **-** | **4** | **-** | **4** | **-** | **4** | **-** |

[a] St. Louis encephalitis virus (SLE), Jamestown Canyon Virus (JCV), La Crosse encephalitis virus (LAC), Chikungunya virus (CHIKV), Dengue virus (DENV), Zika Virus (ZIKV)

Numbers in white columns represent number of pools tested to date in 2022

Numbers in green shaded columns represent positive pools in 2022

**Jamestown Canyon virus (JCV):**

- Two mosquito pools (*Ae. cantator*) from Bergen County tested positive for JCV on Week 22 and Week 24. In 2021, the first positive pool was detected on Week 27 from Sussex County.
- Jamestown Canyon virus has not been detected in humans in 2022.
- NJ reported 2 human JCV cases last year in Sussex County (week 18) and in Essex County (week 36). The first NJ JCV case was reported in 2015 in Sussex County.
- In 2021, eight positive JCV pools were reported in Atlantic, Camden, Essex, Gloucester, and Sussex counties.

## 3. Equine/Avian /Other Animal Testing

Equine testing for WNV and EEE is conducted at the New Jersey Department of Agriculture's Animal Health and Diagnostic Laboratory.

- No animals have tested positive for WNV or EEE in 2022.
- Routine avian testing has been discontinued but is available upon request at PHEL.

**WNV/EEE Positive Test Results**

| | WEEK 26 | | Cum. Total (Year) | |
|---|---|---|---|---|
| | **2022*** | 2021 | **2022*** | 2021 |
| Equine (EEE) | | | | |
| Equine (WNV) | | | | |
| Avian (WNV) | | | | |
| Other | | | | |

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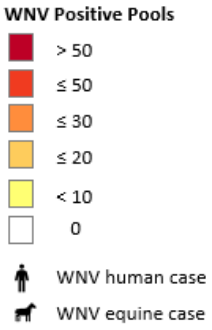
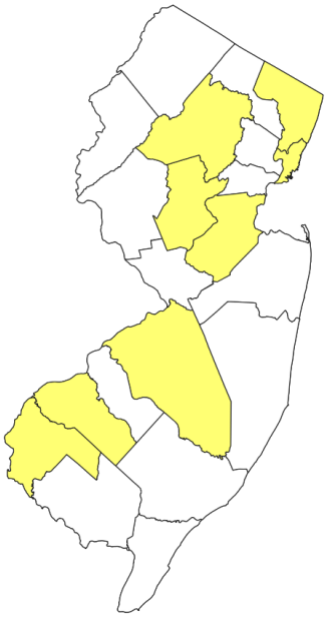
## 4. Surveillance Maps

