

# VECTOR SURVEILLANCE IN NEW JERSEY

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

Prepared by Lisa M. Reed and Dina Fonseca  
Center for Vector Biology, Rutgers University

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Data download 2:21 pm 3 September



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

## Arbovirus Summary

- 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.
- One pool of *Culex Mix* tested positive for EEE virus in Morris County, collected 17 August. No pools of *Culiseta melanura* have tested positive. No horse or human cases have been reported.
- 375 pools have tested positive for WN virus, the first in *Aedes cantator*, collected in Burlington County on 2 June. Also positive were pools of *Culex Mix*, *Culex pipiens*, *Aedes albopictus*, *Ae. canadensis canadensis*, *Aedes cantator*, *Ae. japonicus*, *Ae. triseriatus*, and *Ae. vexans*. Five humans have been reported with WNV infection, one each in Bergen, Morris, and Union counties and 2 in Ocean County. One Red-tailed Hawk (*Buteo jamaicensis*) from Somerset County tested positive for WNV. No horse cases have been reported.
- No pools tested for SLE, LAC, DENG, CHIK, or ZIKA virus have been detected positive in any species submitted to date.
- 3 pools have tested positive for JC virus, the latest in *Anopheles punctipennis*, collected 18 Aug in Sussex County. The first two were both in *Aedes cantator*, collected in Bergen County at the same location, first collected on 3 June.
- In 2021, there were 35 positive EEE pools in *Culiseta melanura*, *Culex erraticus*, *Ae. taeniorhynchus*, and *Ae. triseriatus*. There were 3 horse case reported. There were no human cases reported.
- There were 997 positive WNV pools, in *Culex Mix*, *Culex pipiens*, *Culex restuans*, *Culex erraticus*, *Culiseta melanura*, *Aedes albopictus*, *Aedes japonicus*, *Ae. taeniorhynchus*, *Ae. triseriatus*, *Ae. trivittatus*, *Ae. vexans*, *Anopheles bradleyi*, *An. punctipennis*, *An. quadrimaculatus*, *Coquillettidia perturbans*, *Psorophora ciliata*, and *Ps. ferox*. There were 36 human cases with 5 fatalities, plus 13 positive birds. There were no horse cases.
- There were 8 positive JVC pools in *Aedes albopictus*, *Ae. vexans*, *Anopheles punctipennis* and *Culex Mix*. There were 2 human cases reported.

### *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	0.33	0.00	1	1		
Green Bank (Burlington Co.)/25	Coastal	3.19	0.00	11	5		
Corbin City (Atlantic Co.)/25	Coastal	1.82	0.24	147	16		
Dennisville (Cape May Co.)/50	Coastal	4.93	0.00	27	7		
Winslow (Camden Co.)/50	Inland	1.42	0.12	219 (223)	13 (14)		
Centerton (Salem Co.)/50	Inland	3.01	0.08	39 (44)	11 (12)		
Turkey Swamp (Monmouth Co.)/50	Inland	1.32	0.06	113	15		
Glassboro (Gloucester Co.)/50	Inland	0.32	0.04	32	12		

\*Current week (in parentheses) results pending. ‡ Corrected from previous week. PW = Previous week na =not available ND=No Data NR=Not Recorded

**Remarks:** Currently, there is one positive EEE pools detected in a pool of *Culex* Mix, caught 17 August in Morris County, in northern NJ. EEE is thought to be refractory in *Culex pipiens*. Minimally, this positive pool can indicate virus circulating, but from this species, would not likely be involved in transmission. No pools of *Culiseta melanura* have been found positive.

**Statewide:** 1863 *Cs. melanura* from 242 pools have been submitted for testing, with no positive pools detected and an overall *Cs. melanura* MFIR of 0.000. 128,047 specimens in 4733 pools from 34 other species have also been tested with one positive pool in *Culex* Mix detected. Overall MFIR for all species statewide is 0.008.

