VECTOR SURVEILLANCE IN NEW JERSEY

EEE, WNV, SLE, LAC, DENV and CHIK

Prepared by Lisa M. Reed, Scott Crans and Mark Robson
Center for Vector Biology, Rutgers University

CDC WEEK 43: 25 October to 31 October, 2015

Data Downloaded 1:45 pm 2 November 2015

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.

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**	0.10	0.20	32 (33)	15 (16)	1	31.25
Green Bank (Burlington Co.)/25	**Coastal**	0.11	0.52	162 (175)	19 (20)	1	6.17
Corbin City (Atlantic Co.)/25	**Coastal**	0.18	0.08	306 (308)	19 (20)		
Dennisville (Cape May Co.)/50	**Coastal**	0.00	NC	232	14		
Winslow (Camden Co.)/50	**Inland**	0.10	NC	1927	50	7	3.63
Centerton (Salem Co.)/50	**Inland**	0.17	NC	882	28	2	2.27
Turkey Swamp (Monmouth Co.)/50	**Inland**	0.06	0.02	408 (409)	20 (21)		
Glassboro (Gloucester Co.)/50	**Inland**	0.07	NC	313	20	1	3.19

*Current week (in parentheses) results pending. ‡ corrected NC=no collection

Remarks: One new positive pools of EEE were detected at a county site in Burlington County, collected 20 Oct. There have been a total of 25 positive pools detected statewide: 18 in *Culiseta* melanura, 6 in *Culex erraticus* and 1 in *Culex pipiens.* There has been one horse case reported previously. First detection of EEE in a pool of *Culiseta melanura* was collected at the Winslow resting box site on the 27th of July. **This is the last report of the season**

Traditional Resting Box Sites: Twelve EEE positive *Cs. melanura* pools have been detected at the state resting box sites to date. Five of the eight sites have detected positive pools. 4262 *Cs. melanura* from 185 pools have been tested for EEE with 4 additional pools containing 17 *Cs. melanura* to be tested. MFIR for the traditional resting box sites is 2.82 with a statewide MFIR of 1.95 for *Cs. melanura* and a statewide MFIR of 0.99 for all species tested.

Additional *Cs. melanura* trapped by counties *traps with positives indicated in **BOLD.**					
County	**Trap types***	**Pools**	**Mosquitoes**	**Positives**	**MFIR**
Atlantic	CO_2	23	339		
Burlington	**CO_2**	95	2702	3	0.77
Cape May	CO_2, GR, RB	153	811		
Cumberland	CO_2, **RB**	26	267	1	3.75
Gloucester	CO_2, GR, RB	55	697		
Middlesex	RB	11	48		
Ocean	**CO_2**, GR, **RB**	27	103	2	20.00
Salem	CO_2, GR	3	6		
TOTAL		**393**	**4973**	**6**	**1.21**

Additional *Cs. melanura*: Counties maintain trap sites for *Cs. melanura* in other areas. Latest positive pool was collected 20 Oct in Burlington County. Previous to the current week, three positive pools (two from Burlington County and one from Cumberland County) have been detected. The first county positive was collected from a CO_2 trap on 3 August.

Species other than *Cs. melanura*	**Pools**	**Mosquitoes**	**Positives**	**MFIR**
Aedes albopictus	5	6		
Aedes atlanticus	1	7		
Aedes canadensis canadensis	2	24		
Aedes cantator	39	54		
Aedes japonicus	4	6		
Aedes sollicitans	17	400		
Aedes taeniorhynchus	5	25		
Aedes triseriatus	2	2		
Aedes vexans	9	138		
Anopheles bradleyi	54	368		
Anopheles crucians	5	57		
Anopheles earlei	1	1		
Anopheles punctipennis	40	162		
Anopheles quadrimaculatus	7	13		
Coquillettidia perturbans	119	2220		
Culex erraticus	112	2178	6	2.755
Culex pipiens	931	9153	1	0.109
Culex restuans	2	2		
Culex salinarius	208	957		
Culex sp.	64	179		
Orthopodomyia signifera	1	1		
Psorophora ciliata	1	2		
Psorophora ferox	4	9		
Psorophora howardii	1	1		
State Total	**1634**	**15965**	**7**	**0.438**

Additional Species: Nineteen additional species were tested for EEE. Previous to the current week, seven positive pools (6 from *Culex erraticus* collected on 18 Aug, in Cape May and the 6th from *Culex pipiens* collected in Gloucester County on 2 Sep).

