

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

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7 November to 13 November, 2021, CDC Week 45

Data download 4:45 am 15 November



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

Arbovirus Summary

- **This is the last weekly report of the season.** Currently, there are 997 positive WNV pools (931 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 36 confirmed or probable human cases statewide with 5 fatalities.
- There are 28 positive EEE pools, 20 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	0.27	0.20	53	7		
Green Bank (Burlington Co.)/25	Coastal	0.09	0.20	132	15		
Corbin City (Atlantic Co.)/25	Coastal	0.04	0.28	508	22		
Dennisville (Cape May Co.)/50	Coastal	-	0.00	116	17	2	17.241
Winslow (Camden Co.)/50	Inland	0.04	0.14	1030	32	5	4.854
Centerton (Salem Co.)/50	Inland	0.08	0.04	292	25		
Turkey Swamp (Monmouth Co.)/50	Inland	-	0.00	161	16		
Glassboro (Gloucester Co.)/50	Inland	0.00	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: This is the last weekly report for the season. 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 44.

Statewide: 13,843 *Cs. melanura* from 743 pools have been tested, with 20 positive pools detected and an overall *Cs. melanura* MFIR of 1.445. 197,034 specimens in 7180 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 0.133.

CDC Investigations: The CDC came in September to evaluate and help determine potential EEE sampling sites. Currently, there are 73 pools of 523 mosquitoes at PHEL for arbovirus testing that were collected by the CDC. Mosquitoes sampled are listed in the table to the right. These numbers are not included in totals reported elsewhere in this report.

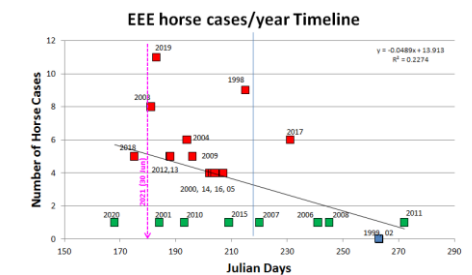
Traditional Resting Box Sites: 2402 *Cs. melanura* from 141 pools have been tested, with 7 positive pools detected, 5 at Winslow in Camden County and 2 at Dennisville, Cape May County. The latest positive came in Winslow during week 42. Additional mosquitoes at Green Bank and Winslow were captured by CDC and turned over to PHEL for testing (not included in top table).

Overall *Cs. melanura* MFIR at the traditional resting box site is 2.914. 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.).

Species sampled by the CDC. Site	Negative pools	Total mosquitoes
GreenBankCDC	40	473
<i>Aedes canadensis canadensis</i>	4	9
<i>Aedes cantator</i>	2	2
<i>Aedes cinereus</i>	1	1
<i>Aedes vexans</i>	5	20
<i>Anopheles</i> spp.	4	83
<i>Anopheles crucians</i>	4	78
<i>Coquillettidia perturbans</i>	4	6
<i>Culex erraticus</i>	2	2
<i>Culex salinarius</i>	4	239
<i>Culex territans</i>	1	1
<i>Culiseta melanura</i>	5	27
<i>Psorophora ciliata</i>	1	1
<i>Uranotaenia sapphirina</i>	3	4
WinslowCDC	33	50
<i>Anopheles crucians</i>	9	11
<i>Anopheles punctipennis</i>	5	6
<i>Anopheles quadrimaculatus</i>	3	4
<i>Culex erraticus</i>	1	3
<i>Culex Mix</i>	9	17
<i>Culiseta melanura</i>	6	9
Grand Total	73	523

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	92	2261	5	2.211
Bergen	NJLT, RB	14	236		
Burlington	ULVT	72	2645	3	1.134
Camden	GRA	1	2		
Cape May	GRA, RB	49	921		
Cumberland	CO2, GRA, RB	54	391		
Gloucester	RB	127	4071	5	1.228
Middlesex	CO2, NJLT	6	18		
Monmouth	CO2, Other	8	12		
Morris	CO2, GRA, RB	39	149		
Ocean	CO2, GRA	29	130		
Salem	CO2, GRA, RB	38	237		
Sussex	CO2, GRA, RB	69	327		
Union	NJLT	3	25		
Warren	CO2	1	16		
TOTAL		602	11441	13	1.136

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. OMCC represents CDC efforts in September.