**Traditional Resting Box Sites:** 592 *Cs. melanura* from 80 pools have been collected at the traditional resting box sites with no positive pools detected and 2 pools of 6 total mosquitoes pending. Overall *Cs. melanura* MFIR at the traditional resting box site is 0.00.

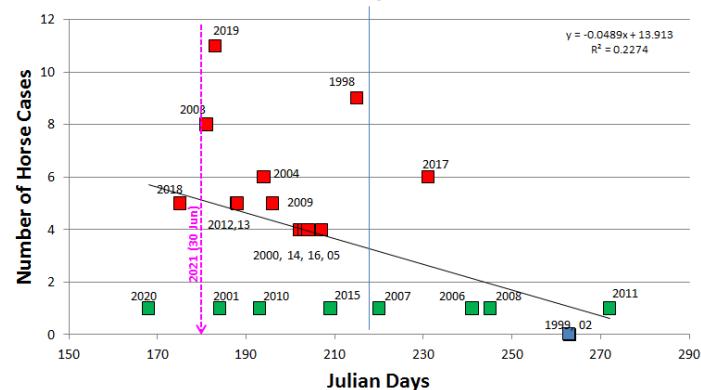
Additional <i>Cs. melanura</i> trapped by counties *traps with positives indicated in <b>BOLD UNDERLINED</b> .					
County	Trap types*	Pools	Mosquitoes	Positives	MFIR
Atlantic	CO2, RB	36	443		
Bergen	RB	2	42		
Burlington	UVLT	10	96		
Cape May	GRA, RB	12	20		
Cumberland	CO2, GRA, RB	24	83		
Gloucester	RB	12	127		
Middlesex	NJLT	3	15		
Monmouth	CO2	4	7		
Morris	ASP, CO2, GRA, RB	27	174		
Ocean	CO2	3	5		
Salem	CO2, RB	12	117		
Sussex	CO2, RB	18	142		
<b>TOTAL</b>		<b>163</b>	<b>1271</b>		

Graph to the right indicate start times to detection of EEE in *Culiseta melanura* and associated number of horse cases from 1998 to 2021. Early detections are associated with multiple horse cases.

**Horses and Humans:** In 2021, 3 horses were reported with EEE. Currently, no horse or humans have been reported. For more information, see DOH Vectorborne Surveillance reports: <https://www.nj.gov/health/cd/statistics/arboviral-stats/>

**Additional County-set *Cs. melanura*:** Counties maintain trap sites for *Cs. melanura* in other areas, using a variety of traps. In 2021, first positive pools of *Cs. melanura* were detected at a non-traditional resting box site in Gloucester County, collected 30 Jun. Currently, there are no positive EEE pools detected.

EEE horse cases/year Timeline



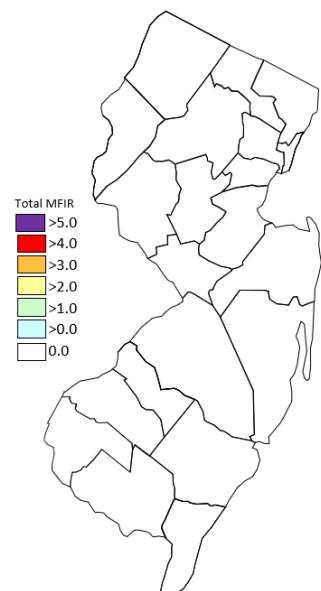
Case	Animal	Age	Sex	County	Date of Onset	Euthanized?	Vaccinated?	Comment

**Horses and Vaccinations:** **Horse owners are urged to make sure their horses are up to date on their vaccinations (see link below). EEE horse cases are known to occur through October and sometimes into November.** Other sensitive species are non-native birds, such as Ostriches/Emus and Gallinaceous birds such as pheasants of Eurasian origins. 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)

