RUTGERS
New Jersey Agricultural Experiment Station

VECTOR SURVEILLANCE IN NEW JERSEY
EEE and WNV
CDC WEEK 30: July 20 to July 26, 2008

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Supported by funding from the NJ State Mosquito Control Commission.

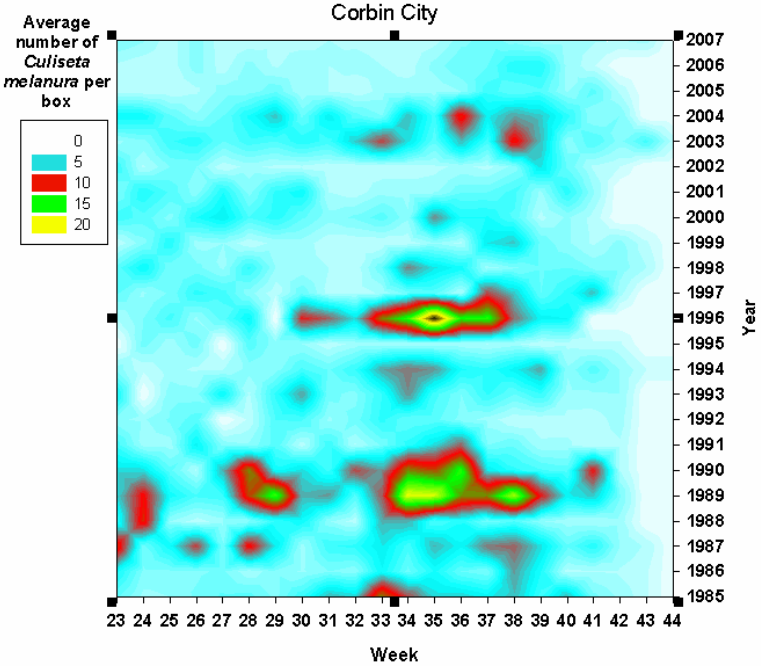
Culiseta melanura and Eastern Equine Encephalitis

SITE	Inland / Coastal	Historic Mean	Current Weekly Mean	Total Collected to Date*	Total Pools Submitted	EEE Isolations	MFIR
Green Bank (Burlington County)	Coastal	3.0	0	34	15		
Corbin City (Atlantic County)	Coastal	1.0	0.4	117	31		
Dennisville (Cape May County)	Coastal	4.3	< 0.1	353	16		
Waterford (Camden County)	Inland	0.5	0	0	0		
Centerton (Salem County)	Inland	2.5	< 0.1	189	27		
Turkey Swamp (Monmouth County)	Inland	1.6	0.6	111	25		
Glassboro (Gloucester County)	Inland	no history	< 0.1	8	5		

*Including trial run last week in May.

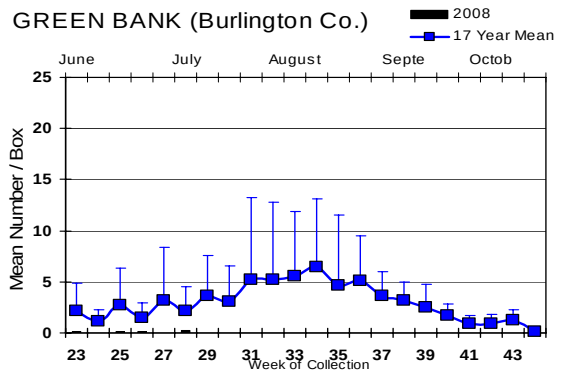
Remarks: *Culiseta melanura* populations continue to be trapped in very low numbers at the monitoring sites. Similar trends are seen in the light trap data from the Adult Mosquito Surveillance program. Corbin City is the fourth in the series of contour graphs of monitoring sites. As with the previous three sites, highest activity came in the late 1980's and the mid 1990's. Most weekly averages are at or below 5 mosquitoes per box.