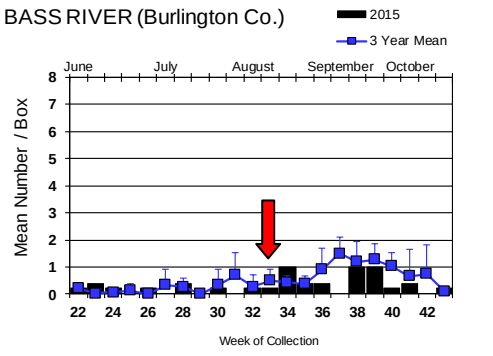
Horses and Humans: One horse, a 2 yo unvaccinated mare in Gloucester County, euthanized 25 Aug (no date of onset reported).

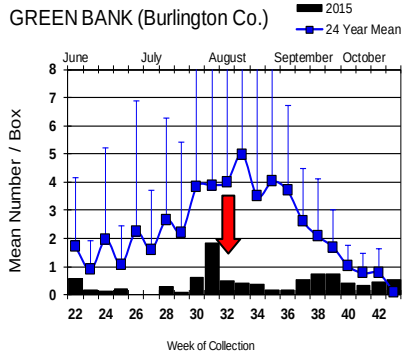
No humans have been reported with EEE.

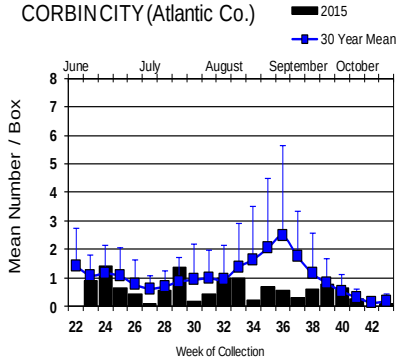
Horses and Vaccinations: The fate of unvaccinated equids reinforces the necessity of maintaining a vaccination schedule for arboviruses. For vaccination schedules recommended by the American Association of Equine Practices, see: http://www.aaep.org/vaccination_guidelines.htm

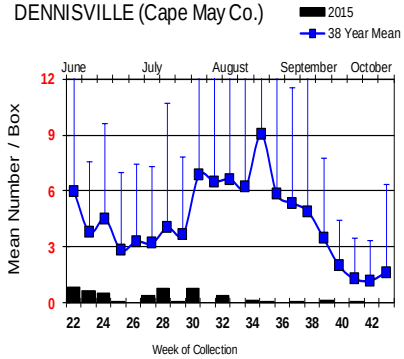
Culiseta melanura Population Graphs

Coastal

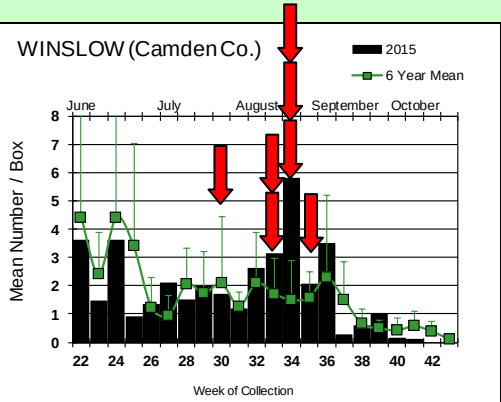


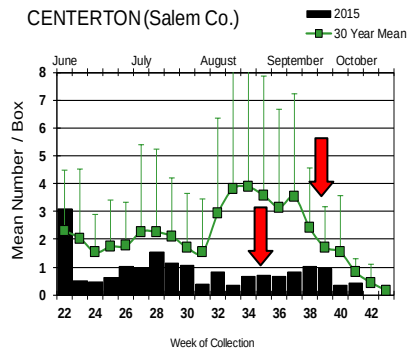


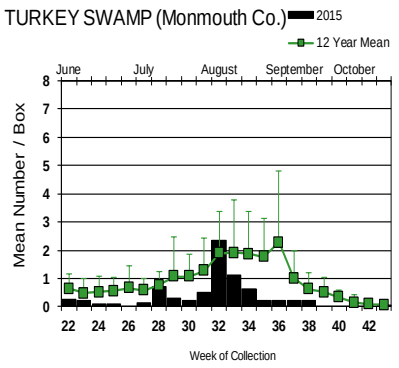


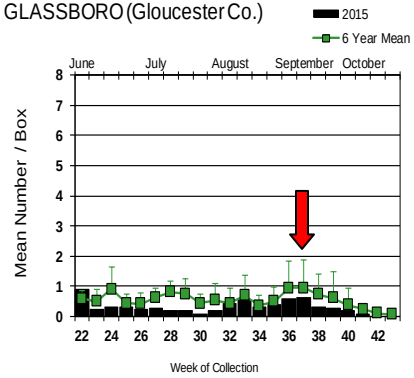


Inland









Populations are no longer sampled at several sites, but populations at both the Bass River and especially Green Bank sites were above historical averages. No new positive pools were detected at the traditional resting box sites during the current week.

