

# VECTOR SURVEILLANCE IN NEW JERSEY

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

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Data download 3:55 pm 19 October



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

## Arbovirus Summary

- In 2020, there are **nine** positive EEE pools in *Culiseta melanura*.
- There are 239 positive WNV pools, in *Culex Mix* (229), in *Culex pipiens* (4), *Culex restuans* (1), *Culiseta melanura* (2), *Aedes albopictus* (2), and *Aedes canadensis canadensis* (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	0.30	0.80	10 (14)	3 (4)		
<b>Green Bank (Burlington Co.)/25</b>	Coastal	0.61	0.16	35 (39)	9 (10)		
<b>Corbin City (Atlantic Co.)/25</b>	Coastal	0.14	0.92	283 <sup>‡</sup>	19	2	7.067
<b>Dennisville (Cape May Co.)/50</b>	Coastal	1.34	0.04	45 (47)	8 (9)		
<b>Winslow (Camden Co.)/50</b>	Inland	0.25	0.10	210 (215)	10 (11)	2	9.524
<b>Centerton (Salem Co.)/50</b>	Inland	0.37	0.14	114 (121)	10 (11)	1	8.772
<b>Turkey Swamp (Monmouth Co.)/49</b>	Inland	0.08	0.00	47 <sup>‡</sup>	15		
<b>Glassboro (Gloucester Co.)/50</b>	Inland	0.07	0.00	56	13		

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

**Remarks:** Currently nine positive EEE pools have been detected with all collected in pools of *Culiseta melanura*. The latest two positive pools were found at in Atlantic County on 6 October, at the Corbin City traditional resting box site and a non-traditional site. One horse case in Atlantic County has been detected.

Statewide: 6,952 *Cs. melanura* from 636 pools have been tested, with an overall *Cs. melanura* MFIR of 1.295. 174,196 specimens in 7562 pools from 40 other species have also been tested, with no positive pools detected. Overall MFIR for all species statewide is 0.050.

**Traditional Resting Box Sites:** 800 *Cs. melanura* from 87 pools has been tested, with five positive pools, the latest at Centerton collected 6 October. Previous positives include two at Corbin City, collected 17 June and 30 September and two at Winslow, collected 8 and 14 September. Seven pools of 56 total mosquitoes are pending. Overall *Cs. melanura* MFIR at the traditional resting box site is 6.250.

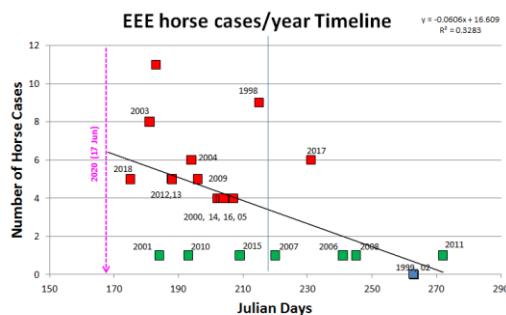
Additional <i>Cs. melanura</i> trapped by counties *traps with positives indicated in <b>BOLD UNDERLINE</b> .					
County	Trap types*	Pools	Mosquitoes	Positives	MFIR
Atlantic	BGS, CO2, RB	64 7 69 1 1597 1 88 15 84 16 3 40 19 39 104	1157	3	2.593
Bergen	CO2, RB		63		
Burlington	ULVT		1597	1	0.626
Camden	GRA		1		
Cape May	GRA, RB		154		
Cumberland	CO2, RB		74		
Gloucester	RB		2032		
Middlesex	CO2, GRA, LT, RB		92		
Monmouth	CO2, Other		10		
Morris	CO2, RB		355		
Ocean	CO2, GRA, RB		61		
Salem	CO2, GRA, Other, RB		125		
Sussex	CO2, GRA, RB		431		
<b>TOTAL</b>		<b>549</b>	<b>6152</b>	<b>4</b>	<b>0.650</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. Currently, four positive pools of *Cs. melanura* have been detected: one in Burlington County, sampled 10 August and three in Atlantic County, sampled 13 August, 17 September, and the latest on 6 October.

