

# VECTOR SURVEILLANCE IN NEW JERSEY

## EEE, WNV, SLE, LAC, DENV, CHIK, ZIKV, and JCV

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Data download 12:44 pm 20 July



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### *Culiseta melanura* and Eastern Equine Encephalitis

| SITE/Boxes                     | Inland or Coastal | Historic Population Mean | Current Weekly Mean | Total Tested* (Collected) | Total Pools Tested* (Submitted) | EEE Isolation Pools | MFIR  |
|--------------------------------|-------------------|--------------------------|---------------------|---------------------------|---------------------------------|---------------------|-------|
| Bass River (Burlington Co.)/5  | Coastal           | 0.00                     | 0.00                | 4                         | 2                               |                     |       |
| Green Bank (Burlington Co.)/25 | Coastal           | 1.90                     | 0.12                | 21 (24)                   | 3 (4)                           |                     |       |
| Corbin City (Atlantic Co.)/25  | Coastal           | 0.83                     | 0.24                | 52 (58)                   | 6 (7)                           |                     |       |
| Dennisville (Cape May Co.)/50  | Coastal           | 3.32                     | 0.06                | 39                        | 6                               |                     |       |
| Winslow (Camden Co.)/50        | Inland            | 1.81                     | 1.48                | 182                       | 6                               |                     |       |
| Centerton (Salem Co.)/50       | Inland            | 1.91                     | 0.14                | 62                        | 4                               |                     |       |
| Turkey Swamp (Monmouth Co.)/50 | Inland            | 0.86                     | nd                  | 161                       | 8)                              | 1                   | 6.211 |
| Glassboro (Gloucester Co.)/50  | Inland            | 0.49                     | 0.14                | 57                        | 4                               |                     |       |

\*Current week (in parentheses) results pending. ‡ corrected from previous week NC=no collection

**Remarks:** Currently in 2019, there is four detections of EEE virus: 3 pools of *Culiseta melanura*, 1 each collected in Monmouth, Salem, and Ocean counties plus 1 pool of *Aedes albopictus* collected in Ocean County. The first positive pool was collected on 3 July at Turkey Swamp, Monmouth County. There are no horses or human cases.

Statewide, 2,946 *Cs. melanura* from 236 pools have been tested, with an overall *Cs. melanura* MFIR of 1.018. 64,340 specimens in 2,824 pools from 35 other species have also been tested, with one positive detected in an *Aedes albopictus* pool. Overall MFIR for all species statewide is 0.059.

**Traditional Resting Box Sites:** 578 *Cs. melanura* from 39 pools have been tested, with one positive pool detected (see above). An additional 82 *Cs. melanura* in two pools are at labs to be tested.

|              | Additional <i>Cs. melanura</i> trapped by counties<br>*traps with positives indicated in <b>BOLD UNDERLINED</b> . |            |             |           |              |
|--------------|-------------------------------------------------------------------------------------------------------------------|------------|-------------|-----------|--------------|
| County       | Trap types*                                                                                                       | Pools      | Mosquitoes  | Positives | MFIR         |
| Atlantic     | BGS, CO <sub>2</sub> , GR, RB                                                                                     | 30         | 785         |           |              |
| Bergen       | CO <sub>2</sub> , RB                                                                                              | 2          | 6           |           |              |
| Burlington   | ULVT                                                                                                              | 15         | 326         |           |              |
| Cape May     | GR, RB                                                                                                            | 70         | 178         |           |              |
| Cumberland   | AGO, RB                                                                                                           | 10         | 92          |           |              |
| Gloucester   | RB                                                                                                                | 14         | 413         |           |              |
| Middlesex    | RB                                                                                                                | 5          | 34          |           |              |
| Monmouth     | CO <sub>2</sub> , Other                                                                                           | 6          | 56          |           |              |
| Morris       | CO <sub>2</sub> , RB                                                                                              | 12         | 218         |           |              |
| Ocean        | CO <sub>2</sub> , GR, RB                                                                                          | 22         | 180         | 1         | 5.556        |
| Salem        | CO <sub>2</sub> , RB                                                                                              | 9          | 15          | 1         | 66.667       |
| Sussex       | CO <sub>2</sub>                                                                                                   | 2          | 65          |           |              |
| <b>TOTAL</b> |                                                                                                                   | <b>197</b> | <b>2368</b> | <b>2</b>  | <b>0.845</b> |

**Additional County-set *Cs. melanura*:** Counties maintain trap sites for *Cs. melanura* in other areas, using a variety of traps. Last year, half of the EEE detection came from such trappings. In 2019, two pools of *Cs. melanura* have been found positive – In Salem County, collected 9 July, and Ocean County collected 10 July.

**Horses and Humans:** No horse or human cases have been reported. Last year five horses were reported with EEE. All had either an incomplete or no vaccination history. ***Horse owners are urged to make sure their horses are up to date on their vaccinations. Horse cases are known to occur through October and sometimes into November (see link below).*** Other sensitive species are non-native birds, such as Ostriches/Emus and Gallinaceous birds such as pheasants of Eurasian origins.

**Horses and Vaccinations:** The fate of unvaccinated equids reinforces the necessity of maintaining a vaccination schedule for arboviruses. For vaccination schedules recommended by the American Association of Equine Practices, see: [http://www.aaep.org/vaccination\\_guidelines.htm](http://www.aaep.org/vaccination_guidelines.htm)

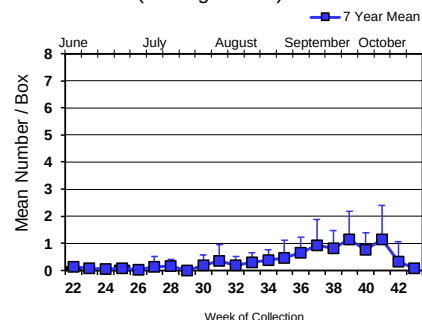
**Additional Species:** 35 additional species were tested for EEE. One positive pool in *Aedes albopictus*, collected in Ocean County on 9 July was found.

| Species other than <i>Cs. melanura</i> | Pools       | Mosquitoes   | Positives | MFIR         |
|----------------------------------------|-------------|--------------|-----------|--------------|
| <i>Aedes abserratus</i>                | 13          | 258          |           |              |
| <i>Aedes albopictus</i>                | 226         | 1321         | 1         | 0.757        |
| <i>Aedes atlanticus</i>                | 7           | 55           |           |              |
| <i>Aedes aurifer</i>                   | 3           | 14           |           |              |
| <i>Aedes canadensis canadensis</i>     | 86          | 1728         |           |              |
| <i>Aedes cantator</i>                  | 15          | 289          |           |              |
| <i>Aedes grossbecki</i>                | 5           | 12           |           |              |
| <i>Aedes infirmatus</i>                | 1           | 1            |           |              |
| <i>Aedes japonicus</i>                 | 294         | 1934         |           |              |
| <i>Aedes mitchellae</i>                | 1           | 1            |           |              |
| <i>Aedes provocans</i>                 | 2           | 8            |           |              |
| <i>Aedes sollicitans</i>               | 3           | 203          |           |              |
| <i>Aedes sticticus</i>                 | 3           | 93           |           |              |
| <i>Aedes stimulans</i>                 | 2           | 10           |           |              |
| <i>Aedes taeniorhynchus</i>            | 3           | 159          |           |              |
| <i>Aedes thibaulti</i>                 | 2           | 27           |           |              |
| <i>Aedes triseriatus</i>               | 54          | 164          |           |              |
| <i>Aedes trivittatus</i>               | 16          | 247          |           |              |
| <i>Aedes vexans</i>                    | 33          | 326          |           |              |
| <i>Anopheles bradleyi</i>              | 30          | 135          |           |              |
| <i>Anopheles crucians</i>              | 3           | 75           |           |              |
| <i>Anopheles punctipennis</i>          | 32          | 219          |           |              |
| <i>Anopheles quadrimaculatus</i>       | 54          | 480          |           |              |
| <i>Coquillettidia perturbans</i>       | 92          | 2046         |           |              |
| <i>Culex</i> Mix                       | 1218        | 50427        |           |              |
| <i>Culex erraticus</i>                 | 19          | 55           |           |              |
| <i>Culex pipiens</i>                   | 194         | 2118         |           |              |
| <i>Culex restuans</i>                  | 234         | 744          |           |              |
| <i>Culex salinarius</i>                | 133         | 814          |           |              |
| <i>Culex territans</i>                 | 14          | 28           |           |              |
| <i>Orthopodomyia signifera</i>         | 4           | 4            |           |              |
| <i>Psorophora ciliate</i>              | 1           | 1            |           |              |
| <i>Psorophora columbiae</i>            | 5           | 34           |           |              |
| <i>Psorophora ferox</i>                | 20          | 308          |           |              |
| <i>Psorophora howardii</i>             | 1           | 1            |           |              |
| <i>Uranotaenia sapphirina</i>          | 1           | 1            |           |              |
| <b>State Total</b>                     | <b>2824</b> | <b>64340</b> | <b>1</b>  | <b>0.016</b> |

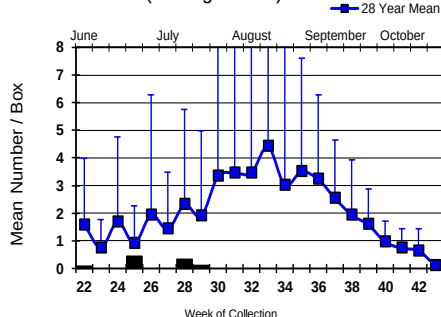
# Culiseta melanura Populations

## Coastal

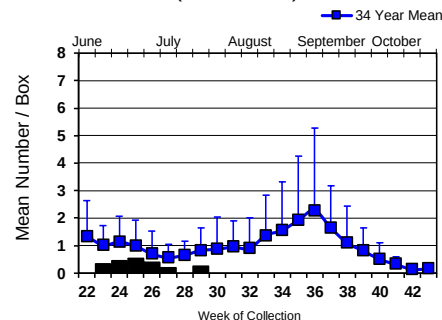
BASS RIVER (Burlington Co.)



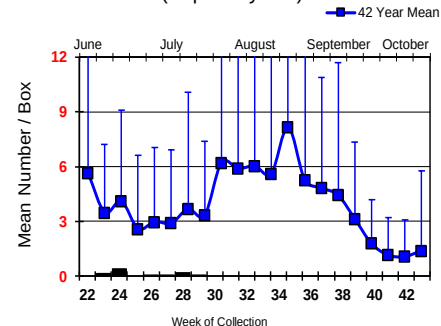
GREEN BANK (Burlington Co.)



CORBIN CITY (Atlantic Co.)

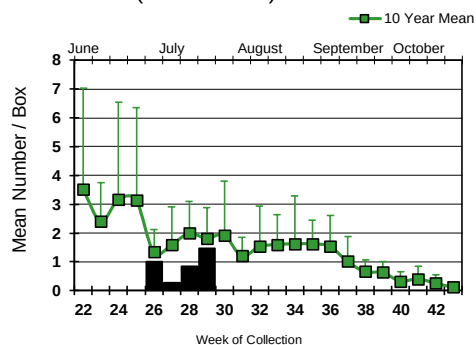


DENNISVILLE (Cape May Co.)

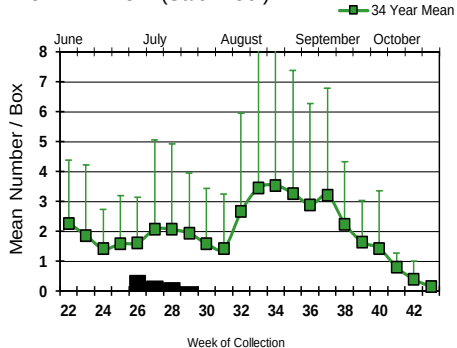


## Inland

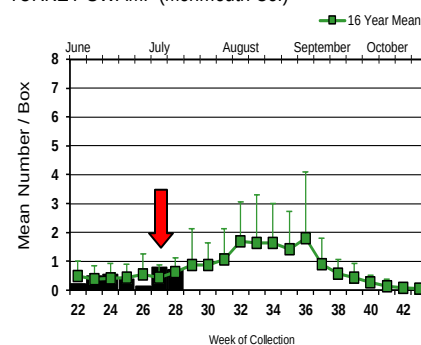
WINSLOW (Camden Co.)



