

# VECTOR SURVEILLANCE IN NEW JERSEY

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

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13 September to 19 September, 2020, CDC Week 38

Data download 2:40 pm 21 September



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***NOTE: County/species tables for arboviruses are now in a supplemental file [here](#)***

## Arbovirus Summary

- In 2020, there are **five** positive EEE pools in *Culiseta melanura*. (A sixth positive EEE in Atlantic County came in after data download.)
- There are 195 positive WNV pools, in *Culex Mix* (191), in *Culex pipiens* (3) and *Aedes albopictus* (1).
- There are 6 positive JVC pools in *Aedes cantator* (2), *Aedes taeniorhynchus* (1), *Anopheles quadrimaculatus* (1) and *Coquillettidia perturbans* (2).
- There is one EEE horse case reported. There are no WNV horse cases.
- There are 3 human WNV cases; in Essex County (1) and Monmouth County (2).
- Note: Data download times are noted and do not necessarily reflect all pools submitted and analyzed to that point in time. This report may vary from other reports from the same dataset as they are all snapshots in time.

## *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
<b>Bass River (Burlington Co.)/5</b>	Coastal	0.72	0.00	9	2		
<b>Green Bank (Burlington Co.)/25</b>	Coastal	1.93	0.32	21 (29)	7 (8)		
<b>Corbin City (Atlantic Co.)/25</b>	Coastal	1.08	0.92	189 <sup>‡</sup> (212)	15 (16)	1	5.464
<b>Dennisville (Cape May Co.)/50</b>	Coastal	3.07	0.26	26	5		
<b>Winslow (Camden Co.)/50</b>	Inland	0.79	0.52	168	7	2	5.952
<b>Centerton (Salem Co.)/50</b>	Inland	2.17	0.44	82	7		
<b>Turkey Swamp (Monmouth Co.)/50</b>	Inland	0.65	0.10	36 (41)	13 (14)		
<b>Glassboro (Gloucester Co.)/50</b>	Inland	0.48	0.08	40	10		

\*Current week (in parentheses) results pending. <sup>‡</sup> corrected from previous week NC=No Collection NR=Not Recorded

**Remarks:** Currently five positive EEE pools have been detected, collected in pools of *Culiseta melanura* at the Corbin City traditional resting box site on 17 June, in Burlington County 10 August, in Atlantic County on 13 August, at the Winslow traditional resting box site on 8 September and again on 14 September. A horse case in Atlantic County was also detected.

Statewide, 5,382 *Cs. melanura* from 494 pools have been tested, with an overall *Cs. melanura* MFIR of 0.929. 152,276 specimens in 5963 pools from 40 other species have also been tested, with no positive pools detected. Overall MFIR for all species statewide is 0.032.

**Traditional Resting Box Sites:** 571 *Cs. melanura* from 66 pools has been tested, with three positive pools, one at Corbin City, collected 17 June and the last two at Winslow, collected 8 and 14 September. Three pools with 36 mosquitoes are pending. Overall *Cs. melanura* MFIR at the traditional resting box site is 5.254.

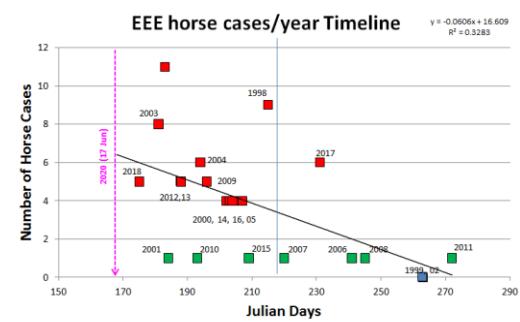
Additional <i>Cs. melanura</i> trapped by counties *traps with positives indicated in <b>BOLD UNDERLINE</b> .					
County	Trap types*	Pools	Mosquitoes	Positives	MFIR
Atlantic	BGS, CO2, RB	44	860	1	1.163
Bergen	CO2, RB	7	63		
Burlington	ULVT	56	1427	1	0.701
Camden	GRA	1	1		
Cape May	GRA, RB	47	94		
Cumberland	CO2, RB	9	40		
Gloucester	RB	64	1328		
Middlesex	CO2, GRA, LT, RB	14	83		
Monmouth	CO2, Other	3	10		
Morris	CO2, RB	39	351		
Ocean	CO2, GRA, RB	14	40		
Salem	CO2, GRA, Other, RB	36	122		
Sussex	CO2, GRA, RB	94	392		
<b>TOTAL</b>		<b>428</b>	<b>4811</b>	<b>2</b>	<b>0.416</b>