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

EEE in US (2015 cumulative cases): (Black or Red = previous + new reported cases occurring)

- equine: FL(20/1goat) GA(6) LA(2) MI(1) MS(2) NC(1) NJ(1) NY(4) SC(3) TX(8) VA(2)
- mosquito pools: MA(1) ME(1) NH(2) NJ (25) NY(58) VT(1)
- sentinel: FL(71), TX(24)
- human: LA (1), NY(2)

West Nile Virus Positive Organisms in US, 2015

West Nile in US (2015 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		7
Alaska					
Arizona	0	82		4	84
Arkansas				3	16/18
California	1192/1219	2972/3006	379/385	17	421/469
Colorado	13	166		15	90
Connecticut		157			8/9
Delaware	2			1	1
DC					1
Florida		11	291/315	3	9
Georgia	0	63		0	11
Hawaii					
Idaho	0	13		5	13
Illinois	51	1711		13	59/64
Indiana	0	468/472		7	18
Iowa		7/11		2/3	9/10
Kansas		1			26
Kentucky				8	
Louisiana	82	513/517		1	60/61
Maine		1			1
Maryland	3	33		2	45
Mass.		164		0	9
Michigan	10	9		1/2	16/18
Minnesota	3	2		1/2	5/6
Mississippi		44		1/3	38
Missouri		514		19	26

	Birds	Mosquito Pools	Sentinels	Horses	Humans
Montana		5		4	3
Nebraska	2	103		0	63/65
Nevada		104		1	7
New Hampshire		3		1	0
New Jersey	28	901/904		1	26
New Mexico				1/2	12
New York		444		1	41
North Carolina					3
North Dakota	0	4		3	23
Ohio		540		4	31/33
Oklahoma		2		4	79/80
Oregon	10	57	0	6	1
Pennsylvania	31	2689		2	31
Rhode Island		4		0	0
South Carolina					1
South Dakota		7			39/40
Tennessee		117		1	3
Texas	14	1498		22	218
Utah		278/281	4	4	3/6
Vermont		97			
Virginia				1	12/19
Washington	7	157		36	23/24
West Virginia					
Wisconsin	45/46	15		1	7
Wyoming				1	4

* 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.

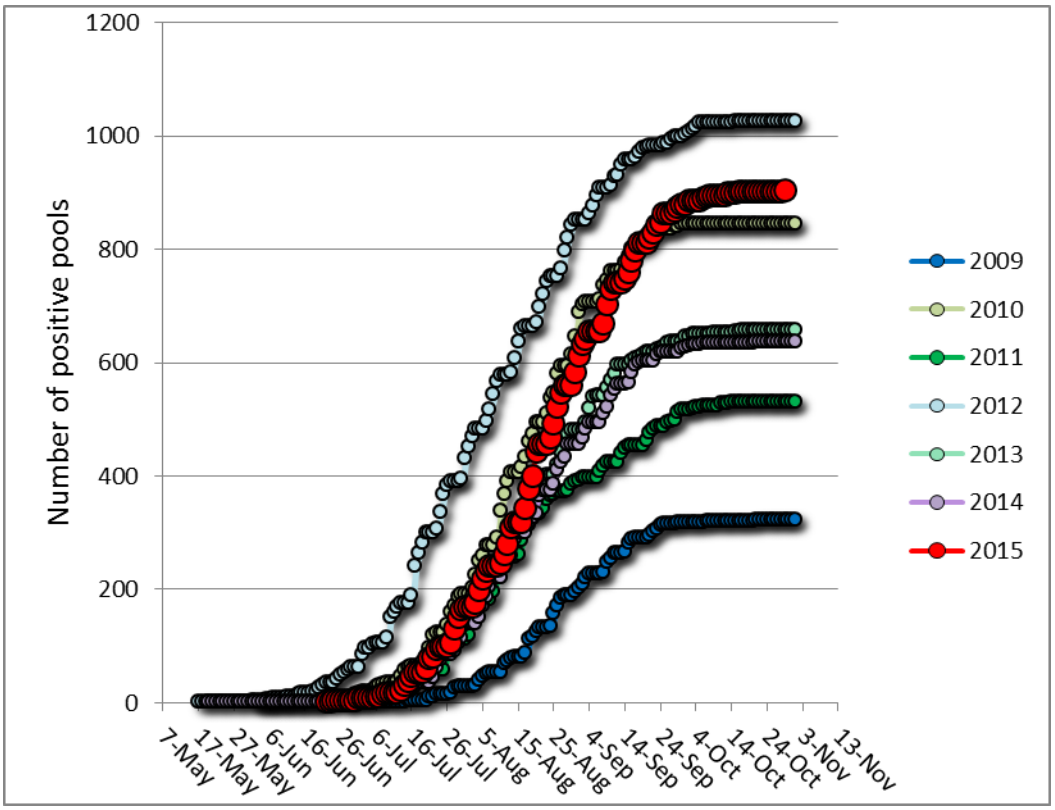
Mosquito Species Submitted and Tested for West Nile Virus Testing through 2 November 2015

