

VECTOR SURVEILLANCE IN NEW JERSEY EEE, WNV, SLE, LAC, DENV, CHIK, ZIKV, and JCV

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24 October to 30 October, 2021, CDC Week 43

Data download 3:45 am 29 October



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

Arbovirus Summary

- Currently, there are 992 positive WNV pools (926 pools of *Culex Mix*, *Cx. pipiens* or *Cx. restuans*, 12 pools of *Cs melanura*, 30 pools of *Ae albopictus*, 5 pools of *Ae. japonicus*, 3 pools of *Ae. triseriatus*, *Ae. vexans* and *Anopheles punctipennis* each, 2 pools of *Coquillettidia perturbans* and *Cx. erraticus* each, one pool each of *Ae. taeniorhynchus*, *Ae. trivittatus*, *An. bradleyi*, *An. quadrimaculatus*, *Psorophora ciliata*, and *Ps. ferox*). Six positive birds (1 *Corvus brachyrhynchos*, 4 *Accipiter cooperii* and 1 *Falco peregrinus*) have been detected. There are a total of 35 confirmed or probable human cases statewide with 4 fatalities.
- There are 28 positive EEE pools, 19 detected in *Cs. melanura*, 4 in *Cx. Mix*, 2 in *Culex erraticus* and one each in *Ae. taeniorhynchus* and *Ae. triseriatus*. There have been 3 EEE horse cases, 1 each in Atlantic, Camden and Cumberland County.
- There are 8 positive JCV pool, first detected in *Aedes vexans*, from Sussex County, collected 8 July. Positive pools were also detected in *Anopheles* spp. (3), *Anopheles punctipennis* (2), *Culex Mix* (1), and *Aedes albopictus* (1). There is one human case of Jamestown Canyon virus, in Sussex County. Date of onset was May 8.
- 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.
- 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).

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	0.36	0.00	51	5		
Green Bank (Burlington Co.)/25	Coastal	0.59	0.00	126	13		
Corbin City (Atlantic Co.)/25	Coastal	0.18	0.00	496	21		
Dennisville (Cape May Co.)/50	Coastal	1.29	0.00	114	16	2	17.544
Winslow (Camden Co.)/50	Inland	0.24	0.54	992	30	5	5.040
Centerton (Salem Co.)/50	Inland	0.36	0.00	288	22		
Turkey Swamp (Monmouth Co.)/50	Inland	0.07	0.00	161	16		
Glassboro (Gloucester Co.)/50	Inland	0.05	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

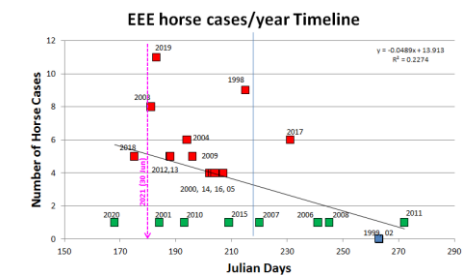
Remarks: Currently, 28 positive EEE pools (20 in *Cs. melanura*, 4 in *Cx. Mix*, 2 in *Culex erraticus*, and one each in *Aedes taeniorhynchus* and *Ae. triseriatus*) have been detected. First detected pool of *Cs. melanura* was from a county-run site in Gloucester, sampled 30 June. Current weekly mean is for Week 42.

Statewide: 12,967 *Cs. melanura* from 694 pools have been tested, with 20 positive pools detected and an overall *Cs. melanura* MFIR of 1.542. 191,938 specimens in 6797 pools from 39 other species have also been tested with 8 positive pools detected, two in *Culex erraticus* (first non-*melanura* detection), and one each in *Aedes taeniorhynchus*, *Ae. triseriatus* and 4 in *Culex Mix*. Overall MFIR for all species statewide is 0.042.

Traditional Resting Box Sites: 2338 *Cs. melanura* from 129 pools have been tested, with 7 positive pools detected, 5 at Winslow in Camden County and 2 at Dennisville, Cape May County. The latest positive came in Winslow during week 42. Overall *Cs. melanura* MFIR at the traditional resting box site is 2.994. The Winslow resting box site produced not only EEE positive pools, but 1 pool of WNV (in *Cs. melanura*) and three pools of JCV (in *Anopheles* spp.).

