# VECTOR SURVEILLANCE IN NEW JERSEY

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

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CDC WEEK 35: 30 August to 5 September, 2015

Data Downloaded 12:51 pm 9 September 2015

This New Jersey Agricultural Experiment Station report is supported by Rutgers University, Hatch funds, funding from the NJ State Mosquito Control Commission and with the participation of the Department of Health, Department of Agriculture and of the 21 county mosquito control agencies of New Jersey.

## *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** | 0.37 | 0.40 | 15 (17) | 9 (10) | 1 | 66.67 |
| **Green Bank (Burlington Co.)/23** | **Coastal** | 4.02 | 0.16 | 90 (94) | 11 (12) | 1 | 11.11 |
| **Corbin City (Atlantic Co.)/25** | **Coastal** | 2.06 | 0.68 | 209 (226) | 12 (13) | | |
| **Dennisville (Cape May Co.)/50** | **Coastal** | 5.82 | 0.02 | 222‡ | 12 | | |
| **Winslow (Camden Co.)/50** | **Inland** | 1.57 | 2.06 | 1645 | 40 | 7 | 4.26 |
| **Centerton (Salem Co.)/50** | **Inland** | 3.57 | 0.72 | 671 | 21 | 1 | 1.49 |
| **Turkey Swamp (Monmouth Co.)/49** | **Inland** | 1.76 | 0.24 | 361 (373) | 16 (17) | | |
| **Glassboro (Gloucester Co.)/50** | **Inland** | 0.49 | 0.40 | 219 | 14 | | |

*Current week (in parentheses) results pending. ‡ corrected

**Remarks:** EEE activity continues in New Jersey with a total of 19 positive pools, 13 in *Culiseta* melanura, 5 in *Culex erraticus* and 1 in *Culex pipiens.* One horse case has occurred. First detection of EEE in a pool of *Culiseta melanura* was collected at the Winslow resting box site on the 27th of July.

**Traditional Resting Box Sites:** Ten EEE positive *Cs. melanura* pools have been detected at the state resting box sites to date. Four of the eight sites have now detected positive pools. 3432 *Cs. melanura* from 135 pools have been tested for EEE with an additional 4 pools containing 35 *Cs. melanura* to be tested. MFIR for the traditional resting box sites is 2.91 with a statewide MFIR of 1.82 for *Cs. melanura* and a statewide MFIR of 1.06 for all species tested.

| | Additional *Cs. melanura* trapped by counties<br>*traps with positives indicated in **BOLD.** | | | | |
|---|---|---|---|---|---|
| **County** | **Trap types*** | **Pools** | **Mosquitoes** | **Positives** | **MFIR** |
| Atlantic | $CO_2$ | 17 | 317 | | |
| Burlington | **$CO_2$** | 60 | 2134 | 2 | 0.94 |
| Cape May | GR, RB | 117 | 701 | | |
| Cumberland | $CO_2$, RB | 14 | 153 | 1 | 6.54 |
| Gloucester | | 9 | 299 | | |
| Middlesex | RB | 8 | 45 | | |
| Ocean | $CO_2$, GR, RB | 14 | 67 | | |
| Salem | $CO_2$ | 1 | 1 | | |
| **TOTAL** | | **240** | **3717** | **3** | **0.81** |

**Additional *Cs. melanura***: Counties maintain trap sites for *Cs. melanura* in other areas. Three additional positive pools, two from Burlington County, and one from Cumberland County have been detected. The first county positive was collected from a $CO_2$ trap on 3 August.

| **Species other than *Cs. melanura*** | **Pools** | **Mosquitoes** | **Positives** | **MFIR** |
|---|---|---|---|---|
| *Aedes albopictus* | 2 | 2 | | |
| *Aedes atlanticus* | 1 | 7 | | |
| *Aedes canadensis canadensis* | 1 | 22 | | |
| *Aedes cantator* | 41 | 56 | | |
| *Aedes japonicus* | 3 | 5 | | |
| *Aedes sollicitans* | 15 | 375 | | |
| *Aedes taeniorhynchus* | 1 | 8 | | |
| *Aedes triseriatus* | 1 | 1 | | |
| *Aedes vexans* | 1 | 1 | | |
| *Anopheles bradleyi* | 35 | 134 | | |
| *Anopheles crucians* | 3 | 45 | | |
| *Anopheles punctipennis* | 12 | 56 | | |
| *Anopheles quadrimaculatus* | 2 | 51 | | |
| *Coquillettidia perturbans* | 105 | 2118 | | |
| *Culex erraticus* | 35 | 992 | 5 | 5.040 |
| *Culex pipiens* | 586 | 5914 | 1 | 0.169 |
| *Culex restuans* | 2 | 2 | | |
| *Culex salinarius* | 147 | 793 | | |
| *Culex* sp. | 41 | 120 | | |
| State Total | **1034** | **10702** | **6** | **0.561** |

**Additional Species:** Eighteen additional species were tested for EEE. Six positive pools, 5 from *Culex erraticus* collected on 18 Aug, in Cape May and the 6th from *Culex pipiens* collected in Gloucester County on 2 Sep.

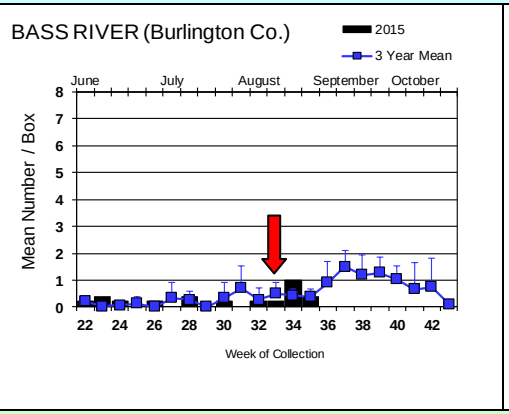
**Horses and Humans:** One horse, a 2 yo unvaccinated mare in Gloucester County, euthanized 25 Aug (no date of onset reported).

