RUTGERS
New Jersey Agricultural Experiment Station

VECTOR SURVEILLANCE IN NEW JERSEY
EEE and WNV
CDC WEEK 41: October 05 to October 11, 2008

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Culiseta melanura and Eastern Equine Encephalitis

SITE	Inland / Coastal	Historic Mean	Current Weekly Mean	Total Collected to Date*	Total Pools Submitted	EEE Isolations	MFIR
Green Bank (Burlington County)	Coastal	0.9	0.6	233	42		
Corbin City (Atlantic County)	Coastal	0.5	0	160	54		
Dennisville (Cape May County)	Coastal	1.6	0.2	557	61	(see remarks)	
Waterford (Camden County)	Inland	0.5	0.2	63	10	2	31.75
Centerton (Salem County)	Inland	1.8	0.5	450	56	1	2.22
Turkey Swamp (Monmouth County)	Inland	0.3	< 0.1	268	56		
Glassboro (Gloucester County)	Inland	no history	0.1	76	30		

*Including trial run last week in May.

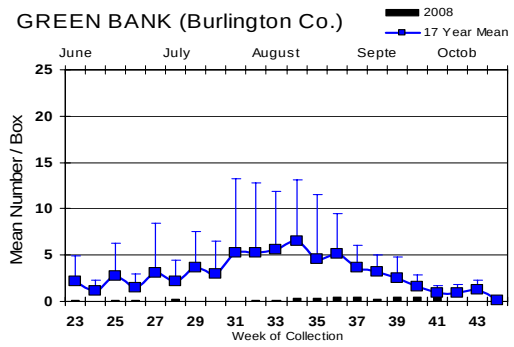
Remarks: As populations of *Cs. melanura* decrease in the waning season, no additional pools positive for eastern equine encephalitis virus has been detected.

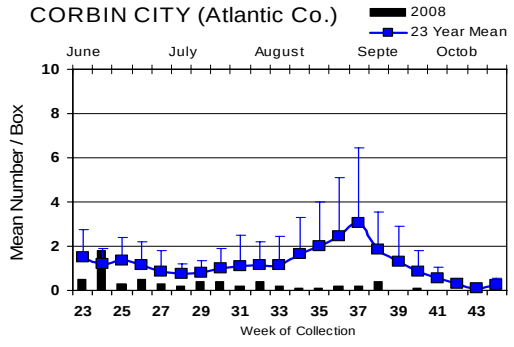
To date, 309 pools from 1807 *Cs. melanura* mosquitoes have been sent for EEE testing from the resting box collections. Previously, an additional EEE positive pool from Cape May had been detected by the Cape May Mosquito Control Department's lab, giving a statewide cumulative total of 4 positive EEE pools. No horse or human cases have been reported to date.

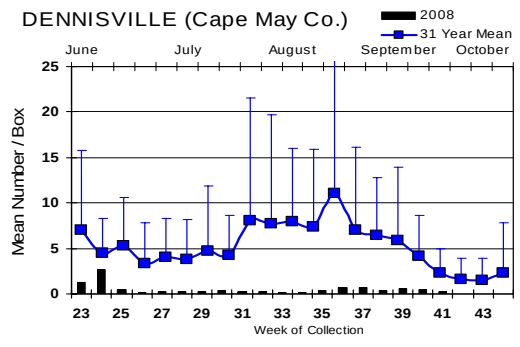
An additional 519 pools of 4609 individual mosquitoes from 31 species other than *Cs. melanura* have also been tested and all pools were found to be negative. These species include: *Aedes albopictus, Ae. canadensis canadensis, Ae. cantator, Ae. cinereus ,Ae. communis, Ae. grossbecki, Ae. japonicus, Ae. sollicitans, Ae. sticticus, Ae. taeniorhynchus, Ae. triseriatus, Ae. trivittatus, Ae. vexans, Anopheles bradleyi, An. crucians, An. punctipennis, An. quadrimaculatus, Coquillettidia perturbans, Culex erraticus, Cx. pipiens, Cx. restuans, Cx., salinarius, Mixed Culex, Cx. territans, Culiseta inornata, Orthopodomyia signifera, Psorophora ciliata, Ps. columbiae, Ps. cyanescens, Ps., ferox, Ps. howardii and Uranotaenia sapphirina.*

