

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

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Data download 12:20 pm 24 September



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

Arbovirus Summary

- Currently, there are 861 positive WNV pools (805 pools of *Culex* Mix, *Cx. pipiens* or *Cx. restuans*, 7 pools of *Cs melanura*, 27 pools of *Ae albopictus*, 4 pools of *Ae. japonicus* 3 pools of *Ae. triseriatus*, *Ae. vexans* and *Anopheles punctipennis* each, 2 pools of *Coquillettidia perturbans* and one pool each of *Ae. taeniorhynchus*, *Ae. trivittatus*, *An. bradleyi*, *An. quadrimaculatus*, *Cx. erraticus*, *Psorophora ciliata*, and *Ps. ferox*). Four positive birds (1 *Corvus brachyrhynchos*, 4 *Accipiter cooperii* and 1 *Falco peregrinus*) have been detected. There has been one fatal human case of WNV from Camden County with a total of 16 confirmed or probable human cases).
- There are 21 positive EEE pools, 15 detected in *Cs. melanura*, 3 in *Cx. Mix* and one each in *Culex erraticus*, *Ae. taeniorhynchus*, and *Ae. triseriatus*. There has been 3 EEE horse cases, 1 each in Atlantic, Camden and Cumberland County.
- There are 5 positive JCV pool, first detected in *Aedes vexans*, from Sussex County, collected 8 July. Positive pools were also detected in *Anopheles* spp. (2), *Anopheles punctipennis*, and *Culex* Mix. 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	0.90	0.00	1 (22)	1 (2)		
Green Bank (Burlington Co.)/25	Coastal	2.44	0.56	53	9		
Corbin City (Atlantic Co.)/25	Coastal	1.57	1.60	393	16		
Dennisville (Cape May Co.)/50	Coastal	4.23	0.00	101 (108)	13 (14)	2	19.802
Winslow (Camden Co.)/50	Inland	1.19	0.00	402	16	3	7.463
Centerton (Salem Co.)/50	Inland	3.02	0.06	238	18		
Turkey Swamp (Monmouth Co.)/50	Inland	0.96	0.08	138	12		
Glassboro (Gloucester Co.)/50	Inland	0.39	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

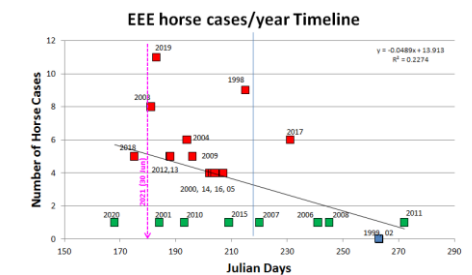
Remarks: Currently, 21 positive EEE pools (15 in *Cs. melanura*, 3 in *Cx. Mix*, and 1 each in *Culex erraticus*, *Aedes taeniorhynchus*, *Ae. triseriatus*) have been detected. First detected pool of *Cs. melanura* was from a county-run site in Gloucester, sampled 30 June. Current weekly mean is for Week 37.

Statewide: 9614 *Cs. melanura* from 544 pools have been tested, with 15 positive pools detected and an overall *Cs. melanura* MFIR of 1.560. 155,772 specimens in 5160 pools from 36 other species have also been tested with 6 positive pools detected, one each in *Culex erraticus* (first non-*melanura* detection), and *Aedes taeniorhynchus*, *Ae. triseriatus* and three in *Culex Mix*. Overall MFIR for all species statewide is 0.120.

Traditional Resting Box Sites: 1436 *Cs. melanura* from 92 pools have been tested, with 5 positive pools detected, three at Winslow in Camden County and 2 at Dennisville, Cape May County. There are 29 mosquitoes in two pools pending. The latest positive came in Winslow during week 36. Overall *Cs. melanura* MFIR at the traditional resting box site is 3.482.