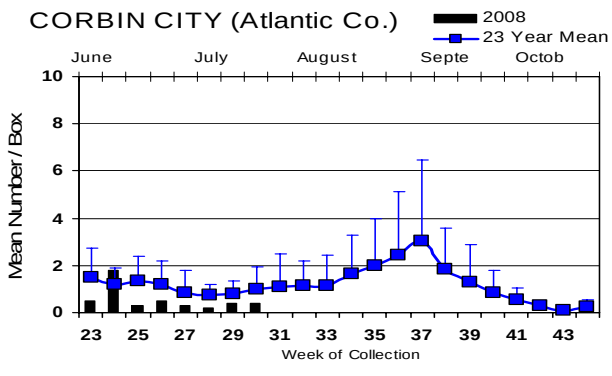
To date, 119 pools from 812 *Cs. melanura* mosquitoes have been sent for EEE testing from the resting box collections. No positives have been detected from these pools or from pools submitted by the counties. An additional 144 pools of 1375 individual mosquitoes from 26 species other than *Cs. melanura* 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.*

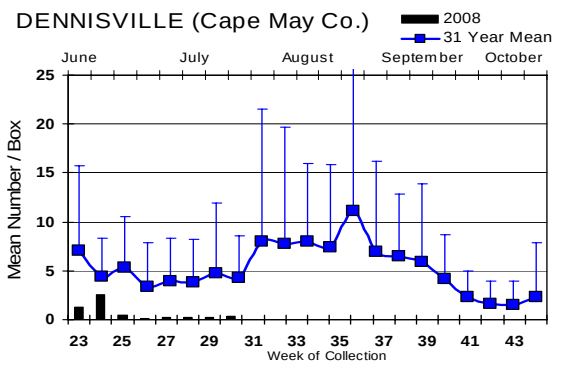


Culiseta melanura Population Graphs

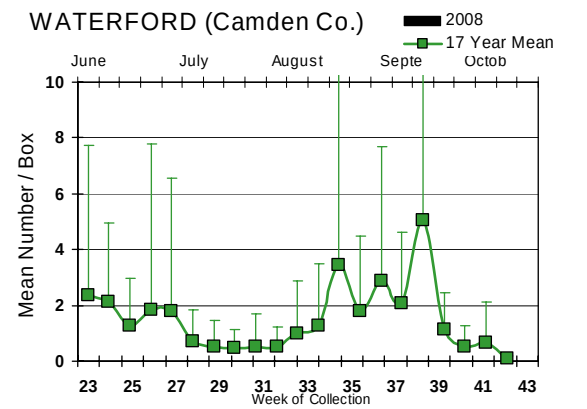
Coastal

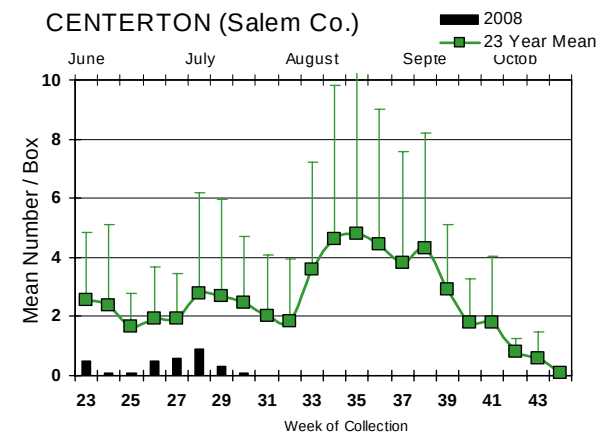


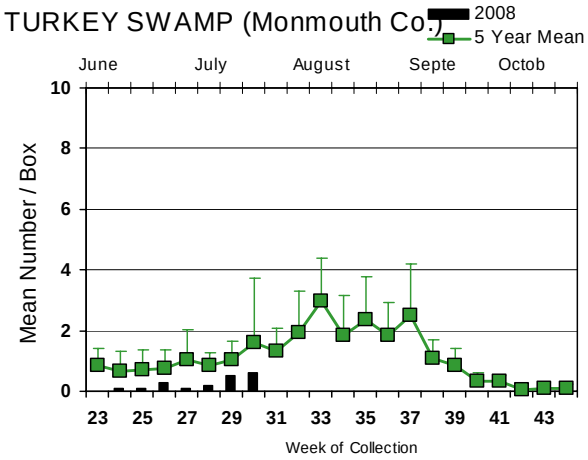




Inland



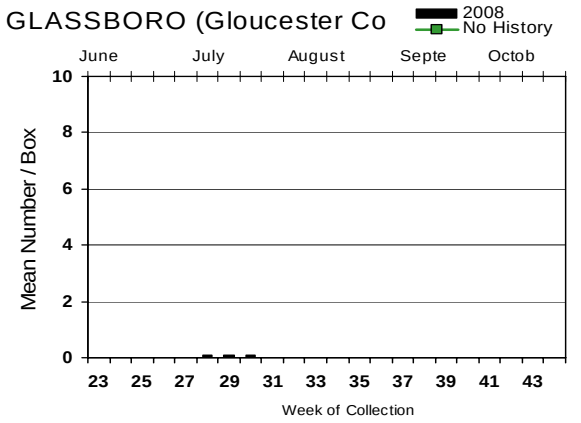




Figures: Inland and coastal resting box sites showing current weekly population levels (in bars) against historical trends (lines with standard deviation). The number of years for historical population levels varies by site.

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 continues to evade capture at the Waterford site. A slight increase in the average number of *Cs. melanura* per box has occurred at the Turkey Swamp site. All sites are lower than their respective historic trends. However, at some sites, error bars are large enough to include not only the current weekly average but also zero.



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

- equine: 2(AL), 61(FL), 16(GA) 1(LA) 4(MS)
- mosquito: 3(FL)
- sentinel: 3(AL), 51(FL, 34 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	3/12	10/13		1/2
Arkansas				1	2
California	435/557	292/462	8/23	2/4	6/12
Colorado					2/3
Connecticut		6/12			1
Delaware					
Florida	2 live		2	1	
Georgia					
Hawaii					
Idaho	1	3 counties			5
Illinois	2	41/48			1
Indiana		2			
Iowa					
Kansas					
Kentucky					
Louisiana		273/337		1	5
Maine					
Maryland					
Mass.	3	4/5			
Michigan	1				
Minnesota		1			3
Mississippi		1			9/15
Missouri		86/149			
Montana					
Nebraska	1	4			1

	Birds	Mosquito Pools	Sentinels	Horses	Humans
