

VECTOR SURVEILLANCE IN NEW JERSEY

EEE and WNV

CDC WEEK 31: July 27 to August 02, 2008

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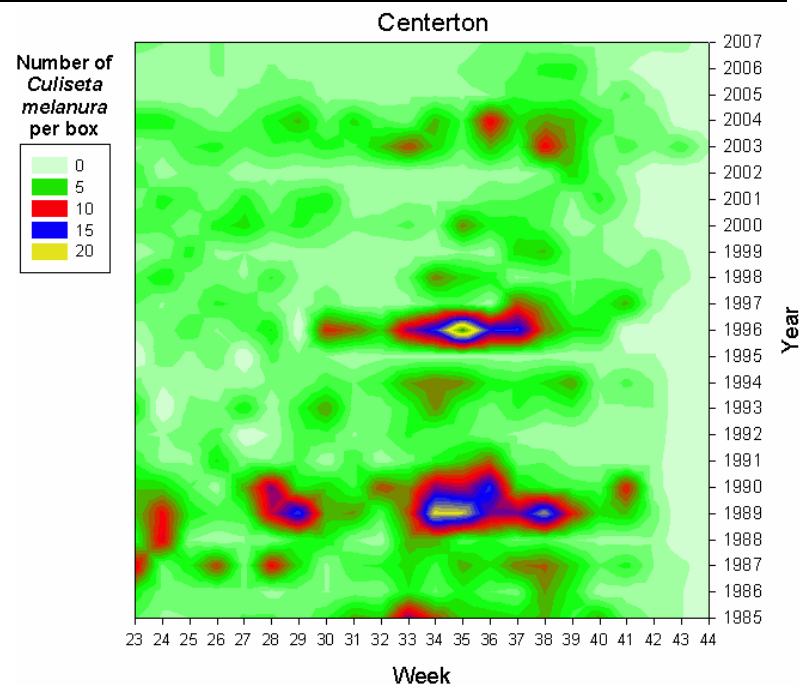
Culiseta melanura and Eastern Equine Encephalitis

SITE	Inland / Coastal	Historic Mean	Current Weekly Mean	Total Collected to Date*	Total Pools Submitted	EEE Isolations	MFIR
Green Bank (Burlington County)	Coastal	5.2	0	34	15		
Corbin City (Atlantic County)	Coastal	1.1	0.2	121	34		
Dennisville (Cape May County)	Coastal	8.0	0.2	361	28		
Waterford (Camden County)	Inland	0.5	0	0	0		
Centerton (Salem County)	Inland	2.0	< 0.1	190	28		
Turkey Swamp (Monmouth County)	Inland	1.3	0.2	120	29		
Glassboro (Gloucester County)	Inland	no history	< 0.1	9	6		

*Including trial run last week in May.

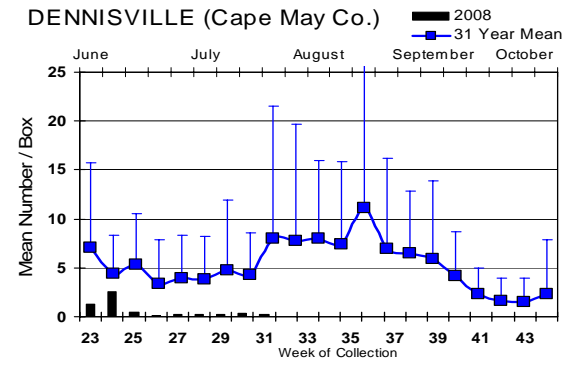
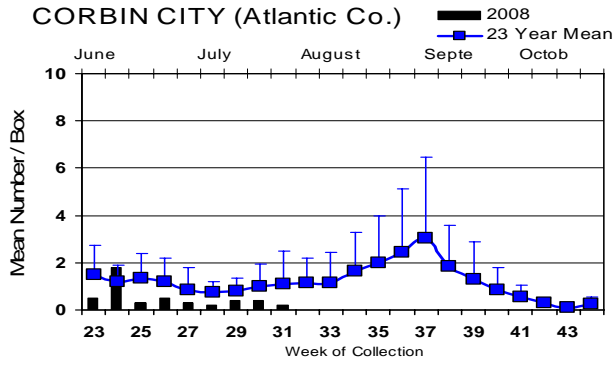
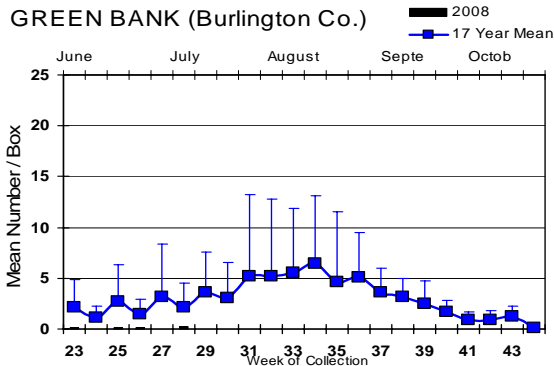
Remarks: Low populations of the endemic EEE vector, *Culiseta melanura* continuing the monitoring sites. Similar trends are seen in the light trap data from the Adult Mosquito Surveillance program. The Centerton site is the fifth in the series of contour graphs of monitoring sites. As with the previous four sites, highest activity came in the late 1980's and the mid 1990's. Centerton had few weeks with zero mosquitoes; these generally occurred during early to mid 1990's or at the end of the season.