Culiseta melanura Population Graphs

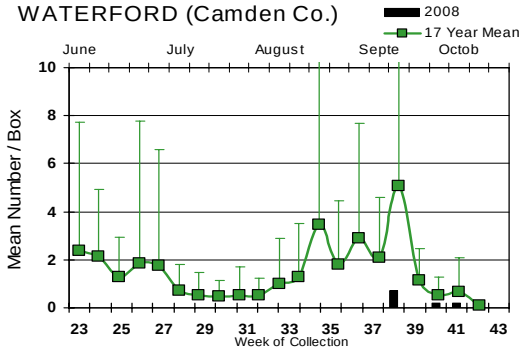
Coastal

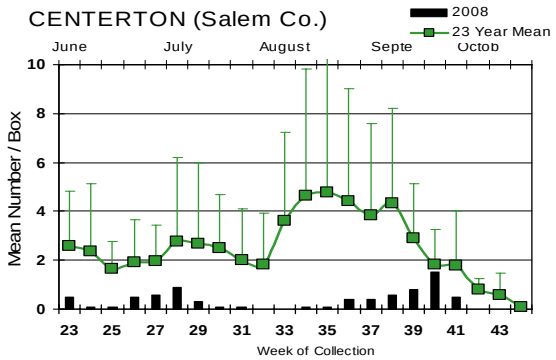


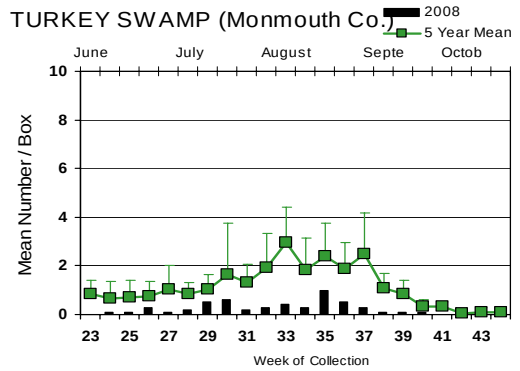




Inland



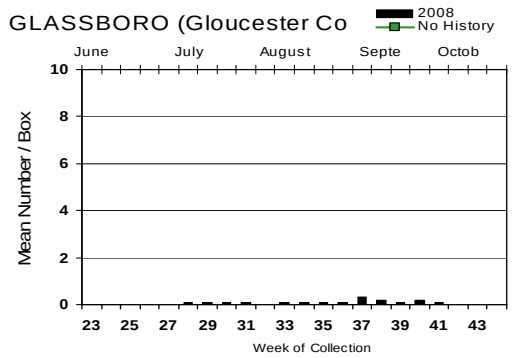




Figures: Inland and coastal resting box sites showing current weekly population levels (in bars) against historical trends (lines with standard deviation). The number of years for historical population levels varies by site.

An additional inland resting box site has been added. This site is located near Glassboro, in Gloucester County. The location is in a wildlife management area, with box location in a mixed forest swamp (Red Maple/White Pine).

All *Cs. melanura* populations dropped from the previous week, except at Waterford, which remained the same. Although rainfall and warming temperatures occurred during September and into October, this was apparently too late to increase the abundance of the second generation much toward historical levels, apart from Centerton at the end of the season. The drier conditions in August may have also reduced the number of available habitat for developing instars.