**Horses and Humans:** Currently one horse has been reported with EEE. Last year eleven horses (plus 1 deer and 1 alpaca) were reported with EEE. All equids 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.

**Additional County-set *Cs. melanura*:** Counties maintain trap sites for *Cs. melanura* in other areas, using a variety of traps. In the previous year, 2019, 36 pools of *Cs. melanura* have been found positive. Currently, two positive pools of *Cs. melanura* have been detected in Burlington County, sampled 10 August and Atlantic County, sampled 13 August.

**Graph below** indicate start times to detection of EEE in *Culiseta melanura* from 1998 to 2020. This year is the earliest collected during that time period, suggesting multiple horse cases could occur this year.

\*Note\* - first horse case had date on onset late into the season.



Case	Animal	Age	Sex	County	Date of Onset	Euthanized?	Vaccinated?	Comment
1	thoroughbred	4	female	Atlantic	7 Sep	yes	No history	

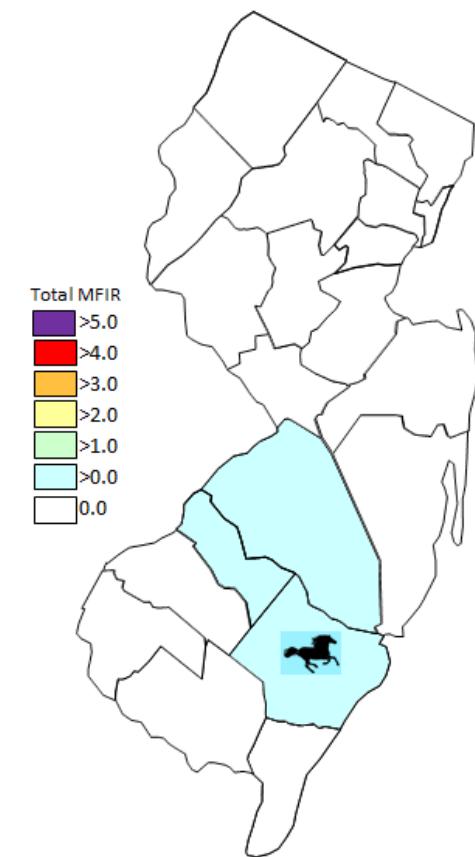
**Horses and Vaccinations:** The fate of unvaccinated equids reinforces the necessity of maintaining a vaccination schedule for arboviruses. For vaccination schedules recommended by the American Association of Equine Practices, see: [http://www.aaep.org/vaccination\\_guidelines.htm](http://www.aaep.org/vaccination_guidelines.htm)

There are no human cases of EEE currently reported. For more information, see DOH Vectorborne Surveillance reports: <https://www.nj.gov/health/cd/statistics/arboviral-stats/>