To date, 140 pools from 835 *Cs. melanura* mosquitoes have been sent for EEE testing from the resting box collections. No positives have been detected from these pools or from pools submitted by the counties. At this time last year, 189 pools from 2573 individuals had been submitted for EEE testing (but no positives yet) An additional 151 pools of 1286 individual mosquitoes from 26 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. triseriatus*, *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., ferox*, and *Uranotaenia sapphirina*.

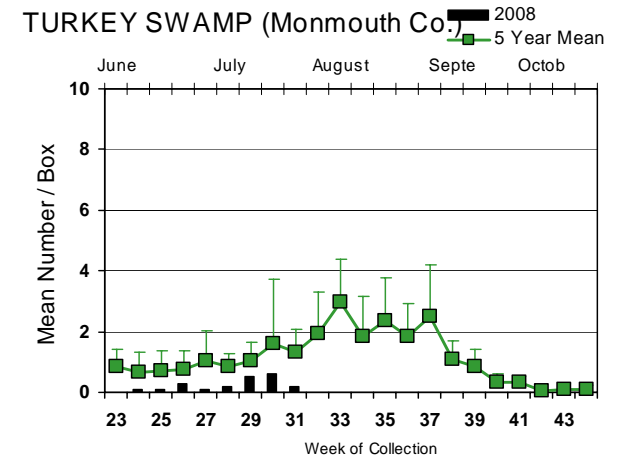
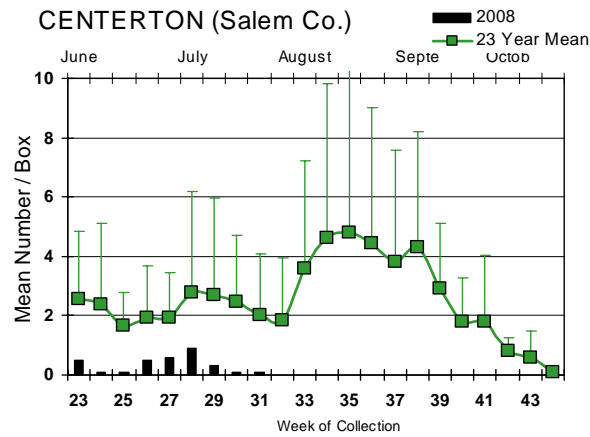
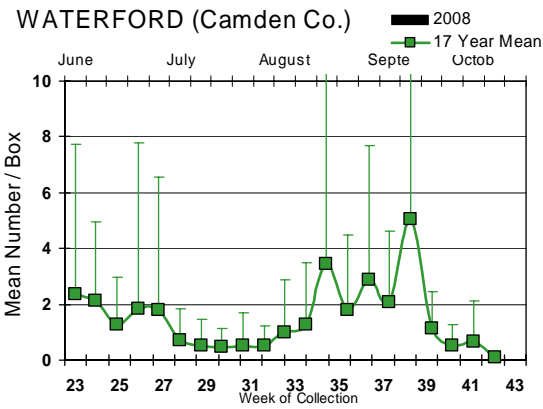