Species	Pools	Mosquitoes	Positives	MFIR
Aedes abserratus	1	1		
Aedes albopictus	1725	12323	22	1.785
Aedes atlanticus	2	13		
Aedes atropalpus	13	23		
Aedes aurifer	1	1		
Aedes canadensis canadensis	23	197		
Aedes cantator	45	224		
Aedes grossbecki	9	40		
Aedes japonicus	616	2544	10	3.931
Aedes sollicitans	17	400		
Aedes sticticus	1	1		
Aedes stimulans	1	1		
Aedes taeniorhynchus	18	103		
Aedes triseriatus	319	899	3	3.337
Aedes trivittatus	6	17		
Aedes vexans	151	2582	4	1.549
Anopheles atropos	1	1		
Anopheles barberi	3	3		
Anopheles bradleyi	60	394		
Anopheles crucians	7	61		
Anopheles earlei	1	1		
Anopheles punctipennis	135	479		
Anopheles quadrimaculatus	231	4141		
Coquillettidia perturbans	129	2307		
Culex erraticus	164	2531	2	0.790
Culex pipiens	1477	31950	186	5.822
Culex restuans	781	3895	11	2.824
Culex salinarius	224	1035	2	1.932
Culex sp.	3051	103438	646	6.245
Culex territans	24	71		
Culiseta melanura	585	9246	18	1.947
Orthopodomyia signifera	2	2		
Psorophora ciliata	4	22		
Psorophora columbiae	23	243		
Psorophora ferox	15	29		
Psorophora howardii	2	2		
Uranotaenia sapphirina	7	25		
Grand Total	**9874**	**179245**	**904**	**5.043**

Remarks: To date, 9874 pools of 179,245 mosquitoes from 35 species have been tested, with 904 positive pools detected, most in ornithophilic *Culex/Culiseta* pools. Only 3 detections from the previous week had occurred as the season winds down. First positive of the season occurred in Middlesex County, in a pool of mixed *Culex*, collected on the 22nd of June. First positive pool in non-*Culex* was in an *Aedes albopictus* pool, collected in Monmouth County on 10 July. First positive pool in a non-*Culex* ornithophilic species was found in *Culiseta melanura* in Cape May 21 July. Overall state MFIR is 5.043, a continued decreased from the previous week of 5.060.

Humans, Horses and Wild Birds: Twenty-six human cases (2 fatalities) of WNV have been reported in Bergen (2), Burlington (4), Camden (1), Cumberland (5), Essex (2), Gloucester (2), Hudson (1), Hunterdon (1), Middlesex (2), Monmouth (3), Ocean (1), Passaic (1) and Union (1) counties. For further information, see http://www.state.nj.us/health/cd/westnile/techinfo.shtml.
One WNV horse case has tested positive (presumptive) in a 10 yo gelding from Gloucester County. No known vaccination history was given and the horse was euthanized on 3 October after first onset date of 27 September.

Bird testing began in mid-April. Twenty-eight positive birds have been reported, mostly corvids. To date, 73 birds have been tested. Species includes: American Crow (*Corvus brachyrhynchos* 8/11) Fish Crow (*Corvus ossifragus* 1/12), Blue Jay (*Cyanocitta cristata* 4/7), unidentified corvid (7/8), Hawk/Raptor (2/5) and other avian species (6/30). Counties (positives) submitting birds are Atlantic, Bergen, Burlington, Cape May, Cumberland, Essex, Gloucester, Hunterdon, Mercer, Monmouth, Morris, Ocean, Passaic, Salem and Warren.



The figure above shows WNV activity as the accumulation of positive pools over the season. This year has now surpassed the total number of positive pools in 2010. While there were fewer mosquitoes tested in 2010, about 11% were positive versus the 9% positive of 2015. In 2012, the percent positive was also about 9%.

