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

15 August to 21 August, 2021, CDC Week 33
Data download 12:20 pm 20 August

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NOTE: County/species tables for arboviruses are now in a supplemental file here

Arbovirus Summary

- **Currently, there are 385 positive WNV pools, 366 in *Culex* Mix, 4 in *Cx. pipiens*, 2 pools of Cs melanura, 8 pools of Ae albopictus, 2 pools of Ae. triseriatus, and one pool each of Ae. japonicus, Ae. trivittatus and Ae. vexans. Four positive birds (1 *Corvus brachyrhynchos*,3 *Accipiter cooperii*). There has been one human case of WNV from Camden County, date of onset was mid-July.**
- **There are eight positive EEE pools, seven detected in *Cs. melanura*, and one in *Culex erraticus*.**
- **There is one positive JCV pool detected in *Aedes vexans*, from Sussex County, collected 8 July.**
- **There is one human case of Jamestown Canyon virus, in Sussex County. Date of onset was May 8.**

- **In 2020, there were 13 positive EEE pools in *Culiseta melanura*.**
- **There were 241 positive WNV pools, in *Culex* Mix (231), in *Culex pipiens* (4), *Culex restuans* (1), *Culiseta melanura (2)*, *Aedes albopictus* (2), and *Aedes canadensis canadensis (1)*.**
- **There were 6 positive JVC pools in *Aedes cantator* (2), *Aedes taeniorhynchus* (1), *Anopheles quadrimaculatus* (1) and *Coquillettidia perturbans* (2).**
- **There was one EEE horse case reported. There are no WNV horse cases.**
- **There were 3 human WNV cases; in Essex County (1) and Monmouth County (2).**
- **There was one WNV positive Red-tailed Hawk (*Buteo jamaicensis*) in Cumberland County (regular surveillance of birds is no longer done in NJ).**
- **Note: Data downloads 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
Bass River (Burlington Co.)/5	**Coastal**	0.28	0 (0.20)	0	0		
Green Bank (Burlington Co.)/25	**Coastal**	3.24	0.0 (0.16)	17 (21)	4 (5)		
Corbin City (Atlantic Co.)/25	**Coastal**	0.87	0.96	207	10		
Dennisville (Cape May Co.)/50	**Coastal**	5.75	0.30	93	10	1	10.753
Winslow (Camden Co.)/50	**Inland**	1.60	0.78 - 1.18[a]	183- 242	8 - 10	2	8.264
Centerton (Salem Co.)/50	**Inland**	2.52	0.00	116‡	12‡		
Turkey Swamp (Monmouth Co.)/50	**Inland**	1.66	0.00	21 (23)	5 (6)		
Glassboro (Gloucester Co.)/50	**Inland**	0.18	0.00	110	7		

*Current week (in parentheses) results pending. ‡ corrected from previous week NC=No Collection ND=No Data (site offline) NR=Not Recorded a=pool tested

Remarks: Currently, eight positive EEE pools (7 in *Cs. melanura,* 1 in *Culex erraticus*) have been detected. First detected pool of *Cs. melanura* was from a county-run site in Gloucester, sampled 30 June. Second came from a traditional resting box site in Camden County sampled 20 July. Third and fourth positives were in Atlantic and Gloucester counties, collected 4 August. A positive *Culex erraticus* pool was collected 5 Aug in Atlantic County. Collection dates for the sixth, seventh and eighth pools (*Cs. melanura)* were collected on the 9th, 10th and 17th of Aug respectively. Current weekly mean is for Week 32.

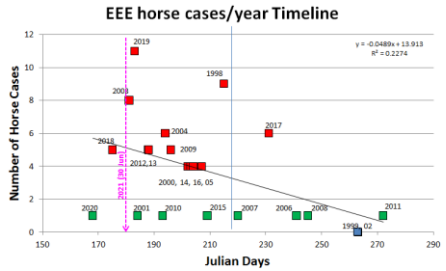
Statewide: 6808 *Cs. melanura* from 392 pools have been tested, with four positive pools detected and an overall *Cs. melanura* MFIR of 1.028. 114,859 specimens in 3725 pools from 35 other species have also been tested with one positive pool detected in *Culex erraticus*. Overall MFIR for all species statewide is 0.070.

Traditional Resting Box Sites: 833 *Cs. melanura* from 60 pools have been tested, with three positive pools detected, two at Winslow in Camden County and 1 in Dennisville, Cape May County. 6 mosquitoes in 2 pools pending. Overall *Cs. melanura* MFIR at the traditional resting box site is 3.601.

