RUTGERS
New Jersey Agricultural Experiment Station

VECTOR SURVEILLANCE IN NEW JERSEY

EEE, WNV, SLE and LAC

CDC WEEK 25: June 20 to June 26, 2010

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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 Tested to Date*	Total Pools Submitted	EEE Isolations	MFIR
Green Bank (Burlington County)	Coastal	1.32	0.04	38	4	0	0
Corbin City (Atlantic County)	Coastal	1.10	1.00	200	5	0	0
Dennisville (Cape May County)	Coastal	3.19	1.26	90	4	0	0
Winslow (Camden County)	Inland	No history this week	2.74	706	15	0	0
Centerton (Salem County)	Inland	1.81	3.82	290	7	0	0
Turkey Swamp (Monmouth County)	Inland	0.60	0.54	82	12	0	0
Glassboro (Gloucester County)	Inland	0.5†	0.82	146	4	0	0

*Including trial run last week in May. † mean from location < 1 mile away.

Remarks: There are no positive EEE pools to report at this time. To date, 1552 *Culiseta melanura* mosquitoes forming 51 pools from the seven traditional resting box sites have been tested. An additional 910 *Cs. melanura* have been tested from 3 sites in Burlington County, 8 sites in Cape May, 6 sites in Gloucester, 8 sites in Ocean and 7 sites in Sussex counties, all negative. The table below indicates non-melanura species tested for EEE.

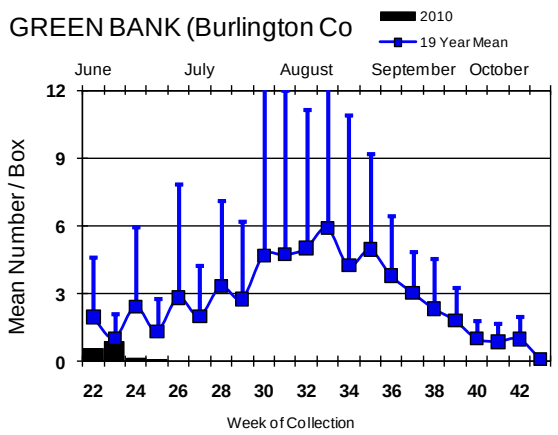
Species of than *Cs. melanura*	Pools	Mosquitoes	Positives	MFIR
Coquillettidia perturbans	1	1		
Culex erraticus	1	8		
Culex pipiens	17	192		
Culex restuans	1	1		
Culex salinarius	1	7		
Culex spp.	10	352		
Culiseta minnesotae	1	1		
State Total	**32**	**562**	**0**	**0.00**

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

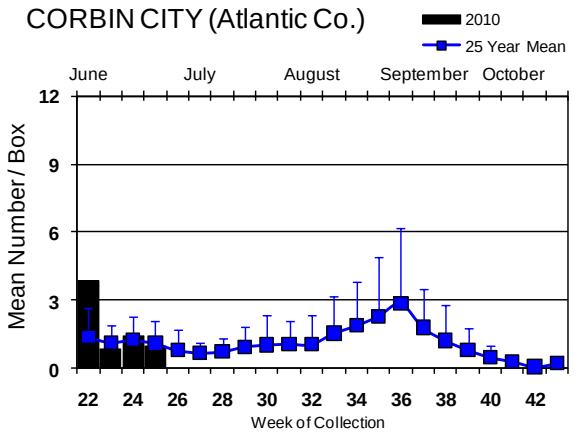
Culiseta melanura Population Graphs

Coastal

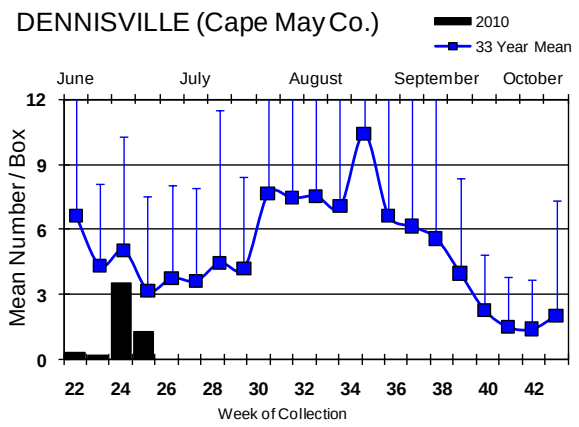
GREEN BANK (Burlington Co



CORBIN CITY (Atlantic Co.)