Culiseta melanura Population Graphs

Coastal



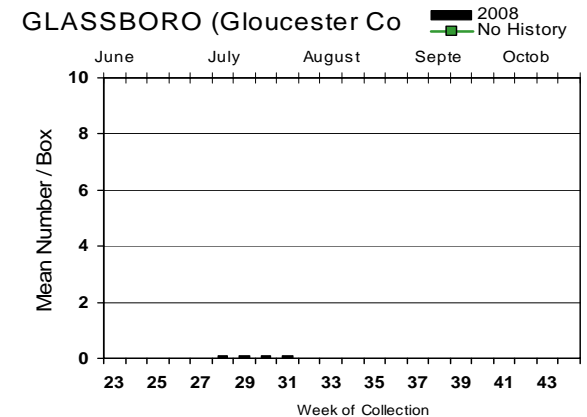
Inland



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).

Culiseta melanura appear to have fallen to their lowest levels of the season at most monitoring sites.



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

- equine: 2(AL), 61(FL), 16(GA) 1(LA) 5(MS)
- mosquito: 3(FL), 1(GA), 1(VA)
- sentinel: 3(AL), 54(FL, 37 wild)
- human: 1(AL)

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				1	1
Alaska					
Arizona	1	12/27	13/15		2
Arkansas				1	2
California	557/808	462/604	23/30	4	12/29
Colorado		7			3/14
Connecticut		12/26			1
Delaware					
Florida	2 live		2	1	
Georgia					
Hawaii					
Idaho	1	4 counties			5/7
Illinois	2/4	48/65			1
Indiana		2			
Iowa					1
Kansas					
Kentucky					
Louisiana		337		1	5
Maine					
Maryland					
Mass.	3/9	5/10			
Michigan	1				
Minnesota		1			3
Mississippi		1			17
Missouri		149			
Montana					
Nebraska	1	4			1/2

	Birds	Mosquito Pools	Sentinels	Horses	Humans
Nevada		2+			
New Hampshire					
New Jersey	3/5	53/109			
New Mexico		1		1	
New York	13	40			
North Carolina				1	
North Dakota				1	5/6
Ohio		3/7			1
Oklahoma					3
Oregon		1			
Pennsylvania	1/2	47/61			1
Rhode Island					
South Carolina	2				
South Dakota	1	10		1	5
Tennessee		58/103			1
Texas		33/40			6/8
Utah	2	24/32			2
Vermont					
Virginia		24/97			
Washington		1/2		2	
West Virginia	2	8/10		2	1
Wisconsin	4			1	
Wyoming		2			1

Note: Data reported by states are provisional and are subject to change.

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

Mosquito Species Submitted for West Nile Virus Testing through 04 August 2008

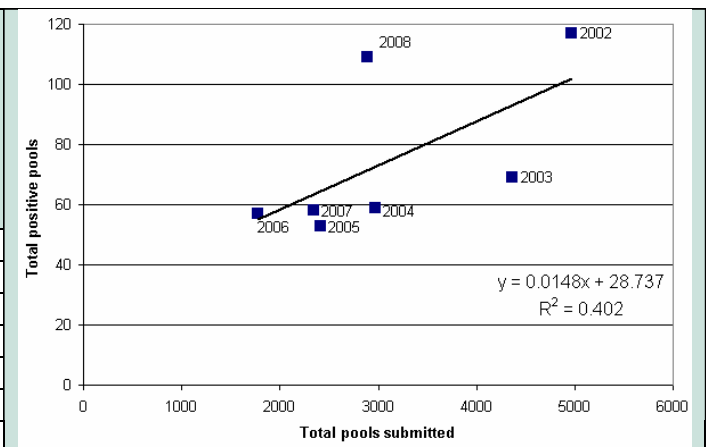
Species	Pools	Mosquitoes	Positives	MFIR
<i>Aedes abserratus</i>	1	9		
<i>Aedes albopictus</i>	230	1984		
<i>Aedes atlanticus</i>	1	4		
<i>Aedes atropalpus</i>	1	1		
<i>Aedes canadensis canadensis</i>	51	1226		
<i>Aedes cantator</i>	24	356		
<i>Aedes cinereus</i>	1	3		
<i>Aedes communis</i>	1	1		
<i>Aedes grossbecki</i>	3	4		
<i>Aedes japonicus</i>	165	873		
<i>Aedes punctor</i>	1	1		
<i>Aedes sollicitans</i>	13	161		
<i>Aedes sticticus</i>	5	85		