Additional <i>Cs. melanura</i> trapped by counties *traps with positives indicated in BOLD UNDERLINED>					
County	Trap types*	Pools	Mosquitoes	Positives	MFIR
Atlantic	CO2, GRA, RB	87	2249	5	2.223
Bergen	NJLT, RB	14	236		
Burlington	ULVT	69	2558	3	1.173
Camden	GRA	1	2		
Cape May	GRA, RB	49	921		
Cumberland	CO2, GRA, RB	45	355		
Gloucester	RB	111	3400	5	1.471
Middlesex	CO2, NJLT	6	18		
Monmouth	CO2, Other	5	8		
Morris	CO2, GRA, RB	39	149		
Ocean	CO2, GRA	28	128		
Salem	CO2, GRA, RB	38	237		
Sussex	CO2, GRA, RB	69	327		
Union	NJLT	3	25		
Warren	CO2	1	16		
TOTAL		565	10629	13	1.223

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. The latest positive pools came from Burlington County for a total of 13 positive pools from county-set sites.



Graph above indicate start times to detection of EEE in *Culiseta melanura* and associated number of horse cases from 1998 to 2020.

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
1	horse	7	mare	Cumberland	Aug 18	Aug 19	no	https://jerseyfresh.nj.gov/agriculture/news/press/2021/approved/press210824.html
2	horse	8	mare	Atlantic	Aug 26	Aug 27	no	
3	horse	7	stallion	Camden	Aug 28	Aug 29	no	Miniature horse

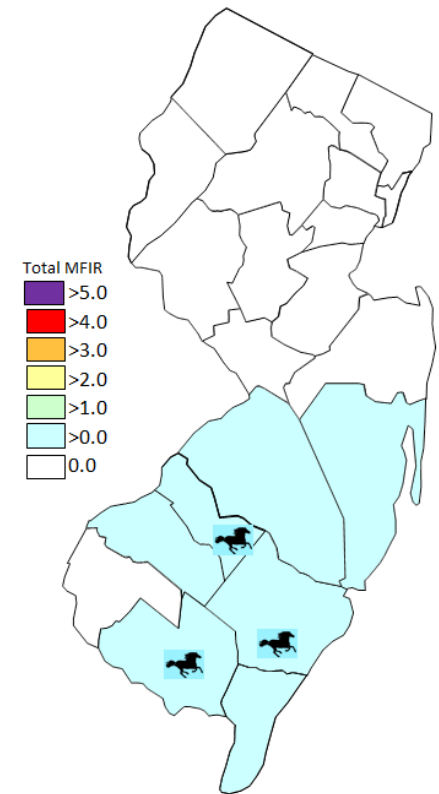
Horses and Vaccinations: The fate of unvaccinated equids reinforces the necessity of maintaining a vaccination schedule for arboviruses. For vaccination schedules recommended by the American Association of Equine Practices, see: http://www.aaep.org/vaccination_guidelines.htm