Nevada		1+			
New Hampshire					
New Jersey	3	30/53			
New Mexico		2		1	
New York	6/13	22/40			
North Carolina					
North Dakota				1	5
Ohio		1/3			1
Oklahoma					3
Oregon		1			
Pennsylvania	1	32/47			1
Rhode Island					
South Carolina	2				
South Dakota	1	3/10		1	1/5
Tennessee		27/58			1
Texas		24/33			6
Utah	2	21/24			1/2
Vermont					
Virginia		6/24			
Washington		1			
West Virginia	2	3/8		2	1
Wisconsin	2/4			1	
Wyoming		2			1

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

Protocol: New Jersey Department of Health and Senior Services tests mosquito pools using RT-PCR Taqman techniques.

Mosquito Species Submitted for West Nile Virus Testing through 28 July 2008

Species	Pools	Mosquitoes	Positives	MFIR
Aedes abserratus	1	9		
Aedes albopictus	155	1160		
Aedes atlanticus	1	4		
Aedes atropalpus	1	1		
Aedes canadensis canadensis	48	1220		
Aedes cantator	24	356		
Aedes cinereus	1	3		
Aedes communis	1	1		
Aedes grossbecki	3	4		
Aedes japonicus	137	716		
Aedes punctor	1	1		
Aedes sollicitans	13	161		
Aedes sticticus	5	85		
Aedes taeniorhynchus	7	51		

Aedes thibaulti	5	13		
Aedes triseriatus	66	221		
Aedes trivittatus	1	1		
Aedes vexans	63	1246		
Anopheles barberi	1	1		
Anopheles bradleyi	23	535		
Anopheles crucians	3	4		
Anopheles punctipennis	60	370		
Anopheles quadrimaculatus	37	741		
Coquillettidia perturbans	52	577		
Culex erraticus	10	26		
Culex pipiens	201	5827	6	1.030
Culex restuans	149	2795		
Culex salinarius	71	1466		
Culex spp.	866	38205	47	1.230
Culex territans	16	40		
Culiseta inornata	1	3		
Culiseta melanura	155	1015		
Orthopodomyia signifera	5	13		
Psorophora ciliata	1	1		
Psorophora columbiae	2	3		
Psorophora ferox	9	99		
Psorophora howardii	1	4		
Uranotaenia sapphirina	3	4		
Grand Total	**2199**	**56982**	**53**	**0.930**

Remarks: Submitted pools (2,199) comprised of 56,982 individual mosquitoes produced 53 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 34 different species and are from all 21 counties.