<i>Aedes taeniorhynchus</i>	8	59		
<i>Aedes thibaulti</i>	5	13		
<i>Aedes triseriatus</i>	81	280		
<i>Aedes trivittatus</i>	1	1		
<i>Aedes vexans</i>	77	1427		
<i>Anopheles barberi</i>	1	1		
<i>Anopheles bradleyi</i>	31	721		
<i>Anopheles crucians</i>	3	4		
<i>Anopheles punctipennis</i>	73	530		
<i>Anopheles quadrimaculatus</i>	48	915		
<i>Coquillettidia perturbans</i>	61	665		
<i>Culex erraticus</i>	18	98		
<i>Culex pipiens</i>	256	7418	18	2.427
<i>Culex restuans</i>	155	2817		
<i>Culex salinarius</i>	77	1650		
<i>Culex spp.</i>	1089	46130	91	1.973
<i>Culex territans</i>	19	44		
<i>Culiseta inornata</i>	2	4		
<i>Culiseta melanura</i>	175	1117		
<i>Orthopodomyia signifera</i>	5	13		
<i>Psorophora ciliata</i>	1	1		
<i>Psorophora columbiae</i>	2	3		
<i>Psorophora ferox</i>	12	102		
<i>Psorophora howardii</i>	1	4		
<i>Uranotaenia sapphirina</i>	5	27		
Grand Total	2703	68752	109	1.585

Remarks: Submitted pools (2,703) comprised of 68,752 individual mosquitoes produced 109 positive pools from 12 different counties. Involvement continues through the suburban corridor and metro areas and now down the suburbanized coastal zone. *Culex pipiens* and mixed *Culex* pools persist as positive pools during this period of viral amplification. Submissions are from 37 different species and are from all 21 counties.

This year, the number of positive pools seemed to begin early and with vigor. Below are the number of positive pools (virus) found by August 4th of each year with the corresponding total number of pools submitted (“effort”). The graph is expressed by a line predicting positive pools by number submitted (activity). (This relationship is likely more accurately described non-linearly since at zero pools submitted we can only have zero positive pools and the line must bend toward zero at the y-axis to do so). The farther away any year is from the line, the greater or lesser amounts of positive pools occurred for any particular year (above the line indicate more positive pools than predicted while those below the line indicate fewer positive pools). This year, at this point in time, 2008 is farther away (and above) from the line, and thus more positive pools are occurring than predicted. This difference also appears larger than those for 2002 and 2003, two apparently very active years. Note however that in 2003 there were fewer positive pools than expected.

Year	Total Pools Submitted	Total Positive Pools	Activity
2002	4962	117	0.024
2003	4369	69	0.016
2004	2974	59	0.020
2005	2409	53	0.022
2006	1781	57	0.032
2007	2339	58	0.025
2008	2886	109	0.038



Humans, Horses and Wild Birds: To date, there have been 90 dead birds submitted for West Nile virus testing with five positives (an unidentified hawk in Union County, an American Crow in Ocean County and a Fish Crow in Morris County). First two were collected on the 17th of July 2008 and the Fish Crow on the 16th of July. Two additional Fish Crows were found in Cumberland and Mercer Counties. Last year, there had been 112 birds submitted for testing with four positive birds up to this date. The first positive bird was collected on the 14th of July, 2007.