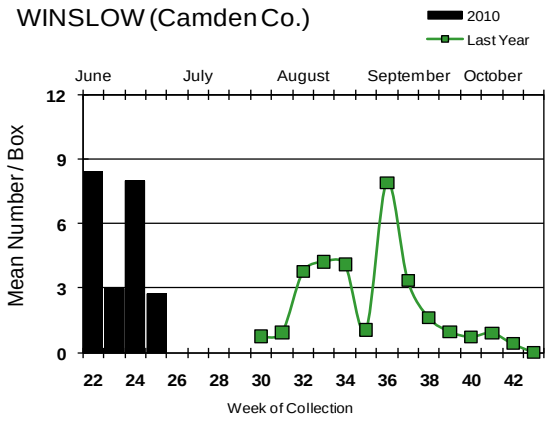


DENNISVILLE (Cape May Co.)

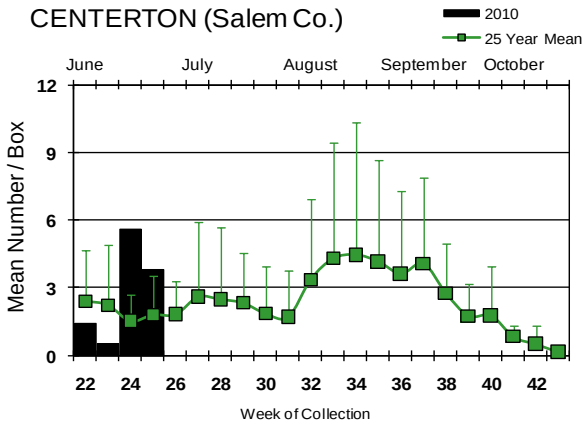


Inland

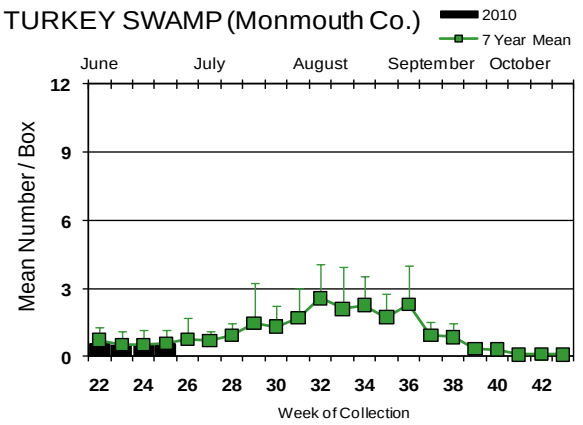
WINSLOW (Camden Co.)



CENTERTON (Salem Co.)



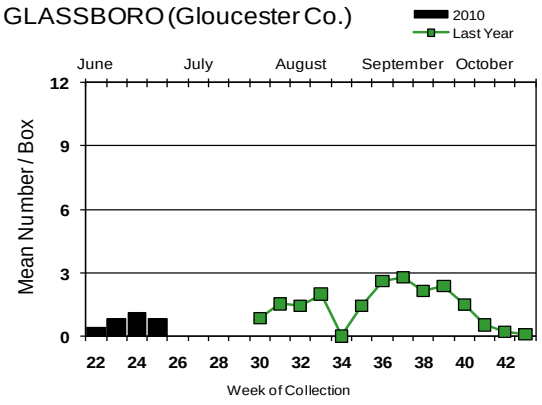
TURKEY SWAMP (Monmouth Co.)



Cs. melanura populations in resting boxes at the seven monitoring sites decreased from the previous week at all sites except for Turkey Swamp. This past week has been exceptionally warm and dry. Cooler weather is expected for the next few days, but precipitation will likely be local events only. Agricultural forecasts note continued irrigation is necessary, noting that ground moisture is below 50%.