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

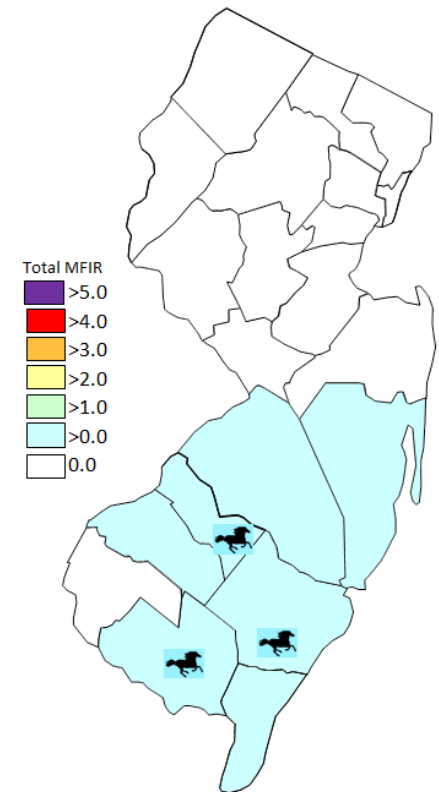
Horses and Vaccinations: The fate of unvaccinated equids reinforces the necessity of maintaining a vaccination schedule for arboviruses. For vaccination schedules recommended by the American Association of Equine Practices, see: http://www.aaep.org/vaccination_guidelines.htm

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>	601	5546		
<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>	337	1709		
<i>Aedes mitchellae</i>	1	1		
<i>Aedes sollicitans</i>	30	768		
<i>Aedes sticticus</i>	16	275		
<i>Aedes stimulans</i>	6	29		
<i>Aedes taeniorhynchus</i>	41	1648	1	0.607
<i>Aedes thibaulti</i>	2	105		
<i>Aedes triseriatus</i>	72	137	1	7.299
<i>Aedes trivittatus</i>	74	2548		
<i>Aedes vexans</i>	269	7878		
<i>Anopheles spp.</i>	36	1240		
<i>Anopheles bradleyi</i>	55	1308		
<i>Anopheles crucians</i>	36	355		
<i>Anopheles punctipennis</i>	286	3783		
<i>Anopheles quadrimaculatus</i>	127	2037		
<i>Anopheles walkeri</i>	13	902		
<i>Coquillettidia perturbans</i>	216	6594		
<i>Culex erraticus</i>	222	3425	2	0.584
<i>Culex Mix</i>	3717	131741	4	0.030
<i>Culex pipiens</i>	484	16355		
<i>Culex restuans</i>	128	2650		
<i>Culex salinarius</i>	76	1121		
<i>Culex territans</i>	1	1		
<i>Culiseta inornata</i>	18	244		
<i>Culiseta morsitans</i>	4	8		
<i>Orthopodomyia signifera</i>	5	6		
<i>Psorophora ciliata</i>	11	119		
<i>Psorophora columbiae</i>	38	783		
<i>Psorophora cyanescens</i>	1	1		
<i>Psorophora ferox</i>	57	988		
<i>Psorophora howardii</i>	3	18		
<i>Uranotaenia sapphirina</i>	2	27		
State Total	7180	197034	8	0.041

