VECTOR SURVEILLANCE IN NEW JERSEY

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

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30 May to 4 June, 2021, CDC Week 22
Data download 1:00 pm 4 June

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. Data is held in JerseySurv, a subset of the CalSurv system.

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

Arbovirus Summary

- **Currently, there is no arboviral activity reported at this time.**

- **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**	NR	ND				
Green Bank (Burlington Co.)/25	**Coastal**	NR	0.28	3 (10)	3		
Corbin City (Atlantic Co.)/25	**Coastal**	NR	ND				
Dennisville (Cape May Co.)/50	**Coastal**	NR	-	25	2		
Winslow (Camden Co.)/50	**Inland**	NR	ND				
Centerton (Salem Co.)/50	**Inland**	NR	-	20	2		
Turkey Swamp (Monmouth Co.)/50	**Inland**	NR	ND				
Glassboro (Gloucester Co.)/50	**Inland**	NR	-	35	2		

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

Remarks: Currently, no EEE arboviral activity has been detected. Sampling near Bass River is under consideration after loss of site due to fire. Only site with current week numbers is Green Bank.

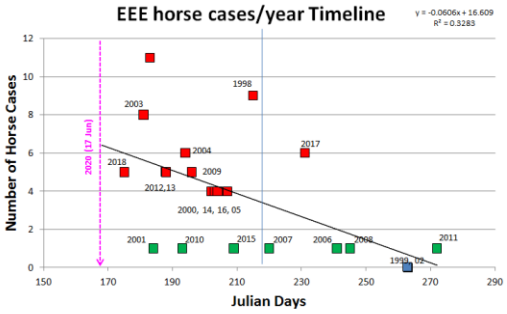
Statewide: 1152 *Cs. melanura* from 63 pools have been tested, with no positives detected and an overall *Cs. melanura* MFIR of 0.000. 14,314 specimens in 558 pools from 27 other species have also been tested with no positive pools detected. Overall MFIR for all species statewide is 0.000.

Traditional Resting Box Sites: 83 *Cs. melanura* from 7 pool s have been tested, with no positive pools detected. 7 mosquitoes in 1 pool are pending. Overall *Cs. melanura* MFIR at the traditional resting box site is 0.000.

	Additional *Cs. melanura* trapped by counties *traps with positives indicated in **BOLD UNDERLINED.**				
County	**Trap types***	**Pools**	**Mosquitoes**	**Positives**	**MFIR**
Bergen	RB	3	30		
Burlington	ULVT	5	216		
Cape May	RB	6	145		
Cumberland	CO2, RB	11	159		
Gloucester	RB	15	470		
Middlesex	NJLT	4	9		
Monmouth	Other	1	1		
Morris	RB	1	2		
Ocean	CO2	2	4		
Salem	CO2, GRA	5	15		
Sussex	CO2, RB	3	18		
TOTAL		**56**	**1069**		

Additional County-set *Cs. melanura*: Counties maintain trap sites for *Cs. melanura* in other areas, using a variety of traps. Currently, no positive pools of *Cs. melanura* have been detected outside of the traditional resting box sites.

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

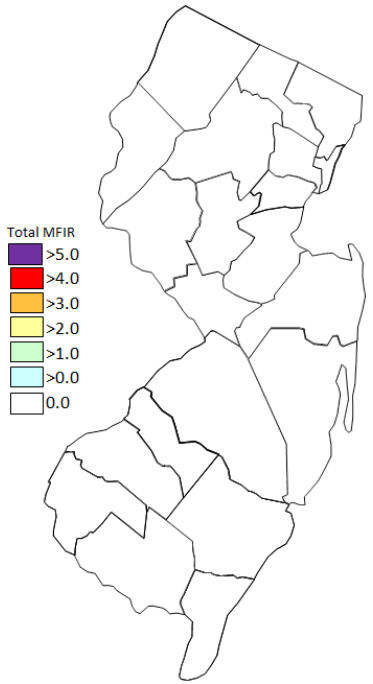
Horses and Vaccinations: The fate of unvaccinated equids reinforces the necessity of maintaining a vaccination schedule for arboviruses. For vaccination schedules recommended by the American Association of Equine Practices, see: http://www.aaep.org/vaccination_guidelines.htm