**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	

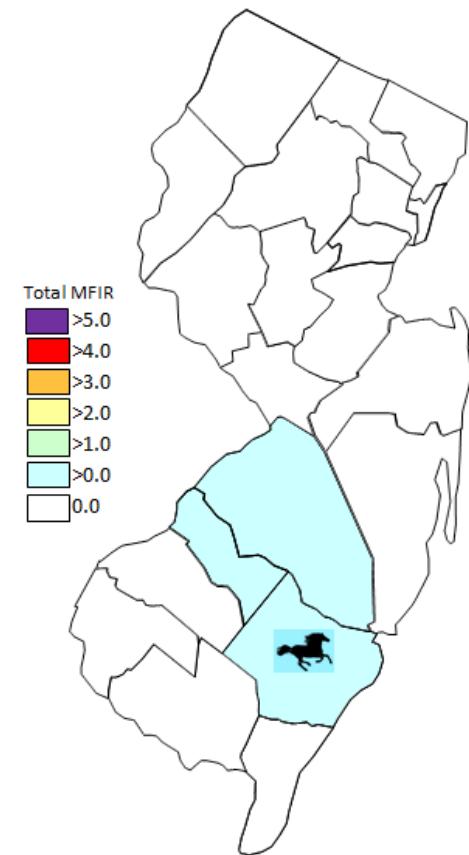
**Horses and Vaccinations:** The fate of unvaccinated equids reinforces the necessity of maintaining a vaccination schedule for arboviruses. For vaccination schedules recommended by the American Association of Equine Practices, see: [http://www.aaep.org/vaccination\\_guidelines.htm](http://www.aaep.org/vaccination_guidelines.htm)

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>	1109	8670		
<i>Aedes atlanticus</i>	44	559		
<i>Aedes canadensis canadensis</i>	64	901		
<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>	3	3		
<i>Aedes japonicus</i>	305	1286		
<i>Aedes mitchellae</i>	1	4		
<i>Aedes provocans</i>	1	1		
<i>Aedes sollicitans</i>	38	849		
<i>Aedes sticticus</i>	7	176		
<i>Aedes stimulans</i>	14	32		
<i>Aedes taeniorhynchus</i>	42	1516		
<i>Aedes thibaulti</i>	1	5		
<i>Aedes triseriatus</i>	209	588		
<i>Aedes trivittatus</i>	8	150		
<i>Aedes vexans</i>	102	1052		
<i>Anopheles barberi</i>	2	4		
<i>Anopheles bradleyi</i>	58	1321		
<i>Anopheles crucians</i>	33	382		
<i>Anopheles punctipennis</i>	149	2175		
<i>Anopheles quadrimaculatus</i>	128	1976		
<i>Anopheles walkeri</i>	2	7		
<i>Coquillettidia perturbans</i>	211	4856		
<i>Culex erraticus</i>	259	3098		
<i>Culex Mix</i>	3454	126270		
<i>Culex pipiens</i>	661	11842		
<i>Culex restuans</i>	276	1884		
<i>Culex salinarius</i>	173	2044		
<i>Culiseta inornata</i>	15	103		
<i>Culiseta morsitans</i>	13	48		
<i>Orthopodomyia signifera</i>	10	12		
<i>Psorophora ciliata</i>	3	5		
<i>Psorophora columbiae</i>	31	602		
<i>Psorophora cyanescens</i>	1	5		
<i>Psorophora ferox</i>	52	784		
<i>Psorophora howardii</i>	1	1		
<i>Uranotaenia sapphirina</i>	5	33		
<b>State Total</b>	<b>7536</b>	<b>174123</b>		