Species other than <i>Cs. melanura</i>	Pools	Mosquitoes	Positives	MFIR
<i>Aedes abserratus</i>	11	29		
<i>Aedes albopictus</i>	839	7220		
<i>Aedes atlanticus</i>	28	237		
<i>Aedes canadensis canadensis</i>	59	894		
<i>Aedes cantator</i>	36	828		
<i>Aedes cinereus</i>	1	16		
<i>Aedes excrucians</i>	2	2		
<i>Aedes grossbecki</i>	1	4		
<i>Aedes infirmatus</i>	2	2		
<i>Aedes japonicus</i>	262	1116		
<i>Aedes mitchellae</i>	1	4		
<i>Aedes provocans</i>	1	1		
<i>Aedes sollicitans</i>	34	782		
<i>Aedes sticticus</i>	7	176		
<i>Aedes stimulans</i>	14	32		
<i>Aedes taeniorhynchus</i>	39	1468		
<i>Aedes thibaulti</i>	1	5		
<i>Aedes triseriatus</i>	166	508		
<i>Aedes trivittatus</i>	6	140		
<i>Aedes vexans</i>	81	671		
<i>Anopheles barberi</i>	2	4		
<i>Anopheles bradleyi</i>	40	760		
<i>Anopheles crucians</i>	24	353		
<i>Anopheles punctipennis</i>	121	1553		
<i>Anopheles quadrimaculatus</i>	106	1750		
<i>Anopheles walkeri</i>	2	7		
<i>Coquillettidia perturbans</i>	205	4843		
<i>Culex erraticus</i>	176	2097		
<i>Culex Mix</i>	2914	114140		
<i>Culex pipiens</i>	429	8668		
<i>Culex restuans</i>	91	737		
<i>Culex salinarius</i>	149	1914		
<i>Culiseta inornata</i>	13	58		
<i>Culiseta morsitans</i>	13	48		
<i>Orthopodomyia signifera</i>	6	7		
<i>Psorophora ciliata</i>	3	5		
<i>Psorophora columbiae</i>	28	576		
<i>Psorophora cyanescens</i>	1	5		
<i>Psorophora ferox</i>	47	613		
<i>Psorophora howardii</i>	1	1		
<i>Uranotaenia sapphirina</i>	1	2		
<b>State Total</b>	<b>5963</b>	<b>152276</b>		

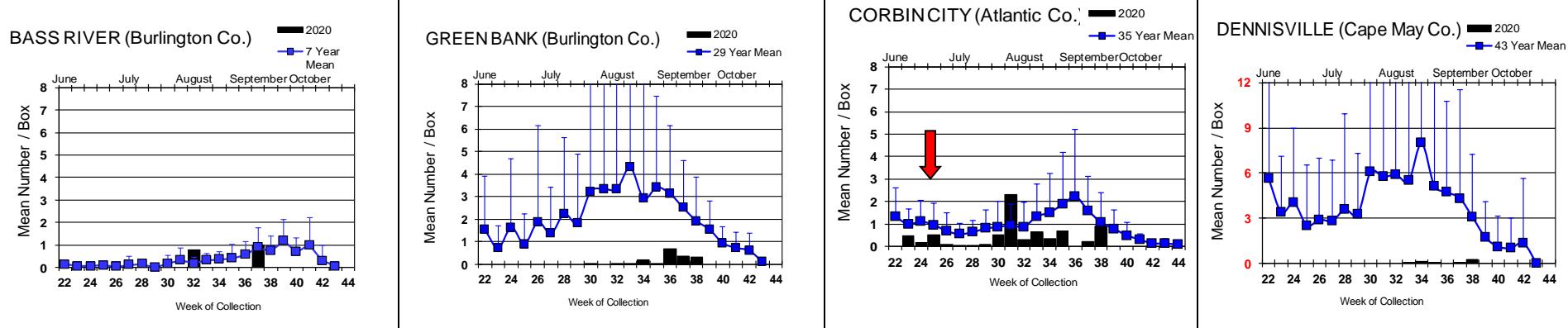
**Additional Species:** 40 additional species were tested for EEE. No positive pools have been detected to date. \*note\* *Aedes aegypti* removed from previous week.