2008 Positive Mosquito pools to date / Total Mosquito Pools Submitted	This time last year
109 / 2,886	58 / 2,339

WNV Results by County through 04 August 2008

County	Species	Pools	Mosquitoes	Positives	MFIR
Atlantic		139	2886	7	2.426
	<i>Aedes albopictus</i>	10	281		
	<i>Aedes canadensis canadensis</i>	3	12		
	<i>Aedes cantator</i>	2	16		
	<i>Aedes japonicus</i>	2	3		
	<i>Aedes sollicitans</i>	1	9		
	<i>Aedes taeniorhynchus</i>	4	38		
	<i>Aedes thibaulti</i>	4	8		
	<i>Aedes triseriatus</i>	3	12		
	<i>Aedes vexans</i>	5	49		
	<i>Anopheles bradleyi</i>	5	22		
	<i>Anopheles punctipennis</i>	1	1		
	<i>Coquillettidia perturbans</i>	3	40		
	<i>Culex restuans</i>	3	33		
	<i>Culex salinarius</i>	2	2		
	<i>Culex sp.</i>	49	2207	7	3.172
	<i>Culex territans</i>	4	15		
	<i>Culiseta melanura</i>	36	125		
	<i>Psorophora ferox</i>	2	13		
Bergen		227	8127	18	2.215
	<i>Aedes albopictus</i>	14	75		
	<i>Aedes canadensis candensis</i>	1	6		
	<i>Aedes japonicus</i>	19	129		
	<i>Aedes sollicitans</i>	1	1		
	<i>Aedes triseriatus</i>	10	38		
	<i>Aedes vexans</i>	10	79		
	<i>Anopheles barberi</i>	1	1		
	<i>Anopheles punctipennis</i>	4	31		
	<i>Coquillettidia perturbans</i>	14	148		
	<i>Culex pipiens</i>	51	1688	3	1.777
	<i>Culex restuans</i>	25	307		
	<i>Culex salinarius</i>	27	895		
	<i>Culex spp.</i>	82	6081	27	4.440
	<i>Culex territans</i>	1	1		
Burlington		176	1735		
	<i>Aedes albopictus</i>	8	29		
	<i>Aedes canadensis canadensis</i>	21	598		
	<i>Aedes cantator</i>	4	148		
	<i>Aedes cinereus</i>	1	3		

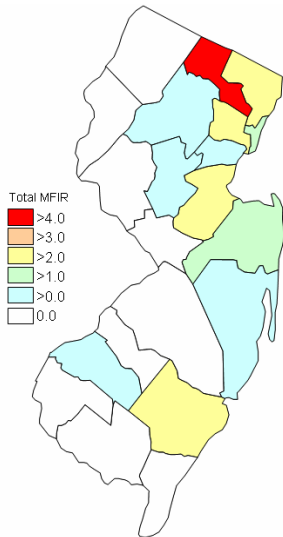
<i>Aedes grossbecki</i>	1	1		
<i>Aedes japonicus</i>	7	18		
<i>Aedes sollicitans</i>	1	18		
<i>Aedes sticticus</i>	2	5		
<i>Aedes triseriatus</i>	8	29		
<i>Aedes vexans</i>	20	182		
<i>Anopheles bradleyi</i>	1	2		
<i>Anopheles crucians</i>	3	4		
<i>Anopheles punctipennis</i>	10	25		
<i>Anopheles quadrimaculatus</i>	2	4		
<i>Coquillettidia perturbans</i>	17	227		
<i>Culex erraticus</i>	1	1		
<i>Culex pipiens</i>	2	18		
<i>Culex restuans</i>	4	27		
<i>Culex salinarius</i>	1	1		
<i>Culex sp.</i>	23	238		
<i>Culex territans</i>	3	6		
<i>Culiseta inornata</i>	1	3		
<i>Culiseta melanura</i>	27	130		
<i>Orthopodomyia signifera</i>	3	11		
<i>Psorophora ciliata</i>	1	1		
<i>Psorophora ferox</i>	2	3		
<i>Uranotaenia sapphirina</i>	2	3		
Camden	99	1859	2	1.076
<i>Aedes albopictus</i>	14	148		
<i>Aedes canadensis canadensis</i>	1	19		
<i>Aedes cantator</i>	1	22		
<i>Aedes japonicus</i>	11	27		
<i>Aedes triseriatus</i>	1	1		
<i>Aedes vexans</i>	4	46		
<i>Anopheles punctipennis</i>	7	31		
<i>Anopheles quadrimaculatus</i>	4	5		
<i>Coquillettidia perturbans</i>	4	16		
<i>Culex erraticus</i>	1	1		
<i>Culex pipiens</i>	11	495		
<i>Culex restuans</i>	16	479		
<i>Culex salinarius</i>	3	14		
<i>Culex sp.</i>	18	552	2	3.623
<i>Culiseta melanura</i>	1	1		
<i>Orthopodomyia signifera</i>	1	1		
<i>Psorophora columbiae</i>	1	1		
Cape_May	180	3646		
<i>Aedes canadensis canadensis</i>	4	71		
<i>Aedes cantator</i>	8	82		
<i>Aedes japonicus</i>	5	13		
<i>Aedes sollicitans</i>	3	81		
<i>Aedes taeniorhynchus</i>	2	8		
<i>Aedes triseriatus</i>	1	1		
<i>Aedes vexans</i>	2	13		
<i>Anopheles bradleyi</i>	14	435		
<i>Anopheles punctipennis</i>	6	101		
<i>Anopheles quadrimaculatus</i>	12	492		
<i>Coquillettidia perturbans</i>	3	27		
<i>Culex erraticus</i>	3	15		