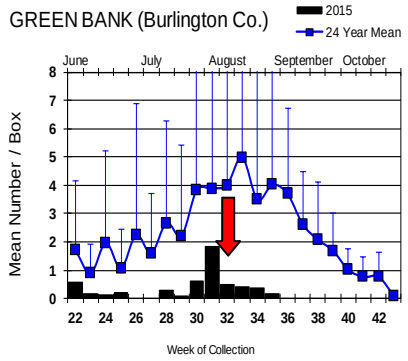
No humans have been reported with EEE.

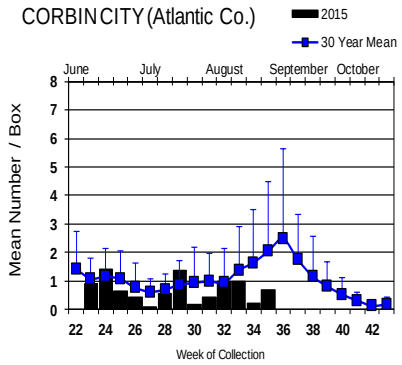
**Horses and Vaccinations:** The fate of unvaccinated equids reinforces the necessity of maintaining a vaccination schedule for arboviruses. For vaccination schedules recommended by the American Association of Equine Practices, see: http://www.aaep.org/vaccination_guidelines.htm

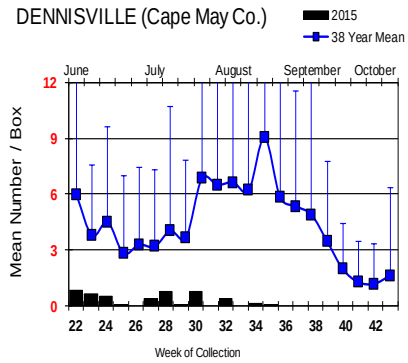
# *Culiseta melanura* Population Graphs

## Coastal

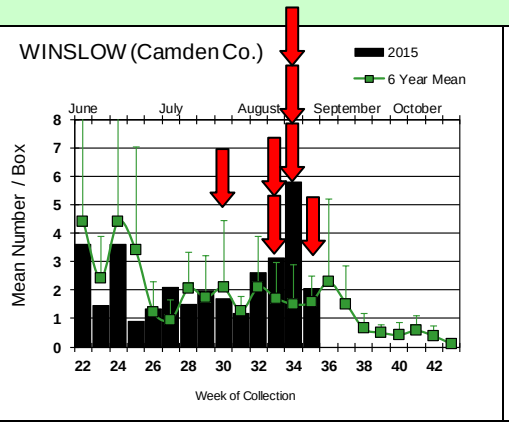


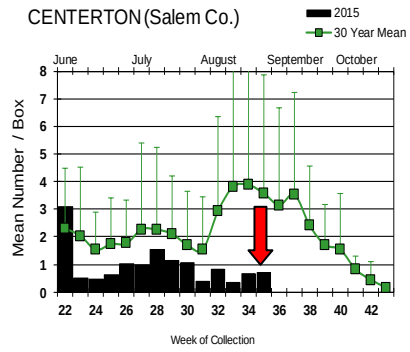



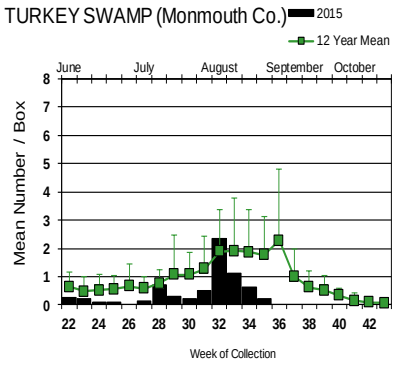



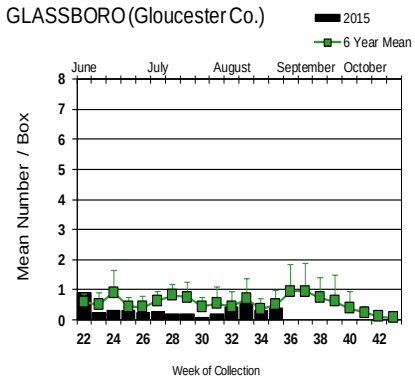




## Inland




Populations of *Cs. melanura* at Winslow appear to be above historical levels, but this is probably not significantly so as the error bar reaches well above that weekly value. An additional positive was detected there as well as two new sites with a single positive pool (Bass River and Centerton). Note that Centerton, like Green Bank, had a detection when population levels were below historical averages.