Species other than <i>Cs. melanura</i>	Pools	Mosquitoes	Positives	MFIR
<i>Aedes abserratus</i>	17	393		
<i>Aedes albopictus</i>	463	5077		
<i>Aedes atlanticus</i>	3	7		
<i>Aedes atropalpus</i>	1	1		
<i>Aedes aurifer</i>	16	154		
<i>Aedes canadensis canadensis</i>	78	1254		
<i>Aedes cantator</i>	49	1658		
<i>Aedes cinereus</i>	4	48		
<i>Aedes grossbecki</i>	9	51		
<i>Aedes japonicus</i>	381	2583		
<i>Aedes provocans</i>	2	3		
<i>Aedes sollicitans</i>	31	838		
<i>Aedes sticticus</i>	7	166		
<i>Aedes stimulans</i>	13	71		
<i>Aedes taeniorhynchus</i>	42	1503		
<i>Aedes triseriatus</i>	73	180		
<i>Aedes trivittatus</i>	9	68		
<i>Aedes vexans</i>	133	2818		
<i>Anopheles spp.</i>	3	97		
<i>Anopheles barbieri</i>	4	4		
<i>Anopheles bradleyi</i>	23	371		
<i>Anopheles crucians</i>	8	20		
<i>Anopheles punctipennis</i>	188	2042		
<i>Anopheles quadrimaculatus</i>	67	862		
<i>Coquillettidia perturbans</i>	166	3726		
<i>Culex erraticus</i>	82	1480		
<i>Culex Mix</i>	2462	92751	1	0.011
<i>Culex pipiens</i>	199	7091		
<i>Culex restuans</i>	135	1972		
<i>Culex salinarius</i>	23	421		
<i>Culiseta inornata</i>	8	17		
<i>Culiseta morsitans</i>	1	1		
<i>Orthopodomyia signifera</i>	2	2		
<i>Psorophora ciliata</i>	3	9		
<i>Psorophora columbiae</i>	9	43		
<i>Psorophora ferox</i>	19	265		
<b>State Total</b>	<b>4733</b>	<b>128047</b>	<b>1</b>	<b>0.008</b>

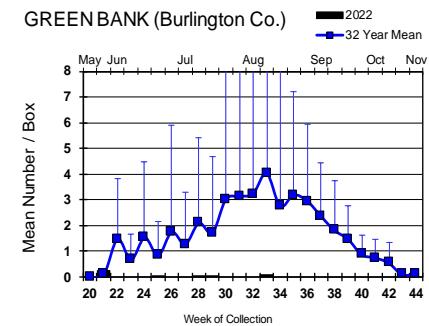
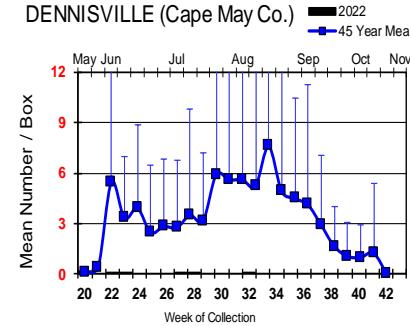
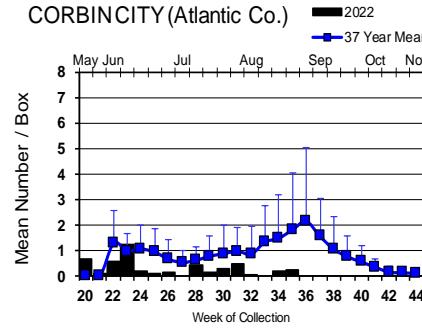
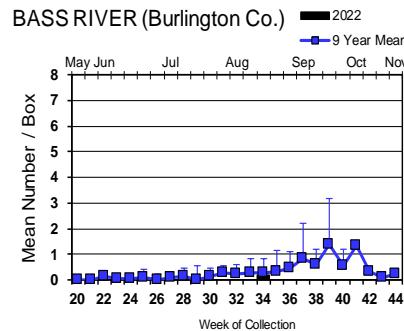
**Additional Species:** 34 additional species were tested for EEE. No positive pools were detected. In 2021, the first positive non-*melanura* pool was detected in of *Culex erraticus* in Atlantic County on 5 Aug.