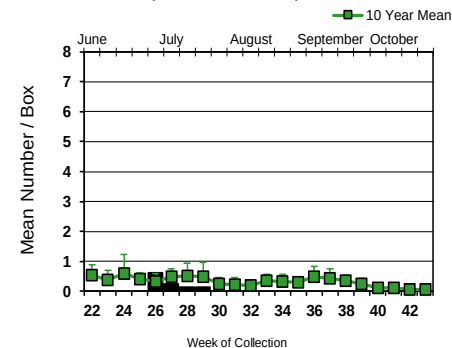
CENTERTON (Salem Co.)



TURKEY SWAMP (Monmouth Co.)



GLASSBORO (Gloucester Co.)



*Culiseta melanura* populations at most traditional resting box sites continue to be well below historical values. Only the Turkey Swamp site had *Cs. melanura* collections higher than historical values, and during week 27, a positive EEE pool from *Cs. melanura* was detected there. Positive *Cs. melanura* have been found at other non-traditional sites. It should be noted that *Cs. melanura* collected in light traps suggest that population abundances are higher than is indicated by resting box numbers.

↓ ↓ = Positive pool(s) detected (red = melanura, purple = other species).

**EEE in US** (2019 cumulative cases): (Black or Red = previous + new reported cases occurring)

- **equine:** 24 (FL) 1 (GA) 1 (SC)
- **mosquito pools:** 4 (NJ) 2 (MA)
- **sentinel:** 70 (+1 emu 1 BAEA, FL)
- **human:**

## West Nile Virus Positive Organisms in US, 2019

West Nile in US (2019 cumulative cases): Single black values indicate no change from previous week. Black values / red values equals previous week/**New totals**.

Note: Data reported by all states should be considered provisional and subject to change. Sources for this table can be found [here](#).

|               | Birds | Mosquito Pools | Sentinels | Horses* | Humans |
|---------------|-------|----------------|-----------|---------|--------|
| Alabama       |       |                |           | 1       | 0      |
| Alaska        |       |                |           |         |        |
| Arizona       | 0     | 183/295        | 1         | 1       | 27/59  |
| Arkansas      |       |                |           |         | 1      |
| California    | 18/28 | 471/802        | 0         | 0       | 1/2    |
| Colorado      |       |                |           |         | 1      |
| Connecticut   |       | 0              |           | 0       | 0      |
| Delaware      |       |                |           |         |        |
| Florida       |       |                | 18/21     | 1       |        |
| Georgia       |       |                |           |         |        |
| Hawaii        |       |                |           |         |        |
| Idaho         | 0     | 5              |           | 0       | 1      |
| Illinois      | 2     | 82/95          |           | 0       | 0      |
| Indiana       | 0     | 5              |           | 0       | 0      |
| Iowa          |       |                |           | 2       |        |
| Kansas        |       |                |           |         | 0      |
| Kentucky      |       |                |           |         |        |
| Louisiana     |       |                |           |         |        |
| Maine         |       |                |           |         |        |
| Maryland(+DC) |       |                |           |         |        |
| Mass.         |       | 1              |           | 0       | 0      |
| Michigan      | 1     | 3              |           |         | 0      |
| Minnesota     |       |                |           |         |        |
| Mississippi   |       | 1/10           |           | 5       | 1/3    |
| Missouri      |       | 0              |           | 0       | 0      |

|                | Birds | Mosquito Pools | Sentinels | Horses* | Humans |
|----------------|-------|----------------|-----------|---------|--------|
| Montana        |       |                |           |         |        |
| Nebraska       | 0     | 0              |           | 0       | 0      |
| Nevada         |       |                |           |         | 1      |
| New Hampshire  |       |                |           |         |        |
| New Jersey     |       | 4/9            |           | 0       | 1      |
| New Mexico     |       |                |           |         | 0      |
| New York       |       | 1              |           | 0       | 0      |
| North Carolina |       |                |           |         |        |
| North Dakota   | 0     | 0              |           | 0       | 1      |
| Ohio           |       | 7/14           |           | 0       | 0      |
| Oklahoma       |       |                |           |         | 3      |
| Oregon         | 0     | 7              | 0         | 1       | 0      |
| Pennsylvania   |       | 13             |           |         |        |
| Rhode Island   |       | 0              |           |         |        |
| South Carolina |       |                |           |         |        |
| South Dakota   |       | 0              |           |         | 1      |
| Tennessee      |       |                |           |         |        |
| Texas          |       | 32/39          |           |         |        |
| Utah           |       | 3              |           |         |        |
| Vermont        |       |                |           |         |        |
| Virginia       |       |                |           |         | 1      |
| Washington     | 0     | 2/3            |           | 0       | 0      |
| West Virginia  |       |                |           |         |        |
| Wisconsin      | 0     | 3              |           | 0       | 0      |
| Wyoming        | 0     | 1              |           | 0       | 1      |

\* Can include other species (e.g., dogs, cows) reported positive.

Protocol: New Jersey Department of Health (NJDH Public Health Environmental and Agricultural Laboratories, PHEAL) and the Cape May County Department of Mosquito Control tests mosquito pools using RT-PCR Taqman techniques.

## Mosquito Species Submitted and Tested for West Nile Virus through 20 July 2019

| Species                            | Pools       | Mosquitoes   | Positives | MFIR         |
|------------------------------------|-------------|--------------|-----------|--------------|
| <i>Aedes abserratus</i>            | 13          | 258          |           |              |
| <i>Aedes albopictus</i>            | 369         | 1646         |           |              |
| <i>Aedes atlanticus</i>            | 7           | 55           |           |              |
| <i>Aedes aurifer</i>               | 3           | 14           |           |              |
| <i>Aedes canadensis canadensis</i> | 86          | 1728         |           |              |
| <i>Aedes cantator</i>              | 15          | 289          | 1         | 3.460        |
| <i>Aedes grossbecki</i>            | 5           | 12           |           |              |
| <i>Aedes infirmatus</i>            | 1           | 1            |           |              |
| <i>Aedes japonicus</i>             | 304         | 2205         |           |              |
| <i>Aedes mitchellae</i>            | 1           | 1            |           |              |
| <i>Aedes provocans</i>             | 2           | 8            |           |              |
| <i>Aedes sollicitans</i>           | 3           | 203          |           |              |
| <i>Aedes sticticus</i>             | 3           | 93           |           |              |
| <i>Aedes stimulans</i>             | 2           | 10           |           |              |
| <i>Aedes taeniorhynchus</i>        | 3           | 159          |           |              |
| <i>Aedes thibaulti</i>             | 2           | 27           |           |              |
| <i>Aedes triseriatus</i>           | 221         | 705          | 1         | 1.418        |
| <i>Aedes trivittatus</i>           | 16          | 247          |           |              |
| <i>Aedes vexans</i>                | 33          | 326          |           |              |
| <i>Anopheles bradleyi</i>          | 30          | 135          |           |              |
| <i>Anopheles crucians</i>          | 3           | 75           |           |              |
| <i>Anopheles punctipennis</i>      | 33          | 220          |           |              |
| <i>Anopheles quadrimaculatus</i>   | 54          | 480          |           |              |
| <i>Coquillettidia perturbans</i>   | 96          | 2259         |           |              |
| <i>Culex</i> spp.                  | 1218        | 50427        | 6         | 0.119        |
| <i>Culex erraticus</i>             | 19          | 55           |           |              |
| <i>Culex pipiens</i>               | 195         | 2119         |           |              |
| <i>Culex restuans</i>              | 237         | 747          |           |              |
| <i>Culex salinarius</i>            | 133         | 814          |           |              |
| <i>Culex territans</i>             | 14          | 28           |           |              |
| <i>Culiseta melanura</i>           | 236         | 2946         | 1         | 0.339        |
| <i>Orthopodomyia signifera</i>     | 4           | 4            |           |              |
| <i>Psorophora ciliata</i>          | 1           | 1            |           |              |
| <i>Psorophora columbiae</i>        | 5           | 34           |           |              |
| <i>Psorophora ferox</i>            | 20          | 308          |           |              |
| <i>Psorophora howardii</i>         | 1           | 1            |           |              |
| <i>Uranotaenia sapphirina</i>      | 1           | 1            |           |              |
| <b>Grand Total</b>                 | <b>3389</b> | <b>68641</b> | <b>9</b>  | <b>0.131</b> |

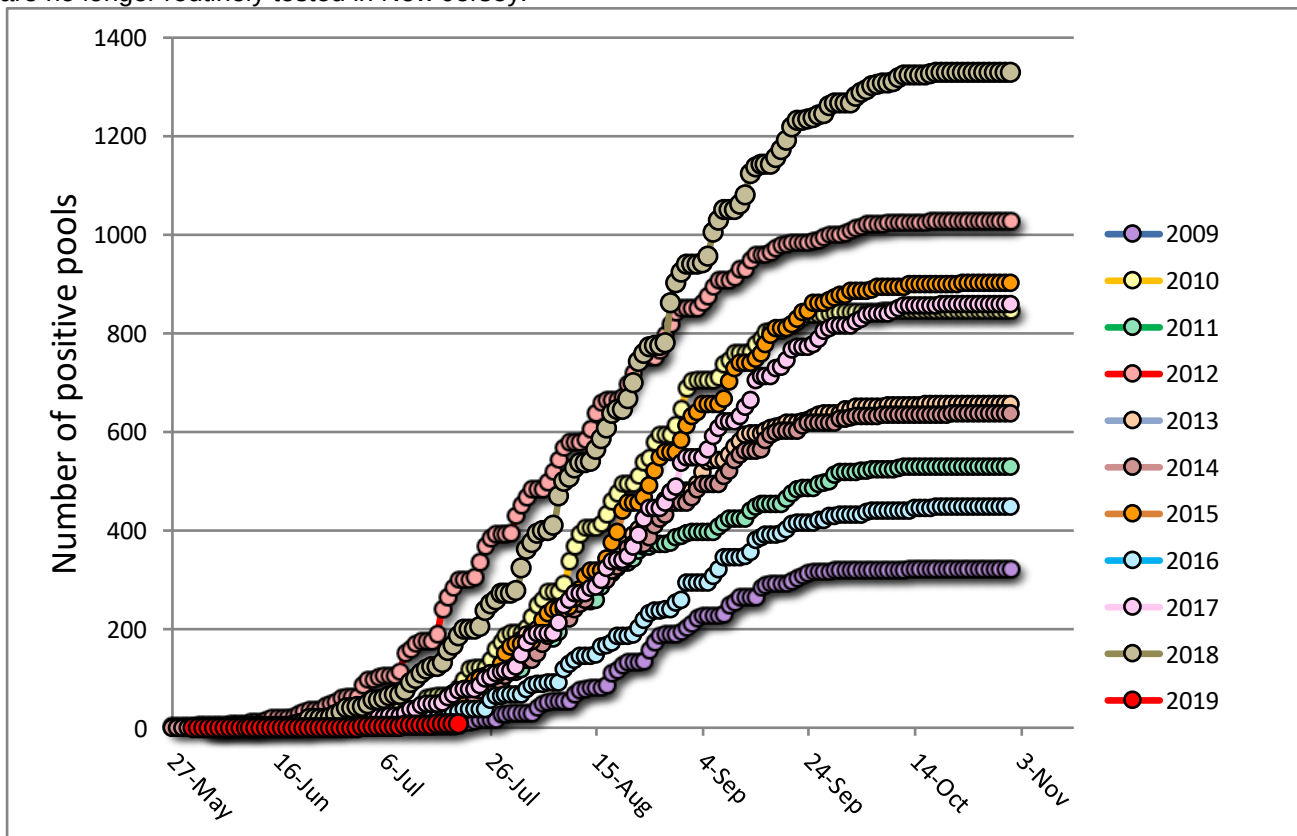
**Remarks:** To date, 3,389 pools of 68,641 mosquitoes from 36 species have been tested. A total of 9 positive WNV pools have been detected throughout the state beginning with a pool of *Aedes triseriatus*, collected on 31 May, 2019 in Passaic County. This pool was also co-infected with LAC (see table below). Six of the positives are in *Culex* pools. Also positive was a pool of *Aedes cantator*, collected 2 July in Ocean County and a pool of *Culiseta melanura*. Last year was a year of significant activity, with over 1300 positive pools detected. Gloucester County. Last year's patterns also included an

increase in activity in the northwestern side of the state. Currently, the statewide MFIR rate for all mosquitoes increased from 0.073 to 0.131.