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

**EEE in US** (2015 cumulative cases): (Black or Red = previous + new reported cases occurring)

- equine: FL(18/1goat) LA(1) MS(2) NC(1) NJ(1) SC(3) TX(8) VA(1)
- mosquito pools: NJ (19) NY(13)
- sentinel: FL(63), TX(24)
- human: LA (1), NY(1)

# West Nile Virus Positive Organisms in US, 2015

West Nile in US (2015 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 | | | | | 3 |
| Alaska | | | | | |
| Arizona | 0 | 65/71 | | 2 | 45/58 |
| Arkansas | | | | 1/3 | 9/11 |
| California | 581/701 | 2073/2303 | 174/193 | 3/10 | 83/108 |
| Colorado | 8 | 112 | | 5 | 17/29 |
| Connecticut | | 83/130 | | | 0 |
| Delaware | 2 | | | | 1/4 |
| DC | | | | | 1 |
| Florida | | 8 | 76/101 | | 5/6 |
| Georgia | 0 | 0 | | 0 | 4 |
| Hawaii | | | | | |
| Idaho | 0 | 13 | | 3 | 6/7 |
| Illinois | 23/36 | 811/1219 | | 2/4 | 3/10 |
| Indiana | 0 | 259/364 | | | 3/7 |
| Iowa | | 2 | | 1 | 2 |
| Kansas | | 1 | | | 7/10 |
| Kentucky | | | | 2/3 | |
| Louisiana | 27/37 | 401/436 | | | 23/32 |
| Maine | | | | | |
| Maryland | | | | | 2 |
| Mass. | | 99/127 | | 0 | 1 |
| Michigan | 10 | 9 | | | 3 |
| Minnesota | 3 | 2 | | 1 | 4 |
| Mississippi | | 41/44 | | 1 | 18/24 |
| Missouri | | 98/452 | | 4/9 | 2/7 |

| | Birds | Mosquito Pools | Sentinels | Horses | Humans |
|---|---|---|---|---|---|
| Montana | | | | | 1 |
| Nebraska | 0 | 73 | | 0 | 20/21 |
| Nevada | | 63/104 | | | 3 |
| New Hampshire | | 0 | | 0 | 0 |
| New Jersey | 15/21 | 429/429 | | 0 | 6/7 |
| New Mexico | | | | | 2/3 |
| New York | | 36 | | | 1/3 |
| North Carolina | | | | | |
| North Dakota | 0 | 4 | | 1/2 | 8/10 |
| Ohio | | 134/309 | | | 8/16 |
| Oklahoma | | 2 | | | 21/30 |
| Oregon | 3/8 | 26/46 | 0 | 1/3 | 0 |
| Pennsylvania | 17/21 | 1821/2256 | | 1 | 9/17 |
| Rhode Island | | 1 | | 0 | 0 |
| South Carolina | | | | | 1 |
| South Dakota | | 7 | | | 14/23 |
| Tennessee | | 117 | | | 1/3 |
| Texas | 12/13 | 934/1131 | | 5 | 39/86 |
| Utah | | 127/184 | 3 | 0 | |
| Vermont | | 19/41 | | | |
| Virginia | | | | | |
| Washington | 6 | 135 | | 18 | 18/20 |
| West Virginia | | | | | |
| Wisconsin | 30/35 | 4/11 | | 0 | 1 |
| Wyoming | | | | | 1/4 |

* 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 Testing through 9 September 2015