EEE in US (2008 cumulative cases): (Red = new reported cases occurring)

- equine: 13(AL), 84(FL) 22(GA) 7(LA) 1(MA) 1(ME) 6(MS) 10(NC) 5(SC) 1(TN) 2(TX) 1(VA) 1(WI)
- mosquito: 1(AR) 3(FL) 2(GA) 5(LA) 13(MA) 4(MD) 1(ME) 8(NH) 4(NJ) 4(MD) 7(VA)
- sentinel: 3(AL) 91(FL74 wild) 16[2emu](NC) emu(NH) 3(VA)
- human: 1(AL) 1(FL)

West Nile Virus

West Nile in US (2008 cumulative cases): Single black values indicate no change from previous week. Black values / red values equals previous week/New totals.

	Birds	Mosquito Pools	Sentinels	Horses	Humans
Alabama				4	7
Alaska					
Arizona	3/4	187/199	40		61/77
Arkansas	2	19		1	8
California	2319	1805/1831	421/452	21/26	295/329
Colorado	4	61		1	79
Connecticut		187/190			7
Delaware	2		13/16		1
DC		50			
Florida	3 live		9	1	3
Georgia	2	25			2/5
Hawaii					
Idaho	3/4	7 counties		1	34/39
Illinois	30	586/626		1	13/16
Indiana	5/6	174/187			3
Iowa	3	5	3	5	8
Kansas					16/22
Kentucky	2	11		3	1
Louisiana		600	9	1	7
Maine					
Maryland		5/10		1	4
Mass.	63	131/133			
Michigan	8	1		1?	7/9
Minnesota	7	22			20/21
Mississippi		3		2	96/99
Missouri	29	215		1	9/16
Montana		5		6	5
Nebraska	10	79		2	37

	Birds	Mosquito Pools	Sentinels	Horses	Humans
Nevada	4	38		2	15
New Hampshire		1			
New Jersey	48/51	584/595			5/7
New Mexico		3		1/2	7
New York	136/154	348/351		2	32/36
North Carolina				1	1
North Dakota				1	42/43
Ohio	11	355			16
Oklahoma		15			8/9
Oregon	2	18			16
Pennsylvania	14	514/518		1	5
Rhode Island		10			1
South Carolina	3	7			
South Dakota	1	39		4	36/37
Tennessee		608/619			8
Texas	2	111/114		2	51
Utah	2	140	16	7	26
Vermont		1			
Virginia		667/675	1		1
Washington	19	41		37	2
West Virginia	2	36/44		2	1
Wisconsin	38			5	6
Wyoming	5	14		1	8

Note: Some data reported by states are provisional and are subject to change. Sources for this table can be found here.

Protocol: New Jersey Department of Health and Senior Services (NJDHSS Public Health and Environmental Laboratories, PHEL) tests mosquito pools using RT-PCR Taqman techniques.

Mosquito Species Submitted for West Nile Virus Testing through 13 October 2008

Species	Pools	Mosquitoes	Positives	MFIR
Aedes abserratus	1	9		
Aedes albopictus	1013	9033	2	0.22
Aedes atlanticus	1	4		
Aedes atropalpus	1	1		
Aedes canadensis canadensis	61	1259		
Aedes cantator	28	367		
Aedes cinereus	3	5		
Aedes communis	1	1		
Aedes grossbecki	3	4		
Aedes japonicus	466	2056	1	0.49
Aedes sollicitans	53	1097		
Aedes sticticus	9	93		

Aedes stimulans	1	1		
Aedes taeniorhynchus	31	619		
Aedes thibaulti	5	13		
Aedes triseriatus	217	634		
Aedes trivittatus	19	165		
Aedes vexans	264	3533		
Anopheles atropos	1	1		
Anopheles barberi	3	3		
Anopheles bradleyi	68	1001		
Anopheles crucians	10	34		
Anopheles earlei	1	1		
Anopheles punctipennis	159	896		
Anopheles quadrimaculatus	161	1989		
Coquillettidia perturbans	105	941		
Culex erraticus	145	1069		
Culex pipiens	907	20167	116	5.75
Culex restuans	439	4752	6	1.26
Culex salinarius	245	9587	2	0.21
Culex spp.	2846	103173	468	4.54
Culex territans	73	307		
Culiseta inornata	3	5		
Culiseta melanura	386	2216		
Orthopodomyia signifera	11	20		
Psorophora ciliata	9	54		
Psorophora columbiae	31	201		
Psorophora cyanescens	1	1		
Psorophora ferox	36	177		
Psorophora howardii	4	11		
Uranotaenia sapphirina	29	170		
State Total	**7850**	**165670**	**595**	**3.59**

Remarks: Submitted pools (7,519) comprised of 161,009 individual mosquitoes produced 584 positive pools from 19 different counties.