	Additional *Cs. melanura* trapped by counties *traps with positives indicated in **BOLD UNDERLINED.**				
County	**Trap types***	**Pools**	**Mosquitoes**	**Positives**	**MFIR**
Atlantic	CO2, RB	46	1214	2	1.647
Bergen	NJLT, RB	7	100		
Burlington	ULVT	41	1520		
Camden	GRA	1	2		
Cape May	GRA, RB	30	412		
Cumberland	CO2, GRA, RB	34	275		
Gloucester	RB	71	2035	2	0.983
Middlesex	NJLT	5	16		
Monmouth	Other	2	3		
Morris	CO2, RB	22	61		
Ocean	CO2	7	12		
Salem	CO2, GRA, RB	23	114		
Sussex	CO2, GRA, RB	42	195		
Warren	Co2	1	16		
TOTAL		**332**	**5975**	**4**	**0.669**

Additional County-set *Cs. melanura*: Counties maintain trap sites for *Cs. melanura* in other areas, using a variety of traps. First positive pools of *Cs. melanura* have been detected at a non- traditional resting box site in Gloucester County, collected 30Jun. Second positive in Atlantic County was collected 11 Aug. Both counties have detected one additional positive pool each.

Graph below indicate start times to detection of EEE in *Culiseta melanura* from 1998 to 2020. Last year was the earliest collected during that time period, suggesting the possibility of multiple horse cases.



Horses and Humans: Last year, only 1 horse was reported with EEE, detected in September. ***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.

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

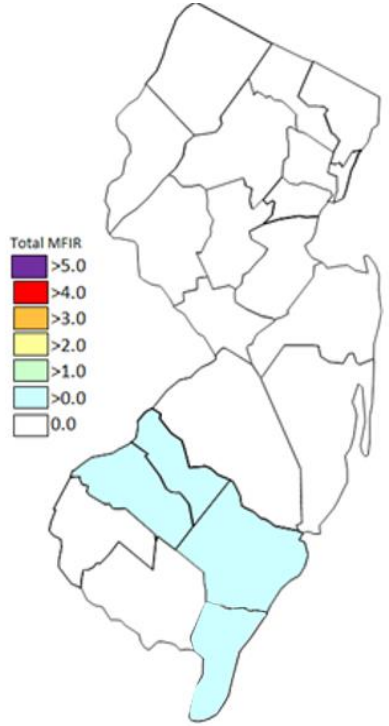
Horses and Vaccinations: The fate of unvaccinated equids reinforces the necessity of maintaining a vaccination schedule for arboviruses. For vaccination schedules recommended by the American Association of Equine Practices, see: http://www.aaep.org/vaccination_guidelines.htm

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 *Cs. melanura*	Pools	Mosquitoes	Positives	MFIR
Aedes abserratus	14	118		
Aedes albopictus	196	1548		
Aedes atlanticus	5	123		
Aedes aurifer	5	102		
Aedes canadensis canadensis	71	1096		
Aedes cantator	40	563		
Aedes cinereus	3	80		
Aedes grossbecki	9	33		
Aedes japonicus	179	1013		
Aedes mitchellae	1	1		
Aedes sollicitans	15	317		
Aedes sticticus	15	261		
Aedes stimulans	5	28		
Aedes taeniorhynchus	24	1129		
Aedes thibaulti	2	105		
Aedes triseriatus	28	65		
Aedes trivittatus	16	301		
Aedes vexans	86	2115		
Anopheles spp.	9	189		
Anopheles bradleyi	18	473		
Anopheles crucians	13	160		
Anopheles punctipennis	157	2441		
Anopheles quadrimaculatus	60	766		
Anopheles walkeri	12	873		
Coquillettidia perturbans	166	6097		
Culex erraticus	47	563	1	1.776
Culex Mix	2119	83543		
Culex pipiens	222	7361		
Culex restuans	76	1501		
Culex salinarius	41	510		
Culex territans	1	1		
Culiseta inornata	17	242		
Culiseta morsitans	4	8		
Orthopodomyia signifera	3	4		
Psorophora ciliata	5	103		
Psorophora columbiae	20	583		
Psorophora ferox	21	443		
State Total	**3725**	**114859**	**1**	0.009

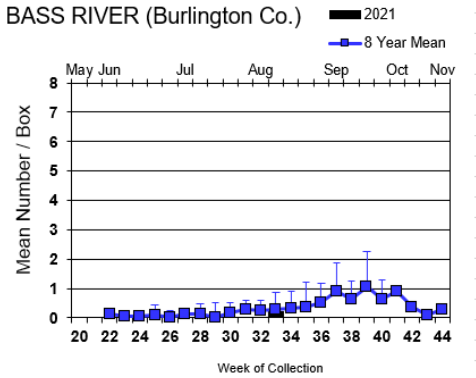
Additional Species: 35 additional species were tested for EEE. One positive pool of *Culex erraticus,* a known endemic vector that may also act as a bridge vector, was detected in Atlantic County on 5 Aug.