**Humans, Horses and Wild Birds:** There has been one human case of West Nile virus from Hunterdon County reported, with an onset date of 21 June. This represents the earliest typical case reported in New Jersey. (A few years ago, there was one case reported in May from a long-term hospitalized patient making date of infection difficult to determine.) For more information, see NJ arboviral reports from the Department of Health: <https://www.nj.gov/health/cd/statistics/arboviral-stats/> . Last year we have over 60 cases reported, the highest to date.

Currently, there are no reported horse cases for WNV. Last year only one WNV horse case has been reported, occurring in Burlington County. This seemed rather unusual, given all the other indicators of high virus activity. For further information, see <http://www.nj.gov/health/cd/statistics/arboviral-stats/>.

Birds are no longer routinely tested in New Jersey.



Above is a graph showing cumulative number of positive pools for the previous 10 years, inclusive of the most active (2018) and least active (2009) years. The red series represents this year, starting with the first positive pool.

### WNV Results by County through 20 July 2019.

| County   | Species                          | Pools | Mosquitoes | Positives | MFIR  |
|----------|----------------------------------|-------|------------|-----------|-------|
| Atlantic |                                  | 148   | 4949       | 1         | 0.202 |
|          | <i>Aedes albopictus</i>          | 19    | 117        |           |       |
|          | <i>Aedes cantator</i>            | 2     | 112        |           |       |
|          | <i>Aedes japonicus</i>           | 5     | 71         |           |       |
|          | <i>Aedes sollicitans</i>         | 3     | 203        |           |       |
|          | <i>Aedes taeniorhynchus</i>      | 2     | 150        |           |       |
|          | <i>Aedes vexans</i>              | 4     | 97         |           |       |
|          | <i>Anopheles bradleyi</i>        | 3     | 38         |           |       |
|          | <i>Anopheles crucians</i>        | 1     | 6          |           |       |
|          | <i>Anopheles punctipennis</i>    | 1     | 45         |           |       |
|          | <i>Anopheles quadrimaculatus</i> | 1     | 1          |           |       |
|          | <i>Coquillettidia perturbans</i> | 15    | 478        |           |       |

|                                    |             |             |          |              |
|------------------------------------|-------------|-------------|----------|--------------|
| <i>Culex</i> spp.                  | 48          | 2562        | 1        | 0.390        |
| <i>Culex erraticus</i>             | 3           | 3           |          |              |
| <i>Culex pipiens</i>               | 1           | 75          |          |              |
| <i>Culex restuans</i>              | 1           | 3           |          |              |
| <i>Culex territans</i>             | 1           | 1           |          |              |
| <i>Culiseta melanura</i>           | 36          | 837         |          |              |
| <i>Psorophora ferox</i>            | 2           | 150         |          |              |
| <b>Bergen</b>                      | <b>114</b>  | <b>5919</b> |          |              |
| <i>Aedes albopictus</i>            | 4           | 54          |          |              |
| <i>Aedes canadensis canadensis</i> | 4           | 28          |          |              |
| <i>Aedes cantator</i>              | 2           | 105         |          |              |
| <i>Aedes japonicus</i>             | 13          | 348         |          |              |
| <i>Aedes thibaulti</i>             | 2           | 27          |          |              |
| <i>Aedes triseriatus</i>           | 5           | 47          |          |              |
| <i>Aedes trivittatus</i>           | 1           | 6           |          |              |
| <i>Coquillettidia perturbans</i>   | 3           | 37          |          |              |
| <i>Culex</i> spp.                  | 74          | 5114        |          |              |
| <i>Culex salinarius</i>            | 3           | 141         |          |              |
| <i>Culiseta melanura</i>           | 2           | 6           |          |              |
| <i>Psorophora ferox</i>            | 1           | 6           |          |              |
| <b>Burlington</b>                  | <b>144</b>  | <b>6782</b> | <b>5</b> | <b>0.737</b> |
| <i>Aedes albopictus</i>            | 5           | 57          |          |              |
| <i>Aedes atlanticus</i>            | 2           | 38          |          |              |
| <i>Aedes canadensis canadensis</i> | 7           | 213         |          |              |
| <i>Aedes cantator</i>              | 1           | 28          |          |              |
| <i>Aedes infirmatus</i>            | 1           | 1           |          |              |
| <i>Aedes japonicus</i>             | 7           | 190         |          |              |
| <i>Aedes mitchellae</i>            | 1           | 1           |          |              |
| <i>Aedes sticticus</i>             | 1           | 9           |          |              |
| <i>Aedes taeniorhynchus</i>        | 1           | 9           |          |              |
| <i>Aedes triseriatus</i>           | 4           | 15          |          |              |
| <i>Aedes vexans</i>                | 1           | 30          |          |              |
| <i>Anopheles bradleyi</i>          | 1           | 27          |          |              |
| <i>Anopheles crucians</i>          | 2           | 69          |          |              |
| <i>Coquillettidia perturbans</i>   | 6           | 450         |          |              |
| <i>Culex</i> spp.                  | 74          | 4964        | 5        | 1.007        |
| <i>Culex salinarius</i>            | 9           | 306         |          |              |
| <i>Culiseta melanura</i>           | 20          | 351         |          |              |
| <i>Psorophora ferox</i>            | 1           | 24          |          |              |
| <b>Camden</b>                      | <b>14</b>   | <b>326</b>  |          |              |
| <i>Aedes albopictus</i>            | 2           | 4           |          |              |
| <i>Aedes japonicus</i>             | 2           | 8           |          |              |
| <i>Culex</i> spp.                  | 4           | 132         |          |              |
| <i>Culiseta melanura</i>           | 6           | 182         |          |              |
| <b>Cape May</b>                    | <b>1120</b> | <b>4219</b> |          |              |
| <i>Aedes albopictus</i>            | 166         | 306         |          |              |
| <i>Aedes canadensis canadensis</i> | 11          | 15          |          |              |
| <i>Aedes cantator</i>              | 4           | 4           |          |              |
| <i>Aedes japonicus</i>             | 109         | 230         |          |              |
| <i>Aedes triseriatus</i>           | 113         | 179         |          |              |
| <i>Aedes vexans</i>                | 7           | 7           |          |              |
| <i>Anopheles bradleyi</i>          | 25          | 69          |          |              |

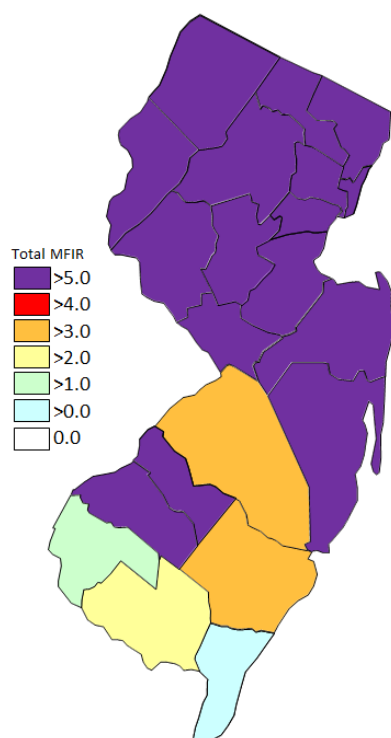


|                   |                                    |            |             |          |              |
|-------------------|------------------------------------|------------|-------------|----------|--------------|
|                   | <i>Anopheles punctipennis</i>      | 5          | 5           |          |              |
|                   | <i>Anopheles quadrimaculatus</i>   | 37         | 354         |          |              |
|                   | <i>Coquillettidia perturbans</i>   | 14         | 19          |          |              |
|                   | <i>Culex</i> spp.                  | 10         | 33          |          |              |
|                   | <i>Culex erraticus</i>             | 7          | 14          |          |              |
|                   | <i>Culex pipiens</i>               | 186        | 1905        |          |              |
|                   | <i>Culex restuans</i>              | 224        | 536         |          |              |
|                   | <i>Culex salinarius</i>            | 108        | 294         |          |              |
|                   | <i>Culex territans</i>             | 13         | 27          |          |              |
|                   | <i>Culiseta melanura</i>           | 76         | 217         |          |              |
|                   | <i>Orthopodomyia signifera</i>     | 4          | 4           |          |              |
|                   | <i>Uranotaenia sapphirina</i>      | 1          | 1           |          |              |
| <b>Cumberland</b> |                                    | <b>79</b>  | <b>790</b>  | <b>1</b> | <b>1.266</b> |
|                   | <i>Aedes albopictus</i>            | 5          | 33          |          |              |
|                   | <i>Aedes canadensis canadensis</i> | 2          | 51          |          |              |
|                   | <i>Aedes japonicus</i>             | 1          | 10          |          |              |
|                   | <i>Aedes trivittatus</i>           | 3          | 7           |          |              |
|                   | <i>Aedes vexans</i>                | 12         | 135         |          |              |
|                   | <i>Anopheles punctipennis</i>      | 7          | 44          |          |              |
|                   | <i>Anopheles quadrimaculatus</i>   | 8          | 98          |          |              |
|                   | <i>Coquillettidia perturbans</i>   | 5          | 8           |          |              |
|                   | <i>Culex</i> spp.                  | 16         | 235         |          |              |
|                   | <i>Culex erraticus</i>             | 2          | 16          |          |              |
|                   | <i>Culex salinarius</i>            | 1          | 29          |          |              |
|                   | <i>Culiseta melanura</i>           | 10         | 92          | 1        | 10.870       |
|                   | <i>Psorophora ciliata</i>          | 1          | 1           |          |              |
|                   | <i>Psorophora columbiae</i>        | 2          | 13          |          |              |
|                   | <i>Psorophora ferox</i>            | 4          | 18          |          |              |
| <b>Essex</b>      |                                    | <b>55</b>  | <b>262</b>  |          |              |
|                   | <i>Aedes albopictus</i>            | 5          | 10          |          |              |
|                   | <i>Aedes canadensis canadensis</i> | 2          | 14          |          |              |
|                   | <i>Aedes grossbecki</i>            | 5          | 12          |          |              |
|                   | <i>Aedes japonicus</i>             | 9          | 14          |          |              |
|                   | <i>Aedes triseriatus</i>           | 5          | 11          |          |              |
|                   | <i>Aedes trivittatus</i>           | 6          | 116         |          |              |
|                   | <i>Aedes vexans</i>                | 1          | 1           |          |              |
|                   | <i>Anopheles quadrimaculatus</i>   | 1          | 1           |          |              |
|                   | <i>Culex</i> spp.                  | 21         | 83          |          |              |
| <b>Gloucester</b> |                                    | <b>143</b> | <b>5657</b> |          |              |
|                   | <i>Aedes albopictus</i>            | 21         | 328         |          |              |
|                   | <i>Aedes japonicus</i>             | 17         | 327         |          |              |
|                   | <i>Aedes triseriatus</i>           | 3          | 23          |          |              |
|                   | <i>Anopheles punctipennis</i>      | 1          | 75          |          |              |
|                   | <i>Culex</i> spp.                  | 79         | 4299        |          |              |
|                   | <i>Culex pipiens</i>               | 3          | 60          |          |              |
|                   | <i>Culiseta melanura</i>           | 18         | 470         |          |              |
|                   | <i>Psorophora ferox</i>            | 1          | 75          |          |              |
| <b>Hudson</b>     |                                    | <b>84</b>  | <b>3799</b> |          |              |
|                   | <i>Aedes albopictus</i>            | 8          | 108         |          |              |
|                   | <i>Aedes triseriatus</i>           | 10         | 18          |          |              |
|                   | <i>Culex</i> spp.                  | 66         | 3673        |          |              |