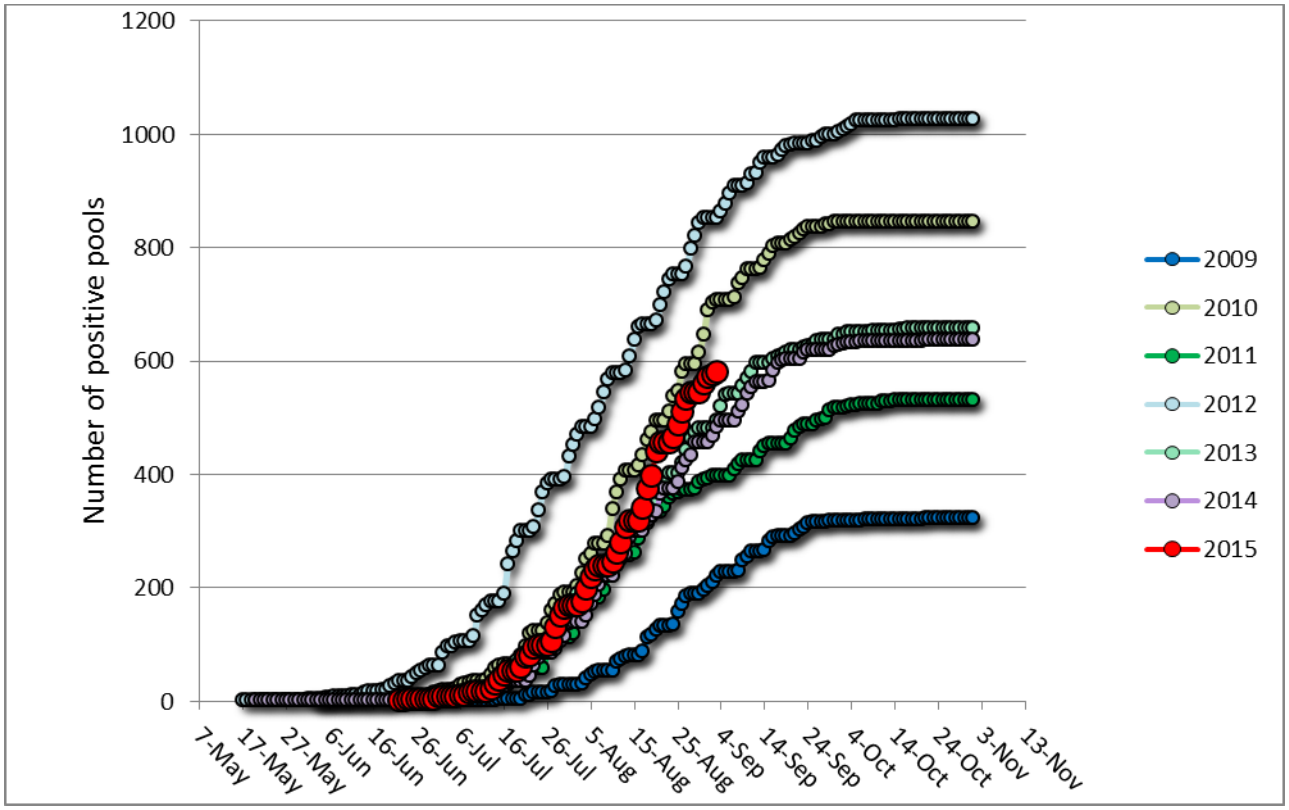
| Species | Pools | Mosquitoes | Positives | MFIR |
|---|---|---|---|---|
| *Aedes albopictus* | 923 | 6062 | 12 | 1.980 |
| *Aedes atlanticus* | 2 | 13 | | |
| *Aedes atropalpus* | 10 | 17 | | |
| *Aedes aurifer* | 1 | 1 | | |
| *Aedes canadensis canadensis* | 21 | 260 | 1 | 3.846 |
| *Aedes cantator* | 47 | 226 | | |
| *Aedes grossbecki* | 9 | 40 | | |
| *Aedes japonicus* | 413 | 1849 | 7 | 3.786 |
| *Aedes sollicitans* | 15 | 375 | | |
| *Aedes sticticus* | 1 | 1 | | |
| *Aedes taeniorhynchus* | 10 | 58 | | |
| *Aedes triseriatus* | 235 | 610 | 2 | 3.279 |
| *Aedes trivittatus* | 3 | 4 | | |
| *Aedes vexans* | 72 | 1155 | 1 | 0.866 |
| *Anopheles atropos* | 1 | 1 | | |
| *Anopheles barberi* | 1 | 1 | | |
| *Anopheles bradleyi* | 36 | 149 | | |
| *Anopheles crucians* | 4 | 46 | | |
| *Anopheles punctipennis* | 59 | 174 | | |
| *Anopheles quadrimaculatus* | 197 | 4668 | | |
| *Coquillettidia perturbans* | 110 | 2197 | | |
| *Culex erraticus* | 57 | 1218 | 2 | 1.642 |
| *Culex pipiens* | 845 | 18181 | 91 | 5.005 |
| *Culex restuans* | 499 | 2746 | 2 | 0.728 |
| *Culex salinarius* | 152 | 833 | 2 | 2.401 |
| *Culex* sp. | 2054 | 79478 | 451 | 5.675 |
| *Culex territans* | 15 | 45 | | |
| *Culiseta melanura* | 378 | 7156 | 10 | 1.397 |
| *Orthopodomyia signifera* | 2 | 2 | | |
| *Psorophora ciliata* | 3 | 20 | | |
| *Psorophora columbiae* | 18 | 235 | | |
| *Psorophora ferox* | 8 | 15 | | |
| *Psorophora howardii* | 1 | 1 | | |
| *Uranotaenia sapphirina* | 1 | 2 | | |
| **Grand Total** | **6203** | **127839** | **581** | **4.545** |

**Remarks:** To date, 6203 pools of 127,839 mosquitoes from 33 species have been tested, with 581 positive pools detected, most in ornithophilic *Culex/Culiseta* pools. No detection in new species from the previous week has occurred. Non-ornithophilic *Culex salinarius* collected on the 14th and 20th in Cape May was the latest species to test positive. Non-*Culex* species to become positive were pools of *Aedes canadensis* (sampled 20 August in Union County), *Aedes triseriatus* (sampled 11 August in Salem County) and *Aedes vexans* (sampled 5 August in Cumberland County). First positive of the season occurred in Middlesex County, in a pool of mixed *Culex*, collected on the 22nd of June. First positive pool in non-*Culex* was in an *Aedes albopictus* pool, collected in Monmouth County on 10 July. First positive pool in a non-*Culex* ornithophilic species was found in *Culiseta melanura* in Cape May 21 July. Overall state MFIR is 4.545, up from the previous week of 4.207.

**Humans, Horses and Wild Birds:** Seven human cases of WNV have been reported, one each in Bergen, Burlington, Camden, Cumberland, Gloucester, Middlesex and Passaic counties. For further information, see http://www.state.nj.us/health/cd/westnile/techinfo.shtml.

No horse cases have been detected.

Bird testing began in mid-April. Twenty-one positive birds have been reported, mostly corvids. To date, 52 birds have been tested. Species includes: American Crow (*Corvus brachyrhynchos* 7/9) Fish Crow (*Corvus ossifragus* 1/10), Blue Jay (*Cyanocitta cristata* 2/4), unidentified corvid (5/6), Hawk/Raptor (1/2) and other avian species (5/21). Counties (positives) submitting birds are Atlantic, Bergen, Burlington, Cape May, Cumberland, Essex, Gloucester, Hunterdon, Mercer, Monmouth, Morris, Ocean, Passaic, Salem and Warren.




The figure above shows WNV activity as the accumulation of positive pools over the season. The plateau of the previous week did disappear as more positive samples are recorded.