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	70	1917	5	2.608
Bergen	NJLT, RB	12	223		
Burlington	ULVT	51	1913	1	0.523
Camden	GRA	1	2		
Cape May	GRA, RB	41	771		
Cumberland	CO2, GRA, RB	35	279		
Gloucester	RB	85	2319	4	1.725
Middlesex	CO2, NJLT	6	18		
Monmouth	CO2, Other	4	7		
Morris	CO2, GRA, RB	36	142		
Ocean	CO2, GRA	22	90		
Salem	CO2, GRA, RB	31	173		
Sussex	CO2, GRA, RB	56	295		
Union	NJLT	1	13		
Warren	CO2	1	16		
TOTAL		452	8178	10	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 Gloucester County for a total of 10 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

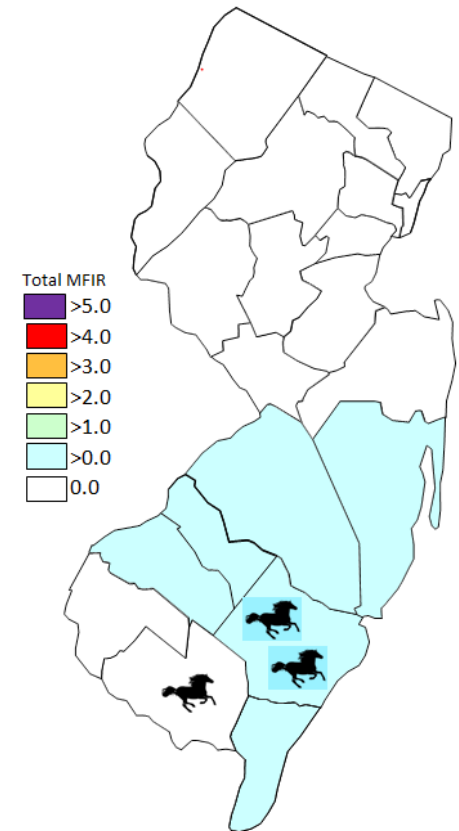
Horses and Vaccinations: The fate of unvaccinated equids reinforces the necessity of maintaining a vaccination schedule for arboviruses. For vaccination schedules recommended by the American Association of Equine Practices, see: http://www.aaep.org/vaccination_guidelines.htm

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>	14	118		
<i>Aedes albopictus</i>	428	4110		
<i>Aedes atlanticus</i>	15	307		
<i>Aedes aurifer</i>	5	102		
<i>Aedes canadensis canadensis</i>	83	1219		
<i>Aedes cantator</i>	41	565		
<i>Aedes cinereus</i>	3	80		
<i>Aedes grossbecki</i>	9	33		
<i>Aedes japonicus</i>	243	1358		
<i>Aedes mitchellae</i>	1	1		
<i>Aedes sollicitans</i>	22	530		
<i>Aedes sticticus</i>	15	261		
<i>Aedes stimulans</i>	6	29		
<i>Aedes taeniorhynchus</i>	35	1353	1	0.739
<i>Aedes thibaulti</i>	2	105		
<i>Aedes triseriatus</i>	56	107	1	9.346
<i>Aedes trivittatus</i>	45	1512		
<i>Aedes vexans</i>	158	4870		
<i>Anopheles spp.</i>	14	324		
<i>Anopheles bradleyi</i>	30	705		
<i>Anopheles crucians</i>	21	242		
<i>Anopheles punctipennis</i>	201	3001		
<i>Anopheles quadrimaculatus</i>	82	1265		
<i>Anopheles walkeri</i>	13	902		
<i>Coquillettidia perturbans</i>	211	6550		
<i>Culex erraticus</i>	132	2062	1	0.485
<i>Culex Mix</i>	2981	115696	3	0.026
<i>Culex pipiens</i>	363	12665		
<i>Culex restuans</i>	99	2123		
<i>Culex salinarius</i>	60	947		
<i>Culex territans</i>	1	1		
<i>Culiseta inornata</i>	17	242		
<i>Culiseta morsitans</i>	4	8		
<i>Orthopodomyia signifera</i>	3	4		
<i>Psorophora ciliata</i>	10	118		
<i>Psorophora columbiae</i>	30	728		
<i>Psorophora ferox</i>	38	699		
<i>Psorophora howardii</i>	3	18		
State Total	5494	164960	6	0.036

