

NEW JERSEY STATE SURVEILLANCE

Weekly Report for Week 35, 26 August – 1 September, 2003

Submitted by Lisa Reed and Wayne Crans

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Purpose: Data from 84 New Jersey light traps contributed by county mosquito control agencies are used to calculate trends in mosquito populations for species of nuisance or health concerns.

Calculations are based on regional distributions, with emphasis on mosquito habitat and land use. Trends will allow a statewide evaluation of changing mosquito populations, in response to control and/or changes in habitat.

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Figure 1a: Map of ten regions selected for the New Jersey Surveillance Program overlaid with county borders.



Figure 1b. Trap lat-long locations.



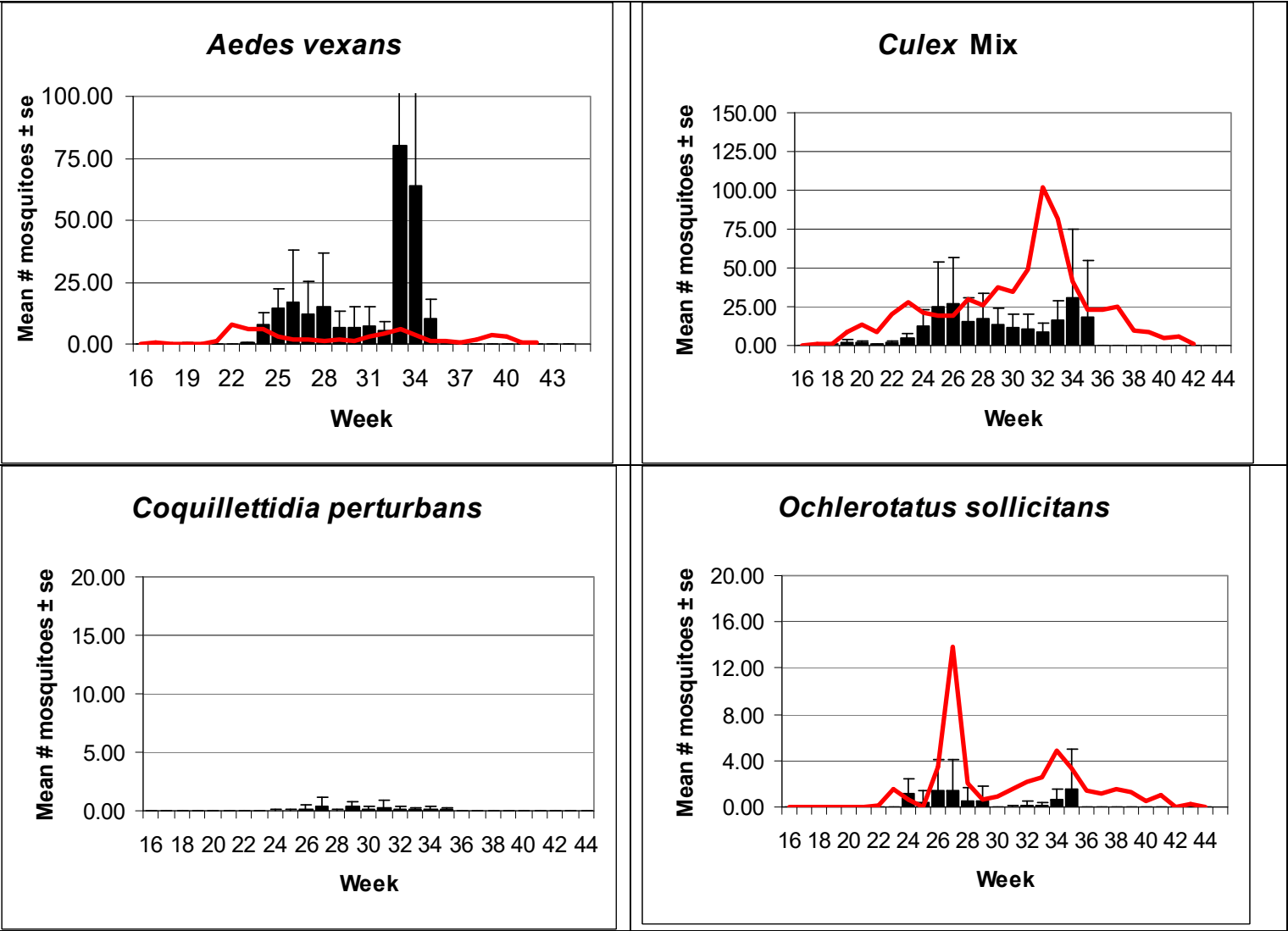
Summary table

	<i>Aedes vexans</i>		<i>Culex complex</i>		<i>Coquillettidia perturbans</i>		<i>Ochlerotatus sollicitans</i>	
Region	This Week	Average*	This Week	Average*	This Week	Average*	This Week	Average*
Agricultural	10.63	5.91	17.88	81.86	0.10		1.55	3.39
Coastal	19.73	5.26	5.54	4.34	0.14		14.19	24.64
Delaware Bayshore	0.00		0.00		0.00		0.00	
Delaware River Basin	37.71	5.84	6.18	5.13	0.00		0.57	1.82
New York Metro	8.37	2.63	4.44	4.27	0.04		0.19	0.19
North Central Rural	1.71		2.02		0.04		0.00	
Northwest Rural	65.52		11.43		0.00		0.00	
Philadelphia Metro	4.00		0.67		0.05		0.00	
Pinelands	5.49	1.30	5.79	2.42	0.14		0.01	
Suburban Corridor	19.98	7.74	2.79	4.82	0.90		0.00	

- Complete data not yet available.

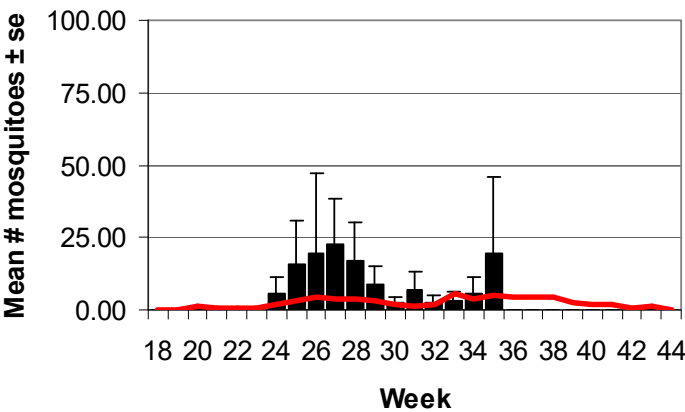
Please Note: Historical data is being entered and not yet complete. These values and graphics will change as more data is entered.