## WNV Results by County through 9 September 2015

| County | Species | Pools | Mosquitoes | Positives | MFIR |
|---|---|---|---|---|---|
| **Atlantic** | | **171** | **5494** | **6** | **1.092** |
| | *Aedes albopictus* | 29 | 249 | | |
| | *Aedes japonicus* | 11 | 56 | | |
| | *Aedes sollicitans* | 3 | 136 | | |
| | *Aedes taeniorhynchus* | 1 | 5 | | |
| | *Aedes vexans* | 6 | 238 | | |
| | *Coquillettidia perturbans* | 25 | 935 | | |
| | *Culex erraticus* | 2 | 99 | | |
| | *Culex pipiens* | 3 | 196 | 3 | 15.306 |
| | *Culex* spp. | 61 | 3053 | 3 | 0.983 |
| | *Culiseta melanura* | 29 | 526 | | |
| | *Psorophora ferox* | 1 | 1 | | |
| **Bergen** | | **114** | **5698** | **59** | **10.355** |
| | *Aedes albopictus* | 5 | 7 | 1 | 142.857 |
| | *Aedes japonicus* | 10 | 310 | | |

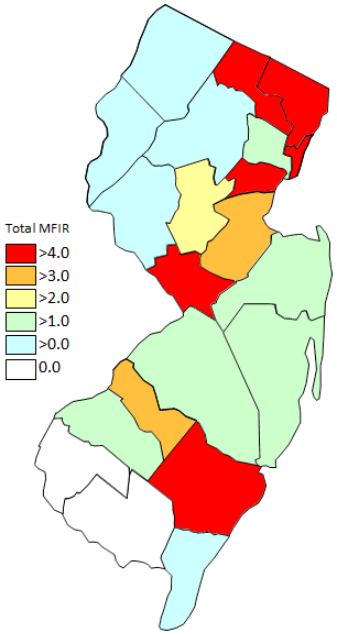
| | | | | | |
|---|---|---|---|---|---|
| | *Aedes triseriatus* | 1 | 1 | | |
| | *Culex* spp. | 98 | 5380 | 58 | 10.781 |
| **Burlington** | | **184** | **4916** | **16** | **3.255** |
| | *Aedes albopictus* | 12 | 150 | 2 | 13.333 |
| | *Aedes atlanticus* | 1 | 7 | | |
| | *Aedes atropalpus* | 1 | 4 | | |
| | *Aedes canadensis canadensis* | 1 | 22 | | |
| | *Aedes japonicus* | 5 | 67 | | |
| | *Aedes sticticus* | 1 | 1 | | |
| | *Aedes taeniorhynchus* | 1 | 8 | | |
| | *Aedes triseriatus* | 3 | 13 | | |
| | *Aedes vexans* | 3 | 21 | | |
| | *Anopheles bradleyi* | 1 | 66 | | |
| | *Anopheles crucians* | 2 | 44 | | |
| | *Anopheles punctipennis* | 3 | 18 | | |
| | *Coquillettidia perturbans* | 6 | 100 | | |
| | *Culex erraticus* | 2 | 7 | 1 | 142.857 |
| | *Culex salinarius* | 7 | 209 | | |
| | *Culex* spp. | 55 | 1940 | 11 | 5.670 |
| | *Culiseta melanura* | 80 | 2239 | 2 | 0.893 |
| **Camden** | | **235** | **8399** | **52** | **6.191** |
| | *Aedes albopictus* | 17 | 32 | 1 | 31.250 |
| | *Aedes canadensis canadensis* | 3 | 15 | | |
| | *Aedes cantator* | 1 | 1 | | |
| | *Aedes japonicus* | 42 | 365 | 2 | 5.479 |
| | *Anopheles punctipennis* | 2 | 6 | | |
| | *Culex* spp. | 127 | 6329 | 44 | 6.952 |
| | *Culiseta melanura* | 41 | 1646 | 5 | 3.038 |
| | *Psorophora ferox* | 2 | 5 | | |
| **Cape May** | | **2428** | **16538** | **22** | **1.330** |
| | *Aedes albopictus* | 250 | 491 | | |
| | *Aedes atropalpus* | 9 | 13 | | |
| | *Aedes aurifer* | 7 | 7 | | |
| | *Aedes canadensis canadensis* | 41 | 56 | | |
| | *Aedes cantator* | 223 | 431 | | |
| | *Aedes japonicus* | 6 | 8 | | |
| | *Aedes sollicitans* | 6 | 15 | | |
| | *Aedes taeniorhynchus* | 187 | 412 | | |
| | *Aedes triseriatus* | 18 | 44 | | |
| | *Aedes vexans* | 1 | 1 | | |
| | *Anopheles atropos* | 1 | 1 | | |
| | *Anopheles barberi* | 34 | 68 | | |
| | *Anopheles bradleyi* | 23 | 27 | | |
| | *Anopheles punctipennis* | 184 | 4588 | | |
| | *Anopheles quadrimaculatus* | 48 | 814 | | |
| | *Coquillettidia perturbans* | 32 | 939 | | |
| | *Culex erraticus* | 585 | 5667 | 17 | 3.000 |
| | *Culex pipiens* | 444 | 1559 | 1 | 0.641 |
| | *Culex restuans* | 138 | 332 | 2 | 6.024 |
| | *Culex salinarius* | 34 | 83 | | |
| | *Culex* spp. | 15 | 45 | | |
| | *Culex territans* | 130 | 924 | 2 | 2.165 |
| | *Culiseta melanura* | 1 | 1 | | |

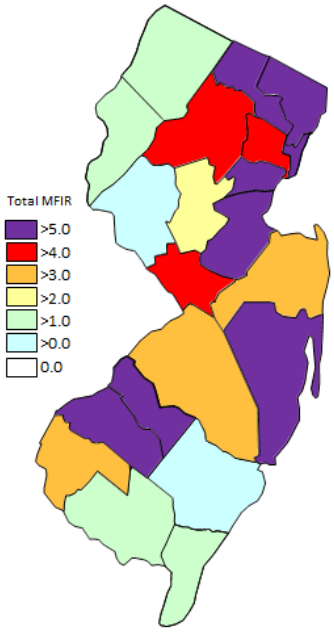
*Note* A significant drop in MFIR from the previous week occurred with the influx of numerous negative pools.