Humans, Horses and Wild Birds: According to PHEL, two additional human cases of WNV were confirmed positive, bringing the total to date to seven. The two new cases include an 87 year old female (onset 20 Sep) in Essex County and a 63 year old male (onset 20 Sep) in Hudson County. Previously reported: a 58 year old female (onset 26 Aug) from Burlington County, 53 year old male (onset early Sep) in Camden, a 38 year old male (onset early Aug) in Union County, a 73 year old male (onset 23 Aug) in Burlington County and a 65 year old male (onset 10 Aug) in Middlesex County. For more details plus information about WNV, see the PHEL's West Nile Virus Alert and FAQ Sheets:
http://www.state.nj.us/health/cd/westnile/enceph.htm
No confirmed horse cases have occurred.

To date, there have been 161 dead birds submitted for West Nile virus testing with 51 positives Last year, there were 41 positive birds from 179 submissions to this point in time.

2008 Positive Mosquito pools to date / Total Mosquito Pools Submitted	This time last year
595 / 7,850	344 / 6,723

WNV Results by County through 06 October 2008

County	Species	Pools	Mosquitoes	Positives	MFIR

Atlantic		**327**	**6299**	**9**	**1.43**
	Aedes albopictus	36	748		
	Aedes canadensis canadensis	4	13		
	Aedes cantator	4	23		
	Aedes japonicus	7	12		
	Aedes sollicitans	17	585		
	Aedes taeniorhynchus	21	505		
	Aedes thibaulti	4	8		
	Aedes triseriatus	8	19		
	Aedes vexans	19	333		
	Anopheles atropos	1	1		
	Anopheles bradleyi	11	41		
	Anopheles crucians	2	24		
	Anopheles punctipennis	7	13		
	Anopheles quadrimaculatus	2	4		
	Coquillettidia perturbans	6	44		
	Culex erraticus	10	133		
	Culex pipiens	1	17		
	Culex restuans	12	357	1	2.80
	Culex salinarius	3	3		
	Culex sp.	77	3208	8	2.49
	Culex territans	9	22		
	Culiseta melanura	58	166		
	Orthopodomyia signifera	2	2		
	Psorophora columbiae	1	1		
	Psorophora ferox	4	15		
	Uranotaenia sapphirina	1	2		
Bergen		**632**	**30350**	**152**	**5.01**
	Aedes albopictus	25	142		
	Aedes canadensis candensis	1	6		
	Aedes japonicus	31	162		
	Aedes sollicitans	1	1		
	Aedes triseriatus	13	42		
	Aedes vexans	18	93		
	Anopheles barberi	1	1		
	Anopheles bradleyi	6	15		
	Anopheles punctipennis	6	35		
	Coquillettidia perturbans	29	192		
	Culex pipiens	97	3532	15	4.25
	Culex restuans	32	321		
	Culex salinarius	126	7933	1	0.13
	Culex spp.	244	17873	136	7.61
	Culex territans	1	1		
	Orthopodomyia signifera	1	1		
Burlington		**507**	**3912**	**5**	**1.28**
	Aedes albopictus	56	551		
	Aedes canadensis canadensis	22	608		
	Aedes cantator	4	148		
	Aedes cinereus	1	3		
	Aedes grossbecki	1	1		
	Aedes japonicus	23	68		
	Aedes sollicitans	2	22		
	Aedes sticticus	2	5		
	Aedes taeniorhynchus	2	9		