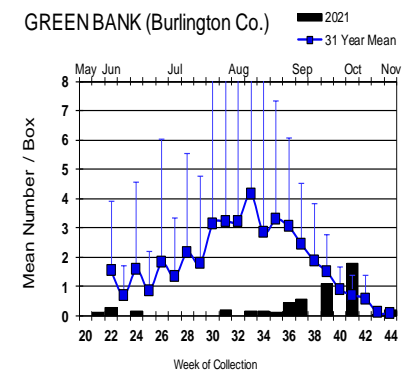
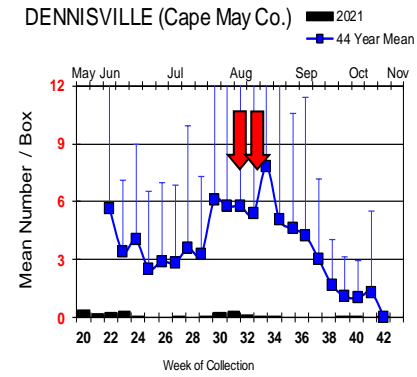
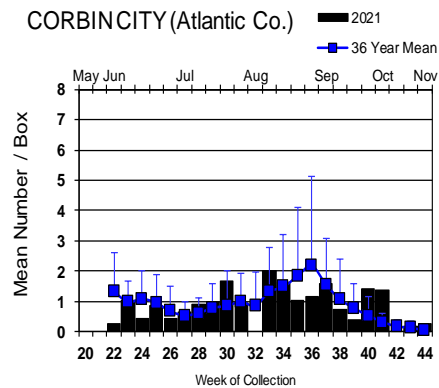
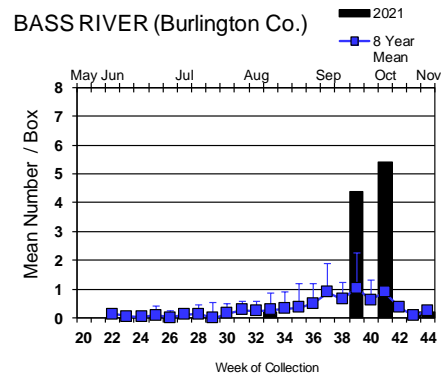
Additional Species: 39 additional species were tested for EEE. 8 positive pools in four species have been detected positive. The first included a pool of *Culex erraticus* in Atlantic County on 5 Aug. The latest positive pools were detected *Culex Mix* and *Cx. erraticus*.

Overall MFIR rates, human and animal cases per county:

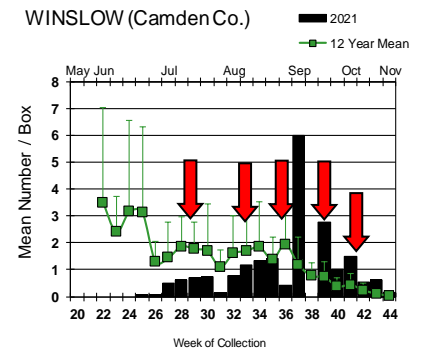
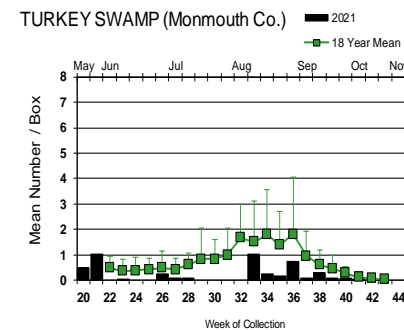
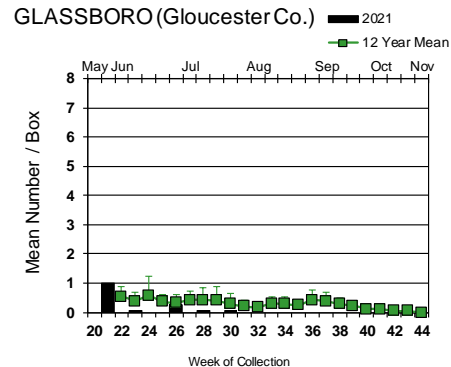
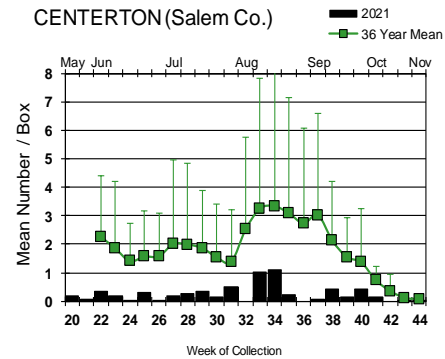