= Zero positive pool(s) detected.

GLASSBORO (Gloucester Co.)



EEE in US (2010 cumulative cases): (Black/Red = previous/new reported cases occurring)

- equine: 8(FL)
- mosquito: 2(FL)
- sentinel: 36/13(FL)
- human: 1(TX-out of country acquired case)

West Nile Virus

West Nile in US (2010 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					
Alaska					
Arizona		19/65			
Arkansas					
California	27/30	21/23		1	
Colorado					
Connecticut		1			
Delaware					
DC					
Florida			40/45		
Georgia					2
Hawaii					
Idaho					
Illinois	9/10	3/4			
Indiana					
Iowa					
Kansas					
Kentucky					
Louisiana					
Maine					
Maryland					
Mass.					
Michigan					
Minnesota					
Mississippi					1
Missouri		17			
Montana					
Nebraska					

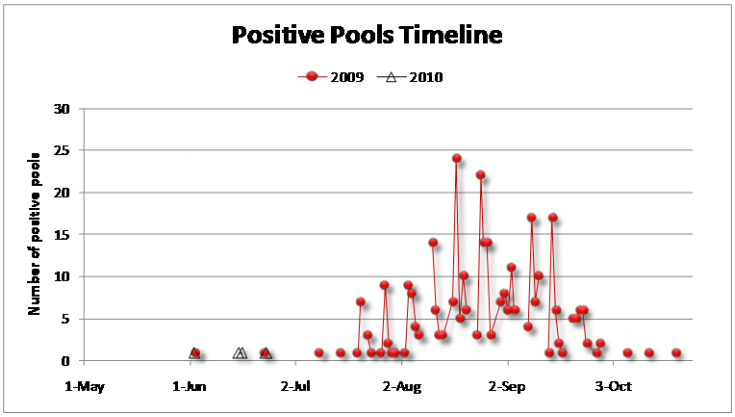
	Birds	Mosquito Pools	Sentinels	Horses	Humans
Nevada					
New Hampshire					
New Jersey	0	1/5	0	0	0
New Mexico					
New York					
North Carolina					
North Dakota					
Ohio		1			
Oklahoma					
Oregon					
Pennsylvania		6/11			
Rhode Island					
South Carolina					
South Dakota					
Tennessee		1			
Texas		2/7			1
Utah		1			
Vermont					
Virginia					
Washington		1			
West Virginia		7/8			
Wisconsin					
Wyoming		2			

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

Mosquito Species Submitted for West Nile Virus Testing through 29 June 2010

Species	Pools	Mosquitoes	Positives	MFIR
Aedes albopictus	24	80		
Aedes canadensis canadensis	15	303		
Aedes cantator	6	20		
Aedes japonicus	41	236		
Aedes sticticus	1	1		
Aedes triseriatus	13	47		
Aedes trivittatus	2	24		
Aedes vexans	5	62		
Anopheles punctipennis	4	114		
Anopheles quadrimaculatus	5	88		
Coquillettidia perturbans	19	426		
Culex erraticus	1	8		
Culex pipiens	80	1850	2	1.081
Culex restuans	53	432		
Culex salinarius	5	13		
Culex spp.	309	11217	3	0.267
Culiseta melanura	97	1634		
Culiseta minnesotae	1	1		
Orthopodomyia signifera	1	1		
State Total	**682**	**16557**	**5**	**0.302**

Remarks: The number of positive WNV mosquito pools to date is 5, with 4 additional pools found since last week, including one pool of *Culex* spp in Burlington and Hudson counties each and two pools of *Culex pipiens* in Gloucester County. There have been 5 positive pools in 2010 versus 2 positive pools the previous year to date.