WNV Results by County through 2 November 2015

County	Species	Pools	Mosquitoes	Positives	MFIR
Atlantic		**283**	**7565**	**17**	**2.247**
	Aedes albopictus	59	547	1	1.828
	Aedes japonicus	14	61		
	Aedes sollicitans	3	136		
	Aedes taeniorhynchus	5	33		
	Aedes triseriatus	1	2		
	Aedes vexans	11	461		
	Anopheles bradleyi	3	9		
	Anopheles punctipennis	1	14		
	Anopheles quadrimaculatus	3	28		
	Coquillettidia perturbans	26	943		
	Culex erraticus	12	131		
	Culex pipiens	30	1327	12	9.043
	Culex restuans	3	9		
	Culex salinarius	1	15		

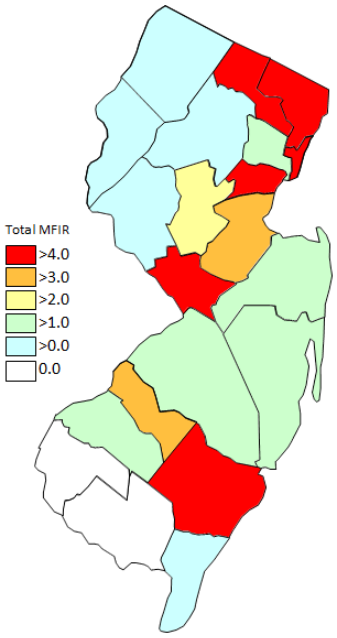
	Culex spp.	67	3199	3	0.938
	Culiseta melanura	42	645	1	1.550
	Psorophora columbiae	1	4		
	Psorophora ferox	1	1		
Bergen		**197**	**7804**	**97**	**12.430**
	Aedes albopictus	10	31	1	32.258
	Aedes japonicus	16	446		
	Aedes triseriatus	1	1		
	Culex spp.	170	7326	96	13.104
Burlington		**365**	**6631**	**21**	**3.167**
	Aedes albopictus	30	247	2	8.097
	Aedes atlanticus	1	7		
	Aedes atropalpus	1	4		
	Aedes canadensis canadensis	2	24		
	Aedes japonicus	23	105		
	Aedes sollicitans	2	25		
	Aedes sticticus	1	1		
	Aedes taeniorhynchus	5	25		
	Aedes triseriatus	5	16		
	Aedes vexans	12	215		
	Anopheles bradleyi	10	266		
	Anopheles crucians	3	55		
	Anopheles punctipennis	6	27		
	Anopheles quadrimaculatus	1	2		
	Coquillettidia perturbans	8	103		
	Culex erraticus	11	17	1	58.824
	Culex pipiens	8	17	1	58.824
	Culex restuans	5	17		
	Culex salinarius	18	255		
	Culex spp.	83	2306	13	5.637
	Culiseta melanura	129	2896	4	1.381
	Orthopodomyia signifera	1	1		
Camden		**318**	**9341**	**64**	**6.852**
	Aedes abserratus	1	1		
	Aedes albopictus	30	60	2	33.333
	Aedes canadensis canadensis	4	16		
	Aedes cantator	1	1		
	Aedes japonicus	56	402	3	7.463
	Aedes stimulans	1	1		
	Aedes vexans	1	39		
	Anopheles punctipennis	3	7		
	Coquillettidia perturbans	3	6		
	Culex spp.	162	6870	52	7.569
	Culiseta melanura	51	1928	7	3.631
	Psorophora ferox	5	10		
Cape May		**3482**	**22224**	**36**	**1.620**
	Aedes albopictus	426	1001		
	Aedes atropalpus	12	19		
	Aedes aurifer	1	1		
	Aedes canadensis canadensis	7	7		
	Aedes cantator	39	54		
	Aedes japonicus	284	578		

	Aedes sollicitans	6	8		
	Aedes taeniorhynchus	6	15		
	Aedes triseriatus	236	535		
	Aedes vexans	20	48		
	Anopheles atropos	1	1		
	Anopheles barberi	1	1		
	Anopheles bradleyi	44	102		
	Anopheles punctipennis	22	25		
	Anopheles quadrimaculatus	190	3991		
	Coquillettidia perturbans	52	894		
	Culex erraticus	73	2023		
	Culex pipiens	922	8801	27	3.068
	Culex restuans	694	2390	4	1.674
	Culex salinarius	186	447	2	4.474
	Culex spp.	53	135		
	Culex territans	24	71		
	Culiseta melanura	167	1043	3	2.876
	Orthopodomyia signifera	1	1		
	Psorophora columbiae	5	5		
	Psorophora ferox	2	2		
	Psorophora howardii	1	1		
	Uranotaenia sapphirina	7	25		
Cumberland		**307**	**4138**	**12**	**2.900**
	Aedes albopictus	46	394		
	Aedes atlanticus	1	6		
	Aedes canadensis canadensis	3	54		
	Aedes cantator	1	2		
	Aedes grossbecki	9	40		
	Aedes japonicus	11	26		
	Aedes sollicitans	6	231		
	Aedes taeniorhynchus	2	30		
	Aedes triseriatus	3	7		
	Aedes trivitattus	2	3		
	Aedes vexans	46	1263	3	2.375
	Anopheles bradleyi	1	15		
	Anopheles earlei	1	1		
	Anopheles punctipennis	14	121		
	Anopheles quadrimaculatus	7	41		
	Coquillettidia perturbans	12	69		
	Culex erraticus	17	100		
	Culex pipiens	7	29	1	34.483
	Culex restuans	1	1		
	Culex salinarius	5	256		
	Culex spp.	70	961	8	8.325
	Culiseta melanura	26	267		
	Psorophora ciliata	3	20		
	Psorophora columbiae	13	201		
Essex		**149**	**2124**	**12**	**5.650**
	Aedes albopictus	6	10		
	Aedes japonicus	25	60		
	Aedes triseriatus	3	3	1	333.333
	Aedes trivittatus	1	1		
	Anopheles punctipennis	2	3		
	Anopheles quadrimaculatus	5	22		