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

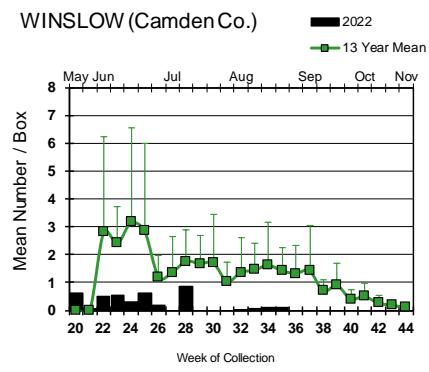
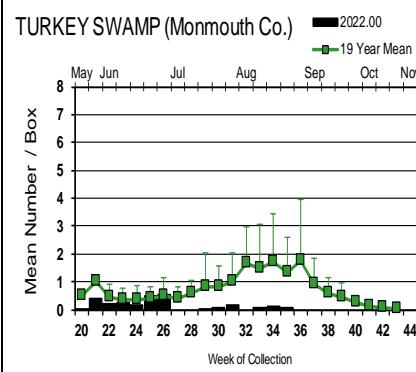
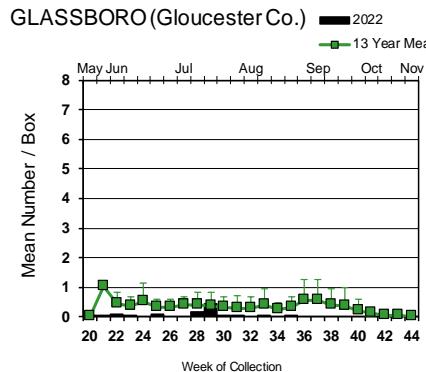
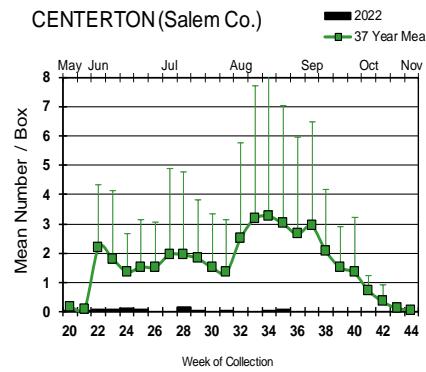


# Culiseta melanura Populations

## Coastal



## Inland



**Cs. melanura** populations continue to remain below historic levels at the traditional resting box sites. Currently, one positive EEE pool have been detected at a Morris County (northern part of the state) in a pool of *Culex pipiens* (refractory for the EEE virus). No *Culiseta melanura* pools have been detected positive for EEE.



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

EEE in US (2022 cumulative cases): (Black or Red = previous + new reported cases occurring)

- equine: 9(**FL**) 1(**MI**)
- mosquito pools: 1(**NJ**) 1(**RI**)
- sentinel: 55(**FL**)
- human:

## West Nile Virus Positive Organisms in US, 2022

West Nile in US (2022 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
Alaska					
Arizona	2	0			5
Arkansas					
California	92/113	1834/2136	52/78	4/5	26/35
Colorado		119/199			23/39
Connecticut		114/154			
Delaware					
Florida	2/2	83/97			1
Georgia					1/1
Hawaii					
Idaho	0	12/24		1	0
Illinois	8/14	1400/1634		0	1
Indiana	0	83/103		1/1	1/1
Iowa					
Kansas					
Kentucky					
Louisiana					
Maine					
Maryland(+DC)					
Mass.		54/76		0	1/2
Michigan	6	18			3
Minnesota					
Mississippi		50/60			3/3
Missouri		0		0	1/1

	Birds	Mosquito Pools	Sentinels	Horses*	Humans
Montana					
Nebraska					
Nevada					
New Hampshire					
New Jersey	1/1	326/375			3/5
New Mexico					
New York					
North Carolina					
North Dakota	0	0			0 5/5
Ohio		433/517			0 1
Oklahoma					
Oregon	0	12/33	0	1	0
Pennsylvania	3/4	1641/1963			6/9
Rhode Island		1/1			
South Carolina					
South Dakota		7			13/23
Tennessee					
Texas	0	182/208	0	0	7/11
Utah					
Vermont		1/2			0 0
Virginia					
Washington					
West Virginia					
Wisconsin					
Wyoming		3/5		0	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.