Humans, Horses and Wild Birds: No humans or horses have been found positive for WNV to date. For more details plus information about WNV, see the West Nile Virus Alert and FAQ Sheets from the NJ Department of Health and Senior Services, Communicable Disease Service, Infectious and Zoonotic Disease Program:
http://www.state.nj.us/health/cd/westnile/enceph.htm

Twenty-one birds have been tested and found negative for WNV. These include 7 *Corvus* (American, Fish and unidentified Crows), 5 Blue Jays (*Cyanocitta cristata*), 1 Hawk (unknown species) and 8 unknown species.

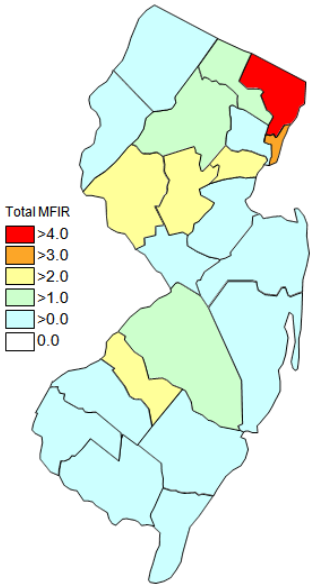
2010 Positive Mosquito pools to date / Total Mosquito Pools Submitted	This time last year
5/ 554 (0.009%)	2/ 1411 (0.001%)
2010 Positive Birds to date / Total Birds Submitted	This time last year
0/ 21 (0%)	0/ 22 (0%)

WNV Results by County through 29 June 2010

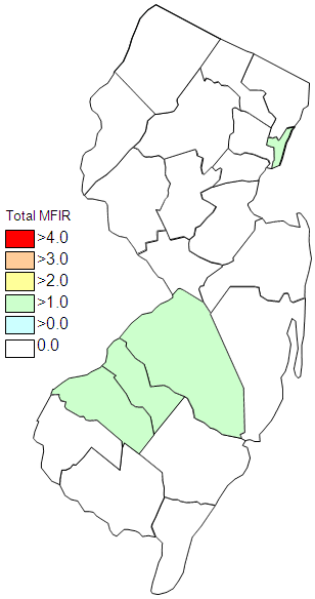
County	Species	Pools	Mosquitoes	Positives	MFIR
Atlantic		**44**	**1237**		
	Aedes albopictus	1	1		
	Aedes canadensis canadensis	2	54		
	Aedes cantator	3	14		
	Aedes japonicus	1	2		
	Aedes trivittatus	2	24		
	Aedes vexans	2	51		
	Anopheles punctipennis	1	37		
	Anopheles quadrimaculatus	1	2		
	Coquillettidia perturbans	3	4		
	Culex spp.	20	828		
	Culiseta melanura	7	219		
	Orthopodomyia signifera	1	1		
Bergen		**15**	**1125**		
	Culex spp.	15	1125		
Burlington		**14**	**752**	**1**	**1.330**
	Culex spp.	4	300	1	3.333
	Culiseta melanura	10	452		
Camden		**18**	**594**	**1**	**1.684**
	Aedes albopictus	1	1		
	Aedes canadensis canadensis	1	1		
	Aedes japonicus	2	2		
	Culex spp.	14	590	1	1.695
Cape May		**168**	**2169**		
	Aedes albopictus	2	5		
	Aedes japonicus	5	10		
	Aedes triseriatus	3	15		
	Anopheles quadrimaculatus	1	10		
	Coquillettidia perturbans	1	1		
	Culex erraticus	1	8		
	Culex pipiens	47	739		
	Culex restuans	45	339		
	Culex salinarius	1	7		
	Culex spp.	28	444		
	Culiseta melanura	34	591		
Gloucester		**34**	**1287**	**2**	**1.554**
	Culex pipiens	26	1075	2	1.860
	Culiseta melanura	8	212		