Culiseta melanura Populations



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. Some smaller emergences continue in some locations, although these numbers have decreased from recent higher activities. 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 trap 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) 18(FL) 1(MD) 10(MI) 1(MN) 3(NC) 3(NJ) 4(NY) 2(SC) 6(TX) 5(WI) 1(Ontario)
- mosquito pools: 2(CT) 1(MI) 1(MD) 28(NJ) 2(TX)
- sentinel: 181(+1 emu, FL) 1(MI)
- 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		843	15	3	626
Arkansas					1
California	209	2258/2259	88	13	98/101
Colorado		290		20	162/166
Connecticut		208			3
Delaware					1
Florida		8	123/133	2/3	4
Georgia					2
Hawaii					
Idaho	2	54		13	15
Illinois	27	2662	0	4	56/58
Indiana	0	257/263		9	10
Iowa					2
Kansas					1
Kentucky				5/6	
Louisiana					3/11
Maine					
Maryland(+DC)		145			3
Mass.		144		1	9/10
Michigan	36	27		1/8	40/45
Minnesota				2	13
Mississippi		39		3	6
Missouri				3	1/11

	Birds	Mosquito Pools	Sentinels	Horses*	Humans
Montana					2
Nebraska		38		7	92
Nevada					
New Hampshire		6			
New Jersey	6	992/997		0	36
New Mexico					11
New York				2	24
North Carolina					
North Dakota	2	22		5	28/29
Ohio		1286			9/12
Oklahoma				4	31
Oregon	2	74	0	8	5
Pennsylvania	0	76	0	1	16
Rhode Island					
South Carolina				1	4
South Dakota	2	22		5	48
Tennessee					3/4
Texas	10	1502/1510	5/12	6/7	44/53
Utah		654		12	28
Vermont					
Virginia					2
Washington		51		11	3
West Virginia					
Wisconsin				1	1
Wyoming		11		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.

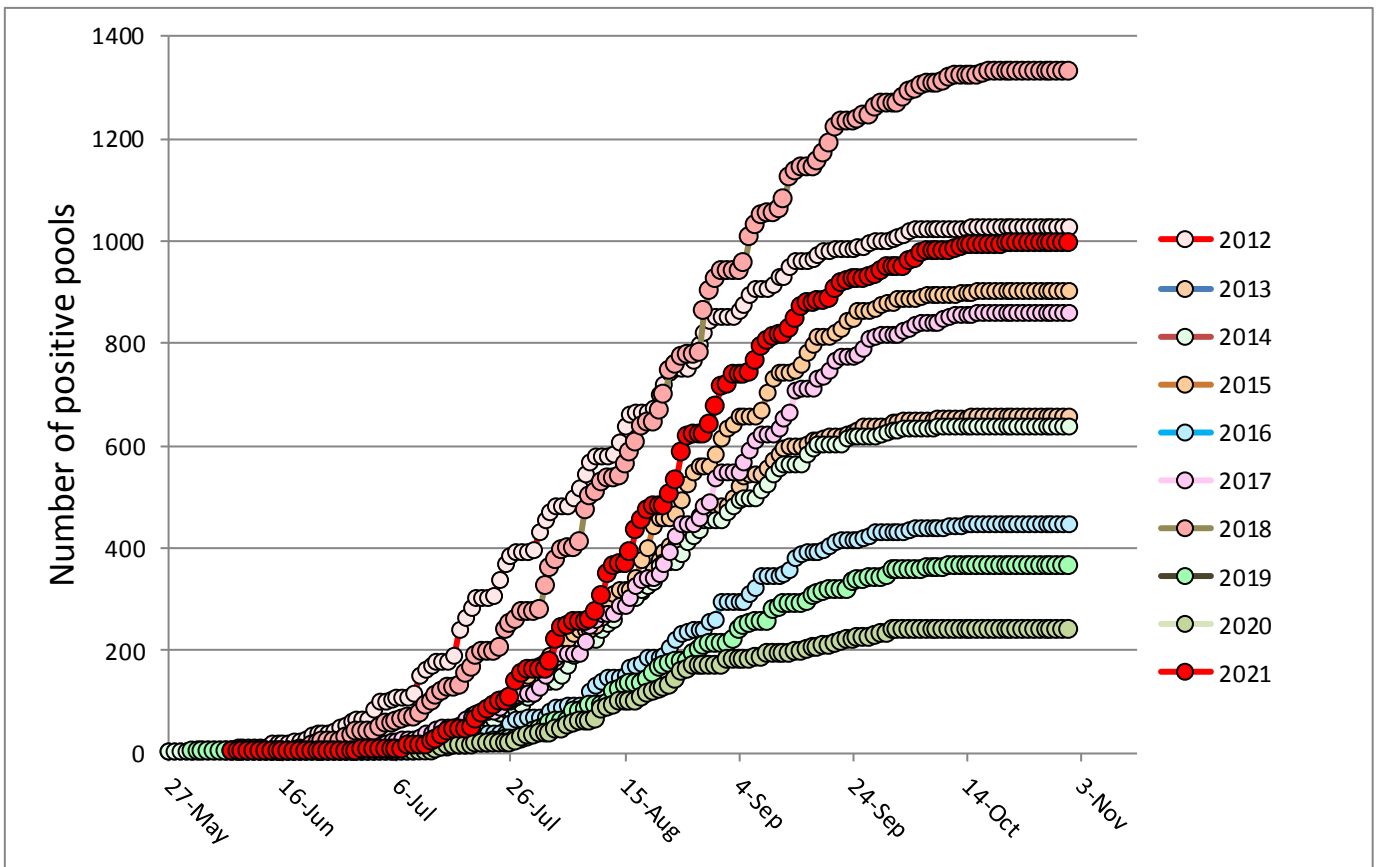
Mosquito Species Submitted and Tested for West Nile Virus through 13 November 2021