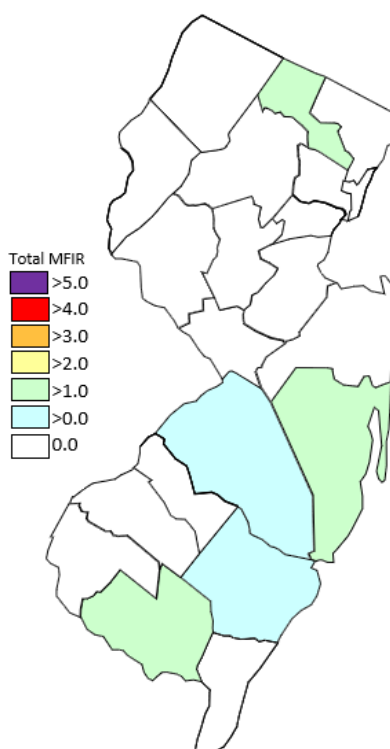
|                                    |            |             |  |  |
|------------------------------------|------------|-------------|--|--|
| <b>Hunterdon</b>                   | <b>89</b>  | <b>4001</b> |  |  |
| <i>Aedes albopictus</i>            | 1          | 6           |  |  |
| <i>Aedes triseriatus</i>           | 4          | 21          |  |  |
| <i>Aedes trivittatus</i>           | 1          | 50          |  |  |
| <i>Aedes vexans</i>                | 1          | 7           |  |  |
| <i>Anopheles punctipennis</i>      | 1          | 3           |  |  |
| <i>Coquillettidia perturbans</i>   | 1          | 2           |  |  |
| <i>Culex</i> spp.                  | 78         | 3900        |  |  |
| <i>Psorophora ferox</i>            | 1          | 11          |  |  |
| <i>Psorophora howardii</i>         | 1          | 1           |  |  |
| <b>Mercer</b>                      | <b>143</b> | <b>1981</b> |  |  |
| <i>Aedes albopictus</i>            | 20         | 141         |  |  |
| <i>Aedes japonicus</i>             | 37         | 185         |  |  |
| <i>Aedes triseriatus</i>           | 10         | 38          |  |  |
| <i>Aedes vexans</i>                | 1          | 12          |  |  |
| <i>Anopheles quadrimaculatus</i>   | 1          | 2           |  |  |
| <i>Culex</i> spp.                  | 74         | 1603        |  |  |
| <b>Middlesex</b>                   | <b>97</b>  | <b>1022</b> |  |  |
| <i>Aedes albopictus</i>            | 7          | 34          |  |  |
| <i>Aedes japonicus</i>             | 11         | 141         |  |  |
| <i>Aedes triseriatus</i>           | 6          | 25          |  |  |
| <i>Coquillettidia perturbans</i>   | 1          | 18          |  |  |
| <i>Culex</i> spp.                  | 67         | 770         |  |  |
| <i>Culiseta melanura</i>           | 5          | 34          |  |  |
| <b>Monmouth</b>                    | <b>186</b> | <b>2374</b> |  |  |
| <i>Aedes albopictus</i>            | 32         | 168         |  |  |
| <i>Aedes atlanticus</i>            | 2          | 13          |  |  |
| <i>Aedes canadensis canadensis</i> | 18         | 513         |  |  |
| <i>Aedes cantator</i>              | 3          | 27          |  |  |
| <i>Aedes japonicus</i>             | 7          | 15          |  |  |
| <i>Aedes triseriatus</i>           | 10         | 186         |  |  |
| <i>Aedes trivittatus</i>           | 1          | 4           |  |  |
| <i>Aedes vexans</i>                | 6          | 37          |  |  |
| <i>Anopheles punctipennis</i>      | 12         | 32          |  |  |
| <i>Anopheles quadrimaculatus</i>   | 1          | 1           |  |  |
| <i>Coquillettidia perturbans</i>   | 8          | 28          |  |  |
| <i>Culex</i> spp.                  | 55         | 1078        |  |  |
| <i>Culex erraticus</i>             | 2          | 2           |  |  |
| <i>Culex restuans</i>              | 2          | 2           |  |  |
| <i>Culex salinarius</i>            | 4          | 15          |  |  |
| <i>Culiseta melanura</i>           | 14         | 217         |  |  |
| <i>Psorophora columbiae</i>        | 2          | 20          |  |  |
| <i>Psorophora ferox</i>            | 7          | 16          |  |  |
| <b>Morris</b>                      | <b>160</b> | <b>6383</b> |  |  |
| <i>Aedes canadensis canadensis</i> | 15         | 585         |  |  |
| <i>Aedes japonicus</i>             | 8          | 57          |  |  |
| <i>Aedes triseriatus</i>           | 2          | 7           |  |  |
| <i>Coquillettidia perturbans</i>   | 15         | 823         |  |  |
| <i>Culex</i> spp.                  | 108        | 4693        |  |  |
| <i>Culiseta melanura</i>           | 12         | 218         |  |  |

| <b>Ocean</b>                       | <b>128</b> | <b>980</b>  | <b>1</b> | <b>1.020</b> |
|------------------------------------|------------|-------------|----------|--------------|
| <i>Aedes albopictus</i>            | 26         | 118         | 1        | 76.923       |
| <i>Aedes canadensis canadensis</i> | 7          | 21          |          |              |
| <i>Aedes cantator</i>              | 3          | 13          |          |              |
| <i>Aedes japonicus</i>             | 8          | 22          |          |              |
| <i>Aedes triseriatus</i>           | 3          | 6           |          |              |
| <i>Aedes trivittatus</i>           | 1          | 1           |          |              |
| <i>Anopheles bradleyi</i>          | 1          | 1           |          |              |
| <i>Anopheles punctipennis</i>      | 3          | 4           |          |              |
| <i>Coquillettidia perturbans</i>   | 7          | 27          |          |              |
| <i>Culex</i> spp.                  | 36         | 552         |          |              |
| <i>Culex erraticus</i>             | 3          | 5           |          |              |
| <i>Culex restuans</i>              | 1          | 1           |          |              |
| <i>Culex salinarius</i>            | 6          | 25          |          |              |
| <i>Culiseta melanura</i>           | 22         | 180         |          |              |
| <i>Psorophora ferox</i>            | 1          | 4           |          |              |
| <b>Passaic</b>                     | <b>107</b> | <b>790</b>  | <b>1</b> | <b>1.266</b> |
| <i>Aedes albopictus</i>            | 3          | 15          | 1        | 29.412       |
| <i>Aedes canadensis canadensis</i> | 3          | 13          |          |              |
| <i>Aedes japonicus</i>             | 24         | 185         |          |              |
| <i>Aedes triseriatus</i>           | 17         | 34          |          |              |
| <i>Aedes trivittatus</i>           | 1          | 6           |          |              |
| <i>Coquillettidia perturbans</i>   | 2          | 10          |          |              |
| <i>Culex</i> spp.                  | 54         | 516         |          |              |
| <i>Culex restuans</i>              | 2          | 8           |          |              |
| <i>Psorophora ferox</i>            | 1          | 3           |          |              |
| <b>Salem</b>                       | <b>202</b> | <b>2456</b> |          |              |
| <i>Aedes albopictus</i>            | 42         | 123         |          |              |
| <i>Aedes atlanticus</i>            | 3          | 4           |          |              |
| <i>Aedes aurifer</i>               | 2          | 2           |          |              |
| <i>Aedes japonicus</i>             | 25         | 80          |          |              |
| <i>Aedes triseriatus</i>           | 16         | 21          |          |              |
| <i>Anopheles punctipennis</i>      | 3          | 12          |          |              |
| <i>Anopheles quadrimaculatus</i>   | 5          | 23          |          |              |
| <i>Coquillettidia perturbans</i>   | 15         | 146         |          |              |
| <i>Culex</i> spp.                  | 64         | 1939        |          |              |
| <i>Culex erraticus</i>             | 2          | 15          |          |              |
| <i>Culex pipiens</i>               | 4          | 4           |          |              |
| <i>Culex restuans</i>              | 4          | 4           |          |              |
| <i>Culex salinarius</i>            | 2          | 4           |          |              |
| <i>Culiseta melanura</i>           | 13         | 77          |          |              |
| <i>Psorophora columbiae</i>        | 1          | 1           |          |              |
| <i>Psorophora ferox</i>            | 1          | 1           |          |              |
| <b>Somerset</b>                    | <b>83</b>  | <b>2695</b> |          |              |
| <i>Aedes albopictus</i>            | 2          | 13          |          |              |
| <i>Aedes canadensis canadensis</i> | 1          | 3           |          |              |
| <i>Aedes japonicus</i>             | 10         | 148         |          |              |
| <i>Aedes triseriatus</i>           | 2          | 4           |          |              |
| <i>Aedes trivittatus</i>           | 2          | 57          |          |              |
| <i>Culex</i> spp.                  | 66         | 2470        |          |              |
| <b>Sussex</b>                      | <b>119</b> | <b>3911</b> |          |              |

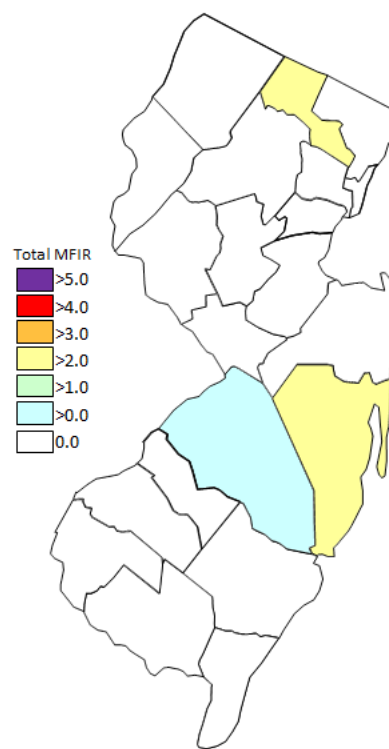
|                                    |             |              |          |              |
|------------------------------------|-------------|--------------|----------|--------------|
| <i>Aedes abserratus</i>            | 13          | 258          |          |              |
| <i>Aedes aurifer</i>               | 1           | 12           |          |              |
| <i>Aedes canadensis canadensis</i> | 16          | 272          |          |              |
| <i>Aedes provocans</i>             | 2           | 8            |          |              |
| <i>Aedes sticticus</i>             | 2           | 84           |          |              |
| <i>Aedes stimulans</i>             | 2           | 10           |          |              |
| <i>Aedes triseriatus</i>           | 10          | 66           |          |              |
| <i>Culex</i> spp.                  | 67          | 2868         |          |              |
| <i>Culex pipiens</i>               | 1           | 75           |          |              |
| <i>Culex restuans</i>              | 3           | 193          |          |              |
| <i>Culiseta melanura</i>           | 2           | 65           |          |              |
| <b>Union</b>                       | <b>46</b>   | <b>2671</b>  |          |              |
| <i>Aedes albopictus</i>            | 1           | 11           |          |              |
| <i>Aedes japonicus</i>             | 2           | 25           |          |              |
| <i>Aedes triseriatus</i>           | 1           | 4            |          |              |
| <i>Coquillettidia perturbans</i>   | 4           | 213          |          |              |
| <i>Culex</i> spp.                  | 38          | 2418         |          |              |
| <b>Warren</b>                      | <b>128</b>  | <b>6674</b>  |          |              |
| <i>Aedes japonicus</i>             | 9           | 149          |          |              |
| <i>Culex</i> spp.                  | 119         | 6525         |          |              |
| <b>Grand Total</b>                 | <b>3389</b> | <b>68641</b> | <b>9</b> | <b>0.131</b> |



Cumulative WNV activity in 2018.