Hudson		**28**	**717**	**1**	**1.395**
	Culex spp.	28	717	1	1.395
Hunterdon		**30**	**1500**		
	Culex spp.	30	1500		
Middlesex		**42**	**1855**		
	Aedes albopictus	1	7		
	Aedes japonicus	3	21		
	Aedes triseriatus	1	6		
	Culex spp.	37	1821		
Monmouth		**79**	**499**		
	Aedes albopictus	8	16		
	Aedes canadensis canadensis	8	75		
	Aedes cantator	3	6		
	Aedes japonicus	13	50		
	Aedes triseriatus	2	2		
	Anopheles punctipennis	1	1		
	Anopheles quadrimaculatus	1	1		
	Coquillettidia perturbans	3	3		
	Culex pipiens	1	1		
	Culex restuans	1	1		
	Culex salinarius	2	2		
	Culex spp.	20	252		
	Culiseta melanura	16	89		
Morris		**14**	**428**		
	Aedes vexans	1	5		
	Anopheles punctipennis	1	1		
	Anopheles quadrimaculatus	2	75		
	Culex spp.	10	347		
Ocean		**50**	**978**		
	Aedes albopictus	7	43		
	Aedes canadensis canadensis	4	173		
	Aedes japonicus	6	44		
	Aedes sticticus	1	1		
	Aedes triseriatus	2	10		
	Aedes vexans	2	6		
	Coquillettidia perturbans	1	1		
	Culex spp.	19	651		
	Culiseta melanura	8	49		
Passaic		**30**	**549**		
	Aedes albopictus	2	4		
	Aedes japonicus	5	54		
	Aedes triseriatus	3	11		
	Coquillettidia perturbans	1	14		
	Culex spp.	19	466		
Salem		**4**	**20**		
	Aedes japonicus	1	2		

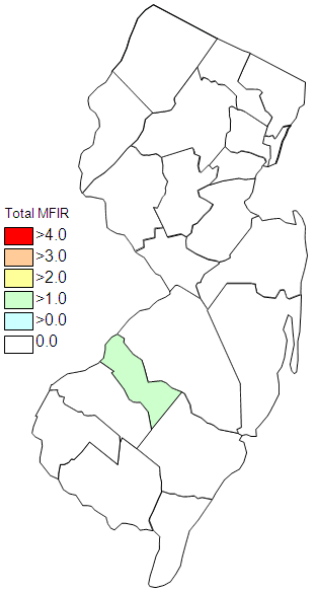
	Aedes triseriatus	1	1		
	Culex spp.	2	17		
Somerset		**15**	**155**		
	Aedes albopictus	2	3		
	Aedes japonicus	2	14		
	Aedes triseriatus	1	2		
	Culex spp.	10	136		
Sussex		**57**	**1194**		
	Coquillettidia perturbans	1	32		
	Culex pipiens	6	35		
	Culex restuans	7	92		
	Culex salinarius	2	4		
	Culex spp.	26	1008		
	Culiseta melanura	14	22		
	Culiseta minnesotae	1	1		
Union		**25**	**935**		
	Aedes japonicus	3	37		
	Coquillettidia perturbans	1	9		
	Culex spp.	21	889		
Warren		**15**	**563**		
	Anopheles punctipennis	1	75		
	Coquillettidia perturbans	8	362		
	Culex spp.	6	126		
Grand Total		**682**	**16557**	**5**	**0.302**



Cumulative WNV activity in 2009.



WNV activity to 29 June, 2010.



WNV activity last week, 2010.

Saint Louis Encephalitis (SLE) through 29 June 2010.

New Jersey will be selectively testing for SLE this year. 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.

No pools tested positive to date for 2010.

County	Species	Pools	Mosquitoes	Positives	MFIR
Burlington		**10**	**714**		
	Culex spp.	4	300		
	Culiseta melanura	6	414		
Camden		**18**	**594**		
	Aedes albopictus	1	1		
	Aedes canadensis canadensis	1	1		
	Aedes japonicus	2	2		
	Culex spp.	14	590		
Hudson		**13**	**234**		
	Culex spp.	13	234		
Salem		**1**	**7**		
	Culex spp.	1	7		
Grand Total		**42**	**1549**		

La Crosse Encephalitis (LAC) through 29 June 2010.

New Jersey will be selectively testing for La Crosse (LAC) virus this year. 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).

No pools tested positive to date for 2010.

County	Species	Pools	Mosquitoes	Positives	MFIR
Cape May		**2**	**5**		
	Aedes triseriatus	2	5		