	Aedes triseriatus	17	44		
	Aedes trivittatus	1	2		
	Aedes vexans	61	608		
	Anopheles bradleyi	3	15		
	Anopheles crucians	8	10		
	Anopheles punctipennis	21	55		
	Anopheles quadrimaculatus	18	31		
	Coquillettidia perturbans	22	237		
	Culex erraticus	12	36		
	Culex pipiens	18	178	3	16.85
	Culex restuans	16	98	1	10.20
	Culex salinarius	6	6		
	Culex sp.	78	729	1	1.37
	Culex territans	12	23		
	Culiseta inornata	1	3		
	Culiseta melanura	62	336		
	Orthopodomyia signifera	3	11		
	Psorophora ciliata	6	10		
	Psorophora columbiae	12	41		
	Psorophora cyanescens	1	1		
	Psorophora ferox	5	6		
	Psorophora howardii	1	3		
	Uranotaenia sapphirina	10	14		
Camden		**209**	**3701**	**17**	**4.59**
	Aedes albopictus	43	301		
	Aedes canadensis canadensis	1	19		
	Aedes cantator	1	22		
	Aedes japonicus	16	33		
	Aedes triseriatus	2	2		
	Aedes trivittatus	1	1		
	Aedes vexans	7	144		
	Anopheles punctipennis	7	31		
	Anopheles quadrimaculatus	7	12		
	Coquillettidia perturbans	4	16		
	Culex erraticus	2	8		
	Culex pipiens	13	530		
	Culex restuans	21	522		
	Culex salinarius	4	15		
	Culex sp.	67	1988	17	8.55
	Culiseta inornata	1	1		
	Culiseta melanura	9	52		
	Orthopodomyia signifera	2	3		
	Psorophora columbiae	1	1		
Cape_May		**676**	**8313**	**2**	**0.24**
	Aedes albopictus	43	124		
	Aedes canadensis canadensis	4	71		
	Aedes cantator	8	82		
	Aedes japonicus	15	26		
	Aedes sollicitans	11	397		
	Aedes taeniorhynchus	4	80		
	Aedes triseriatus	3	5		
	Aedes vexans	3	14		
	Anopheles bradleyi	23	609		
	Anopheles punctipennis	10	105		

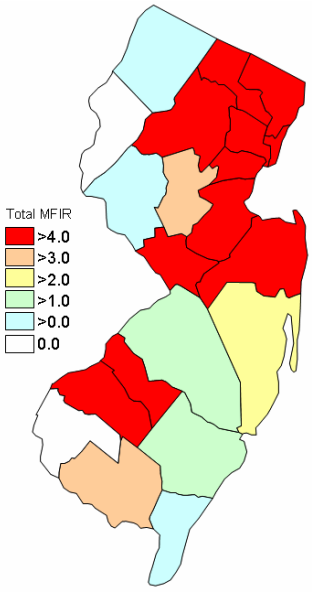
	Anopheles quadrimaculatus	27	673		
	Coquillettidia perturbans	4	28		
	Culex erraticus	15	285		
	Culex pipiens	174	2367	1	0.42
	Culex restuans	166	1659		
	Culex salinarius	12	426		
	Culex sp.	69	719	1	1.39
	Culex territans	7	21		
	Culiseta melanura	78	622		
Cumberland		**264**	**2282**	**8**	**3.51**
	Aedes albopictus	56	188		
	Aedes japonicus	17	39		
	Aedes sticticus	2	6		
	Aedes triseriatus	8	12		
	Aedes vexans	6	62		
	Anopheles bradleyi	2	2		
	Anopheles punctipennis	5	14		
	Anopheles quadrimaculatus	2	4		
	Coquillettidia perturbans	1	1		
	Culex erraticus	25	82		
	Culex pipiens	37	285	4	14.04
	Culex restuans	12	89	1	11.24
	Culex salinarius	3	3		
	Culex spp.	75	1385	3	2.17
	Culex territans	2	5		
	Culiseta melanura	7	100		
	Psorophora columbiae	1	2		
	Psorophora ferox	1	1		
	Psorophora howardii	1	1		
	Uranotaenia sapphirina	1	1		
Essex		**328**	**3915**	**34**	**8.68**
	Aedes albopictus	89	538		
	Aedes japonicus	29	127	1	7.87
	Aedes triseriatus	21	36		
	Aedes trivittatus	1	1		
	Aedes vexans	12	40		
	Anopheles punctipennis	6	6		
	Anopheles quadrimaculatus	4	11		
	Coquillettidia perturbans	2	2		
	Culex pipiens	1	75	1	13.33
	Culex restuans	1	14		
	Culex spp.	155	3054	32	10.48
	Culex territans	6	10		
	Psorophora columbiae	1	1		
Gloucester		**625**	**12100**	**53**	**4.38**
	Aedes abserratus	1	9		
	Aedes albopictus	65	473		