WNV activity to 20 July 2019.



WNV activity last week, 2019

**Beginning in 2019, viruses are tested as a panel, and so there may be results for species not normally associated with that virus. We have also begun testing for Jamestown Canyon virus.**

**Saint Louis Encephalitis (SLE) to 20 July 2019.**

New Jersey will be primarily testing for SLE as part of a panel of arboviruses. SLE has had previous activity in New Jersey, most notably in 1964 and 1975, the latter outbreak prompting the surveillance reporting by Rutgers. SLE is a flavivirus and has a similar transmission pattern to West Nile, with *Culex* species as the predominant vectors.

No pools of SLE have tested positive for 2019. No human cases have been reported.

| County            | Species                            | Pools      | Mosquitoes  | Positives | MFIR |
|-------------------|------------------------------------|------------|-------------|-----------|------|
| <b>Atlantic</b>   |                                    | <b>148</b> | <b>4949</b> |           |      |
|                   | <i>Aedes albopictus</i>            | 19         | 117         |           |      |
|                   | <i>Aedes cantator</i>              | 2          | 112         |           |      |
|                   | <i>Aedes japonicus</i>             | 5          | 71          |           |      |
|                   | <i>Aedes sollicitans</i>           | 3          | 203         |           |      |
|                   | <i>Aedes taeniorhynchus</i>        | 2          | 150         |           |      |
|                   | <i>Aedes vexans</i>                | 4          | 97          |           |      |
|                   | <i>Anopheles bradleyi</i>          | 3          | 38          |           |      |
|                   | <i>Anopheles crucians</i>          | 1          | 6           |           |      |
|                   | <i>Anopheles punctipennis</i>      | 1          | 45          |           |      |
|                   | <i>Anopheles quadrimaculatus</i>   | 1          | 1           |           |      |
|                   | <i>Coquillettidia perturbans</i>   | 15         | 478         |           |      |
|                   | <i>Culex</i> spp.                  | 48         | 2562        |           |      |
|                   | <i>Culex erraticus</i>             | 3          | 3           |           |      |
|                   | <i>Culex pipiens</i>               | 1          | 75          |           |      |
|                   | <i>Culex restuans</i>              | 1          | 3           |           |      |
|                   | <i>Culex territans</i>             | 1          | 1           |           |      |
|                   | <i>Culiseta melanura</i>           | 36         | 837         |           |      |
|                   | <i>Psorophora ferox</i>            | 2          | 150         |           |      |
| <b>Bergen</b>     |                                    | <b>108</b> | <b>5782</b> |           |      |
|                   | <i>Aedes albopictus</i>            | 3          | 32          |           |      |
|                   | <i>Aedes canadensis canadensis</i> | 4          | 28          |           |      |
|                   | <i>Aedes cantator</i>              | 2          | 105         |           |      |
|                   | <i>Aedes japonicus</i>             | 10         | 253         |           |      |
|                   | <i>Aedes thibaulti</i>             | 2          | 27          |           |      |
|                   | <i>Aedes triseriatus</i>           | 3          | 27          |           |      |
|                   | <i>Aedes trivittatus</i>           | 1          | 6           |           |      |
|                   | <i>Coquillettidia perturbans</i>   | 3          | 37          |           |      |
|                   | <i>Culex</i> spp.                  | 74         | 5114        |           |      |
|                   | <i>Culex salinarius</i>            | 3          | 141         |           |      |
|                   | <i>Culiseta melanura</i>           | 2          | 6           |           |      |
|                   | <i>Psorophora ferox</i>            | 1          | 6           |           |      |
| <b>Burlington</b> |                                    | <b>132</b> | <b>6548</b> |           |      |
|                   | <i>Aedes albopictus</i>            | 1          | 3           |           |      |
|                   | <i>Aedes atlanticus</i>            | 2          | 38          |           |      |
|                   | <i>Aedes canadensis canadensis</i> | 7          | 213         |           |      |
|                   | <i>Aedes cantator</i>              | 1          | 28          |           |      |
|                   | <i>Aedes infirmatus</i>            | 1          | 1           |           |      |
|                   | <i>Aedes japonicus</i>             | 3          | 25          |           |      |
|                   | <i>Aedes mitchellae</i>            | 1          | 1           |           |      |
|                   | <i>Aedes sticticus</i>             | 1          | 9           |           |      |
|                   | <i>Aedes taeniorhynchus</i>        | 1          | 9           |           |      |
|                   | <i>Aedes vexans</i>                | 1          | 30          |           |      |
|                   | <i>Anopheles bradleyi</i>          | 1          | 27          |           |      |
|                   | <i>Anopheles crucians</i>          | 2          | 69          |           |      |
|                   | <i>Coquillettidia perturbans</i>   | 6          | 450         |           |      |

|                                    |            |             |  |  |
|------------------------------------|------------|-------------|--|--|
| <i>Culex</i> spp.                  | 74         | 4964        |  |  |
| <i>Culex salinarius</i>            | 9          | 306         |  |  |
| <i>Culiseta melanura</i>           | 20         | 351         |  |  |
| <i>Psorophora ferox</i>            | 1          | 24          |  |  |
| <b>Camden</b>                      | <b>14</b>  | <b>326</b>  |  |  |
| <i>Aedes albopictus</i>            | 2          | 4           |  |  |
| <i>Aedes japonicus</i>             | 2          | 8           |  |  |
| <i>Culex</i> spp.                  | 4          | 132         |  |  |
| <i>Culiseta melanura</i>           | 6          | 182         |  |  |
| <b>Cape May</b>                    | <b>878</b> | <b>3817</b> |  |  |
| <i>Aedes albopictus</i>            | 30         | 65          |  |  |
| <i>Aedes canadensis canadensis</i> | 11         | 15          |  |  |
| <i>Aedes cantator</i>              | 4          | 4           |  |  |
| <i>Aedes japonicus</i>             | 106        | 219         |  |  |
| <i>Aedes triseriatus</i>           | 15         | 34          |  |  |
| <i>Aedes vexans</i>                | 7          | 7           |  |  |
| <i>Anopheles bradleyi</i>          | 25         | 69          |  |  |
| <i>Anopheles punctipennis</i>      | 4          | 4           |  |  |
| <i>Anopheles quadrimaculatus</i>   | 37         | 354         |  |  |
| <i>Coquillettidia perturbans</i>   | 14         | 19          |  |  |
| <i>Culex</i> spp.                  | 10         | 33          |  |  |
| <i>Culex erraticus</i>             | 7          | 14          |  |  |
| <i>Culex pipiens</i>               | 185        | 1904        |  |  |
| <i>Culex restuans</i>              | 221        | 533         |  |  |
| <i>Culex salinarius</i>            | 108        | 294         |  |  |
| <i>Culex territans</i>             | 13         | 27          |  |  |
| <i>Culiseta melanura</i>           | 76         | 217         |  |  |
| <i>Orthopodomyia signifera</i>     | 4          | 4           |  |  |
| <i>Uranotaenia sapphirina</i>      | 1          | 1           |  |  |
| <b>Cumberland</b>                  | <b>79</b>  | <b>790</b>  |  |  |
| <i>Aedes albopictus</i>            | 5          | 33          |  |  |
| <i>Aedes canadensis canadensis</i> | 2          | 51          |  |  |
| <i>Aedes japonicus</i>             | 1          | 10          |  |  |
| <i>Aedes trivittatus</i>           | 3          | 7           |  |  |
| <i>Aedes vexans</i>                | 12         | 135         |  |  |
| <i>Anopheles punctipennis</i>      | 7          | 44          |  |  |
| <i>Anopheles quadrimaculatus</i>   | 8          | 98          |  |  |
| <i>Coquillettidia perturbans</i>   | 5          | 8           |  |  |
| <i>Culex</i> spp.                  | 16         | 235         |  |  |
| <i>Culex erraticus</i>             | 2          | 16          |  |  |
| <i>Culex salinarius</i>            | 1          | 29          |  |  |
| <i>Culiseta melanura</i>           | 10         | 92          |  |  |
| <i>Psorophora ciliate</i>          | 1          | 1           |  |  |
| <i>Psorophora columbiae</i>        | 2          | 13          |  |  |
| <i>Psorophora ferox</i>            | 4          | 18          |  |  |
| <b>Essex</b>                       | <b>55</b>  | <b>262</b>  |  |  |
| <i>Aedes albopictus</i>            | 5          | 10          |  |  |
| <i>Aedes canadensis canadensis</i> | 2          | 14          |  |  |
| <i>Aedes grossbecki</i>            | 5          | 12          |  |  |
| <i>Aedes japonicus</i>             | 9          | 14          |  |  |
| <i>Aedes triseriatus</i>           | 5          | 11          |  |  |
| <i>Aedes trivittatus</i>           | 6          | 116         |  |  |

|                                    |            |             |  |  |
|------------------------------------|------------|-------------|--|--|
| <i>Aedes vexans</i>                | 1          | 1           |  |  |
| <i>Anopheles quadrimaculatus</i>   | 1          | 1           |  |  |
| <i>Culex</i> spp.                  | 21         | 83          |  |  |
| <b>Gloucester</b>                  | <b>143</b> | <b>5657</b> |  |  |
| <i>Aedes albopictus</i>            | 21         | 328         |  |  |
| <i>Aedes japonicus</i>             | 17         | 327         |  |  |
| <i>Aedes triseriatus</i>           | 3          | 23          |  |  |
| <i>Anopheles punctipennis</i>      | 1          | 75          |  |  |
| <i>Culex</i> spp.                  | 79         | 4299        |  |  |
| <i>Culex pipiens</i>               | 3          | 60          |  |  |
| <i>Culiseta melanura</i>           | 18         | 470         |  |  |
| <i>Psorophora ferox</i>            | 1          | 75          |  |  |
| <b>Hudson</b>                      | <b>76</b>  | <b>3785</b> |  |  |
| <i>Aedes albopictus</i>            | 8          | 108         |  |  |
| <i>Aedes triseriatus</i>           | 2          | 4           |  |  |
| <i>Culex</i> spp.                  | 66         | 3673        |  |  |
| <b>Hunterdon</b>                   | <b>86</b>  | <b>3983</b> |  |  |
| <i>Aedes albopictus</i>            | 1          | 6           |  |  |
| <i>Aedes triseriatus</i>           | 1          | 3           |  |  |
| <i>Aedes trivittatus</i>           | 1          | 50          |  |  |
| <i>Aedes vexans</i>                | 1          | 7           |  |  |
| <i>Anopheles punctipennis</i>      | 1          | 3           |  |  |
| <i>Coquillettidia perturbans</i>   | 1          | 2           |  |  |
| <i>Culex</i> spp.                  | 78         | 3900        |  |  |
| <i>Psorophora ferox</i>            | 1          | 11          |  |  |
| <i>Psorophora howardii</i>         | 1          | 1           |  |  |
| <b>Mercer</b>                      | <b>133</b> | <b>1943</b> |  |  |
| <i>Aedes albopictus</i>            | 20         | 141         |  |  |
| <i>Aedes japonicus</i>             | 37         | 185         |  |  |
| <i>Aedes vexans</i>                | 1          | 12          |  |  |
| <i>Anopheles quadrimaculatus</i>   | 1          | 2           |  |  |
| <i>Culex</i> spp.                  | 74         | 1603        |  |  |
| <b>Middlesex</b>                   | <b>93</b>  | <b>1007</b> |  |  |
| <i>Aedes albopictus</i>            | 7          | 34          |  |  |
| <i>Aedes japonicus</i>             | 11         | 141         |  |  |
| <i>Aedes triseriatus</i>           | 2          | 10          |  |  |
| <i>Coquillettidia perturbans</i>   | 1          | 18          |  |  |
| <i>Culex</i> spp.                  | 67         | 770         |  |  |
| <i>Culiseta melanura</i>           | 5          | 34          |  |  |
| <b>Monmouth</b>                    | <b>177</b> | <b>2190</b> |  |  |
| <i>Aedes albopictus</i>            | 32         | 168         |  |  |
| <i>Aedes atlanticus</i>            | 2          | 13          |  |  |
| <i>Aedes canadensis canadensis</i> | 18         | 513         |  |  |
| <i>Aedes cantator</i>              | 3          | 27          |  |  |
| <i>Aedes japonicus</i>             | 7          | 15          |  |  |
| <i>Aedes triseriatus</i>           | 1          | 2           |  |  |
| <i>Aedes trivittatus</i>           | 1          | 4           |  |  |
| <i>Aedes vexans</i>                | 6          | 37          |  |  |
| <i>Anopheles punctipennis</i>      | 12         | 32          |  |  |