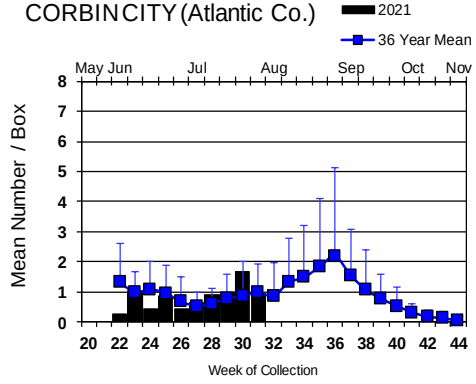
Overall MFIR rates, human and animal cases per county:

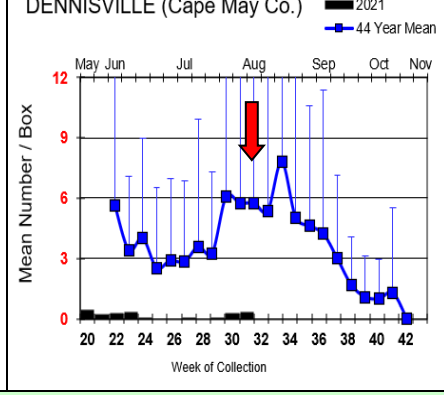


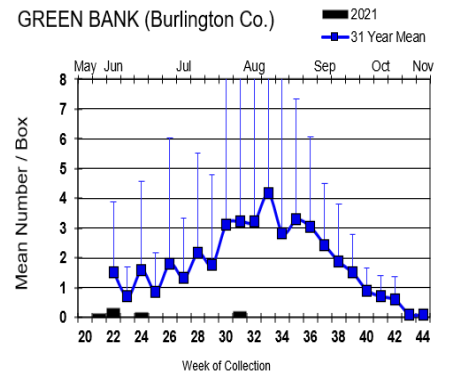
Culiseta melanura Populations

Coastal

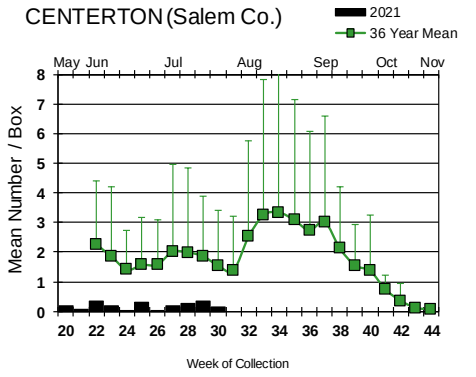


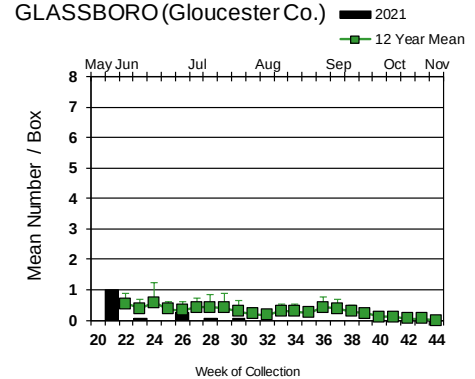


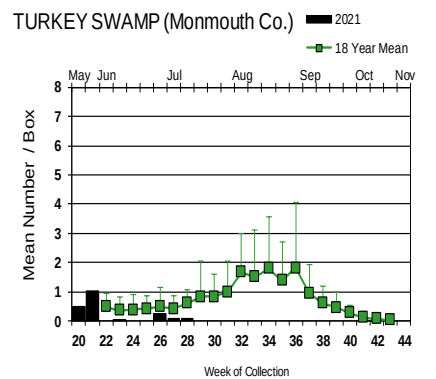


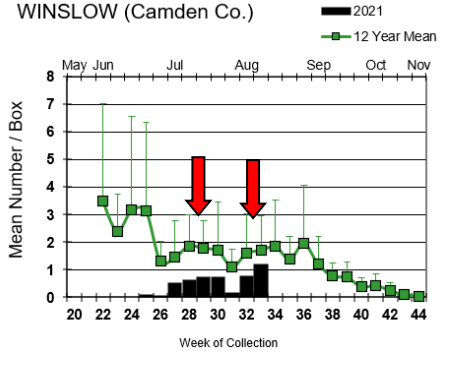


Inland









This year's surveillance season began two weeks earlier to accommodate increasing indications of earlier population emergences. Two additional positive pools in *Cs. melanura* has been detected, one occurring at the Dennisville, Cape May site, and a second positive at Winslow. The first seasonal positive pool had been detected at Winslow. Adult mosquito surveillance reports at http://vectorbio.rutgers.edu/reports/mosquito/ continue to suggest resting box collections are lower than light box collections.

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

EEE in US (2021 cumulative cases): (Black or Red = previous + new reported cases occurring)

- **equine: 1(AZ) 13(FL) 1(WI) 1(Ontario)**
- **mosquito pools: 8(NJ)**
- **sentinel: 161(FL)**
- **human:**

West Nile Virus Positive Organisms in US, 2021

West Nile in US (2021 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		62			13
Arkansas					1
California	109/129	770/1253	10/31	1/3	15/19
Colorado		5/97		1	2/5
Connecticut		39/60			
Delaware					
Florida		1	11/18		
Georgia					
Hawaii					
Idaho		23		1	2
Illinois	3/5	786/1254	0	0	2
Indiana	0	4/28		0	0
Iowa					2
Kansas					
Kentucky					
Louisiana					
Maine					
Maryland(+DC)					
Mass.		40/57			
Michigan				1	
Minnesota					
Mississippi		11/16		2	
Missouri					1

	Birds	Mosquito Pools	Sentinels	Horses*	Humans
Montana					
Nebraska	0	6		0	1
Nevada					
New Hampshire					
New Jersey	4	239/385		0	1
New Mexico					
New York					
North Carolina					
North Dakota	1	16		2	1
Ohio		160			
Oklahoma				1	
Oregon	0	0	0	0	0
Pennsylvania	0	76	0	0	0
Rhode Island					
South Carolina				1	
South Dakota					
Tennessee					
Texas	5/8	537/703	1	0	2/5
Utah					
Vermont					
Virginia					
Washington		32/44		4/5	
West Virginia					
Wisconsin					
Wyoming					