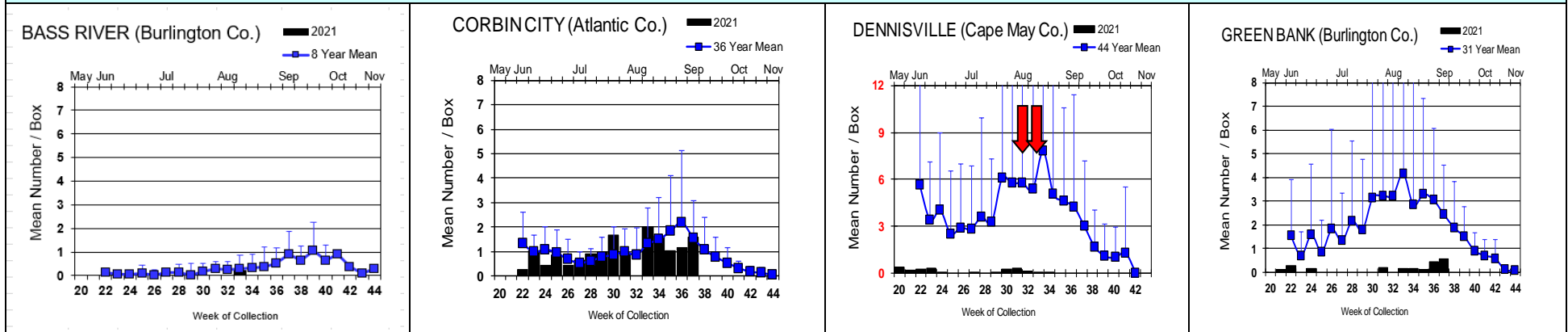
Additional Species: 36 additional species were tested for EEE. One positive pool of *Culex erraticus*, a known endemic vector that may also act as a bridge vector, was detected in Atlantic County on 5 Aug. The latest positive pools were detected *Culex Mix* (Atlantic and Camden counties).

Overall MFIR rates, human and animal cases per county:

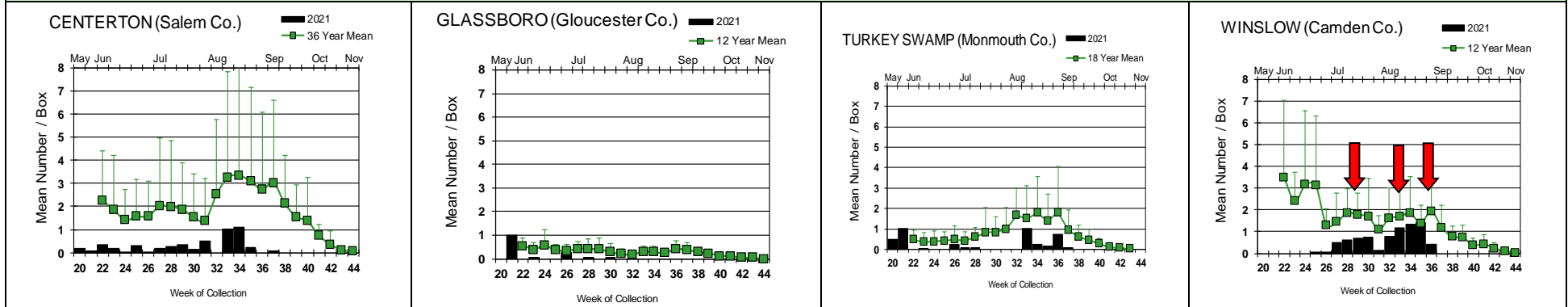


Culiseta melanura Populations



Coastal



Inland



This year's surveillance season began two weeks earlier to accommodate increasing indications of earlier population emergences. To date, 5 positive pools have been detected, two at Dennisville, and three at Winslow, the latest coming in week 36. 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.