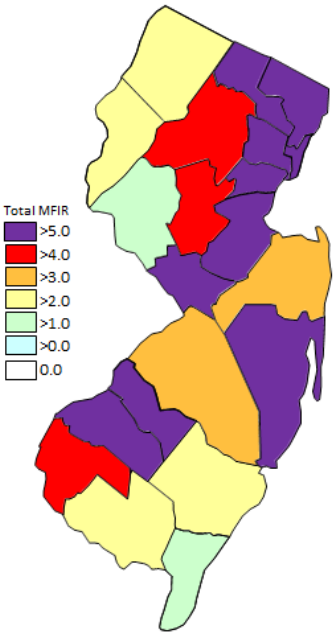
	Culex spp.	105	2019	11	5.448
	Psorophora ferox	2	6		
Gloucester		**784**	**22685**	**145**	**6.392**
	Aedes albopictus	230	1468	8	5.450
	Aedes japonicus	22	140		
	Aedes triseriatus	7	21		
	Aedes vexans	10	125	1	8.000
	Anopheles punctipennis	30	128		
	Anopheles quadrimaculatus	7	11		
	Coquillettidia perturbans	4	6		
	Culex pipiens	393	19764	134	6.780
	Culiseta melanura	75	1010	2	1.980
	Psorophora ciliata	1	2		
	Psorophora ferox	4	9		
Hudson		**233**	**8762**	**74**	**8.446**
	Aedes albopictus	24	380		
	Culex spp.	209	8382	74	8.828
Hunterdon		**267**	**11625**	**21**	**1.806**
	Culex spp.	267	11625	21	1.806
Mercer		**546**	**9886**	**54**	**5.462**
	Aedes albopictus	175	2033		
	Aedes japonicus	40	111	1	9.009
	Aedes vexans	19	117		
	Coquillettidia perturbans	6	54		
	Culex erraticus	9	43		
	Culex pipiens	113	1997	11	5.508
	Culex restuans	74	1471	7	4.759
	Culex spp.	110	4060	35	8.621
Middlesex		**451**	**12635**	**88**	**6.965**
	Aedes albopictus	156	502	4	7.968
	Culex spp.	284	12085	84	6.951
	Culiseta melanura	11	48		
Monmouth		**750**	**10581**	**35**	**3.308**
	Aedes albopictus	377	4200	2	0.476
	Aedes canadensis canadensis	6	93		
	Aedes cantator	4	167		
	Aedes japonicus	27	105	1	9.524
	Aedes triseriatus	8	16		
	Aedes trivittatus	1	1		
	Aedes vexans	22	278		
	Anopheles barberi	2	2		
	Anopheles bradleyii	1	1		
	Anopheles crucians	3	5		
	Anopheles punctipennis	33	83		
	Anopheles quadrimaculatus	7	15		
	Coquillettidia perturbans	1	1		
	Culex erraticus	16	93		
	Culex restuans	1	1		
	Culex salinarius	14	62		