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 <i>Cs. melanura</i>	Pools	Mosquitoes	Positives	MFIR
<i>Aedes abserratus</i>	15	129		
<i>Aedes albopictus</i>	559	5333		
<i>Aedes atlanticus</i>	22	349		
<i>Aedes atlanticus/tormentor</i>	1	17		
<i>Aedes aurifer</i>	5	102		
<i>Aedes canadensis canadensis</i>	98	1401		
<i>Aedes cantator</i>	42	573		
<i>Aedes cinereus</i>	3	80		
<i>Aedes grossbecki</i>	9	33		
<i>Aedes japonicus</i>	308	1597		
<i>Aedes mitchellae</i>	1	1		
<i>Aedes sollicitans</i>	25	576		
<i>Aedes sticticus</i>	16	275		
<i>Aedes stimulans</i>	6	29		
<i>Aedes taeniorhynchus</i>	38	1534	1	0.652
<i>Aedes thibaulti</i>	2	105		
<i>Aedes triseriatus</i>	70	134	1	7.463
<i>Aedes trivittatus</i>	73	2544		
<i>Aedes vexans</i>	239	7312		
<i>Anopheles spp.</i>	30	1019		
<i>Anopheles bradleyi</i>	47	1184		
<i>Anopheles crucians</i>	33	352		
<i>Anopheles punctipennis</i>	265	3596		
<i>Anopheles quadrimaculatus</i>	114	1878		
<i>Anopheles walkeri</i>	13	902		
<i>Coquillettidia perturbans</i>	215	6593		
<i>Culex erraticus</i>	199	3206	2	0.624
<i>Culex Mix</i>	3580	129833	4	0.031
<i>Culex pipiens</i>	446	15525		
<i>Culex restuans</i>	117	2443		
<i>Culex salinarius</i>	72	1108		
<i>Culex territans</i>	1	1		
<i>Culiseta inornata</i>	18	244		
<i>Culiseta morsitans</i>	4	8		
<i>Orthopodomyia signifera</i>	3	4		
<i>Psorophora ciliata</i>	11	119		
<i>Psorophora columbiae</i>	37	773		
<i>Psorophora cyanescens</i>	1	1		
<i>Psorophora ferox</i>	55	981		
<i>Psorophora howardii</i>	3	18		
<i>Uranotaenia sapphirina</i>	1	26		
State Total	6797	191938	8	0.042

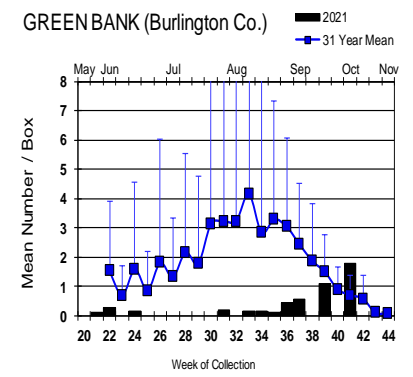
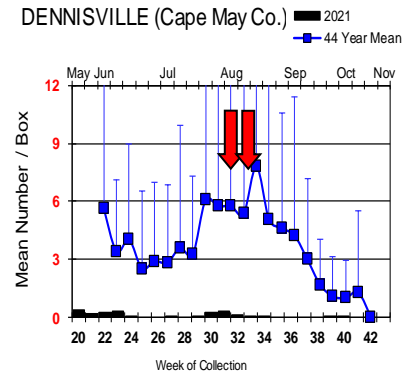
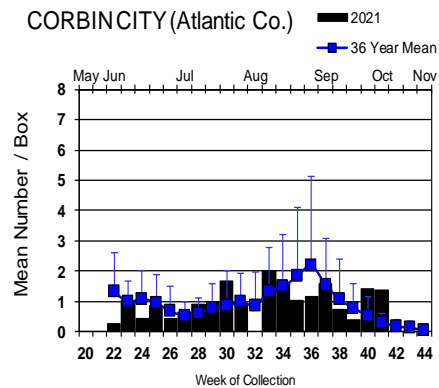
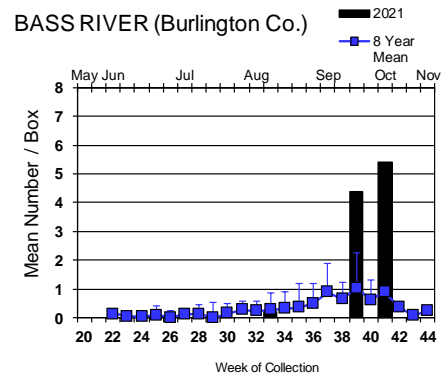
Additional Species: 39 additional species were tested for EEE. 8 positive pools in four species have been detected positive. The first included a pool of *Culex erraticus* in Atlantic County on 5 Aug. The latest positive pools were detected *Culex Mix* and *Cx. erraticus*.