**Overall MFIR rates, human and animal cases per county:**

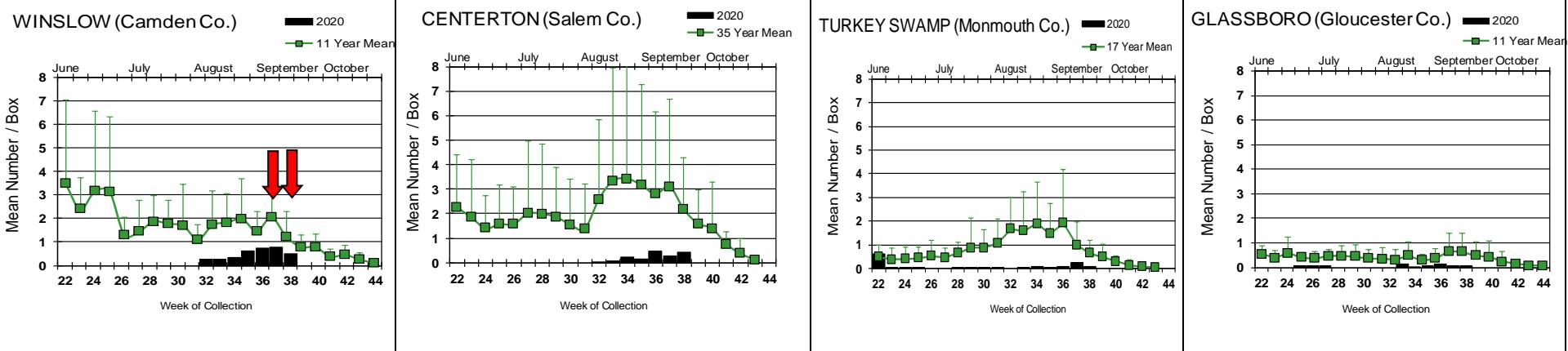


# Culiseta melanura Populations

## Coastal



## Inland



*Culiseta melanura* populations are now reported at all sites but populations continue to be well below historical averages. First positive EEE pool has been detected at Corbin City, on 17 June. Two more positive melanura pools detected at Winslow during CDC weeks 37 and 38. Although cooler weather is beginning, *Culiseta melanura* is a cold-hardy species, with equine bloodmeals occasionally showing up in this ornithophilic species. Horse cases have been recorded into November in New Jersey.

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

**EEE in US** (2020 cumulative cases): (Black or Red = previous + new reported cases occurring)

- equine: **17(FL) 1(GA) 4(IN) 3(LA) 32(MI) 7(NC) 1(MN) 1(NJ) 7(NY) 13(SC) 4(VA) 10(WI)**
- mosquito pools: **2(CT) 1(FL) 66(MA) 5(NJ) 1(RI)**
- sentinel: **39+1duck, 2sparrows(FL)**
- human: **1(IN) 5(MA) 1(MI)**

## West Nile Virus Positive Organisms in US, 2020

West Nile in US (2020 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					<b>2/3</b>
Alaska					
Arizona		<b>93</b>	<b>31</b>		<b>4</b>
Arkansas					<b>1</b>
California	<b>211/248</b>	<b>1982/2126</b>	<b>60/81</b>	<b>10/11</b>	<b>46/58</b>
Colorado		<b>24/67</b>			<b>14</b>
Connecticut		<b>124/134</b>			<b>1/6</b>
Delaware					
Florida	<b>17</b>	<b>13</b>	<b>107/148</b>	<b>7/9</b>	<b>18/27</b>
Georgia					
Hawaii					
Idaho	<b>1</b>	<b>18/22</b>		<b>0</b>	<b>1/3</b>
Illinois	<b>6</b>	<b>1983/2180</b>			<b>1/4</b>
Indiana	<b>0</b>	<b>31/39</b>		<b>0</b>	<b>0</b>
Iowa					<b>1</b>
Kansas					<b>2</b>
Kentucky				<b>1</b>	
Louisiana	<b>5</b>	<b>308/317</b>		<b>2</b>	<b>8/9</b>
Maine					<b>0</b>
Maryland(+DC)		<b>2</b>			<b>1</b>
Mass.		<b>87/95</b>			<b>7</b>
Michigan	<b>2/5</b>	<b>16/29</b>			<b>9/13</b>
Minnesota					<b>0</b>
Mississippi		<b>89/91</b>			<b>3/4</b>
Missouri		<b>0</b>		<b>0</b>	<b>1</b>