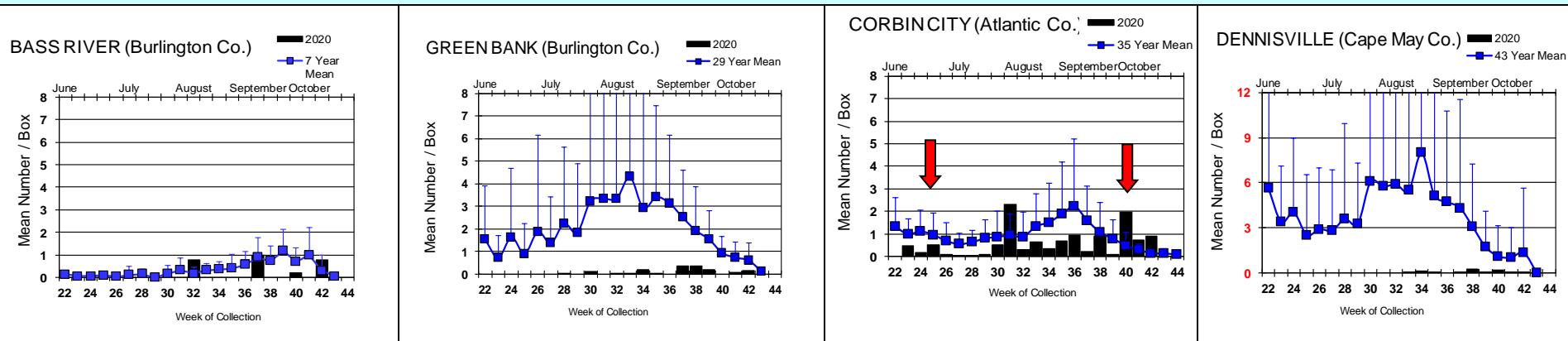
**Additional Species:** 40 additional species were tested for EEE. No positive pools have been detected to date. \*note\* *Aedes aegypti* removed from previous week.