Overall MFIR rates, human and animal cases per county:

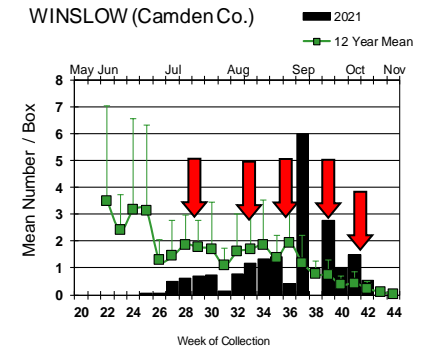
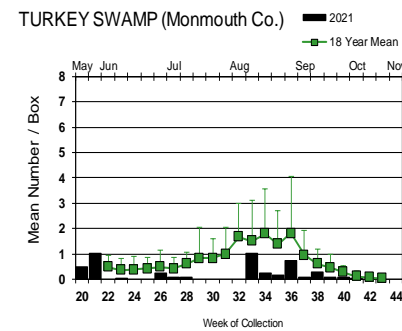
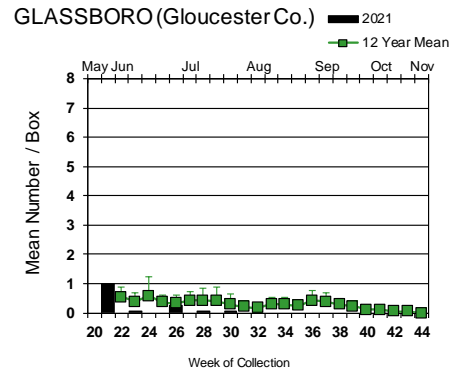
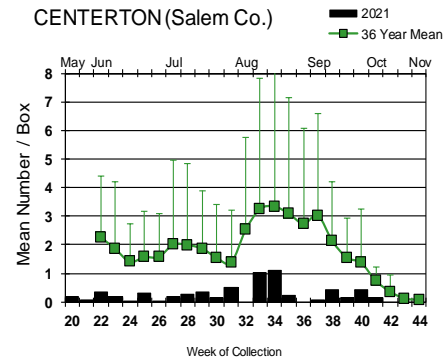


Culiseta melanura Populations



Coastal



Inland



This year's surveillance season began two weeks earlier to accommodate increasing indications of earlier population emergences. To date, 7 positive pools have been detected, two at Dennisville, and five at Winslow, the latest at Winslow coming in week 42. Significant population emergences have occurred at several sites including Bass River, Corbin City, Green Bank and Winslow. The first seasonal positive pool on the state 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, although some populations are beginning to reflect NJLT trapping patterns. WNV positive pools were also detected in *Cs. melanura* as well as JCV in three pools of *Anopheles* spp. at Winslow.

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

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

- equine: ~~4(AZ lab error)~~ 2(AK) 17(FL) 1(MD) 1(MI) 1(MN) 3(NC) 3(NJ) 4(NY) 2(SC) 5(TX) 5(WI) 1(Ontario)
- mosquito pools: 2(CT) 1(MD) 28(NJ) 2(TX)
- sentinel: 176(+1 emu, 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					10
Alaska					
Arizona		457/843	13/15	3	164/626
Arkansas					1
California	208	2247/2255	87/88	13	88
Colorado		290		20	155/160
Connecticut		207/208			3
Delaware					1
Florida		8	109	2	4
Georgia					2
Hawaii					
Idaho	2	54		13	15
Illinois	27	2660/2662	0	1	53/56
Indiana	0	257		1	9
Iowa					2
Kansas					1
Kentucky				4/5	
Louisiana					3/11
Maine					
Maryland(+DC)		146			3
Mass.		144		1	9
Michigan				1	40
Minnesota				2	13
Mississippi		39		3	6
Missouri				3	8/10

	Birds	Mosquito Pools	Sentinels	Horses*	Humans
Montana					2
Nebraska		37/38		4/7	89/92
Nevada					
New Hampshire		6			
New Jersey	6	990/992		0	32/35
New Mexico					9/11
New York				2	14/24
North Carolina					
North Dakota	2	22		5	27/28
Ohio		1286			9
Oklahoma				4	31
Oregon	2	74	0	8	5
Pennsylvania	0	76	0	1	5/16
Rhode Island					
South Carolina				1	2/4
South Dakota	2	22		5	50
Tennessee					3/4
Texas	10	1448/1488	5	6	35/37
Utah		654		9/12	21/25
Vermont					
Virginia					1/2
Washington		51		11	3
West Virginia					
Wisconsin					
Wyoming		17		5	1

* 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.