	Birds	Mosquito Pools	Sentinels	Horses*	Humans
Montana					<b>0</b>
Nebraska		<b>6/14</b>		<b>0</b>	<b>1</b>
Nevada					<b>0</b>
New Hampshire		<b>1</b>			<b>0</b>
New Jersey		<b>182/195</b>		<b>0</b>	<b>3</b>
New Mexico					<b>3</b>
New York					<b>0</b>
North Carolina					
North Dakota					<b>0</b>
Ohio		<b>528/626</b>		<b>0</b>	<b>0</b>
Oklahoma					<b>0</b>
Oregon	<b>1</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>
Pennsylvania		<b>288/543</b>			<b>1</b>
Rhode Island					<b>0</b>
South Carolina					
South Dakota		<b>6</b>			<b>5</b>
Tennessee					
Texas	<b>1</b>	<b>1071/1153</b>	<b>1</b>		<b>24</b>
Utah		<b>29/31</b>			
Vermont					<b>0</b>
Virginia					<b>0</b>
Washington	<b>0</b>	<b>11</b>		<b>0</b>	<b>2</b>
West Virginia					
Wisconsin					
Wyoming		<b>1</b>		<b>1</b>	<b>0</b>

\* 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.

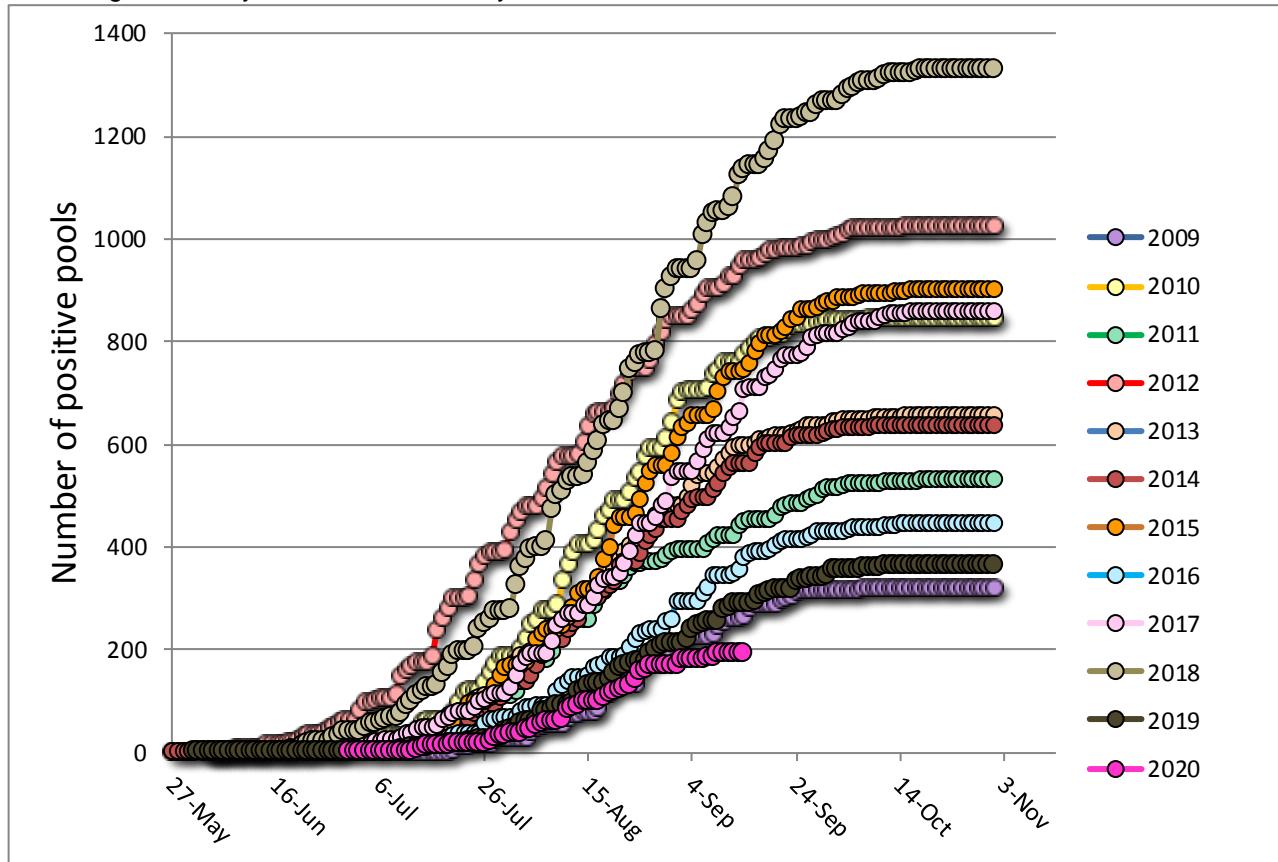
**Mosquito Species Submitted and Tested  
for West Nile Virus through 21 September 2020**