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

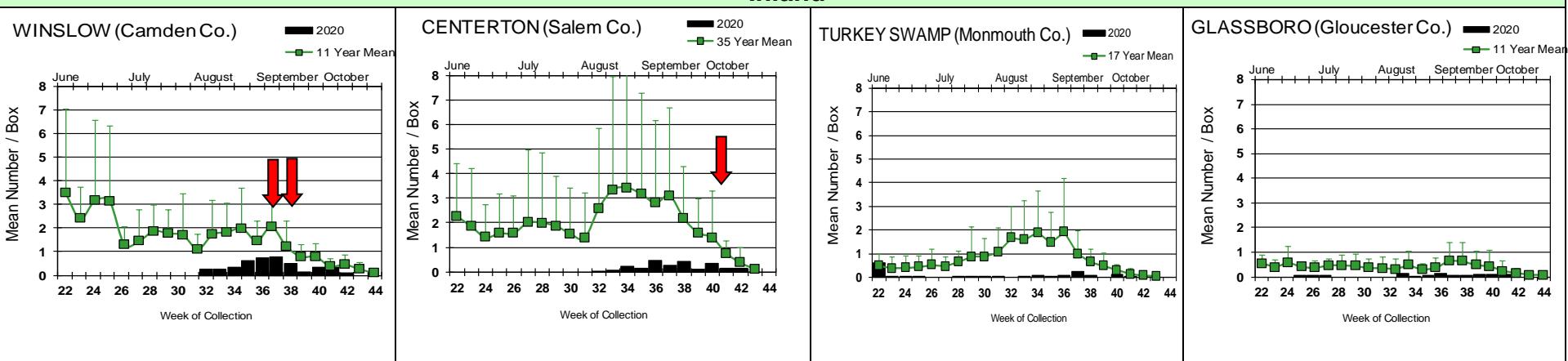


# Culiseta melanura Populations

## Coastal



## Inland



*Culiseta melanura* populations have been rising at a few site, sometimes above historical averages (Corbin City and Bass River). 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. Next positive was detected at Corbin City on 30 September and last positive was 6 October at Turkey Swamp. 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: 18(FL) 1(GA) 4(IN) 4(LA) 38(MI) 7(NC) 1(MN) 1(NJ) 7(NY) 13(SC) 4(VA) 16(WI)
- mosquito pools: 2(CT) 1(FL) 1(LA) 66(MA) 9(NJ) 1(RI)
- sentinel: 40+1duck, 2sparrows(FL)
- human: 1(IN) 5(MA) 2(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					3/4
Alaska					
Arizona	94	27			7
Arkansas					1
California	277/314	2475/2534	121/123	15/16	114/123
Colorado		66			29/32
Connecticut		143			6
Delaware					
Florida	17	14/18	178/219	10	32/34
Georgia					
Hawaii					
Idaho	1	22		2	5
Illinois	10	2340/2345			29/30
Indiana	0	55		1	1
Iowa					1
Kansas					2
Kentucky				2	
Louisiana	5	397		4	16
Maine					0
Maryland(+DC)		3		1	1
Mass.		97			8
Michigan	7	41/45			26/29
Minnesota					0
Mississippi		91			7
Missouri		0		0	1

	Birds	Mosquito Pools	Sentinels	Horses*	Humans
Montana					0
Nebraska		19/21		1/2	4/8
Nevada					0
New Hampshire		2			0
New Jersey		235/239		0	3
New Mexico					3
New York					0
North Carolina					
North Dakota					4/6
Ohio		662/666		0	2
Oklahoma					0
Oregon	1	3	0	0	0
Pennsylvania		623			8
Rhode Island					0
South Carolina					
South Dakota		6			5/8
Tennessee					
Texas	1	1304/1329	1		46/48
Utah		42			
Vermont					0
Virginia					0
Washington	0	11		0	2
West Virginia					
Wisconsin					
Wyoming		1		1	0

\* 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.

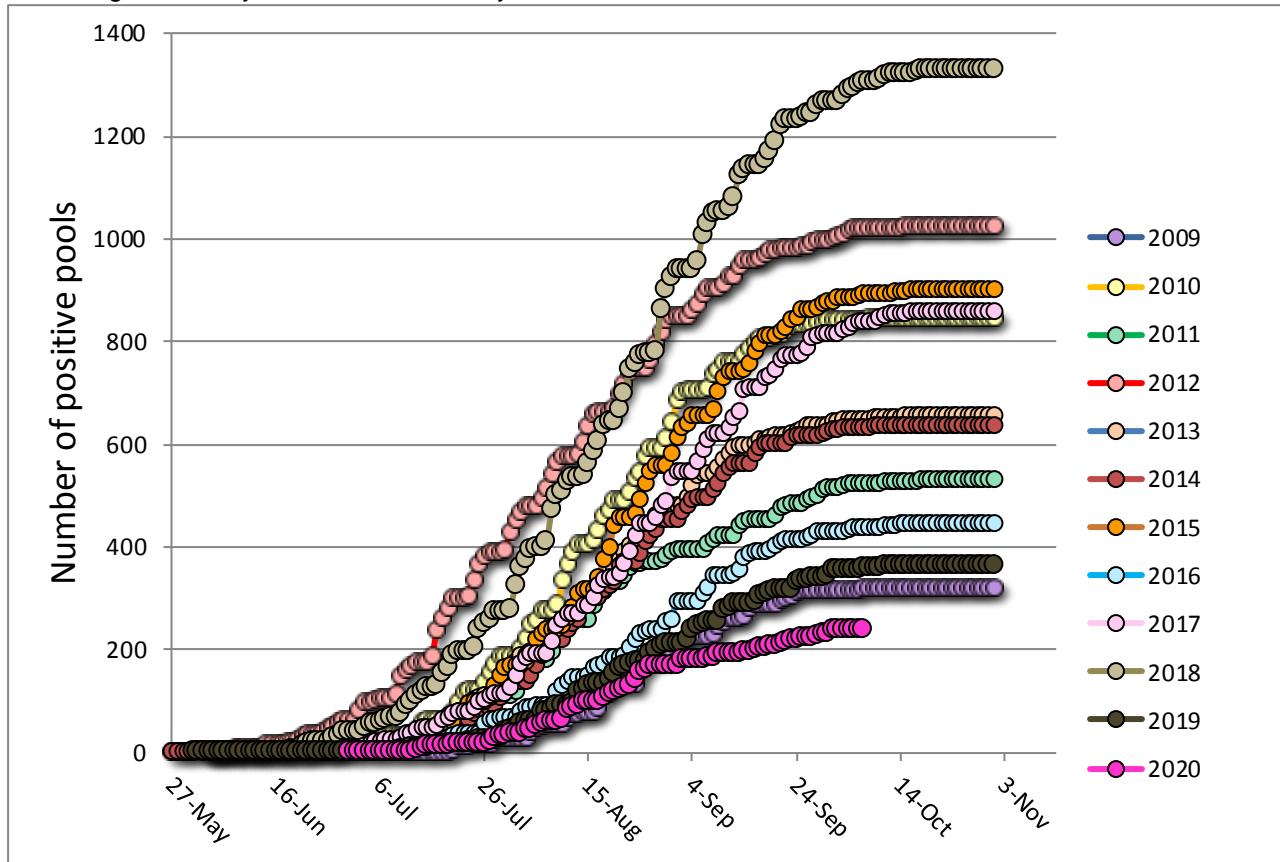
**Mosquito Species Submitted and Tested  
for West Nile Virus through 19 October 2020**