Species	Pools	Mosquitoes	Positives	MFIR
<i>Aedes abserratus</i>	16	131		
<i>Aedes albopictus</i>	654	6006	30	4.995
<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>	382	2294	5	2.180
<i>Aedes mitchellae</i>	1	1		
<i>Aedes sollicitans</i>	33	898		
<i>Aedes sticticus</i>	16	275		
<i>Aedes stimulans</i>	6	29		
<i>Aedes taeniorhynchus</i>	49	1876	1	0.533
<i>Aedes thibaulti</i>	2	105		
<i>Aedes triseriatus</i>	133	360	3	8.333
<i>Aedes trivittatus</i>	80	2564	1	0.390
<i>Aedes vexans</i>	282	8135	3	0.369
<i>Anopheles</i> spp.	38	1309		
<i>Anopheles bradleyi</i>	57	1433	1	0.698
<i>Anopheles crucians</i>	40	391		
<i>Anopheles punctipennis</i>	315	4309	3	0.696
<i>Anopheles quadrimaculatus</i>	137	2168	1	0.461
<i>Anopheles walkeri</i>	14	927		
<i>Coquillettidia perturbans</i>	216	6594	2	0.303
<i>Culex erraticus</i>	222	3425	2	0.584
<i>Culex</i> spp.	4206	154162	872	5.656
<i>Culex pipiens</i>	549	18259	53	2.903
<i>Culex restuans</i>	135	2707	6	2.216
<i>Culex salinarius</i>	87	1462		
<i>Culex territans</i>	1	1		
<i>Culiseta inornata</i>	19	246		
<i>Culiseta melanura</i>	743	13843	12	0.867
<i>Culiseta morsitans</i>	4	8		
<i>Orthopodomyia signifera</i>	5	6		
<i>Psorophora ciliata</i>	12	128	1	7.813
<i>Psorophora columbiae</i>	43	894		
<i>Psorophora cyanescens</i>	1	1		
<i>Psorophora ferox</i>	68	1164	1	0.859
<i>Psorophora howardii</i>	4	68		
<i>Uranotaenia sapphirina</i>	2	27		
Grand Total	8769	239047	997	4.171

Remarks: To date 8769 pools of 239,047 mosquitoes from 39 species have been tested. 997 (corrected from duplicates in previous report) positive WNV pools (931 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 *Coquilletidia 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 4.203.

Humans, Horses and Wild Birds: No horses have been reported infected with WNV in 2021. 36 human cases (five fatalities from Camden County 2, Gloucester County 1, Mercer County 1, Monmouth 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 brachyrhynchus*) 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.