|                                    |            |             |  |  |
|------------------------------------|------------|-------------|--|--|
| <i>Anopheles quadrimaculatus</i>   | 1          | 1           |  |  |
| <i>Coquillettidia perturbans</i>   | 8          | 28          |  |  |
| <i>Culex</i> spp.                  | 55         | 1078        |  |  |
| <i>Culex erraticus</i>             | 2          | 2           |  |  |
| <i>Culex restuans</i>              | 2          | 2           |  |  |
| <i>Culex salinarius</i>            | 4          | 15          |  |  |
| <i>Culiseta melanura</i>           | 14         | 217         |  |  |
| <i>Psorophora columbiae</i>        | 2          | 20          |  |  |
| <i>Psorophora ferox</i>            | 7          | 16          |  |  |
| <b>Morris</b>                      | <b>160</b> | <b>6383</b> |  |  |
| <i>Aedes canadensis canadensis</i> | 15         | 585         |  |  |
| <i>Aedes japonicus</i>             | 8          | 57          |  |  |
| <i>Aedes triseriatus</i>           | 2          | 7           |  |  |
| <i>Coquillettidia perturbans</i>   | 15         | 823         |  |  |
| <i>Culex</i> spp.                  | 108        | 4693        |  |  |
| <i>Culiseta melanura</i>           | 12         | 218         |  |  |
| <b>Ocean</b>                       | <b>128</b> | <b>980</b>  |  |  |
| <i>Aedes albopictus</i>            | 26         | 118         |  |  |
| <i>Aedes canadensis canadensis</i> | 7          | 21          |  |  |
| <i>Aedes cantator</i>              | 3          | 13          |  |  |
| <i>Aedes japonicus</i>             | 8          | 22          |  |  |
| <i>Aedes triseriatus</i>           | 3          | 6           |  |  |
| <i>Aedes trivittatus</i>           | 1          | 1           |  |  |
| <i>Anopheles bradleyi</i>          | 1          | 1           |  |  |
| <i>Anopheles punctipennis</i>      | 3          | 4           |  |  |
| <i>Coquillettidia perturbans</i>   | 7          | 27          |  |  |
| <i>Culex</i> spp.                  | 36         | 552         |  |  |
| <i>Culex erraticus</i>             | 3          | 5           |  |  |
| <i>Culex restuans</i>              | 1          | 1           |  |  |
| <i>Culex salinarius</i>            | 6          | 25          |  |  |
| <i>Culiseta melanura</i>           | 22         | 180         |  |  |
| <i>Psorophora ferox</i>            | 1          | 4           |  |  |
| <b>Passaic</b>                     | <b>102</b> | <b>780</b>  |  |  |
| <i>Aedes albopictus</i>            | 2          | 8           |  |  |
| <i>Aedes canadensis canadensis</i> | 3          | 13          |  |  |
| <i>Aedes japonicus</i>             | 24         | 185         |  |  |
| <i>Aedes triseriatus</i>           | 13         | 31          |  |  |
| <i>Aedes trivittatus</i>           | 1          | 6           |  |  |
| <i>Coquillettidia perturbans</i>   | 2          | 10          |  |  |
| <i>Culex</i> spp.                  | 54         | 516         |  |  |
| <i>Culex restuans</i>              | 2          | 8           |  |  |
| <i>Psorophora ferox</i>            | 1          | 3           |  |  |
| <b>Salem</b>                       | <b>188</b> | <b>2437</b> |  |  |
| <i>Aedes albopictus</i>            | 42         | 123         |  |  |
| <i>Aedes atlanticus</i>            | 3          | 4           |  |  |
| <i>Aedes aurifer</i>               | 2          | 2           |  |  |
| <i>Aedes japonicus</i>             | 25         | 80          |  |  |
| <i>Aedes triseriatus</i>           | 2          | 2           |  |  |
| <i>Anopheles punctipennis</i>      | 3          | 12          |  |  |
| <i>Anopheles quadrimaculatus</i>   | 5          | 23          |  |  |
| <i>Coquillettidia perturbans</i>   | 15         | 146         |  |  |
| <i>Culex</i> spp.                  | 64         | 1939        |  |  |



|                    |                                    |             |              |  |  |
|--------------------|------------------------------------|-------------|--------------|--|--|
|                    | <i>Culex erraticus</i>             | 2           | 15           |  |  |
|                    | <i>Culex pipiens</i>               | 4           | 4            |  |  |
|                    | <i>Culex restuans</i>              | 4           | 4            |  |  |
|                    | <i>Culex salinarius</i>            | 2           | 4            |  |  |
|                    | <i>Culiseta melanura</i>           | 13          | 77           |  |  |
|                    | <i>Psorophora columbiae</i>        | 1           | 1            |  |  |
|                    | <i>Psorophora ferox</i>            | 1           | 1            |  |  |
| <b>Somerset</b>    |                                    | <b>83</b>   | <b>2695</b>  |  |  |
|                    | <i>Aedes albopictus</i>            | 2           | 13           |  |  |
|                    | <i>Aedes canadensis canadensis</i> | 1           | 3            |  |  |
|                    | <i>Aedes japonicus</i>             | 10          | 148          |  |  |
|                    | <i>Aedes triseriatus</i>           | 2           | 4            |  |  |
|                    | <i>Aedes trivittatus</i>           | 2           | 57           |  |  |
|                    | <i>Culex</i> spp.                  | 66          | 2470         |  |  |
| <b>Sussex</b>      |                                    | <b>109</b>  | <b>3845</b>  |  |  |
|                    | <i>Aedes abserratus</i>            | 13          | 258          |  |  |
|                    | <i>Aedes aurifer</i>               | 1           | 12           |  |  |
|                    | <i>Aedes canadensis canadensis</i> | 16          | 272          |  |  |
|                    | <i>Aedes provocans</i>             | 2           | 8            |  |  |
|                    | <i>Aedes sticticus</i>             | 2           | 84           |  |  |
|                    | <i>Aedes stimulans</i>             | 2           | 10           |  |  |
|                    | <i>Culex</i> spp.                  | 67          | 2868         |  |  |
|                    | <i>Culex pipiens</i>               | 1           | 75           |  |  |
|                    | <i>Culex restuans</i>              | 3           | 193          |  |  |
|                    | <i>Culiseta melanura</i>           | 2           | 65           |  |  |
| <b>Union</b>       |                                    | <b>41</b>   | <b>2454</b>  |  |  |
|                    | <i>Aedes albopictus</i>            | 1           | 11           |  |  |
|                    | <i>Aedes japonicus</i>             | 2           | 25           |  |  |
|                    | <i>Culex</i> spp.                  | 38          | 2418         |  |  |
| <b>Warren</b>      |                                    | <b>128</b>  | <b>6674</b>  |  |  |
|                    | <i>Aedes japonicus</i>             | 9           | 149          |  |  |
|                    | <i>Culex</i> spp.                  | 119         | 6525         |  |  |
| <b>Grand Total</b> |                                    | <b>3061</b> | <b>67287</b> |  |  |

## La Crosse Encephalitis (LAC) to 20 July 2019.

New Jersey will be testing for LAC as part of a panel. New Jersey has had 3 cases of this encephalitic disease since 1964. The mortality is low but like other encephalitides, LAC can have both personal (lasting neurological sequelae) and economic impacts. LAC is a bunyavirus with a transmission cycle involving mosquitoes such as *Aedes triseriatus* and small mammals such as squirrels and chipmunks. LAC can not only infect *Aedes albopictus* but transovarial transmission was also demonstrated.

(Tesh and Gubler 1975 Laboratory studies of transovarial transmission of La Crosse and other arboviruses by *Aedes albopictus* and *Culex fatigans*. American Journal of Tropical Medicine and Hygiene 24(5):876-880).

One pool of *Aedes triseriatus* has been detected infected with LAC, collected 31 May in Passaic County. This pool was also reported co-infected with WNV. No human cases have been reported.

| County | Species | Pools | Mosquitoes | Positives | MFIR |
|--------|---------|-------|------------|-----------|------|
|--------|---------|-------|------------|-----------|------|

|                    |                                    |            |             |          |               |
|--------------------|------------------------------------|------------|-------------|----------|---------------|
| <b>Bergen</b>      |                                    | <b>15</b>  | <b>334</b>  |          |               |
|                    | <i>Aedes albopictus</i>            | 2          | 40          |          |               |
|                    | <i>Aedes canadensis canadensis</i> | 1          | 3           |          |               |
|                    | <i>Aedes japonicus</i>             | 8          | 252         |          |               |
|                    | <i>Aedes triseriatus</i>           | 4          | 39          |          |               |
| <b>Burlington</b>  |                                    | <b>12</b>  | <b>234</b>  |          |               |
|                    | <i>Aedes albopictus</i>            | 4          | 54          |          |               |
|                    | <i>Aedes japonicus</i>             | 4          | 165         |          |               |
|                    | <i>Aedes triseriatus</i>           | 4          | 15          |          |               |
| <b>Cape May</b>    |                                    | <b>114</b> | <b>180</b>  |          |               |
|                    | <i>Aedes japonicus</i>             | 3          | 11          |          |               |
|                    | <i>Aedes triseriatus</i>           | 108        | 166         |          |               |
|                    | <i>Anopheles punctipennis</i>      | 1          | 1           |          |               |
|                    | <i>Culex restuans</i>              | 2          | 2           |          |               |
| <b>Essex</b>       |                                    | <b>1</b>   | <b>3</b>    |          |               |
|                    | <i>Aedes triseriatus</i>           | 1          | 3           |          |               |
| <b>Hudson</b>      |                                    | <b>8</b>   | <b>14</b>   |          |               |
|                    | <i>Aedes triseriatus</i>           | 8          | 14          |          |               |
| <b>Hunterdon</b>   |                                    | <b>3</b>   | <b>18</b>   |          |               |
|                    | <i>Aedes triseriatus</i>           | 3          | 18          |          |               |
| <b>Mercer</b>      |                                    | <b>10</b>  | <b>38</b>   |          |               |
|                    | <i>Aedes triseriatus</i>           | 10         | 38          |          |               |
| <b>Middlesex</b>   |                                    | <b>4</b>   | <b>15</b>   |          |               |
|                    | <i>Aedes triseriatus</i>           | 4          | 15          |          |               |
| <b>Monmouth</b>    |                                    | <b>9</b>   | <b>184</b>  |          |               |
|                    | <i>Aedes triseriatus</i>           | 9          | 184         |          |               |
| <b>Passaic</b>     |                                    | <b>14</b>  | <b>40</b>   | <b>1</b> | <b>25.000</b> |
|                    | <i>Aedes albopictus</i>            | 1          | 7           |          |               |
|                    | <i>Aedes canadensis canadensis</i> | 1          | 8           |          |               |
|                    | <i>Aedes triseriatus</i>           | 11         | 23          | 1        | 43.478        |
|                    | <i>Coquillettidia perturbans</i>   | 1          | 2           |          |               |
| <b>Salem</b>       |                                    | <b>14</b>  | <b>19</b>   |          |               |
|                    | <i>Aedes triseriatus</i>           | 14         | 19          |          |               |
| <b>Sussex</b>      |                                    | <b>10</b>  | <b>66</b>   |          |               |
|                    | <i>Aedes triseriatus</i>           | 10         | 66          |          |               |
| <b>Union</b>       |                                    | <b>5</b>   | <b>217</b>  |          |               |
|                    | <i>Aedes triseriatus</i>           | 1          | 4           |          |               |
|                    | <i>Coquillettidia perturbans</i>   | 4          | 213         |          |               |
| <b>Grand Total</b> |                                    | <b>219</b> | <b>1362</b> | <b>1</b> | <b>0.734</b>  |

### Dengue (DENV) to 20 July 2019.

New Jersey will be selectively testing for DENV (including serotypes) this year. Dengue has not had a history of local transmission here in New Jersey, but each year, travelers can bring virus back from areas in the world with virus activity. This is significant as humans are NOT dead-end hosts and thus there is the potential for local transmission (i.e., New Jersey mosquitoes biting a sick person and then biting and transmitting the disease to someone else) to be established. DENV is a flavivirus but unlike WNV, *Aedes* mosquitoes are predominant vectors. In New Jersey, *Aedes albopictus* is a candidate for local transmission. There are 4 serotypes tested for Dengue.