Species	Pools	Mosquitoes	Positives	MFIR
<i>Aedes abserratus</i>	11	29		
<i>Aedes albopictus</i>	848	7511	1	0.133
<i>Aedes atlanticus</i>	28	237		
<i>Aedes canadensis canadensis</i>	59	894		
<i>Aedes cantator</i>	36	828		
<i>Aedes cinereus</i>	1	16		
<i>Aedes excrucians</i>	2	2		
<i>Aedes grossbecki</i>	1	4		
<i>Aedes infirmatus</i>	2	2		
<i>Aedes japonicus</i>	268	1194		
<i>Aedes mitchellae</i>	1	4		
<i>Aedes provocans</i>	1	1		
<i>Aedes sollicitans</i>	34	782		
<i>Aedes sticticus</i>	7	176		
<i>Aedes stimulans</i>	14	32		
<i>Aedes taeniorhynchus</i>	39	1468		
<i>Aedes thibaulti</i>	1	5		
<i>Aedes triseriatus</i>	250	863		
<i>Aedes trivittatus</i>	6	140		
<i>Aedes vexans</i>	81	671		
<i>Anopheles barberi</i>	2	4		
<i>Anopheles bradleyi</i>	40	760		
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<i>Anopheles quadrimaculatus</i>	106	1750		
<i>Anopheles walkeri</i>	2	7		
<i>Coquillettidia perturbans</i>	205	4843		
<i>Culex erraticus</i>	176	2097		
<i>Culex</i> spp.	2914	114140	191	1.673
<i>Culex pipiens</i>	429	8668	3	0.346
<i>Culex restuans</i>	91	737		
<i>Culex salinarius</i>	149	1914		
<i>Culiseta inornata</i>	13	58		
<i>Culiseta melanura</i>	494	5382		
<i>Culiseta morsitans</i>	13	48		
<i>Orthopodomyia signifera</i>	6	7		
<i>Psorophora ciliata</i>	3	5		
<i>Psorophora columbiae</i>	28	576		
<i>Psorophora cyanescens</i>	1	5		
<i>Psorophora ferox</i>	47	613		
<i>Psorophora howardii</i>	1	1		
<i>Uranotaenia sapphirina</i>	1	2		
<b>Grand Total</b>	<b>6556</b>	<b>158382</b>	<b>195</b>	<b>1.231</b>

**Remarks:** To date 6,556 pools of 158,382 mosquitoes from 41 species have been tested. 195 positive WNV pools have been detected by RTPCR this year, 191 pools in *Culex Mix*, 3 in *Culex pipiens* and one pool in *Aedes albopictus* (collected in Union County 28 July). The positive pools continue to be less diverse than in previous years, particularly for those years when activity is higher. The pools were in Atlantic, Bergen, Burlington, Camden, Gloucester, Hudson, Hunterdon, Mercer, Middlesex, Monmouth, Morris, Passaic, Somerset, Union, and Warren counties (earliest collected 30 June).

**Humans, Horses and Wild Birds:** No horses or wild birds have been reported infected with WNV in 2020. Three human case of WNV has been reported: first case in Essex County, the second and third in Monmouth County. Last year, eight human cases were reported. No horses were detected with WNV in 2019. See DOH reports on arbovirus activity for further information: <https://www.nj.gov/health/cd/statistics/arboviral-stats/index.shtml>

Birds are no longer routinely tested in New Jersey.



Above is a graph showing cumulative number of positive pools for the previous 11 years, inclusive of the most active (2018) and least active (2009) years. 2020 is represented in PINK.

Go [here](#) for the table supplement of arbovirus by county by mosquito species.