	Culex spp.	203	5013	32	6.383
	Culiseta melanura	22	414		
	Psorophora columbiae	2	31		
Morris		**343**	**13590**	**67**	**4.930**
	Aedes albopictus	28	368		
	Culex spp.	315	13222	67	5.067
Ocean		**338**	**4143**	**24**	**5.793**
	Aedes albopictus	88	798	2	2.506
	Aedes canadensis canadensis	1	3		
	Aedes japonicus	48	167	3	17.964
	Aedes triseriatus	12	32	1	31.250
	Aedes vexans	6	7		
	Anopheles crucians	1	1		
	Anopheles punctipennis	6	10		
	Anopheles quadrimaculatus	4	6		
	Coquillettidia perturbans	6	130		
	Culex erraticus	12	34		
	Culex pipiens	2	13		
	Culex spp.	121	2835	18	6.349
	Culiseta melanura	31	107		
Passaic		**20**	**313**	**4**	**12.780**
	Aedes albopictus	2	3		
	Aedes japonicus	4	8	1	125.000
	Aedes triseriatus	2	3		
	Aedes vexans	1	1		
	Culex spp.	11	298	3	10.067
Salem		**182**	**1743**	**7**	**4.016**
	Aedes albopictus	27	182		
	Aedes japonicus	15	31	1	32.258
	Aedes triseriatus	15	22	1	45.455
	Aedes vexans	1	2		
	Anopheles bradleyi	1	1		
	Anopheles punctipennis	7	12		
	Anopheles quadrimaculatus	6	23		
	Coquillettidia perturbans	9	26		
	Culex erraticus	14	90	1	11.111
	Culex pipiens	2	2		
	Culex restuans	3	6		
	Culex spp.	48	455	3	6.593
	Culiseta melanura	31	888	1	1.126
	Psorophora columbiae	2	2		
	Psorophora ferox	1	1		
Somerset		**239**	**3185**	**14**	**4.396**
	Aedes albopictus	3	16		
	Aedes japonicus	10	128		
	Aedes triseriatus	8	84		
	Anopheles punctipennis	1	4		
	Coquillettidia perturbans	1	29		
	Culex spp.	216	2924	14	4.788

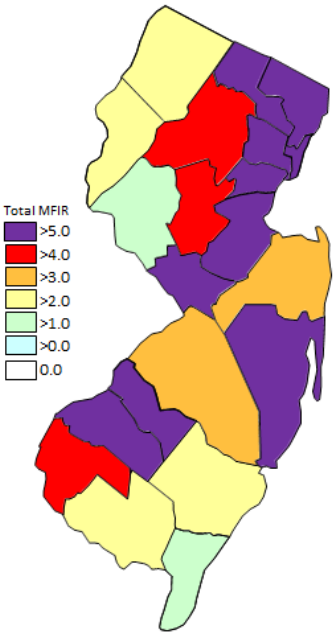
Sussex		**226**	**4160**	**9**	**2.163**
	Aedes japonicus	18	154		
	Aedes triseriatus	13	135		
	Anopheles punctipennis	9	43		
	Coquillettidia perturbans	1	46		
	Culex spp.	185	3782	9	2.380
Union		**181**	**10757**	**92**	**8.553**
	Aedes albopictus	3	27		
	Culex spp.	178	10730	92	8.574
Warren		**213**	**5353**	**11**	**2.055**
	Aedes albopictus	5	56		
	Aedes japonicus	3	22		
	Aedes triseriatus	5	22		
	Aedes trivittatus	2	12		
	Aedes vexans	2	26		
	Anopheles punctipennis	1	2		
	Anopheles quadrimaculatus	1	2		
	Culex spp.	194	5211	11	2.111
Grand Total		**9874**	**179245**	**904**	**5.043**



Cumulative WNV activity in 2014.



WNV activity to 2 November 2015.



WNV activity last week, 2015.

**NOTE* New scale on activity maps – addition of MFIR 5.0 and above in purple*

Saint Louis Encephalitis (SLE) 2015.

New Jersey will be testing for SLE this year only when adjacent states show human activity (Cape May tests its own mosquitoes in the Cape May lab independently). SLE has had previous activity in New Jersey, most notably in 1964 and 1975 (CDC's SLE website), the latter prompting the surveillance reporting by Rutgers. SLE is a flavivirus and has a similar transmission pattern to West Nile, with *Culex* species as the predominant vectors.

County	Species	Pools	Mosquitoes	Positives	MFIR
Cape May		**970**	**8906**		
	Culex pipiens	917	8771		
	Culex restuans	53	135		
	Culex spp.	**970**	**8906**		
Grand Total		**970**	**8906**		

La Crosse Encephalitis (LAC) 2015.

New Jersey will be testing for LAC this year only when adjacent states show human activity (Cape May tests its own mosquitoes in the Cape May lab independently). New Jersey has had 3 cases of this encephalitic disease since 1964 (see CDC's LAC website). The mortality is low but like other encephalitides, LAC can have both personal (lasting neurological sequelae) and economic impacts. LAC is a bunyavirus with a transmission cycle involving mosquitoes such as *Aedes triseriatus* and small mammals such as squirrels and chipmunks. LAC can not only infect *Aedes albopictus* but transovarial transmission was also demonstrated.
(Tesh and Gubler 1975 Laboratory studies of transovarial transmission of La Crosse and other arboviruses by *Aedes albopictus* and *Culex fatigans.* American Journal of Tropical Medicine and Hygiene 24(5):876-880).
**NOTE* Ae. albopictus and japonicus previously reported in error.*

County	Species			Positives	MFIR
Cape May		**236**	**535**		
	Aedes triseriatus	236	535		
Grand Total		**236**	**535**		

Dengue (DENV) to 2 November 2015.