<i>Culex pipiens</i>	26	569		
<i>Culex restuans</i>	37	779		
<i>Culex salinarius</i>	11	425		
<i>Culex sp.</i>	12	164		
<i>Culex territans</i>	1	2		
<i>Culiseta melanura</i>	30	368		
Cumberland	74	833		
<i>Aedes albopictus</i>	12	27		
<i>Aedes japonicus</i>	9	10		
<i>Aedes triseriatus</i>	6	6		
<i>Coquillettidia perturbans</i>	1	1		
<i>Culex erraticus</i>	5	16		
<i>Culex spp.</i>	40	735		
<i>Culiseta melanura</i>	1	38		
Essex	85	1455	4	2.749
<i>Aedes albopictus</i>	15	94		
<i>Aedes japonicus</i>	9	49		
<i>Aedes punctor</i>	1	1		
<i>Aedes triseriatus</i>	5	9		
<i>Aedes trivittatus</i>	1	1		
<i>Aedes vexans</i>				
<i>Anopheles quadrimaculatus</i>	3	10		
<i>Coquillettidia perturbans</i>	2	2		
<i>Culex spp.</i>	49	1289	4	3.103
Gloucester	229	5588	12	2.147
<i>Aedes abserratus</i>	1	9		
<i>Aedes albopictus</i>	11	128		
<i>Aedes canadensis canadensis</i>	7	245		
<i>Aedes communis</i>	1	1		
<i>Aedes japonicus</i>	14	93		
<i>Aedes thibaulti</i>	1	5		
<i>Aedes triseriatus</i>	4	13		
<i>Aedes vexans</i>	5	232		
<i>Anopheles bradleyi</i>	4	86		
<i>Anopheles punctipennis</i>	14	59		
<i>Anopheles quadrimaculatus</i>	9	28		
<i>Coquillettidia perturbans</i>	2	31		
<i>Culex erraticus</i>	1	37		
<i>Culex pipiens</i>	114	3914	12	3.066
<i>Culex restuans</i>	14	581		
<i>Culex salinarius</i>	6	34		
<i>Culex territans</i>	3	10		
<i>Culiseta melanura</i>	15	56		
<i>Psorophora ferox</i>	1	4		
<i>Uranotaenia sapphirina</i>	2	22		
Hudson	69	3317	7	2.110
<i>Culex spp.</i>	69	3317	7	2.110