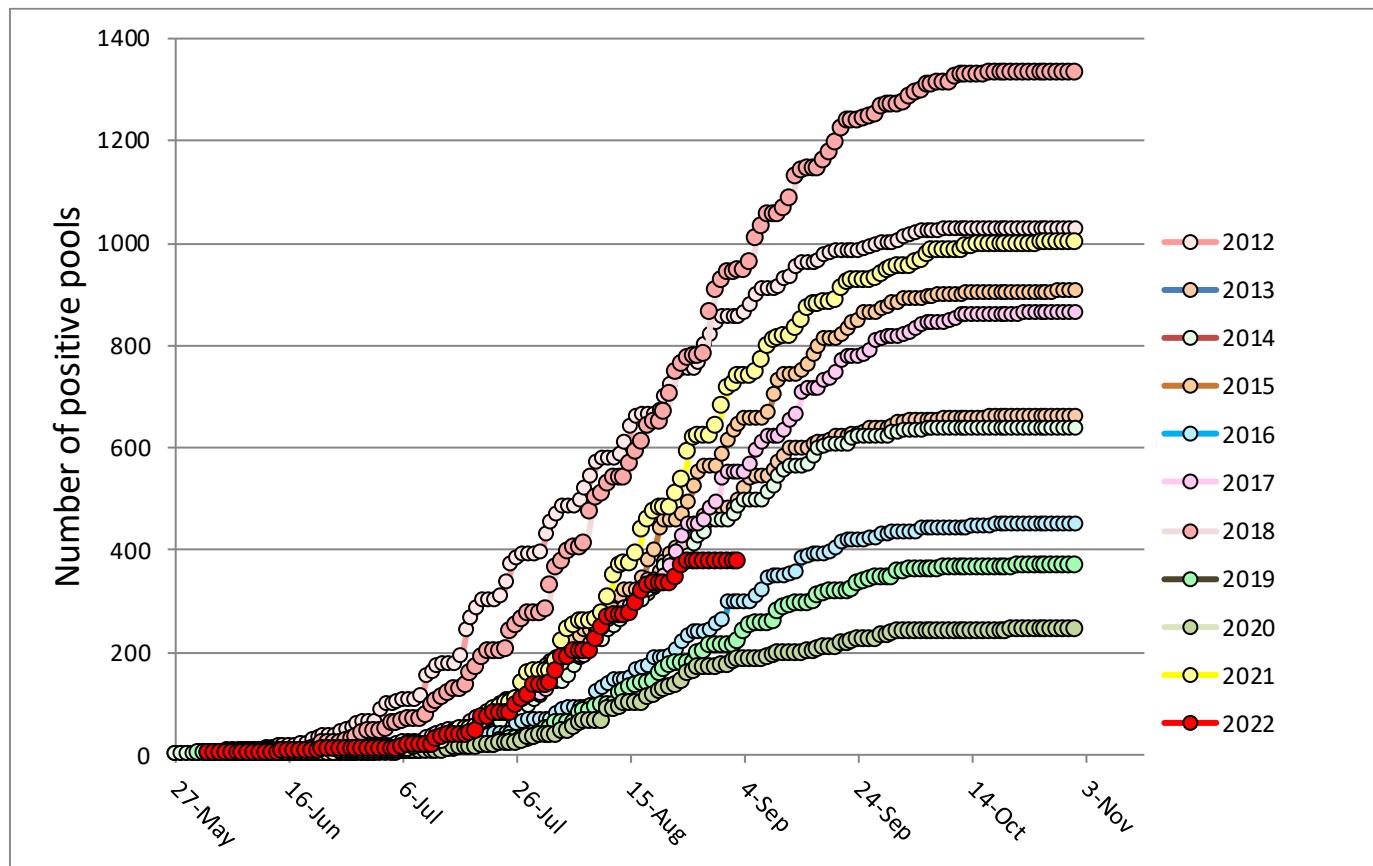
## Mosquito Species Submitted and Tested for West Nile Virus through 3 September 2022