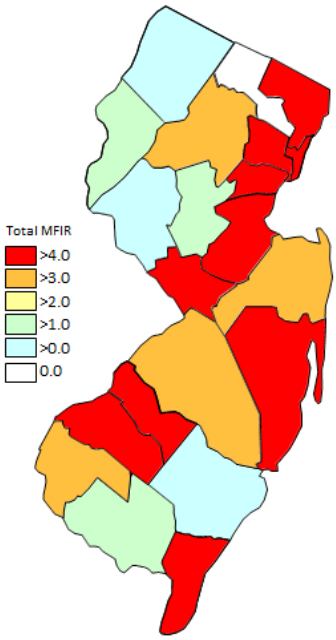
| | | | | | |
|---|---|---|---|---|---|
| | *Orthopodomyia signifera* | 2 | 2 | | |
| | *Psorophora columbiae* | 5 | 5 | | |
| | *Psorophora ferox* | 2 | 2 | | |
| | *Psorophora howardii* | 1 | 1 | | |
| | *Uranotaenia sapphirina* | 1 | 2 | | |
| **Cumberland** | | **164** | **2839** | **4** | **1.409** |
| | *Aedes albopictus* | 19 | 212 | | |
| | *Aedes atlanticus* | 1 | 6 | | |
| | *Aedes canadensis canadensis* | 2 | 53 | | |
| | *Aedes cantator* | 1 | 2 | | |
| | *Aedes grossbecki* | 9 | 40 | | |
| | *Aedes japonicus* | 4 | 12 | | |
| | *Aedes sollicitans* | 6 | 231 | | |
| | *Aedes taeniorhynchus* | 2 | 30 | | |
| | *Aedes triseriatus* | 3 | 7 | | |
| | *Aedes trivitattus* | 1 | 2 | | |
| | *Aedes vexans* | 22 | 729 | 1 | 1.372 |
| | *Anopheles bradleyi* | 1 | 15 | | |
| | *Anopheles punctipennis* | 3 | 30 | | |
| | *Anopheles quadrimaculatus* | 5 | 39 | | |
| | *Coquillettidia perturbans* | 9 | 64 | | |
| | *Culex erraticus* | 3 | 53 | | |
| | *Culex restuans* | 1 | 1 | | |
| | *Culex salinarius* | 5 | 256 | | |
| | *Culex* spp. | 39 | 685 | 3 | 4.380 |
| | *Culiseta melanura* | 14 | 153 | | |
| | *Psorophora ciliata* | 3 | 20 | | |
| | *Psorophora columbiae* | 11 | 199 | | |
| **Essex** | | **122** | **1992** | **8** | **4.016** |
| | *Aedes albopictus* | 5 | 9 | | |
| | *Aedes japonicus* | 19 | 41 | | |
| | *Aedes triseriatus* | 1 | 1 | | |
| | *Aedes trivittatus* | 1 | 1 | | |
| | *Anopheles punctipennis* | 2 | 3 | | |
| | *Anopheles quadrimaculatus* | 3 | 20 | | |
| | *Culex* spp. | 89 | 1911 | 8 | 4.186 |
| | *Psorophora ferox* | 2 | 6 | | |
| **Gloucester** | | **373** | **12727** | **68** | **5.343** |
| | *Aedes albopictus* | 129 | 958 | 4 | 4.175 |
| | *Aedes japonicus* | 10 | 97 | | |
| | *Aedes triseriatus* | 2 | 4 | | |
| | *Aedes vexans* | 2 | 5 | | |
| | *Anopheles punctipennis* | 3 | 27 | | |
| | *Coquillettidia perturbans* | 2 | 3 | | |
| | *Culex pipiens* | 202 | 11115 | 64 | 5.758 |
| | *Culiseta melanura* | 23 | 518 | | |
| **Hudson** | | **163** | **6710** | **54** | **8.048** |
| | *Aedes albopictus* | 22 | 342 | | |
| | *Culex* spp. | 141 | 6368 | 54 | 8.480 |
| **Hunterdon** | | **173** | **8513** | **13** | **1.527** |