Agricultural

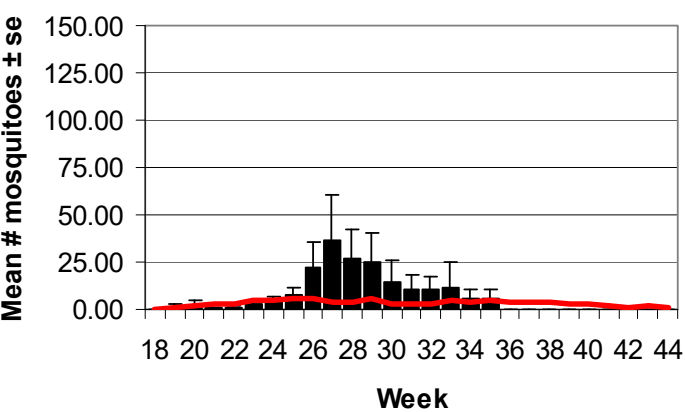


Coastal

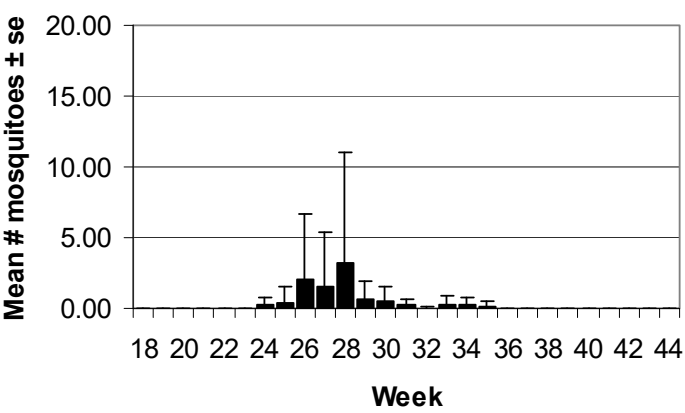
Aedes vexans



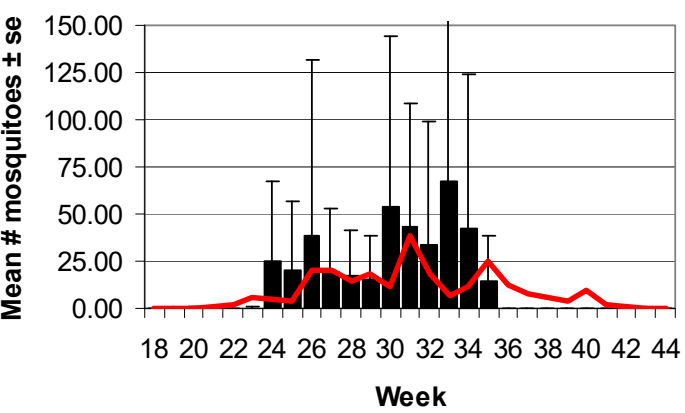
Culex Mix



Coquillettidia perturbans

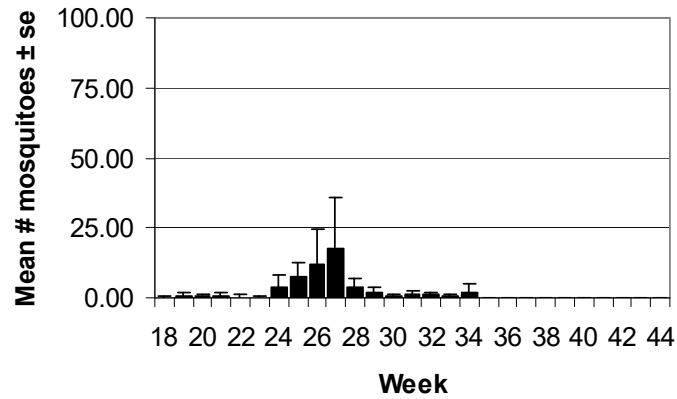


Ochlerotatus sollicitans

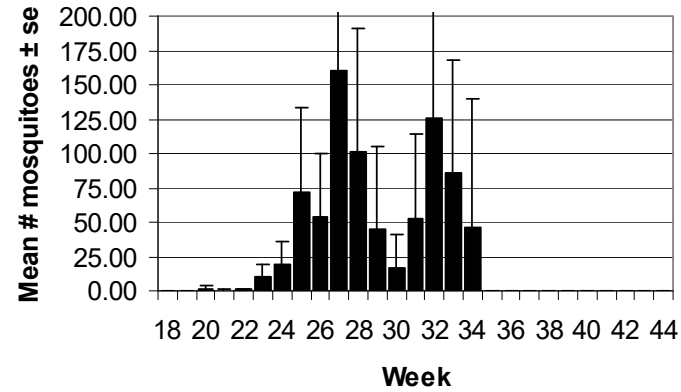