  = 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) 15(FL) 1(MD) 1(MI) 1(MN) 3(NC) 3(NJ) 4(NY) 2(SC) 1(TX) 5(WI) 1(Ontario)
- mosquito pools: 1(MD) 21(NJ) 1(TX)
- sentinel: 173(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					8/9
Alaska					
Arizona		118	12	3	29/97
Arkansas					1
California	182/192	2032/2126	67/78	8/11	46/57
Colorado		246/282		18/20	38/94
Connecticut		154/190			3
Delaware					
Florida		2/7	50/56	1	1
Georgia					1
Hawaii					
Idaho	1/2	45/52		11/12	10
Illinois	24	2309/2426	0	0	15/24
Indiana	0	160/202		1	1/5
Iowa					2
Kansas					1
Kentucky				1/2	
Louisiana					3/11
Maine					
Maryland(+DC)		104/126			1/2
Mass.		120/133		1	7
Michigan				1	20
Minnesota				2	1
Mississippi		39		3	1
Missouri					2

	Birds	Mosquito Pools	Sentinels	Horses*	Humans
Montana					
Nebraska	0	26/36		3	17/38
Nevada					
New Hampshire					
New Jersey	4/6	812/861		0	10/16
New Mexico					9
New York				2	3/14
North Carolina					
North Dakota	1	16		2	19/221
Ohio		1002/1219			4/6
Oklahoma				1/4	31
Oregon	2	49	0	7	1
Pennsylvania	0	76	0	1	1/5
Rhode Island					
South Carolina				1	2/41
South Dakota					4/39
Tennessee					2/3
Texas	10	1146/1222	1	1/2	16/20
Utah				9	1/18
Vermont					
Virginia					1
Washington		51		6/9	1
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 24 September 2021