New Jersey will be selectively testing for DENV (including serotypes) this year. Dengue has not had a history of local transmission here in New Jersey, but each year, travelers can bring virus back from areas in the world with virus activity. This is significant as humans are NOT dead-end hosts and thus there is the potential for local transmission (i.e., New Jersey mosquitoes biting a sick person and then biting and transmitting the disease to someone else) to be established. DENV is a flavivirus but unlike WNV, *Aedes* mosquitoes are predominant vectors. In New Jersey, *Aedes albopictus* is a candidate for local transmission. There are 4 serotypes tested for Dengue. There are currently 40 imported human cases in New Jersey, no local transmission.

Note Same pools of *Ae. albopictus* are tested for the four serotypes of Dengue as well as Chikungunya.

No pools have tested positive in 2015. Currently, there are 33 imported human cases reported in New Jersey.

County	Species	DENV1		DENV2		DENV3		DENV4		Positives	MFIR
		Pool	Mos.	Pool	Mos.	Pool	Mos.	Pool	Mos.		
Atlantic		**59**	**547**	**59**	**547**	**59**	**547**	**59**	**547**		
		59	547	59	547	59	547	59	547		

Burlington	**30**	**247**	**30**	**247**	**30**	**247**	**30**	**247**		
	30	247	30	247	30	247	30	247		
Camden	**29**	**58**	**29**	**58**	**29**	**58**	**29**	**58**		
	29	58	29	58	29	58	29	58		
Cumberland	**46**	**394**	**46**	**394**	**46**	**394**	**46**	**394**		
	46	394	46	394	46	394	46	394		
Gloucester	**224**	**1454**	**225**	**1462**	**225**	**1462**	**225**	**1462**		
	224	1454	225	1462	225	1462	225	1462		
Hudson	**24**	**380**	**24**	**380**	**24**	**380**	**24**	**380**		
	24	380	24	380	24	380	24	380		
Mercer	**175**	**2033**	**175**	**2033**	**175**	**2033**	**175**	**2033**		
	175	2033	175	2033	175	2033	175	2033		
Middlesex	**155**	**482**	**155**	**482**	**155**	**482**	**155**	**482**		
	155	482	155	482	155	482	155	482		
Monmouth	**324**	**3723**	**324**	**3723**	**324**	**3723**	**305**	**3612**		
	324	3723	324	3723	324	3723	305	3612		
Morris	**28**	**368**	**28**	**368**	**28**	**368**	**28**	**368**		
	28	368	28	368	28	368	28	368		
Salem	**27**	**182**	**27**	**182**	**27**	**182**	**27**	**182**		
	27	182	27	182	27	182	27	182		
Warren	**5**	**56**	**5**	**56**	**5**	**56**	**5**	**56**		
	5	56	5	56	5	56	5	56		
Grand Total	**1126**	**9924**	**1127**	**9932**	**1127**	**9932**	**1108**	**9821**		

Chikungunya (CHIK) to 2 November 2015.

New Jersey will be selectively testing for CHIK this year. Chikungunya is similar in symptoms to Dengue, a “breakbone” fever and has a low mortality rate. But this virus has had recent worldwide activity, and in the past year has come to the Western Hemisphere. As with Dengue, transmission can occur when a mosquito bites an infected human, then bites an uninfected human who subsequently becomes ill. CHIK is an alphavirus with *Aedes* mosquitoes as potential vectors. In New Jersey, *Aedes albopictus* is the mosquito of interest.

No pools have tested positive in 2015. Currently, there are 25 imported human cases reported in New Jersey.

County	Species	Pools	Mosquitoes	Positives	MFIR
Atlantic		**59**	**547**		
	Aedes albopictus	59	547		
Burlington		**30**	**247**		
	Aedes albopictus	30	247		

Camden		**29**	**58**		
	Aedes albopictus	29	58		
Cape May		**424**	**998**		
	Aedes albopictus	424	998		
Cumberland		**46**	**394**		
	Aedes albopictus	46	394		
Gloucester		**225**	**1462**		
	Aedes albopictus	225	1462		
Hudson		**24**	**380**		
	Aedes albopictus	24	380		
Mercer		**175**	**2033**		
	Aedes albopictus	175	2033		
Middlesex		**155**	**482**		
	Aedes albopictus	155	482		
Monmouth		**324**	**3723**		
	Aedes albopictus	324	3723		
Morris		**28**	**368**		
	Aedes albopictus	28	368		
Salem		**27**	**182**		
	Aedes albopictus	27	182		
Warren		**5**	**56**		
	Aedes albopictus	5	56		
Grand Total		**1551**	**10930**		