Species	Pools	Mosquitoes	Positives	MFIR
<i>Aedes abserratus</i>	11	29		
<i>Aedes albopictus</i>	1119	8965	2	0.223
<i>Aedes atlanticus</i>	44	559		
<i>Aedes canadensis canadensis</i>	64	901	1	1.110
<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>	3	3		
<i>Aedes japonicus</i>	312	1372		
<i>Aedes mitchellae</i>	1	4		
<i>Aedes provocans</i>	1	1		
<i>Aedes sollicitans</i>	38	849		
<i>Aedes sticticus</i>	7	176		
<i>Aedes stimulans</i>	14	32		
<i>Aedes taeniorhynchus</i>	42	1516		
<i>Aedes thibaulti</i>	1	5		
<i>Aedes triseriatus</i>	305	975		
<i>Aedes trivittatus</i>	8	150		
<i>Aedes vexans</i>	102	1052		
<i>Anopheles barberi</i>	2	4		
<i>Anopheles bradleyi</i>	59	1322		
<i>Anopheles crucians</i>	33	382		
<i>Anopheles punctipennis</i>	159	2223		
<i>Anopheles quadrimaculatus</i>	130	1979		
<i>Anopheles walkeri</i>	2	7		
<i>Coquillettidia perturbans</i>	214	4860		
<i>Culex erraticus</i>	267	3113		
<i>Culex spp.</i>	3454	126270	229	1.814
<i>Culex pipiens</i>	661	11842	4	0.338
<i>Culex restuans</i>	277	1885	1	0.531
<i>Culex salinarius</i>	174	2045		
<i>Culiseta inornata</i>	15	103		
<i>Culiseta melanura</i>	636	6952	2	0.288
<i>Culiseta morsitans</i>	13	48		
<i>Orthopodomyia signifera</i>	10	12		
<i>Psorophora ciliata</i>	3	5		
<i>Psorophora columbiae</i>	31	602		
<i>Psorophora cyanescens</i>	1	5		
<i>Psorophora ferox</i>	52	784		
<i>Psorophora howardii</i>	1	1		
<i>Uranotaenia sapphirina</i>	5	33		
<b>Grand Total</b>	<b>8311</b>	<b>181916</b>	<b>239</b>	<b>1.314</b>

**Remarks:** To date 8,311 pools of 181,916 mosquitoes from 41 species have been tested. 239 positive WNV pools have been detected by RTPCR this year, 229 pools in *Culex Mix*, 4 in *Culex pipiens*, 2 pools in *Aedes albopictus* and 1 in *Aedes canadensis canadensis* and 2 in *Culiseta melanura*. The pools were in Atlantic, Bergen, Burlington, Camden, Gloucester, Hudson, Hunterdon, Mercer, Middlesex, Monmouth, Morris, Passaic, Salem, Somerset, Union, and Warren counties (earliest collected 30 June).

**Humans, Horses and Wild Birds:** No horses 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.