	Aedes canadensis canadensis	7	245		
	Aedes communis	1	1		
	Aedes japonicus	32	136		
	Aedes sollicitans	1	2		
	Aedes thibaulti	1	5		
	Aedes triseriatus	9	19		
	Aedes vexans	9	269		
	Anopheles bradleyi	4	86		
	Anopheles earlei	1	1		
	Anopheles punctipennis	24	82		
	Anopheles quadrimaculatus	26	54		
	Coquillettidia perturbans	8	38		
	Culex erraticus	7	47		
	Culex pipiens	350	10052	55	5.47
	Culex restuans	19	591		
	Culex salinarius	6	34		
	Culex territans	9	81		
	Culiseta melanura	47	150		
	Psorophora columbiae	4	113		
	Psorophora ferox	3	9		
	Uranotaenia sapphirina	3	25		
Hudson		**209**	**9952**	**63**	**6.33**
	Culex spp.	209	9952	63	6.33
Hunterdon		**290**	**13380**	**7**	**0.52**
	Aedes albopictus	4	40		
	Aedes japonicus	1	6		
	Aedes trivittatus	1	18		
	Aedes vexans	3	105		
	Anopheles punctipennis	1	50		
	Anopheles quadrimaculatus	2	25		
	Culex erraticus	1	10		
	Culex spp.	276	13125	7	0.53
	Culiseta inornata	1	1		
Mercer		**498**	**5399**	**41**	**7.59**
	Aedes albopictus	212	2594	1	0.39
	Aedes atropalpus	1	1		
	Aedes japonicus	62	108		
	Aedes stimulans	1	1		
	Aedes triseriatus	25	50		
	Aedes vexans	5	15		
	Anopheles punctipennis	1	1		
	Culex erraticus	16	44		
	Culex pipiens	96	1922	33	17.17
	Culex restuans	52	229	3	13.10
	Culex salinarius	13	162		
	Culex spp.	11	267	4	14.98
	Culex territans	1	1		
	Orthopodomyia signifera	1	1		
	Psorophora columbiae	1	3		
Middlesex		**337**	**7949**	**44**	**5.44**
	Aedes albopictus	33	382		