Delaware Bayshore

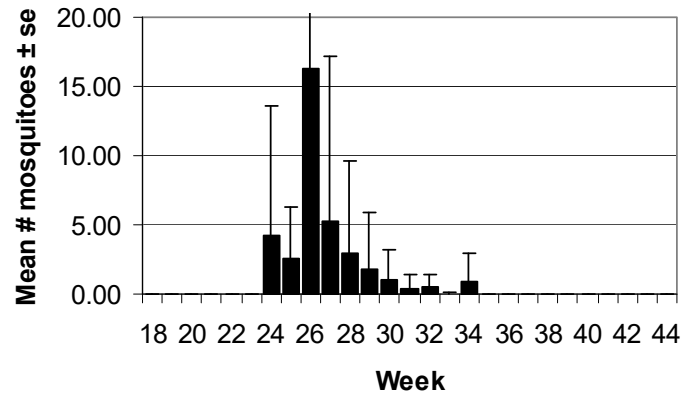
Aedes vexans



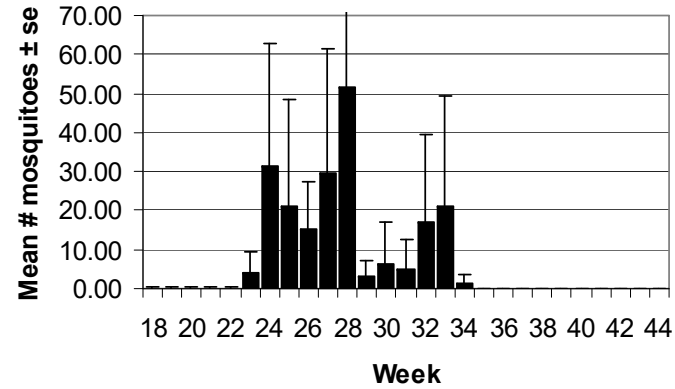
Culex Mix



Coquillettidia perturbans

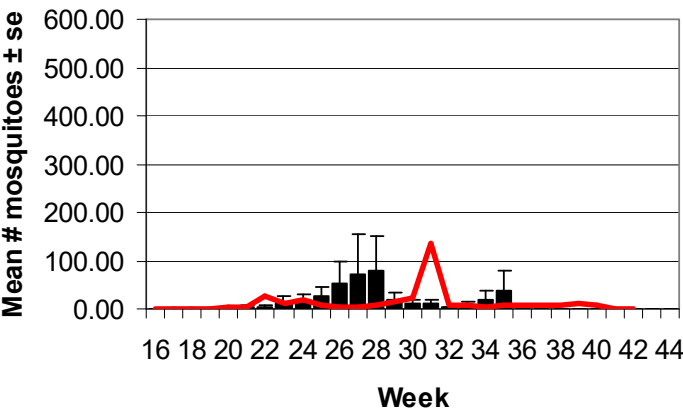


Ochlerotatus sollicitans

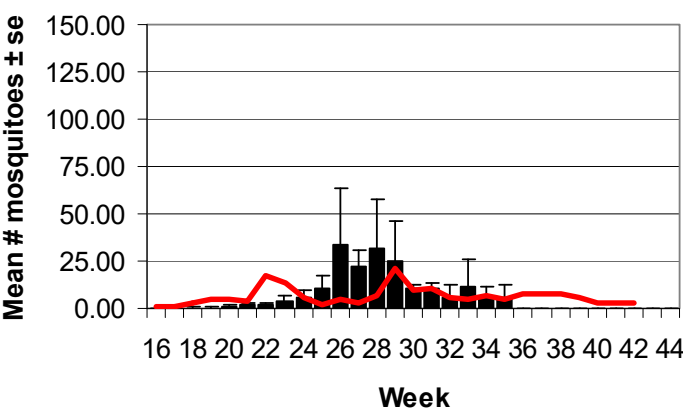


Delaware River Basin