| | | | | | |
|---|---|---|---|---|---|
| | *Culex* spp. | 173 | 8513 | 13 | 1.527 |
| **Mercer** | | **252** | **5857** | **28** | **4.781** |
| | *Aedes albopictus* | 47 | 277 | | |
| | *Aedes japonicus* | 13 | 70 | | |
| | *Aedes vexans* | 17 | 111 | | |
| | *Coquillettidia perturbans* | 6 | 54 | | |
| | *Culex erraticus* | 1 | 4 | | |
| | *Culex pipiens* | 54 | 1202 | 7 | 5.824 |
| | *Culex restuans* | 50 | 1179 | 1 | 0.848 |
| | *Culex* spp. | 64 | 2960 | 20 | 6.757 |
| **Middlesex** | | **286** | **9393** | **70** | **7.452** |
| | *Aedes albopictus* | 87 | 241 | | |
| | *Culex* spp. | 191 | 9107 | 70 | 7.686 |
| | *Culiseta melanura* | 8 | 45 | | |
| **Monmouth** | | **407** | **6557** | **23** | **3.508** |
| | *Aedes albopictus* | 201 | 2057 | 2 | 0.972 |
| | *Aedes canadensis canadensis* | 6 | 93 | | |
| | *Aedes cantator* | 4 | 167 | | |
| | *Aedes japonicus* | 10 | 20 | | |
| | *Aedes triseriatus* | 2 | 3 | | |
| | *Aedes trivittatus* | 1 | 1 | | |
| | *Aedes vexans* | 2 | 4 | | |
| | *Anopheles crucians* | 2 | 2 | | |
| | *Anopheles punctipennis* | 16 | 37 | | |
| | *Anopheles quadrimaculatus* | 3 | 6 | | |
| | *Coquillettidia perturbans* | 1 | 1 | | |
| | *Culex erraticus* | 10 | 82 | | |
| | *Culex restuans* | 1 | 1 | | |
| | *Culex salinarius* | 2 | 36 | | |
| | *Culex* spp. | 127 | 3650 | 21 | 5.753 |
| | *Culiseta melanura* | 17 | 366 | | |
| | *Psorophora columbiae* | 2 | 31 | | |
| **Morris** | | **226** | **9120** | **37** | **4.057** |
| | *Aedes albopictus* | 26 | 359 | | |
| | *Culex* spp. | 200 | 8761 | 37 | 4.223 |
| **Ocean** | | **182** | **2768** | **19** | **6.864** |
| | *Aedes albopictus* | 50 | 491 | 2 | 4.073 |
| | *Aedes canadensis canadensis* | 1 | 3 | | |
| | *Aedes japonicus* | 31 | 125 | 3 | 24.000 |
| | *Aedes triseriatus* | 5 | 22 | 1 | 45.455 |
| | *Aedes vexans* | 1 | 2 | | |
| | *Anopheles quadrimaculatus* | 1 | 3 | | |
| | *Coquillettidia perturbans* | 4 | 128 | | |
| | *Culex erraticus* | 1 | 2 | | |
| | *Culex* spp. | 74 | 1925 | 13 | 6.753 |
| | *Culiseta melanura* | 14 | 67 | | |
| **Passaic** | | **20** | **313** | **4** | **12.780** |
| | *Aedes albopictus* | 2 | 3 | | |
| | *Aedes japonicus* | 4 | 8 | 1 | 125.000 |

| | | | | | |
|---|---|---|---|---|---|
| | *Aedes triseriatus* | 2 | 3 | | |
| | *Aedes vexans* | 1 | 1 | | |
| | *Culex* spp. | 11 | 298 | 3 | 10.067 |
| **Salem** | | **112** | **1328** | **5** | **3.765** |
| | *Aedes albopictus* | 16 | 137 | | |
| | *Aedes japonicus* | 11 | 21 | 1 | 47.619 |
| | *Aedes triseriatus* | 13 | 19 | 1 | 52.632 |
| | *Anopheles punctipennis* | 1 | 1 | | |
| | *Anopheles quadrimaculatus* | 1 | 12 | | |
| | *Coquillettidia perturbans* | 7 | 23 | | |
| | *Culex erraticus* | 6 | 32 | 1 | 31.250 |
| | *Culex pipiens* | 1 | 1 | | |
| | *Culex restuans* | 3 | 6 | | |
| | *Culex* spp. | 30 | 403 | 1 | 2.481 |
| | *Culiseta melanura* | 22 | 672 | 1 | 1.488 |
| | *Psorophora ferox* | 1 | 1 | | |
| **Somerset** | | **151** | **2262** | **5** | **2.210** |
| | *Aedes albopictus* | 2 | 8 | | |
| | *Aedes japonicus* | 8 | 121 | | |
| | *Aedes triseriatus* | 6 | 27 | | |
| | *Anopheles punctipennis* | 1 | 4 | | |
| | *Coquillettidia perturbans* | 1 | 29 | | |
| | *Culex* spp. | 133 | 2073 | 5 | 2.412 |
| **Sussex** | | **157** | **3190** | **4** | **1.254** |
| | *Aedes japonicus* | 12 | 105 | | |
| | *Aedes triseriatus* | 9 | 89 | | |
| | *Anopheles punctipennis* | 5 | 21 | | |
| | *Coquillettidia perturbans* | 1 | 46 | | |
| | *Culex* spp. | 130 | 2929 | 4 | 1.366 |
| **Union** | | **125** | **8702** | **77** | **8.849** |
| | *Aedes canadensis canadensis* | 1 | 67 | 1 | 14.925 |
| | *Culex* spp. | 124 | 8635 | 76 | 8.801 |
| **Warren** | | **158** | **4523** | **7** | **1.548** |
| | *Aedes albopictus* | 4 | 39 | | |
| | *Aedes triseriatus* | 1 | 9 | | |
| | *Culex* spp. | 153 | 4475 | 7 | 1.564 |
| **Grand Total** | | **6203** | **127839** | **581** | **4.545** |




Cumulative WNV activity in 2014. WNV activity to 9 September 2015. WNV activity last week, 2015.

**NOTE* New scale on activity maps – addition of MFIR 5.0 and above in purple*

## Saint Louis Encephalitis (SLE) 2015.

New Jersey will be testing for SLE this year only when adjacent states show human activity (Cape May tests its own mosquitoes in the Cape May lab independently). SLE has had previous activity in New Jersey, most notably in 1964 and 1975 (CDC's SLE website), the latter 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.

| County | Species | Pools | Mosquitoes | Positives | MFIR |
|---|---|---|---|---|---|
| **Cape May** | | **604** | **5667** | | |
| | *Culex pipiens* | 570 | 5585 | | |
| | *Culex restuans* | 1 | 1 | | |
| | *Culex* spp. | 33 | 81 | | |
| **Grand Total** | | **604** | **5667** | | |

## La Crosse Encephalitis (LAC) 2015.

New Jersey will be testing for LAC this year only when adjacent states show human activity (Cape May tests its own mosquitoes in the Cape May lab independently). New Jersey has had 3 cases of this encephalitic disease since 1964 (see CDC's LAC website). 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).

| County | Species | Pools | Mosquitoes | Positives | MFIR |
|---|---|---|---|---|---|
| **Cape May** | | **188** | **417** | | |
| | *Aedes albopictus* | 1 | 1 | | |
| | *Aedes japonicus* | 1 | 5 | | |

| | | | | | |
|---|---|---|---|---|---|
| | *Aedes triseriatus* | 186 | 411 | | |
| **Grand Total** | | **188** | **417** | | |

## Dengue (DENV) to 9 September 2015.

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. There are currently 40 imported human cases in New Jersey, no local transmission.