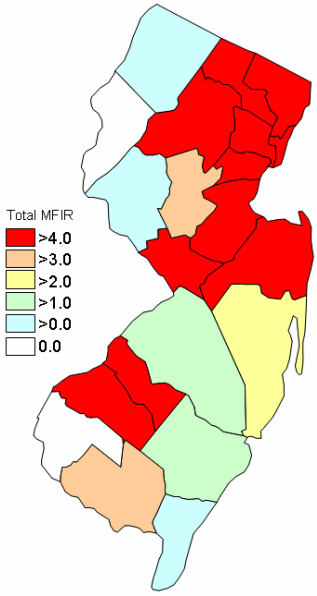
	Aedes japonicus	12	57		
	Aedes triseriatus	5	22		
	Aedes trivittatus	1	1		
	Aedes vexans	21	512		
	Culex erraticus	1	1		
	Culex pipiens	23	215	1	4.65
	Culex restuans	11	137		
	Culex salinarius	14	324	1	3.09
	Culex spp.	205	6228	42	6.74
	Culex territans	3	10		
	Psorophora ciliata	3	44		
	Psorophora columbiae	1	4		
	Psorophora ferox	1	1		
	Psorophora howardii	1	3		
	Uranotaenia sapphirina	2	8		
Monmouth		**560**	**5555**	**26**	**4.68**
	Aedes albopictus	101	643		
	Aedes canadensis canadensis	3	18		
	Aedes cantator	4	5		
	Aedes japonicus	22	60		
	Aedes sollicitans	12	43		
	Aedes taeniorhynchus	4	25		
	Aedes triseriatus	9	19		
	Aedes trivittatus	3	4		
	Aedes vexans	27	125		
	Anopheles barberi	1	1		
	Anopheles punctipennis	17	31		
	Anopheles quadrimaculatus	10	20		
	Coquillettidia perturbans	4	5		
	Culex erraticus	9	86		
	Culex pipiens	60	581	1	1.72
	Culex restuans	42	254		
	Culex salinarius	17	51		
	Culex spp.	144	3208	25	7.79
	Culex territans	13	104		
	Culiseta melanura	55	265		
	Psorophora ferox	1	1		
	Uranotaenia sapphirina	2	6		
Morris		**231**	**6904**	**31**	**4.49**
	Aedes albopictus	1	3		
	Aedes japonicus	10	41		
	Aedes triseriatus	2	4		
	Anopheles punctipennis	1	4		
	Coquillettidia perturbans	1	50		
	Culex spp.	216	6802	31	4.56
Ocean		**388**	**5862**	**13**	**2.22**
	Aedes albopictus	104	1396	1	0.72
	Aedes canadensis canadensis	9	85		
	Aedes cantator	1	9		
	Aedes japonicus	27	55		
	Aedes sollicitans	6	43		
	Aedes triseriatus	11	23		
	Aedes trivittatus	1	1		

	Aedes vexans	21	92		
	Anopheles bradleyi	2	2		
	Anopheles punctipennis	6	10		
	Anopheles quadrimaculatus	5	15		
	Coquillettidia perturbans	5	16		
	Culex pipiens	9	249	1	4.02
	Culex restuans	22	252		
	Culex salinarius	14	94		
	Culex sp.	119	3380	11	3.25
	Culex territans	2	2		
	Culiseta melanura	15	94		
	Psorophora ferox	8	21		
	Uranotaenia sapphirina	1	23		
Passaic		**121**	**3859**	**32**	**8.29**
	Aedes albopictus	17	97		
	Aedes japonicus	8	89		
	Aedes triseriatus	1	2		
	Anopheles punctipennis	1	5		
	Culex spp.	94	3666	32	8.73
Salem		**431**	**5141**		
	Aedes albopictus	35	128		
	Aedes atlanticus	1	4		
	Aedes canadensis canadensis	7	181		
	Aedes cantator	6	78		
	Aedes grossbecki	2	3		
	Aedes japonicus	13	31		
	Aedes sollicitans	1	1		
	Aedes sticticus	4	81		
	Aedes triseriatus	18	37		
	Aedes vexans	23	877		
	Anopheles bradleyi	17	231		
	Anopheles punctipennis	31	431		
	Anopheles quadrimaculatus	49	1131		
	Coquillettidia perturbans	9	93		
	Culex erraticus	47	337		
	Culex pipiens	16	65		
	Culex restuans	13	38		
	Culex salinarius	23	528		
	Culex spp.	36	233		
	Culex territans	8	27		
	Culiseta melanura	55	431		
	Psorophora columbiae	4	27		
	Psorophora ferox	6	83		
	Psorophora howardii	1	4		
	Uranotaenia sapphirina	6	61		
Somerset		**294**	**4138**	**14**	**3.38**
	Aedes albopictus	18	64		
	Aedes canadensis canadensis	1	2		
	Aedes japonicus	46	316		
	Aedes triseriatus	38	154		
	Aedes trivittatus	6	105		
	Aedes vexans	5	121		