* 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 August 2021

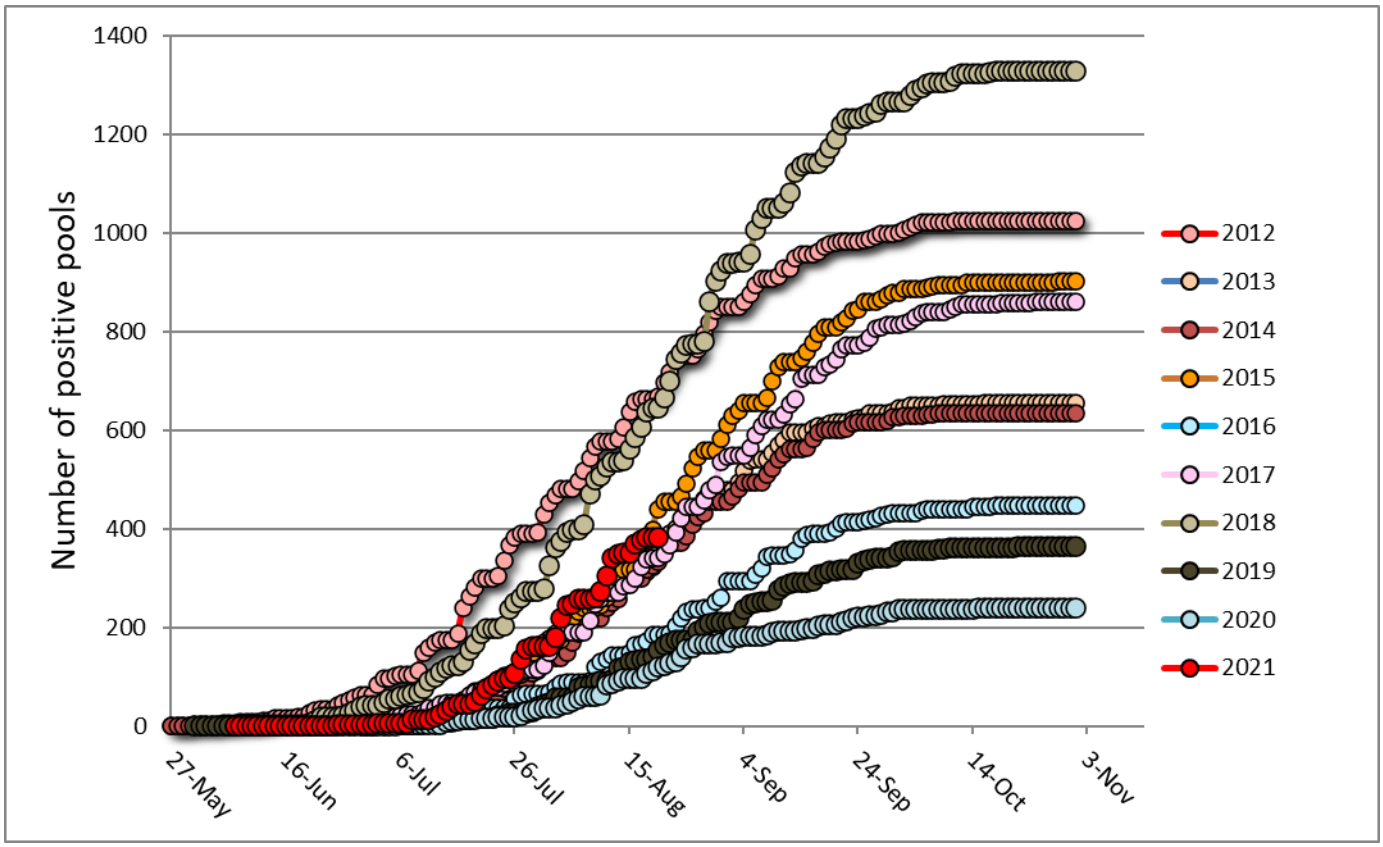
Species	Pools	Mosquitoes	Positives	MFIR
Aedes abserratus	15	120		
Aedes albopictus	249	2008	8	3.984
Aedes atlanticus	6	132		
Aedes aurifer	5	102		
Aedes canadensis canadensis	81	1216		
Aedes cantator	46	720		
Aedes cinereus	3	80		
Aedes grossbecki	9	33		
Aedes japonicus	224	1598	1	0.626
Aedes mitchellae	1	1		
Aedes sollicitans	18	447		
Aedes sticticus	15	261		
Aedes stimulans	5	28		
Aedes taeniorhynchus	32	1357		
Aedes thibaulti	2	105		
Aedes triseriatus	63	191	2	10.471
Aedes trivittatus	22	317	1	3.155
Aedes vexans	99	2372	1	0.422
Anopheles spp.	11	258		
Anopheles bradleyi	20	598		
Anopheles crucians	17	196		
Anopheles punctipennis	186	2967		
Anopheles quadrimaculatus	70	897		
Anopheles walkeri	13	898		
Coquillettidia perturbans	165	6080		
Culex erraticus	46	534		
Culex spp.	2613	106161	366	3.448
Culex pipiens	288	9302	4	0.430
Culex restuans	83	1558		
Culex salinarius	52	851		
Culex territans	1	1		
Culiseta inornata	18	244		
Culiseta melanura	390	6746	2	0.296
Culiseta morsitans	4	8		
Orthopodomyia signifera	3	4		
Psorophora ciliata	6	112		
Psorophora columbiae	25	694		
Psorophora ferox	32	619		
Psorophora howardii	1	50		
Grand Total	**4939**	**149866**	**385**	**2.569**

Remarks: To date 4939 pools of 149,866 mosquitoes from 36 species have been tested. 385 pools (370 pools of Culex Mix or *Cx. pipiens,* 2 pools of *Cs melanura,* 8 pools of *Ae albopictus,* 2 pools of *Ae. triseriatus,* and one pool each of *Ae. japonicus*, *Ae. trivittatus* and *Ae. vexans*) have been identified as positive for WNV in all but Cumberland and Salem

counties. First positive detected in a pool of *Culex* Mix collected on 7 June in Somerset County. Cumulative MFIR for all mosquitoes in New Jersey is 2.569.

Humans, Horses and Wild Birds: No horses have been reported infected with WNV in 2021. One human case from Camden County has been reported to date. 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, one American Crow (*Corvus brachyrhynchos*) from Burlington County has tested positive for WNV. Three Cooper's Hawks (*Accipiter cooperii*) tested positive from Union County.



Above is a graph showing cumulative number of positive pools for the previous 9 years, inclusive of the most active (2018) year. 2021 is represented in RED, with first positive showing on 7 June.

Go here for the table supplement of arbovirus by county by mosquito species.