Species	Pools	Mosquitoes	Positives	MFIR
<i>Aedes abserratus</i>	17	393		
<i>Aedes albopictus</i>	463	5077	9	1.773
<i>Aedes atlanticus</i>	3	7		
<i>Aedes atropalpus</i>	1	1		
<i>Aedes aurifer</i>	16	154		
<i>Aedes canadensis canadensis</i>	78	1254	1	0.797
<i>Aedes cantator</i>	49	1658	1	0.603
<i>Aedes cinereus</i>	4	48		
<i>Aedes grossbecki</i>	9	51		
<i>Aedes japonicus</i>	398	2762	2	0.724
<i>Aedes provocans</i>	2	3		
<i>Aedes sollicitans</i>	32	870		
<i>Aedes sticticus</i>	7	166		
<i>Aedes stimulans</i>	13	71		
<i>Aedes taeniorhynchus</i>	42	1503		
<i>Aedes triseriatus</i>	146	455	1	2.198
<i>Aedes trivittatus</i>	9	68		
<i>Aedes vexans</i>	133	2818	1	0.355
<i>Anopheles spp.</i>	3	97		
<i>Anopheles barberi</i>	4	4		
<i>Anopheles bradleyi</i>	23	371		
<i>Anopheles crucians</i>	8	20		
<i>Anopheles punctipennis</i>	188	2042		
<i>Anopheles quadrimaculatus</i>	67	862		
<i>Coquillettidia perturbans</i>	166	3726		
<i>Culex erraticus</i>	82	1480		
<i>Culex spp.</i>	2467	92948	348	3.744
<i>Culex pipiens</i>	199	7091	12	1.692
<i>Culex restuans</i>	135	1972		
<i>Culex salinarius</i>	23	421		
<i>Culiseta inornata</i>	8	17		
<i>Culiseta melanura</i>	248	1881		
<i>Culiseta morsitans</i>	1	1		
<i>Orthopodomyia signifera</i>	2	2		
<i>Psorophora ciliata</i>	3	9		
<i>Psorophora columbiae</i>	9	43		
<i>Psorophora ferox</i>	19	265		
<b>Grand Total</b>	<b>5077</b>	<b>130611</b>	<b>375</b>	<b>2.871</b>

**Remarks:** To date 5077 pools of 130,611 mosquitoes from 34 species have been tested, with 375 positive pools of WNV detected. First positive pool was detected in *Aedes cantator*, collected 2 June in Burlington County at a traditional resting box site. Positive species include *Culex* Mix, *Culex pipiens*, *Aedes albopictus*, *Ae. canadensis canadensis*, *Ae. cantator*, *Ae. japonicus*, *Ae. triseriatus*, and *Ae. vexans*. Cumulative MFIR for all mosquitoes in New Jersey is 2.871, up from last week's value of 2.695.

**Humans, Horses and Wild Birds:** Five human cases of WNV have been detected, one each in Bergen, Morris and Union counties and two in Ocean counties. Last year, no horses have been reported infected but 36 human cases were detected. See DOH reports on arbovirus activity for further information: <https://www.nj.gov/health/cd/statistics/arboviral-stats/index.shtml>

Although birds are no longer routinely tested in New Jersey, last year 13 corvids and birds of prey were reported positive for WNV. This year, one Red-tailed Hawk (*Buteo jamaicensis*) from Somerset County has been infected with WNV.



Above is a graph showing cumulative number of positive pools for the previous 10 years, inclusive of the most active (2018) year. 2022 is represented in RED (first positive collected 2 June).

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