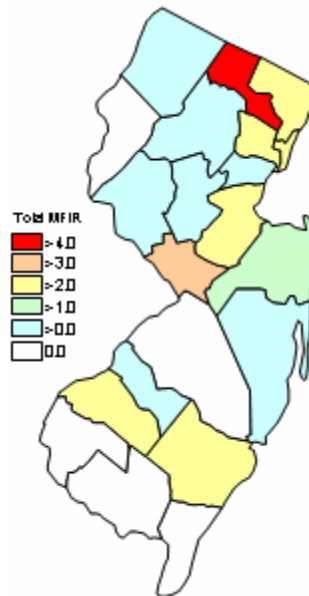
Hunterdon	90	4360	1	0.229
<i>Aedes albopictus</i>	1	2		
<i>Anopheles punctipennis</i>	1	50		
<i>Culex erraticus</i>	1	10		
<i>Culex spp.</i>	86	4297	1	0.233
<i>Culiseta inornata</i>	1	1		
Mercer	72	631	2	3.170
<i>Aedes albopictus</i>	33	246		
<i>Aedes atropalpus</i>	1	1		
<i>Aedes japonicus</i>	15	29		
<i>Aedes triseriatus</i>	5	19		
<i>Culex erraticus</i>	2	4		
<i>Culex pipiens</i>	8	215	2	9.302
<i>Culex restuans</i>	2	14		
<i>Culex salinarius</i>	2	9		
<i>Culex spp.</i>	4	94		
Middlesex	119	2714	6	2.211
<i>Aedes albopictus</i>	12	107		
<i>Aedes japonicus</i>	7	40		
<i>Aedes triseriatus</i>	2	7		
<i>Culex pipiens</i>	6	78		
<i>Culex restuans</i>	5	59		
<i>Culex spp.</i>	87	2423	6	2.476
Monmouth	216	2198	2	0.910
<i>Aedes albopictus</i>	25	84		
<i>Aedes canadensis canadensis</i>	3	18		
<i>Aedes cantator</i>	4	5		
<i>Aedes japonicus</i>	8	16		
<i>Aedes sollicitans</i>	5	30		
<i>Aedes taeniorhynchus</i>	2	13		
<i>Aedes triseriatus</i>	5	10		
<i>Aedes vexans</i>	11	101		
<i>Anopheles punctipennis</i>	6	9		
<i>Coquillettidia perturbans</i>	3	4		
<i>Culex pipiens</i>	27	167		
<i>Culex restuans</i>	23	166		
<i>Culex salinarius</i>	7	10		
<i>Culex spp.</i>	54	1439	2	1.390
<i>Culex territans</i>	4	6		
<i>Culiseta melanura</i>	29	120		
Morris	75	3621	8	2.209
<i>Aedes japonicus</i>	1	6		
<i>Coquillettidia perturbans</i>	1	50		
<i>Culex spp.</i>	73	3565	8	2.244
Ocean	181	3681	1	0.272
<i>Aedes albopictus</i>	39	512		
<i>Aedes canadensis canadensis</i>	5	77		
<i>Aedes cantator</i>	1	9		
<i>Aedes japonicus</i>	17	40		
<i>Aedes sollicitans</i>	1	21		