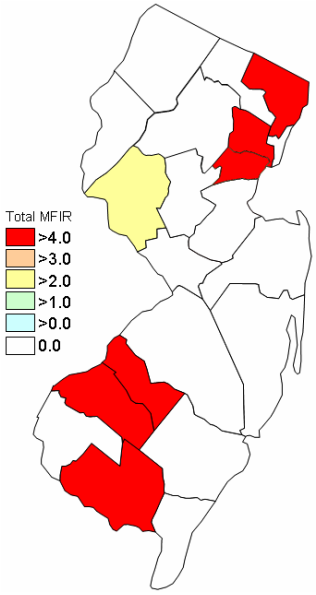
	Anopheles barberi	1	1		
	Anopheles punctipennis	9	10		
	Anopheles quadrimaculatus	7	7		
	Culex pipiens	2	22		
	Culex restuans	2	19		
	Culex spp.	151	3276	14	4.27
	Orthopodomyia signifera	2	2		
	Psorophora ferox	5	38		
	Uranotaenia sapphirina	1	1		
Sussex		**430**	**12138**	**7**	**0.58**
	Aedes canadensis canadensis	2	11		
	Aedes cinereus	2	2		
	Aedes japonicus	84	627		
	Aedes sticticus	1	1		
	Aedes triseriatus	24	141		
	Aedes trivittatus	4	32		
	Aedes vexans	5	35		
	Anopheles punctipennis	3	8		
	Anopheles quadrimaculatus	1	1		
	Coquillettidia perturbans	10	219		
	Culex pipiens	6	54		
	Culex restuans	11	143		
	Culex salinarius	2	5		
	Culex spp.	272	10829	7	0.65
	Psorophora ferox	1	1		
	Uranotaenia sapphirina	2	29		
Union		**248**	**4739**	**35**	**7.39**
	Aedes albopictus	75	621		
	Aedes japonicus	9	14		
	Aedes sollicitans	2	3		
	Aedes triseriatus	3	3		
	Aedes vexans	19	88		
	Anopheles punctipennis	3	5		
	Anopheles quadrimaculatus	1	1		
	Culex pipiens	4	23	1	43.48
	Culex restuans	7	29		
	Culex salinarius	2	3		
	Culex spp.	117	3940	34	8.63
	Psorophora columbiae	5	8		
	Psorophora ferox	1	1		
Warren		**233**	**9360**		
	Aedes japonicus	2	49		
	Culex spp.	231	9311		
Grand Total		**7850**	**165670**	**595**	**3.59**



Cumulative activity to last week



Cumulative activity to this week



Recent Activity 9/28 to 10/13)

RAMP (Rapid Analyte Measurement Platform). More than half of the counties in New Jersey are incorporating the use of RAMP results in their vector surveillance programs. Counties participate with the PHEL Lab in monitoring the efficacy and sensitivity of the RAMP results by sending in samples to be confirmed. Note that not all samples done by the counties are sent in to PHEL and therefore the number of pools submitted can differ from the number of pools reported by the counties.

Note: PHEL reported additional positive RAMP pools for data not currently in the database. This table will be updated to include those positives when the database is up to date.

RAMP Results for 06 October 2008

County	Species	Pools	Mosquitoes	Positives	PHEL (pools submitted/+/-)
Monmouth		**75**	**671**		
	Aedes albopictus	4	11		
	Aedes canadensis	8	38		
	Aedes cantator	3	13		
	Aedes japonicus	11	42		
	Aedes triseriatus	1	1		
	Anopheles punctipennis	3	6		
	Coquillettidia perturbans	1	1		
	Culex spp.	2	2		
	Culiseta melanura	1	1		
Warren		**51**	**1968**		
	Aedes japonicus	3	33		
	Aedes triseriatus	1	1		
	Aedes vexans	1	2		
	Culex restuans	1	4		
	Culex spp.	45	1928	**2**	**9/0/2**