Humans, Horses and Wild Birds: To date, there have been 77 dead birds submitted for West Nile virus testing with three 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. Last year, there had been 100 birds submitted for testing with two 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
53 / 2,199	26 / 1,921

WNV Results by County through 28 July 2008

County	Species	Pools	Mosquitoes	Positives	MFIR
Atlantic		**117**	**2328**	**5**	**2.148**
	Aedes albopictus	5	131		
	Aedes canadensis canadensis	3	12		
	Aedes cantator	2	16		
	Aedes japonicus	2	3		
	Aedes sollicitans	1	9		
	Aedes taeniorhynchus	3	30		
	Aedes thibaulti	4	8		
	Aedes triseriatus	3	12		

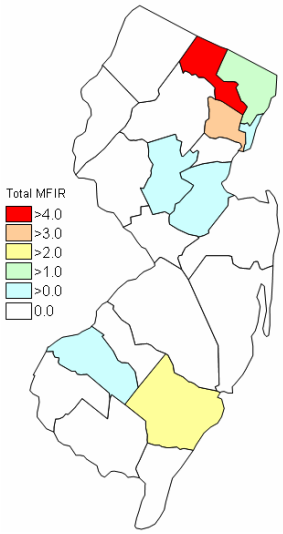
	Aedes vexans	3	40		
	Anopheles bradleyi	4	9		
	Anopheles punctipennis	1	1		
	Coquillettidia perturbans	2	23		
	Culex restuans	3	33		
	Culex salinarius	2	2		
	Culex sp.	41	1851	5	2.701
	Culex territans	4	15		
	Culiseta melanura	33	121		
	Psorophora ferox	1	12		
Bergen		**227**	**8127**	**18**	**2.215**
	Aedes albopictus	10	58		
	Aedes canadensis candensis	1	6		
	Aedes japonicus	17	123		
	Aedes sollicitans	1	1		
	Aedes triseriatus	10	38		
	Aedes vexans	8	76		
	Anopheles barberi	1	1		
	Anopheles punctipennis	4	31		
	Coquillettidia perturbans	13	147		
	Culex pipiens	45	1478	3	2.030
	Culex restuans	24	305		
	Culex salinarius	23	726		
	Culex spp.	69	5136	15	2.921
	Culex territans	1	1		
Burlington		**176**	**1735**		
	Aedes albopictus	8	29		
	Aedes canadensis canadensis	21	598		
	Aedes cantator	4	148		
	Aedes cinereus	1	3		
	Aedes grossbecki	1	1		
	Aedes japonicus	7	18		
	Aedes sollicitans	1	18		
	Aedes sticticus	2	5		
	Aedes triseriatus	8	29		
	Aedes vexans	20	182		
	Anopheles bradleyi	1	2		
	Anopheles crucians	3	4		
	Anopheles punctipennis	10	25		
	Anopheles quadrimaculatus	2	4		
	Coquillettidia perturbans	17	227		
	Culex erraticus	1	1		
	Culex pipiens	2	18		
	Culex restuans	4	27		
	Culex salinarius	1	1		
	Culex sp.	23	238		
	Culex territans	3	6		
	Culiseta inornata	1	3		
	Culiseta melanura	27	130		
	Orthopodomyia signifera	3	11		
	Psorophora ciliata	1	1		
	Psorophora ferox	2	3		
	Uranotaenia sapphirina	2	3		