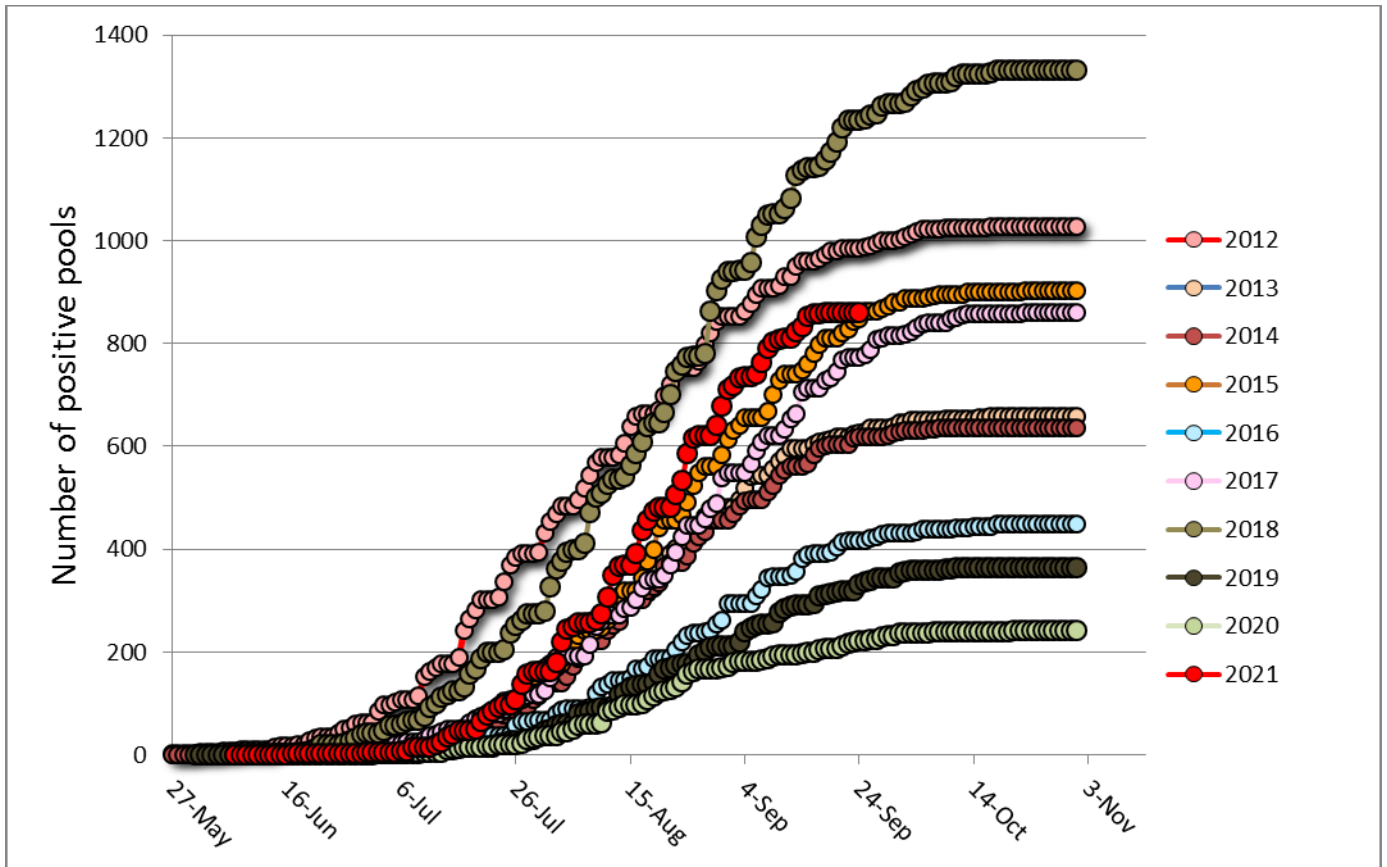
Species	Pools	Mosquitoes	Positives	MFIR
<i>Aedes abserratus</i>	15	120		
<i>Aedes albopictus</i>	481	4570	27	5.908
<i>Aedes atlanticus</i>	16	316		
<i>Aedes aurifer</i>	5	102		
<i>Aedes canadensis canadensis</i>	93	1339		
<i>Aedes cantator</i>	47	722		
<i>Aedes cinereus</i>	3	80		
<i>Aedes grossbecki</i>	9	33		
<i>Aedes japonicus</i>	288	1943	4	2.059
<i>Aedes mitchellae</i>	1	1		
<i>Aedes sollicitans</i>	25	660		
<i>Aedes sticticus</i>	15	261		
<i>Aedes stimulans</i>	6	29		
<i>Aedes taeniorhynchus</i>	43	1581	1	0.633
<i>Aedes thibaulti</i>	2	105		
<i>Aedes triseriatus</i>	108	311	3	9.646
<i>Aedes trivittatus</i>	51	1528	1	0.654
<i>Aedes vexans</i>	171	5127	3	0.585
<i>Anopheles spp.</i>	16	393		
<i>Anopheles bradleyi</i>	32	830	1	1.205
<i>Anopheles crucians</i>	25	278		
<i>Anopheles punctipennis</i>	230	3527	3	0.851
<i>Anopheles quadrimaculatus</i>	92	1396	1	0.716
<i>Anopheles walkeri</i>	14	927		
<i>Coquillettidia perturbans</i>	211	6550	2	0.305
<i>Culex erraticus</i>	132	2062	1	0.485
<i>Culex spp.</i>	3470	138117	773	5.597
<i>Culex pipiens</i>	428	14569	30	2.059
<i>Culex restuans</i>	106	2180	2	0.917
<i>Culex salinarius</i>	71	1288		
<i>Culex territans</i>	1	1		
<i>Culiseta inornata</i>	18	244		
<i>Culiseta melanura</i>	544	9614	7	0.728
<i>Culiseta morsitans</i>	4	8		
<i>Orthopodomyia signifera</i>	3	4		
<i>Psorophora ciliata</i>	11	127	1	7.874
<i>Psorophora columbiae</i>	35	839		
<i>Psorophora ferox</i>	49	875	1	1.143
<i>Psorophora howardii</i>	4	68		
Grand Total	6875	202725	861	4.247

Remarks: To date 6875 pools of 202,725 mosquitoes from 36 species have been tested. 861 pools (805 pools of *Culex* Mix, *Cx. pipiens* or *Cx. restuans*, 7 pools of *Cs melanura*, 27 pools of *Ae albopictus*, 4 pools of *Ae. japonicus* 3 pools of *Ae. triseriatus*, *Ae. vexans* and *Anopheles punctipennis* each, 2 pools of *Coquillettidia perturbans* and one pool each of *Ae. taeniorhynchus*, *Ae. trivittatus*, *An. bradleyi*, *An. quadrimaculatus*, *Cx. erraticus*, *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 3.452.

Humans, Horses and Wild Birds: No horses have been reported infected with WNV in 2021. 16 human cases (one fatality from Camden County, and one each in Bergen, Burlington, Essex, Gloucester, Middlesex, Monmouth, Ocean, Passaic, and Somerset counties) 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, 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.