*Note* Same pools of *Ae. albopictus* are tested for the four serotypes of Dengue as well as Chikungunya.

No pools have tested positive in 2015. Currently, there are 23 imported human cases reported in New Jersey.

| County | Species | DENV1 | | DENV2 | | DENV3 | | DENV4 | | Positives | MFIR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Pool | Mos. | Pool | Mos. | Pool | Mos. | Pool | Mos. | | |
| **Atlantic** | | **29** | **249** | **29** | **249** | **29** | **249** | **29** | **249** | | |
| | | 29 | 249 | 29 | 249 | 29 | 249 | 29 | 249 | | |
| **Burlington** | | **12** | **150** | **12** | **150** | **12** | **150** | **12** | **150** | | |
| | | 12 | 150 | 12 | 150 | 12 | 150 | 12 | 150 | | |
| **Camden** | | **16** | **30** | **16** | **30** | **16** | **30** | **16** | **30** | | |
| | | 16 | 30 | 16 | 30 | 16 | 30 | 16 | 30 | | |
| **Cumberland** | | **19** | **212** | **19** | **212** | **19** | **212** | **19** | **212** | | |
| | | 19 | 212 | 19 | 212 | 19 | 212 | 19 | 212 | | |
| **Gloucester** | | **126** | **948** | **127** | **956** | **127** | **956** | **127** | **956** | | |
| | | 126 | 948 | 127 | 956 | 127 | 956 | 127 | 956 | | |
| **Hudson** | | **22** | **342** | **22** | **342** | **22** | **342** | **22** | **342** | | |
| | | 22 | 342 | 22 | 342 | 22 | 342 | 22 | 342 | | |
| **Mercer** | | **47** | **277** | **47** | **277** | **47** | **277** | **47** | **277** | | |
| | | 47 | 277 | 47 | 277 | 47 | 277 | 47 | 277 | | |
| **Middlesex** | | **87** | **241** | **87** | **241** | **87** | **241** | **87** | **241** | | |
| | | 87 | 241 | 87 | 241 | 87 | 241 | 87 | 241 | | |
| **Monmouth** | | **185** | **1992** | **185** | **1992** | **185** | **1992** | **166** | **1881** | | |
| | | 185 | 1992 | 185 | 1992 | 185 | 1992 | 166 | 1881 | | |
| **Morris** | | **26** | **359** | **26** | **359** | **26** | **359** | **26** | **359** | | |
| | | 26 | 359 | 26 | 359 | 26 | 359 | 26 | 359 | | |
| **Salem** | | **16** | **137** | **16** | **137** | **16** | **137** | **16** | **137** | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 16 | 137 | 16 | 137 | 16 | 137 | 16 | 137 | | |
| **Warren** | **4** | **39** | **4** | **39** | **4** | **39** | **4** | **39** | | |
| | 4 | 39 | 4 | 39 | 4 | 39 | 4 | 39 | | |
| **Grand Total** | **589** | **4976** | **590** | **4984** | **590** | **4984** | **571** | **4873** | | |

## Chikungunya (CHIK) to 9 September 2015.

New Jersey will be selectively testing for CHIK this year. 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 have tested positive in 2015. Currently, there are 21 imported human cases reported in New Jersey.

| County | Species | Pools | Mosquitoes | Positives | MFIR |
|---|---|---|---|---|---|
| **Atlantic** | | **29** | **249** | | |
| | *Aedes albopictus* | 29 | 249 | | |
| **Burlington** | | **12** | **150** | | |
| | *Aedes albopictus* | 12 | 150 | | |
| **Camden** | | **16** | **30** | | |
| | *Aedes albopictus* | 16 | 30 | | |
| **Cape May** | | **246** | **485** | | |
| | *Aedes albopictus* | 245 | 484 | | |
| | *Aedes japonicus* | 1 | 1 | | |
| **Cumberland** | | **19** | **212** | | |
| | *Aedes albopictus* | 19 | 212 | | |
| **Gloucester** | | **127** | **956** | | |
| | *Aedes albopictus* | 127 | 956 | | |
| **Hudson** | | **22** | **342** | | |
| | *Aedes albopictus* | 22 | 342 | | |
| **Mercer** | | **47** | **277** | | |
| | *Aedes albopictus* | 47 | 277 | | |
| **Middlesex** | | **87** | **241** | | |
| | *Aedes albopictus* | 87 | 241 | | |
| **Monmouth** | | **185** | **1992** | | |
| | *Aedes albopictus* | 185 | 1992 | | |
| **Morris** | | **26** | **359** | | |
| | *Aedes albopictus* | 26 | 359 | | |

| | | | | | |
|---|---|---|---|---|---|
| **Salem** | | **16** | **137** | | |
| | *Aedes albopictus* | 16 | 137 | | |
| **Warren** | | **4** | **39** | | |
| | *Aedes albopictus* | 4 | 39 | | |
| **Grand Total** | | **836** | **5469** | | |