**West Nile Virus (WNV)**

WEEK 27 WNV Activity (2022)*



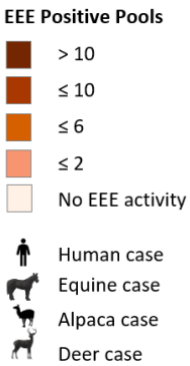

Cumulative WNV Activity 2022

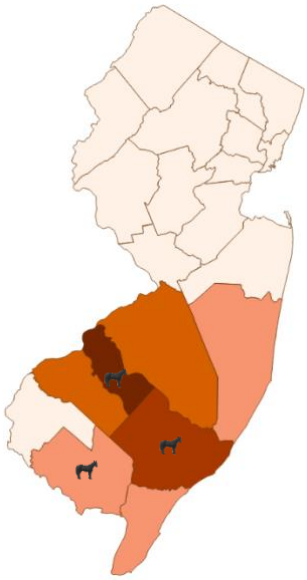


**Eastern equine encephalitis (EEE)**

2021 EEE Activity

Cumulative EEE Activity 2022

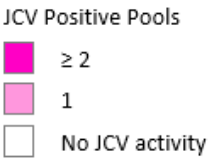


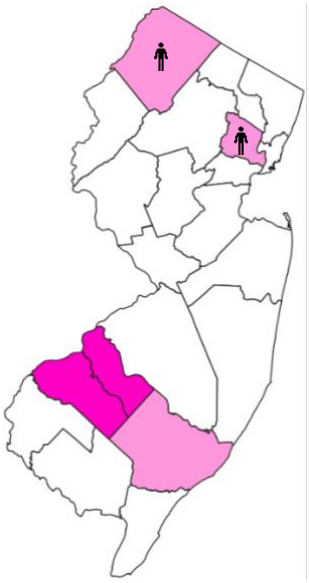



**Jamestown Canyon Virus**

2021 JCV Activity

Cummulative JCV Activity 2022

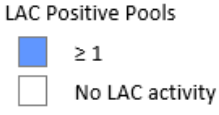


**La Crosse Virus Activity 2022**

2021 LAC Activity

Cummulative LAC Activity 2022

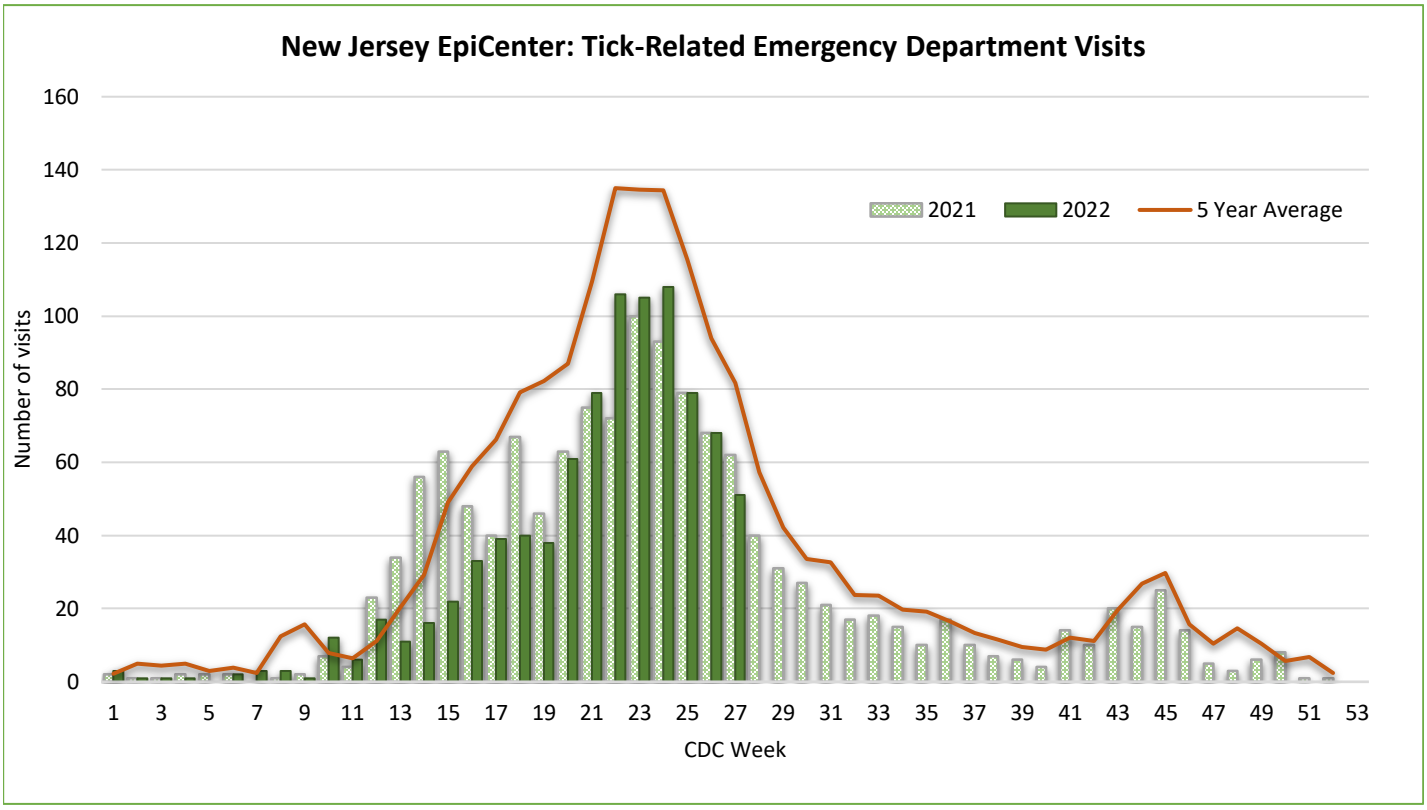



## 5. Syndromic Surveillance for Tick-related Emergency Department Visits

EpiCenter is a syndromic surveillance system developed and maintained by Health Monitoring Systems, Inc, for monitoring by health departments in the United States. New Jersey's 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 NJ 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 27, the number of tick-related ED visits continues to decline and remains at levels lower than the 5-year average.




*Data reflects ED visits downloaded from EpiCenter as of July 14, 2022*

## For More Information

- NJDOH Communicable Disease Service: http://nj.gov/health/cd/topics/vectorborne.shtml
- New Jersey Arboviral Activity Maps: http://bit.ly/JerseySurv
- NJDEP Office of Mosquito Control Coordination: http://www.nj.gov/dep/mosquito/
- NJDA Division of Animal Health: http://www.nj.gov/agriculture/divisions/ah/
- Rutgers Center for Vector Biology: http://vectorbio.rutgers.edu/