Negative pools are reported without reference to the 4 serotypes. Positive pools will refer to the serotypes.

No pools of Dengue have been found positive in 2019. There are currently 12 travel-related human cases in NJ.

| County             | Species                 | Pools     | Mosquitoes | Positives | MFIR |
|--------------------|-------------------------|-----------|------------|-----------|------|
| <b>Atlantic</b>    |                         | <b>19</b> | <b>117</b> |           |      |
|                    | <i>Aedes albopictus</i> | 19        | 117        |           |      |
| <b>Middlesex</b>   |                         | <b>6</b>  | <b>27</b>  |           |      |
|                    | <i>Aedes albopictus</i> | 6         | 27         |           |      |
| <b>Grand Total</b> |                         | <b>25</b> | <b>144</b> |           |      |

### Chikungunya (CHIK) to 20 July 2019.

Mosquitoes will be tested for CHIK as part of a panel. Chikungunya is similar in symptoms to Dengue, a “breakbone” fever and has a low mortality rate. But this virus has had recent worldwide activity, and in the past year has come to the Western Hemisphere. As with Dengue, transmission can occur when a mosquito bites an infected human, then bites an uninfected human who subsequently becomes ill. CHIK is an alphavirus with *Aedes* mosquitoes as potential vectors. In New Jersey, *Aedes albopictus* is the mosquito of interest.

No pools of CHIK have been found positive in 2019. There are currently 3 travel-related human cases in NJ.

| County             | Species                  | Pools      | Mosquitoes | Positives | MFIR |
|--------------------|--------------------------|------------|------------|-----------|------|
| <b>Atlantic</b>    |                          | <b>19</b>  | <b>117</b> |           |      |
|                    | <i>Aedes albopictus</i>  | 19         | 117        |           |      |
| <b>Cape May</b>    |                          | <b>161</b> | <b>296</b> |           |      |
|                    | <i>Aedes albopictus</i>  | 158        | 293        |           |      |
|                    | <i>Aedes triseriatus</i> | 1          | 1          |           |      |
|                    | <i>Culex pipiens</i>     | 1          | 1          |           |      |
|                    | <i>Culex restuans</i>    | 1          | 1          |           |      |
| <b>Middlesex</b>   |                          | <b>6</b>   | <b>27</b>  |           |      |
|                    | <i>Aedes albopictus</i>  | 6          | 27         |           |      |
| <b>Grand Total</b> |                          | <b>186</b> | <b>440</b> |           |      |

### Zika (ZIKV) to 20 July 2019.

Mosquitoes will be tested for ZIKV as part of a panel. Zika is an emerging arboviral threat with significant health consequences for fetuses and recent activity in the Western Hemisphere. Humans are potential hosts that can transmit through sexual activity. ZIKV is a flavivirus with *Aedes* mosquitoes as potential vectors. In New Jersey, *Aedes albopictus* is the mosquito of interest.

No pools of ZIKV have tested positive in 2019. There are currently 4 travel-related human cases in NJ.

| County          | Species                  | Pools      | Mosquitoes | Positives | MFIR |
|-----------------|--------------------------|------------|------------|-----------|------|
| <b>Atlantic</b> |                          | <b>19</b>  | <b>117</b> |           |      |
|                 | <i>Aedes albopictus</i>  | 19         | 117        |           |      |
| <b>Cape May</b> |                          | <b>160</b> | <b>295</b> |           |      |
|                 | <i>Aedes albopictus</i>  | 157        | 292        |           |      |
|                 | <i>Aedes triseriatus</i> | 1          | 1          |           |      |
|                 | <i>Culex pipiens</i>     | 1          | 1          |           |      |
|                 | <i>Culex restuans</i>    | 1          | 1          |           |      |

|                         |            |            |  |  |
|-------------------------|------------|------------|--|--|
| <b>Middlesex</b>        | <b>6</b>   | <b>27</b>  |  |  |
| <i>Aedes albopictus</i> | 6          | 27         |  |  |
| <b>Grand Total</b>      | <b>185</b> | <b>439</b> |  |  |

### Jamestown Canyon (JCV) to 20 July 2019.

New Jersey will begin testing for JCV this year. Jamestown Canyon is a native arboviral threat with fever and meningitis or meningoencephalitis consequences. JCV is an orthobunyavirus with a number of potential mosquito vectors, including *Aedes*, *Coquillettidia*, and *Culex* species.

Three pools of positive mosquitoes have been detected. One pool of *Aedes abserratus* in Sussex County (collected 5 June), one pool of *Aedes cantator* collected in Bergen County (collected 22 June) and one pool of *Anopheles crucians* in Burlington County (collected 2 July) have been found positive in 2019. *Ae. abserratus* is a deer-feeding species that has been found positive in Connecticut and implicated as a potential vector (Theodore G. Andreadis, John F. Anderson, Philip M. Armstrong, and Andrew J. Main. Vector-Borne and Zoonotic Diseases. Apr 2008. <http://doi.org/10.1089/vbz.2007.0169>). *Ae. cantator* tends to feed on human-associated species and likely plays little if any role in the transmission of JCV. *An. crucians* obtains bloodmeals from a few birds, but mostly small to medium-sized mammals (Edman, J. D. 1971. Host-feeding patterns of Florida mosquitoes. I. *Aedes*, *Anopheles*, *Coquillettidia*, *Mansonia*, and *Psorophora*. J. Med. Entomol. 8: 687-95.) There are currently 0 human cases in NJ.

| County          | Species                            | Pools      | Mosquitoes  | Positives | MFIR         |
|-----------------|------------------------------------|------------|-------------|-----------|--------------|
| <b>Atlantic</b> |                                    | <b>148</b> | <b>4949</b> |           |              |
|                 | <i>Aedes albopictus</i>            | 19         | 117         |           |              |
|                 | <i>Aedes cantator</i>              | 2          | 112         |           |              |
|                 | <i>Aedes japonicus</i>             | 5          | 71          |           |              |
|                 | <i>Aedes sollicitans</i>           | 3          | 203         |           |              |
|                 | <i>Aedes taeniorhynchus</i>        | 2          | 150         |           |              |
|                 | <i>Aedes vexans</i>                | 4          | 97          |           |              |
|                 | <i>Anopheles bradleyi</i>          | 3          | 38          |           |              |
|                 | <i>Anopheles crucians</i>          | 1          | 6           |           |              |
|                 | <i>Anopheles punctipennis</i>      | 1          | 45          |           |              |
|                 | <i>Anopheles quadrimaculatus</i>   | 1          | 1           |           |              |
|                 | <i>Coquillettidia perturbans</i>   | 15         | 478         |           |              |
|                 | <i>Culex</i> spp.                  | 48         | 2562        |           |              |
|                 | <i>Culex erraticus</i>             | 3          | 3           |           |              |
|                 | <i>Culex pipiens</i>               | 1          | 75          |           |              |
|                 | <i>Culex restuans</i>              | 1          | 3           |           |              |
|                 | <i>Culex territans</i>             | 1          | 1           |           |              |
|                 | <i>Culiseta melanura</i>           | 36         | 837         |           |              |
|                 | <i>Psorophora ferox</i>            | 2          | 150         |           |              |
| <b>Bergen</b>   |                                    | <b>108</b> | <b>5782</b> | <b>1</b>  | <b>0.173</b> |
|                 | <i>Aedes albopictus</i>            | 3          | 32          |           |              |
|                 | <i>Aedes canadensis canadensis</i> | 4          | 28          |           |              |
|                 | <i>Aedes cantator</i>              | 2          | 105         | 1         | 9.524        |
|                 | <i>Aedes japonicus</i>             | 10         | 253         |           |              |
|                 | <i>Aedes thibaulti</i>             | 2          | 27          |           |              |
|                 | <i>Aedes triseriatus</i>           | 3          | 27          |           |              |
|                 | <i>Aedes trivittatus</i>           | 1          | 6           |           |              |
|                 | <i>Coquillettidia perturbans</i>   | 3          | 37          |           |              |
|                 | <i>Culex</i> spp.                  | 74         | 5114        |           |              |
|                 | <i>Culex salinarius</i>            | 3          | 141         |           |              |
|                 | <i>Culiseta melanura</i>           | 2          | 6           |           |              |

|                                    |            |             |          |              |
|------------------------------------|------------|-------------|----------|--------------|
| <i>Psorophora ferox</i>            | 1          | 6           |          |              |
| <b>Burlington</b>                  | <b>132</b> | <b>6548</b> | <b>1</b> | <b>0.153</b> |
| <i>Aedes albopictus</i>            | 1          | 3           |          |              |
| <i>Aedes atlanticus</i>            | 2          | 38          |          |              |
| <i>Aedes canadensis canadensis</i> | 7          | 213         |          |              |
| <i>Aedes cantator</i>              | 1          | 28          |          |              |
| <i>Aedes infirmatus</i>            | 1          | 1           |          |              |
| <i>Aedes japonicus</i>             | 3          | 25          |          |              |
| <i>Aedes mitchellae</i>            | 1          | 1           |          |              |
| <i>Aedes sticticus</i>             | 1          | 9           |          |              |
| <i>Aedes taeniorhynchus</i>        | 1          | 9           |          |              |
| <i>Aedes vexans</i>                | 1          | 30          |          |              |
| <i>Anopheles bradleyi</i>          | 1          | 27          |          |              |
| <i>Anopheles crucians</i>          | 2          | 69          | 1        | 14.493       |
| <i>Coquillettidia perturbans</i>   | 6          | 450         |          |              |
| <i>Culex</i> spp.                  | 74         | 4964        |          |              |
| <i>Culex salinarius</i>            | 9          | 306         |          |              |
| <i>Culiseta melanura</i>           | 20         | 351         |          |              |
| <i>Psorophora ferox</i>            | 1          | 24          |          |              |
| <b>Camden</b>                      | <b>8</b>   | <b>144</b>  |          |              |
| <i>Aedes albopictus</i>            | 2          | 4           |          |              |
| <i>Aedes japonicus</i>             | 2          | 8           |          |              |
| <i>Culex</i> spp.                  | 4          | 132         |          |              |
| <b>Cape May</b>                    | <b>21</b>  | <b>33</b>   |          |              |
| <i>Aedes triseriatus</i>           | 21         | 33          |          |              |
| <b>Cumberland</b>                  | <b>79</b>  | <b>790</b>  |          |              |
| <i>Aedes albopictus</i>            | 5          | 33          |          |              |
| <i>Aedes canadensis canadensis</i> | 2          | 51          |          |              |
| <i>Aedes japonicus</i>             | 1          | 10          |          |              |
| <i>Aedes trivittatus</i>           | 3          | 7           |          |              |
| <i>Aedes vexans</i>                | 12         | 135         |          |              |
| <i>Anopheles punctipennis</i>      | 7          | 44          |          |              |
| <i>Anopheles quadrimaculatus</i>   | 8          | 98          |          |              |
| <i>Coquillettidia perturbans</i>   | 5          | 8           |          |              |
| <i>Culex</i> spp.                  | 16         | 235         |          |              |
| <i>Culex erraticus</i>             | 2          | 16          |          |              |
| <i>Culex salinarius</i>            | 1          | 29          |          |              |
| <i>Culiseta melanura</i>           | 10         | 92          |          |              |
| <i>Psorophora ciliate</i>          | 1          | 1           |          |              |
| <i>Psorophora columbiae</i>        | 2          | 13          |          |              |
| <i>Psorophora ferox</i>            | 4          | 18          |          |              |
| <b>Essex</b>                       | <b>55</b>  | <b>262</b>  |          |              |
| <i>Aedes albopictus</i>            | 5          | 10          |          |              |
| <i>Aedes canadensis canadensis</i> | 2          | 14          |          |              |
| <i>Aedes grossbecki</i>            | 5          | 12          |          |              |
| <i>Aedes japonicus</i>             | 9          | 14          |          |              |
| <i>Aedes triseriatus</i>           | 5          | 11          |          |              |
| <i>Aedes trivittatus</i>           | 6          | 116         |          |              |
| <i>Aedes vexans</i>                | 1          | 1           |          |              |
| <i>Anopheles quadrimaculatus</i>   | 1          | 1           |          |              |