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	3	21		
Aedes albopictus	5	22		
Aedes atlanticus	1	55		
Aedes aurifer	3	94		
Aedes canadensis canadensis	20	426		
Aedes cantator	17	123		
Aedes cinereus	1	65		
Aedes grossbecki	7	19		
Aedes japonicus	24	81		
Aedes sollicitans	2	3		
Aedes sticticus	8	217		
Aedes stimulans	2	21		
Aedes thibaulti	1	30		
Aedes trivittatus	1	6		
Aedes vexans	9	113		
Anopheles bradleyi	4	12		
Anopheles punctipennis	29	249		
Anopheles quadrimaculatus	13	67		
Anopheles walkeri	8	587		
Coquillettidia perturbans	1	1		
Culex erraticus	4	5		
Culex Mix	344	11186		
Culex pipiens	18	469		
Culex restuans	17	272		
Culex salinarius	10	50		
Culex territans	1	1		
Culiseta inornata	3	117		
Orthopodomyia signifera	2	2		
State Total	**558**	**14314**		

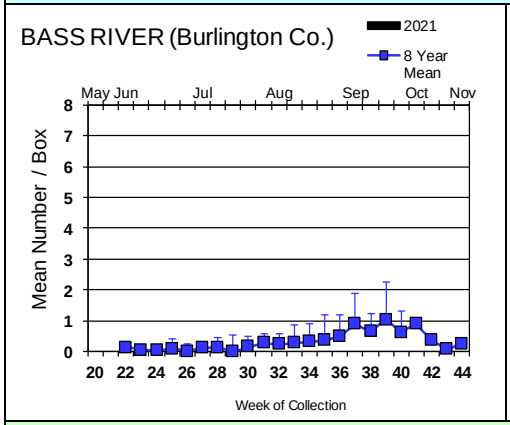
Additional Species: 27 additional species were tested for EEE. No positive pools have been detected to date.

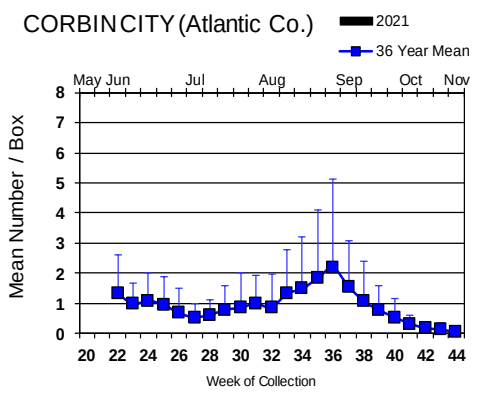
Overall MFIR rates, human and animal cases per county:

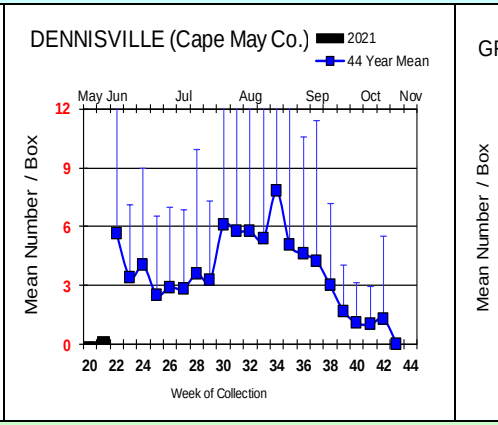


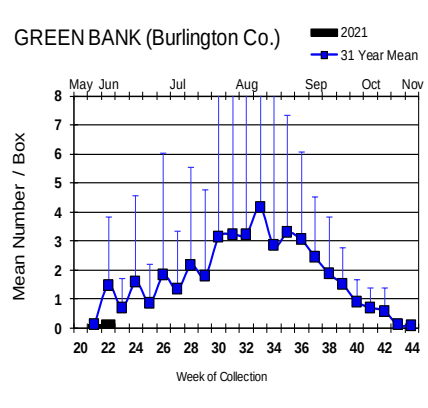
Culiseta melanura Populations

Coastal

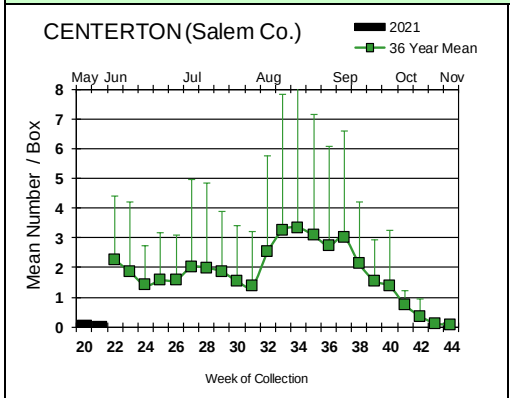


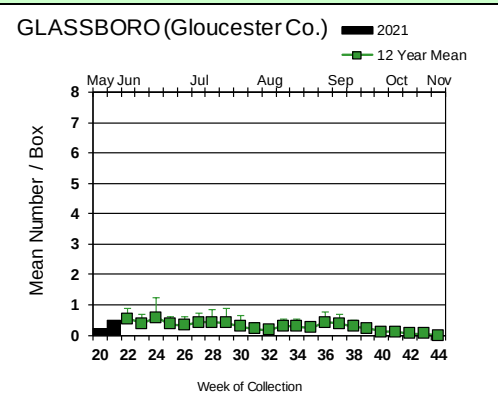


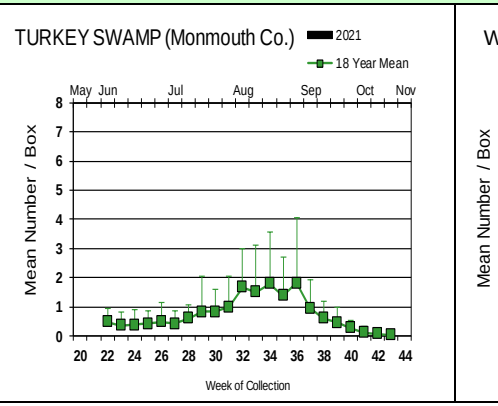


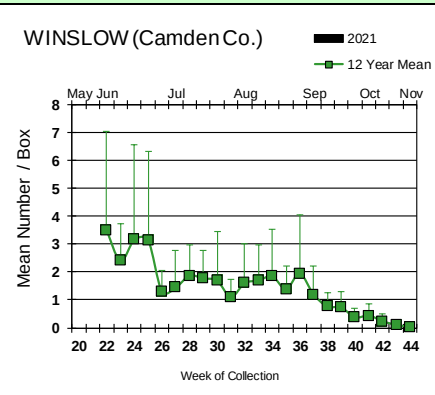


Inland









This year's surveillance season began two weeks earlier to accommodate increasing indications of earlier population emergences. Currently, populations of *Cs. melanura* at reported sites are at low levels at or below historical trends. No viral activity has been reported.

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

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

- **equine: 3(FL)**
- **mosquito pools:**
- **sentinel: 63(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					1
Alaska					
Arizona					
Arkansas					
California	1	0	0	0	0
Colorado					
Connecticut					
Delaware					
Florida			2		
Georgia					
Hawaii					
Idaho					
Illinois	0	0	0	0	0
Indiana	0	0		0	0
Iowa					
Kansas					
Kentucky					
Louisiana					
Maine					
Maryland(+DC)					
Mass.					
Michigan					
Minnesota					
Mississippi					
Missouri					

	Birds	Mosquito Pools	Sentinels	Horses*	Humans
Montana					
Nebraska					
Nevada					
New Hampshire					
New Jersey					
New Mexico					
New York					
North Carolina					
North Dakota					
Ohio					
Oklahoma					
Oregon	0	0	0	0	0
Pennsylvania	0	0	0	0	0
Rhode Island					
South Carolina					
South Dakota					
Tennessee					
Texas		4			
Utah					
Vermont					
Virginia					
Washington					
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 28 May 2021