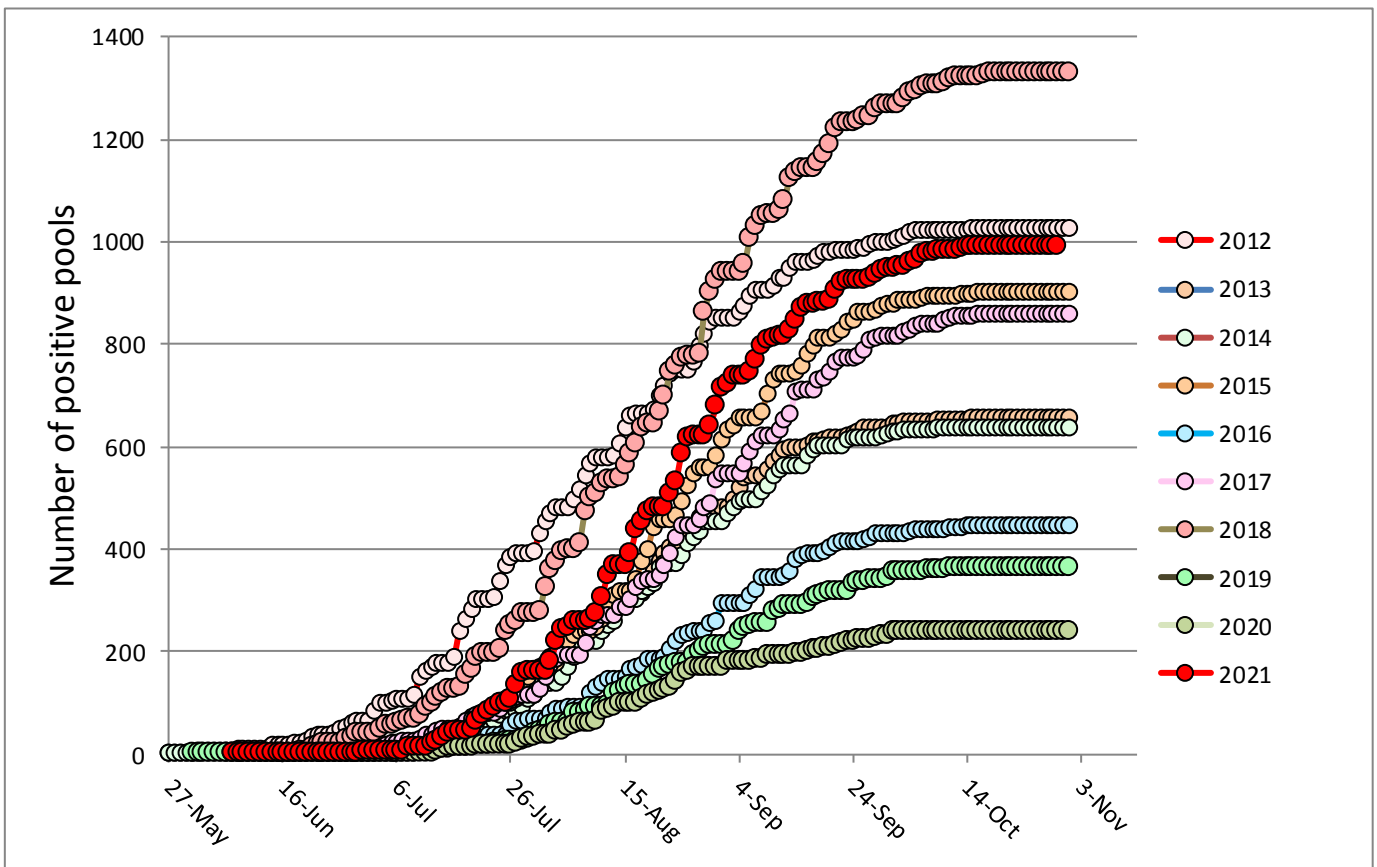
Mosquito Species Submitted and Tested for West Nile Virus through 29 October 2021