|                                    |            |             |  |  |
|------------------------------------|------------|-------------|--|--|
| <i>Culex</i> spp.                  | 21         | 83          |  |  |
| <b>Gloucester</b>                  | <b>139</b> | <b>5600</b> |  |  |
| <i>Aedes albopictus</i>            | 21         | 328         |  |  |
| <i>Aedes japonicus</i>             | 17         | 327         |  |  |
| <i>Aedes triseriatus</i>           | 3          | 23          |  |  |
| <i>Anopheles punctipennis</i>      | 1          | 75          |  |  |
| <i>Culex</i> spp.                  | 79         | 4299        |  |  |
| <i>Culex pipiens</i>               | 3          | 60          |  |  |
| <i>Culiseta melanura</i>           | 14         | 413         |  |  |
| <i>Psorophora ferox</i>            | 1          | 75          |  |  |
| <b>Hudson</b>                      | <b>76</b>  | <b>3785</b> |  |  |
| <i>Aedes albopictus</i>            | 8          | 108         |  |  |
| <i>Aedes triseriatus</i>           | 2          | 4           |  |  |
| <i>Culex</i> spp.                  | 66         | 3673        |  |  |
| <b>Hunterdon</b>                   | <b>86</b>  | <b>3983</b> |  |  |
| <i>Aedes albopictus</i>            | 1          | 6           |  |  |
| <i>Aedes triseriatus</i>           | 1          | 3           |  |  |
| <i>Aedes trivittatus</i>           | 1          | 50          |  |  |
| <i>Aedes vexans</i>                | 1          | 7           |  |  |
| <i>Anopheles punctipennis</i>      | 1          | 3           |  |  |
| <i>Coquillettidia perturbans</i>   | 1          | 2           |  |  |
| <i>Culex</i> spp.                  | 78         | 3900        |  |  |
| <i>Psorophora ferox</i>            | 1          | 11          |  |  |
| <i>Psorophora howardii</i>         | 1          | 1           |  |  |
| <b>Mercer</b>                      | <b>133</b> | <b>1943</b> |  |  |
| <i>Aedes albopictus</i>            | 20         | 141         |  |  |
| <i>Aedes japonicus</i>             | 37         | 185         |  |  |
| <i>Aedes vexans</i>                | 1          | 12          |  |  |
| <i>Anopheles quadrimaculatus</i>   | 1          | 2           |  |  |
| <i>Culex</i> spp.                  | 74         | 1603        |  |  |
| <b>Middlesex</b>                   | <b>93</b>  | <b>1007</b> |  |  |
| <i>Aedes albopictus</i>            | 7          | 34          |  |  |
| <i>Aedes japonicus</i>             | 11         | 141         |  |  |
| <i>Aedes triseriatus</i>           | 2          | 10          |  |  |
| <i>Coquillettidia perturbans</i>   | 1          | 18          |  |  |
| <i>Culex</i> spp.                  | 67         | 770         |  |  |
| <i>Culiseta melanura</i>           | 5          | 34          |  |  |
| <b>Monmouth</b>                    | <b>177</b> | <b>2190</b> |  |  |
| <i>Aedes albopictus</i>            | 32         | 168         |  |  |
| <i>Aedes atlanticus</i>            | 2          | 13          |  |  |
| <i>Aedes canadensis canadensis</i> | 18         | 513         |  |  |
| <i>Aedes cantator</i>              | 3          | 27          |  |  |
| <i>Aedes japonicus</i>             | 7          | 15          |  |  |
| <i>Aedes triseriatus</i>           | 1          | 2           |  |  |
| <i>Aedes trivittatus</i>           | 1          | 4           |  |  |
| <i>Aedes vexans</i>                | 6          | 37          |  |  |
| <i>Anopheles punctipennis</i>      | 12         | 32          |  |  |
| <i>Anopheles quadrimaculatus</i>   | 1          | 1           |  |  |
| <i>Coquillettidia perturbans</i>   | 8          | 28          |  |  |

|                                    |            |             |  |  |
|------------------------------------|------------|-------------|--|--|
| <i>Culex</i> spp.                  | 55         | 1078        |  |  |
| <i>Culex erraticus</i>             | 2          | 2           |  |  |
| <i>Culex restuans</i>              | 2          | 2           |  |  |
| <i>Culex salinarius</i>            | 4          | 15          |  |  |
| <i>Culiseta melanura</i>           | 14         | 217         |  |  |
| <i>Psorophora columbiae</i>        | 2          | 20          |  |  |
| <i>Psorophora ferox</i>            | 7          | 16          |  |  |
| <b>Morris</b>                      | <b>160</b> | <b>6383</b> |  |  |
| <i>Aedes canadensis canadensis</i> | 15         | 585         |  |  |
| <i>Aedes japonicus</i>             | 8          | 57          |  |  |
| <i>Aedes triseriatus</i>           | 2          | 7           |  |  |
| <i>Coquillettidia perturbans</i>   | 15         | 823         |  |  |
| <i>Culex</i> spp.                  | 108        | 4693        |  |  |
| <i>Culiseta melanura</i>           | 12         | 218         |  |  |
| <b>Ocean</b>                       | <b>128</b> | <b>980</b>  |  |  |
| <i>Aedes albopictus</i>            | 26         | 118         |  |  |
| <i>Aedes canadensis canadensis</i> | 7          | 21          |  |  |
| <i>Aedes cantator</i>              | 3          | 13          |  |  |
| <i>Aedes japonicus</i>             | 8          | 22          |  |  |
| <i>Aedes triseriatus</i>           | 3          | 6           |  |  |
| <i>Aedes trivittatus</i>           | 1          | 1           |  |  |
| <i>Anopheles bradleyi</i>          | 1          | 1           |  |  |
| <i>Anopheles punctipennis</i>      | 3          | 4           |  |  |
| <i>Coquillettidia perturbans</i>   | 7          | 27          |  |  |
| <i>Culex</i> spp.                  | 36         | 552         |  |  |
| <i>Culex erraticus</i>             | 3          | 5           |  |  |
| <i>Culex restuans</i>              | 1          | 1           |  |  |
| <i>Culex salinarius</i>            | 6          | 25          |  |  |
| <i>Culiseta melanura</i>           | 22         | 180         |  |  |
| <i>Psorophora ferox</i>            | 1          | 4           |  |  |
| <b>Passaic</b>                     | <b>102</b> | <b>780</b>  |  |  |
| <i>Aedes albopictus</i>            | 2          | 8           |  |  |
| <i>Aedes canadensis canadensis</i> | 3          | 13          |  |  |
| <i>Aedes japonicus</i>             | 24         | 185         |  |  |
| <i>Aedes triseriatus</i>           | 13         | 31          |  |  |
| <i>Aedes trivittatus</i>           | 1          | 6           |  |  |
| <i>Coquillettidia perturbans</i>   | 2          | 10          |  |  |
| <i>Culex</i> spp.                  | 54         | 516         |  |  |
| <i>Culex restuans</i>              | 2          | 8           |  |  |
| <i>Psorophora ferox</i>            | 1          | 3           |  |  |
| <b>Salem</b>                       | <b>184</b> | <b>2375</b> |  |  |
| <i>Aedes albopictus</i>            | 42         | 123         |  |  |
| <i>Aedes atlanticus</i>            | 3          | 4           |  |  |
| <i>Aedes aurifer</i>               | 2          | 2           |  |  |
| <i>Aedes japonicus</i>             | 25         | 80          |  |  |
| <i>Aedes triseriatus</i>           | 2          | 2           |  |  |
| <i>Anopheles punctipennis</i>      | 3          | 12          |  |  |
| <i>Anopheles quadrimaculatus</i>   | 5          | 23          |  |  |
| <i>Coquillettidia perturbans</i>   | 15         | 146         |  |  |
| <i>Culex</i> spp.                  | 64         | 1939        |  |  |
| <i>Culex erraticus</i>             | 2          | 15          |  |  |
| <i>Culex pipiens</i>               | 4          | 4           |  |  |

|                    |                                    |             |              |          |              |
|--------------------|------------------------------------|-------------|--------------|----------|--------------|
|                    | <i>Culex restuans</i>              | 4           | 4            |          |              |
|                    | <i>Culex salinarius</i>            | 2           | 4            |          |              |
|                    | <i>Culiseta melanura</i>           | 9           | 15           |          |              |
|                    | <i>Psorophora columbiae</i>        | 1           | 1            |          |              |
|                    | <i>Psorophora ferox</i>            | 1           | 1            |          |              |
| <b>Somerset</b>    |                                    | <b>83</b>   | <b>2695</b>  |          |              |
|                    | <i>Aedes albopictus</i>            | 2           | 13           |          |              |
|                    | <i>Aedes canadensis canadensis</i> | 1           | 3            |          |              |
|                    | <i>Aedes japonicus</i>             | 10          | 148          |          |              |
|                    | <i>Aedes triseriatus</i>           | 2           | 4            |          |              |
|                    | <i>Aedes trivittatus</i>           | 2           | 57           |          |              |
|                    | <i>Culex</i> spp.                  | 66          | 2470         |          |              |
| <b>Sussex</b>      |                                    | <b>109</b>  | <b>3845</b>  | <b>1</b> | <b>0.260</b> |
|                    | <i>Aedes abserratus</i>            | 13          | 258          | 1        | 3.876        |
|                    | <i>Aedes aurifer</i>               | 1           | 12           |          |              |
|                    | <i>Aedes canadensis canadensis</i> | 16          | 272          |          |              |
|                    | <i>Aedes provocans</i>             | 2           | 8            |          |              |
|                    | <i>Aedes sticticus</i>             | 2           | 84           |          |              |
|                    | <i>Aedes stimulans</i>             | 2           | 10           |          |              |
|                    | <i>Anopheles punctipennis</i>      | 67          | 2868         |          |              |
|                    | <i>Culex</i> spp.                  | 1           | 75           |          |              |
|                    | <i>Culex restuans</i>              | 3           | 193          |          |              |
|                    | <i>Culiseta melanura</i>           | 2           | 65           |          |              |
| <b>Union</b>       |                                    | <b>41</b>   | <b>2454</b>  |          |              |
|                    | <i>Aedes albopictus</i>            | 1           | 11           |          |              |
|                    | <i>Aedes japonicus</i>             | 2           | 25           |          |              |
|                    | <i>Culex</i> spp.                  | 38          | 2418         |          |              |
| <b>Warren</b>      |                                    | <b>128</b>  | <b>6674</b>  |          |              |
|                    | <i>Aedes japonicus</i>             | 9           | 149          |          |              |
|                    | <i>Culex</i> spp.                  | 119         | 6525         |          |              |
| <b>Grand Total</b> |                                    | <b>2190</b> | <b>63202</b> | <b>3</b> | <b>0.047</b> |