Camden		**86**	**1665**		
	Aedes albopictus	10	110		
	Aedes canadensis canadensis	1	19		
	Aedes cantator	1	22		
	Aedes japonicus	9	24		
	Aedes triseriatus	1	1		
	Aedes vexans	4	46		
	Anopheles punctipennis	6	30		
	Anopheles quadrimaculatus	4	5		
	Coquillettidia perturbans	3	15		
	Culex erraticus	1	1		
	Culex pipiens	11	495		
	Culex restuans	16	479		
	Culex salinarius	3	14		
	Culex sp.	13	401		
	Culiseta melanura	1	1		
	Orthopodomyia signifera	1	1		
	Psorophora columbiae	1	1		
Cape_May		**166**	**3466**		
	Aedes canadensis canadensis	4	71		
	Aedes cantator	8	82		
	Aedes japonicus	5	13		
	Aedes sollicitans	3	81		
	Aedes taeniorhynchus	2	8		
	Aedes triseriatus	1	1		
	Aedes vexans	2	13		
	Anopheles bradleyi	13	420		
	Anopheles punctipennis	6	101		
	Anopheles quadrimaculatus	10	486		
	Coquillettidia perturbans	3	27		
	Culex erraticus	2	7		
	Culex pipiens	26	569		
	Culex restuans	37	779		
	Culex salinarius	11	425		
	Culex sp.	4	21		
	Culex territans	1	2		
	Culiseta melanura	28	360		
Cumberland		**43**	**615**		
	Aedes albopictus	6	10		
	Aedes japonicus	5	5		
	Aedes triseriatus	3	3		
	Culex erraticus	3	11		
	Culex spp.	26	586		
Essex		**85**	**1455**	**4**	**2.749**
	Aedes albopictus	15	94		
	Aedes japonicus	9	49		
	Aedes punctor	1	1		
	Aedes triseriatus	5	9		
	Aedes trivittatus	1	1		
	Anopheles quadrimaculatus	3	10		

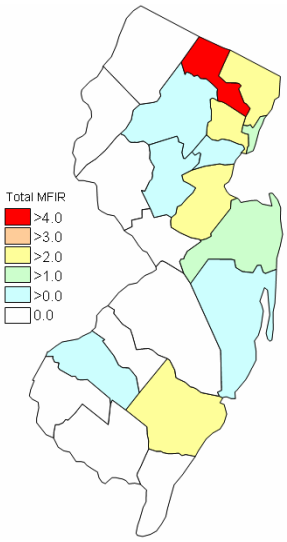
	Coquillettidia perturbans	2	2		
	Culex spp.	49	1289	4	3.103
Gloucester		**153**	**3853**	**2**	**0.519**
	Aedes abserratus	1	9		
	Aedes albopictus	6	56		
	Aedes canadensis canadensis	7	245		
	Aedes communis	1	1		
	Aedes japonicus	10	83		
	Aedes thibaulti	1	5		
	Aedes triseriatus	2	9		
	Aedes vexans	3	82		
	Anopheles bradleyi	2	10		
	Anopheles punctipennis	8	45		
	Anopheles quadrimaculatus	6	17		
	Coquillettidia perturbans	1	2		
	Culex pipiens	74	2658	2	0.752
	Culex restuans	13	567		
	Culex salinarius	5	20		
	Culex territans	2	9		
	Culiseta melanura	9	30		
	Psorophora ferox	1	4		
	Uranotaenia sapphirina	1	1		
Hudson		**55**	**2697**	**3**	**1.112**
	Culex spp.	55	2697	**3**	**1.112**
Hunterdon		**70**	**3500**		
	Culex spp.	70	3500		
Mercer		**39**	**348**		
	Aedes albopictus	33	246		
	Aedes atropalpus	1	1		
	Aedes japonicus	15	29		
	Aedes triseriatus	5	19		
	Culex erraticus	2	4		
	Culex pipiens	6	150		
	Culex restuans	2	14		
	Culex salinarius	2	9		
	Culex spp.	4	94		
Middlesex		**101**	**2523**	**6**	**2.609**
	Aedes albopictus	6	39		
	Aedes japonicus	7	40		
	Aedes triseriatus	2	7		
	Culex pipiens	6	78		
	Culex restuans	5	59		
	Culex spp.	75	2300	6	2.609
Monmouth		**186**	**1854**	**2**	**1.079**
	Aedes albopictus	20	70		
	Aedes canadensis canadensis	3	18		
	Aedes cantator	4	5		
	Aedes japonicus	8	16		