Species	Pools	Mosquitoes	Positives	MFIR
<i>Aedes abserratus</i>	16	131		
<i>Aedes albopictus</i>	612	5793	30	5.179
<i>Aedes atlanticus</i>	23	358		
<i>Aedes atlanticus/tormentor</i>	1	17		
<i>Aedes aurifer</i>	5	102		
<i>Aedes canadensis canadensis</i>	108	1521		
<i>Aedes cantator</i>	48	730		
<i>Aedes cinereus</i>	3	80		
<i>Aedes grossbecki</i>	9	33		
<i>Aedes japonicus</i>	353	2182	5	2.291
<i>Aedes mitchellae</i>	1	1		
<i>Aedes sollicitans</i>	28	706		
<i>Aedes sticticus</i>	16	275		
<i>Aedes stimulans</i>	6	29		
<i>Aedes taeniorhynchus</i>	46	1762	1	0.568
<i>Aedes thibaulti</i>	2	105		
<i>Aedes triseriatus</i>	131	357	3	8.403
<i>Aedes trivittatus</i>	79	2560	1	0.391
<i>Aedes vexans</i>	252	7569	3	0.396
<i>Anopheles</i> spp.	32	1088		
<i>Anopheles bradleyi</i>	49	1309	1	0.764
<i>Anopheles crucians</i>	37	388		
<i>Anopheles punctipennis</i>	294	4122	3	0.728
<i>Anopheles quadrimaculatus</i>	124	2009	1	0.498
<i>Anopheles walkeri</i>	14	927		
<i>Coquillettidia perturbans</i>	215	6593	2	0.303
<i>Culex erraticus</i>	199	3206	2	0.624
<i>Culex</i> spp.	4069	152254	871	5.721
<i>Culex pipiens</i>	511	17429	50	2.869
<i>Culex restuans</i>	124	2500	5	2.000
<i>Culex salinarius</i>	83	1449		
<i>Culex territans</i>	1	1		
<i>Culiseta inornata</i>	19	246		
<i>Culiseta melanura</i>	694	12967	12	0.925
<i>Culiseta morsitans</i>	4	8		
<i>Orthopodomyia signifera</i>	3	4		
<i>Psorophora ciliata</i>	12	128	1	7.813
<i>Psorophora columbiae</i>	42	884		
<i>Psorophora cyanescens</i>	1	1		
<i>Psorophora ferox</i>	66	1157	1	0.864
<i>Psorophora howardii</i>	4	68		
<i>Uranotaenia sapphirina</i>	1	26		
Grand Total	8337	233075	992	4.256

Remarks: To date 8337 pools of 233,075 mosquitoes from 39 species have been tested. 992 positive WNV pools (926 pools of *Culex Mix*, *Cx. pipiens* or *Cx. restuans*, 12 pools of *Cs melanura*, 30 pools of *Ae albopictus*, 5 pools of *Ae. japonicus*, 3 pools of *Ae. triseriatus*, *Ae. vexans* and *Anopheles punctipennis* each, 2 pools of *Coquillettidia perturbans* and *Cx. erraticus* each, one pool each of *Ae. taeniorhynchus*, *Ae. trivittatus*, *An. bradleyi*, *An. quadrimaculatus*, *Psorophora ciliata*, and *Ps. ferox*) have been identified as positive for WNV in all but Salem County. 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 4.256.

Humans, Horses and Wild Birds: No horses have been reported infected with WNV in 2021. 32 human cases (three fatalities from Camden County 2 and Mercer County 1), and cases also in Atlantic, Bergen, Burlington, Camden, Cumberland, Essex, Gloucester, Mercer, Middlesex, Monmouth, Ocean, and Somerset counties have 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, 1 American Crow (*Corvus brachyrhynchos*) from Burlington County, 3 Cooper’s Hawks (*Accipiter cooperii*) from Union County, 1 Cooper’s Hawk from Middlesex County and 1 Peregrine Falcon (*Falco peregrinus*) from Atlantic County all tested positive for WNV..



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.