Species	Pools	Mosquitoes	Positives	MFIR
Aedes abserratus	3	21		
Aedes albopictus	5	22		
Aedes atlanticus	1	55		
Aedes aurifer	3	94		
Aedes canadensis canadensis	20	426		
Aedes cantator	17	123		
Aedes cinereus	1	65		
Aedes grossbecki	7	19		
Aedes japonicus	25	98		
Aedes sollicitans	2	3		
Aedes sticticus	8	217		
Aedes stimulans	2	21		
Aedes thibaulti	1	30		
Aedes trivittatus	1	6		
Aedes vexans	9	113		
Anopheles bradleyi	4	12		
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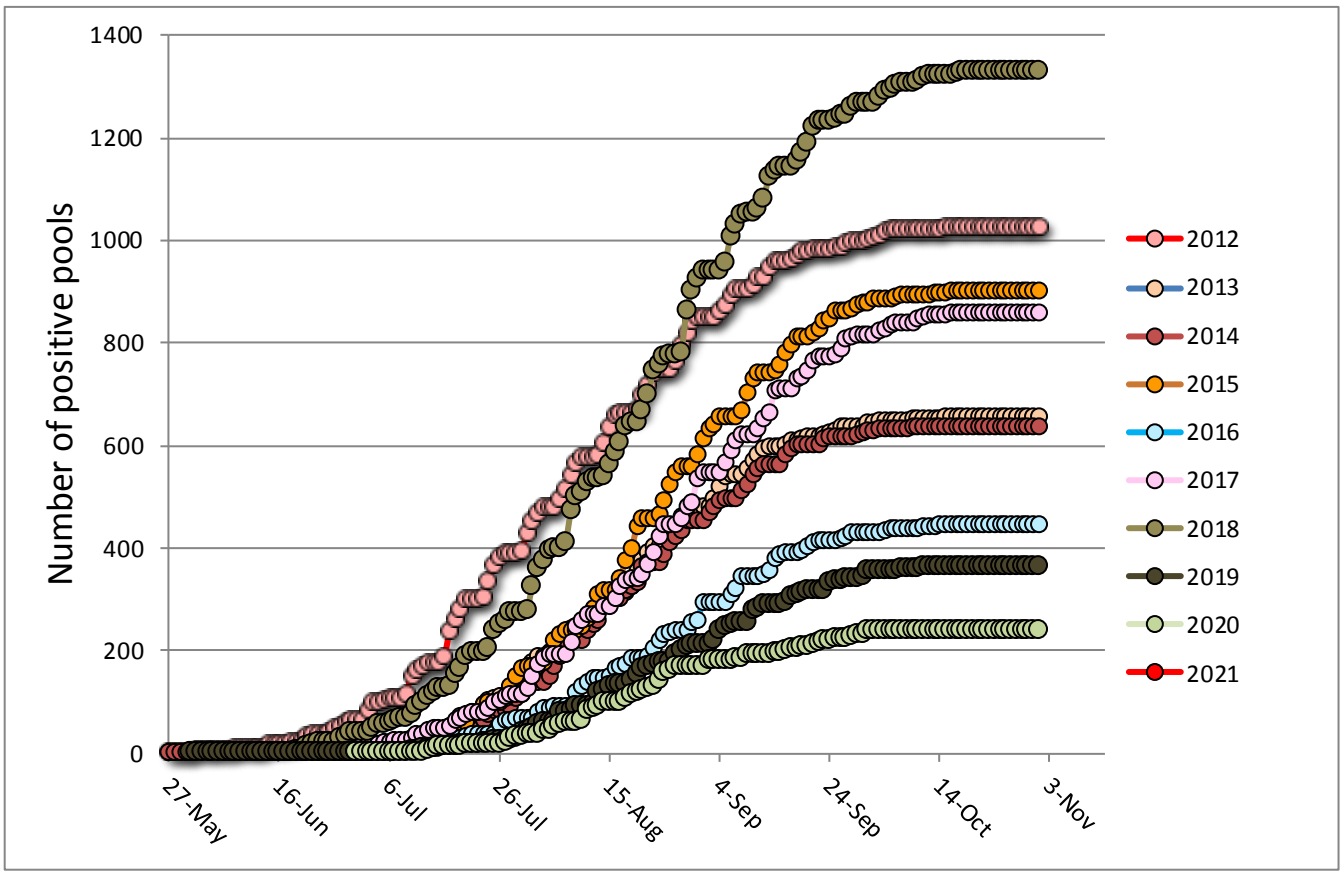
Anopheles walkeri	8	587		
Coquillettidia perturbans	1	1		
Culex erraticus	4	5		
Culex spp.	344	11186		
Culex pipiens	18	469		
Culex restuans	17	272		
Culex salinarius	10	50		
Culex territans	1	1		
Culiseta inornata	3	117		
Culiseta melanura	63	1152		
Orthopodomyia signifera	2	2		
Grand Total	**622**	**15483**		

Remarks: To date 622 pools of 15,483 mosquitoes from 28 species have been tested. No positive WNV pools have been detected by RTPCR to date. Last year, the earliest positive was collected 30 June, a year with the lowest activity seen.

Humans, Horses and Wild Birds: No horses have been reported infected with WNV in 2021. No human activity 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

Birds are no longer routinely tested in New Jersey.



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

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