	<i>Aedes triseriatus</i>	4	16		
	<i>Aedes vexans</i>	5	30		
	<i>Anopheles bradleyi</i>	1	1		
	<i>Anopheles punctipennis</i>	2	5		
	<i>Anopheles quadrimaculatus</i>	1	1		
	<i>Coquillettidia perturbans</i>	2	7		
	<i>Culex pipiens</i>	7	247	1	4.049
	<i>Culex restuans</i>	15	245		
	<i>Culex salinarius</i>	12	91		
	<i>Culex sp.</i>	58	2288		
	<i>Culex territans</i>	1	1		
	<i>Culiseta melanura</i>	7	79		
	<i>Psorophora ferox</i>	3	11		
Passaic		55	2256	14	6.206
	<i>Aedes albopictus</i>	1	11		
	<i>Aedes japonicus</i>	3	32		
	<i>Aedes triseriatus</i>	1	2		
	<i>Culex spp.</i>	50	2211	14	6.332
Salem		167	2430		
	<i>Aedes albopictus</i>	9	32		
	<i>Aedes atlanticus</i>	1	4		
	<i>Aedes canadensis canadensis</i>	6	180		
	<i>Aedes cantator</i>	4	74		
	<i>Aedes grossbecki</i>	2	3		
	<i>Aedes japonicus</i>	8	21		
	<i>Aedes sollicitans</i>	1	1		
	<i>Aedes sticticus</i>	3	80		
	<i>Aedes triseriatus</i>	10	25		
	<i>Aedes vexans</i>	13	687		
	<i>Anopheles bradleyi</i>	6	175		
	<i>Anopheles punctipennis</i>	17	212		
	<i>Anopheles quadrimaculatus</i>	16	374		
	<i>Coquillettidia perturbans</i>	5	31		
	<i>Culex erraticus</i>	4	14		
	<i>Culex pipiens</i>	2	5		
	<i>Culex restuans</i>	5	12		
	<i>Culex salinarius</i>	6	169		
	<i>Culex spp.</i>	11	49		
	<i>Culex territans</i>	2	3		
	<i>Culiseta melanura</i>	29	200		
	<i>Psorophora columbiae</i>	1	2		
	<i>Psorophora ferox</i>	4	71		
	<i>Psorophora howardii</i>	1	4		
	<i>Uranotaenia sapphirina</i>	1	2		
Somerset		103	2227	1	0.449
	<i>Aedes albopictus</i>	6	20		
	<i>Aedes japonicus</i>	19	196		
	<i>Aedes triseriatus</i>	16	92		
	<i>Anopheles punctipennis</i>	4	4		
	<i>Anopheles quadrimaculatus</i>	1	1		
	<i>Culex pipiens</i>	2	22		

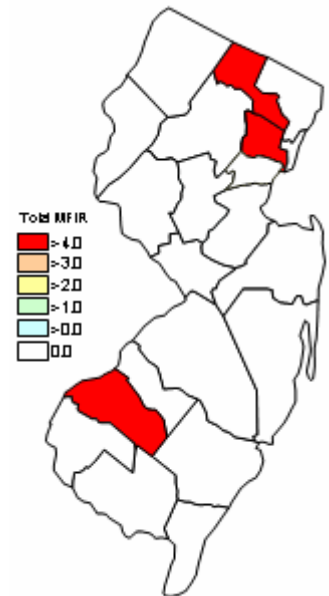
	<i>Culex restuans</i>	2	19		
	<i>Culex spp.</i>	52	1872	1	0.534
	<i>Orthopodomyia signifera</i>	1	1		
Sussex		130	6236	1	0.160
	<i>Aedes japonicus</i>	4	80		
	<i>Coquillettidia perturbans</i>	4	81		
	<i>Culex restuans</i>	4	96		
	<i>Culex spp.</i>	118	5979	1	0.167
Union		54	1899	1	0.527
	<i>Aedes albopictus</i>	12	131		
	<i>Aedes japonicus</i>	3	4		
	<i>Aedes vexans</i>	1	7		
	<i>Anopheles punctipennis</i>	1	2		
	<i>Culex spp.</i>	37	1755	1	0.570
Warren		99	4982		
	<i>Aedes japonicus</i>	2	49		
	<i>Culex spp.</i>	97	4933		
Grand Total		2703	68752	109	1.585



Cumulative activity to last week



Cumulative activity to this week



Current Week Activity 7/28 to 8/04)

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.

RAMP Results for 04 August 2008

County	Species	Pools	Mosquitoes	Positives	PHEL (submitted/+/-)
Monmouth		75	671		
	<i>Aedes albopictus</i>	4	11		
	<i>Aedes canadensis</i>	8	38		
	<i>Aedes cantator</i>	3	13		
	<i>Aedes japonicus</i>	11	42		
	<i>Aedes sollicitans</i>	1	1		
	<i>Aedes triseriatus</i>	3	6		
	<i>Aedes trivittatus</i>	1	1.		
	<i>Anopheles punctipennis</i>	2	2		
	<i>Coquillettidia perturbans</i>	1	1		
	<i>Culex spp.</i>	28	467		
	<i>Culex pipiens</i>	12	88		
	<i>Culiseta melanura</i>	1	1		
Warren		42	1758		
	<i>Culex restuans</i>	1	4		
	<i>Culex spp.</i>	39	1754	2	9/0/9