	Aedes sollicitans	5	30		
	Aedes taeniorhynchus	2	13		
	Aedes triseriatus	5	10		
	Aedes vexans	9	99		
	Anopheles punctipennis	6	9		
	Coquillettidia perturbans	3	4		
	Culex pipiens	21	110		
	Culex restuans	21	164		
	Culex salinarius	7	10		
	Culex spp.	44	1181	2	1.693
	Culex territans	3	4		
	Culiseta melanura	25	111		
Morris		**60**	**2890**	**1**	**0.346**
	Aedes japonicus	1	6		
	Coquillettidia perturbans	1	50		
	Culex spp.	58	2834	1	0.353
Ocean		**119**	**2604**		
	Aedes albopictus	25	246		
	Aedes canadensis canadensis	3	72		
	Aedes cantator	1	9		
	Aedes japonicus	11	23		
	Aedes sollicitans	1	21		
	Aedes triseriatus	4	16		
	Aedes vexans	4	26		
	Anopheles punctipennis	2	5		
	Anopheles quadrimaculatus	1	1		
	Coquillettidia perturbans	1	3		
	Culex pipiens	7	247	1	4.049
	Culex restuans	15	245		
	Culex salinarius	11	90		
	Culex sp.	43	1805		
	Culex territans	1	1		
	Culiseta melanura	5	65		
	Psorophora ferox	1	9		
Passaic		**42**	**1648**	**9**	**5.461**
	Aedes japonicus	3	32		
	Aedes triseriatus	1	2		
	Culex spp.	38	1614	9	5.576
Salem		**110**	**1971**		
	Aedes albopictus	2	9		
	Aedes atlanticus	1	4		
	Aedes canadensis canadensis	5	179		
	Aedes cantator	4	74		
	Aedes grossbecki	2	3		
	Aedes japonicus	3	9		
	Aedes sollicitans	1	1		
	Aedes sticticus	3	80		
	Aedes triseriatus	5	16		
	Aedes vexans	9	675		
	Anopheles bradleyi	3	94		
	Anopheles punctipennis	12	117		

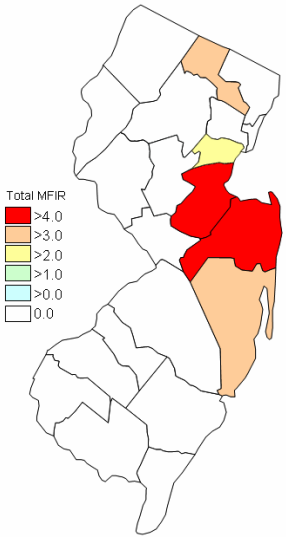
	Anopheles quadrimaculatus	10	217		
	Coquillettidia perturbans	3	26		
	Culex erraticus	1	2		
	Culex pipiens	1	2		
	Culex restuans	3	8		
	Culex salinarius	6	169		
	Culex spp.	2	10		
	Culex territans	1	2		
	Culiseta melanura	27	197		
	Psorophora columbiae	1	2		
	Psorophora ferox	4	71		
	Psorophora howardii	1	4		
Somerset		**83**	**2044**	**1**	**0.489**
	Aedes albopictus	2	4		
	Aedes japonicus	17	174		
	Aedes triseriatus	11	49		
	Anopheles punctipennis	4	4		
	Anopheles quadrimaculatus	1	1		
	Culex pipiens	2	22		
	Culex restuans	2	19		
	Culex spp.	43	1770	1	0.565
	Orthopodomyia signifera	1	1		
Sussex		**110**	**5088**		
	Aedes japonicus	3	16		
	Coquillettidia perturbans	3	51		
	Culex restuans	4	96		
	Culex spp.	100	4925		
Union		**42**	**1525**	**1**	**0.656**
	Aedes albopictus	7	58		
	Aedes japonicus	3	4		
	Aedes vexans	1	7		
	Anopheles punctipennis	1	2		
	Culex spp.	30	1454	1	0.688
Warren		**81**	**4548**		
	Aedes japonicus	2	49		
	Culex spp.	79	4499		
Grand Total		**2199**	**56982**	**53**	**0.930**



Cumulative activity to last week



Cumulative activity to this week



Current Week Activity 7/20 to 7/26)

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 28 July 2008

County	Species	Pools	Mosquitoes	Positives	PHEL (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		**42**	**1758**		
	Culex restuans	1	4		
	Culex spp.	39	1754	**2**	**9/0/2**