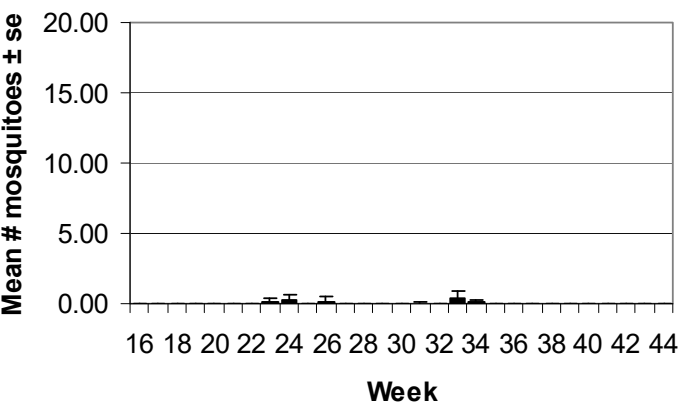
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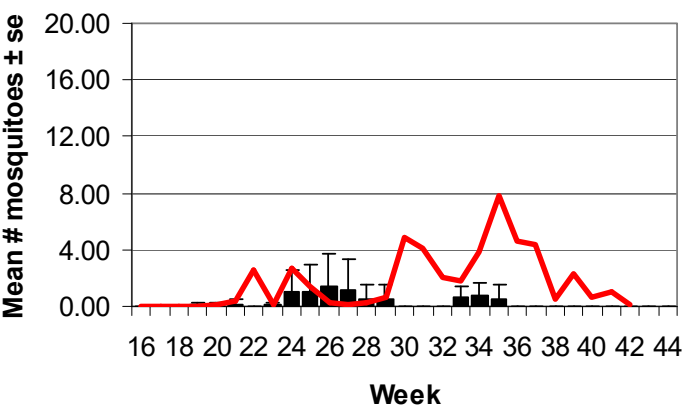
Culex Mix



Coquillettidia perturbans

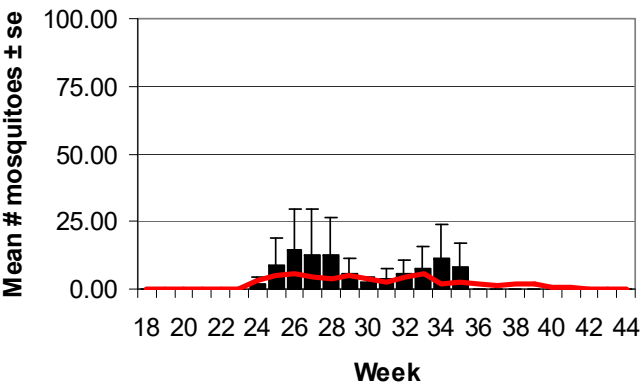


Ochlerotatus sollicitans

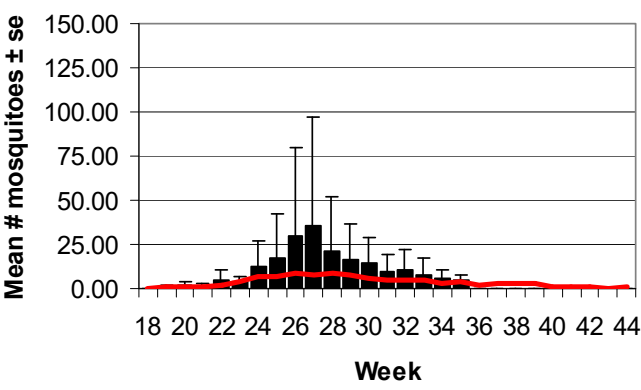


New York Metro

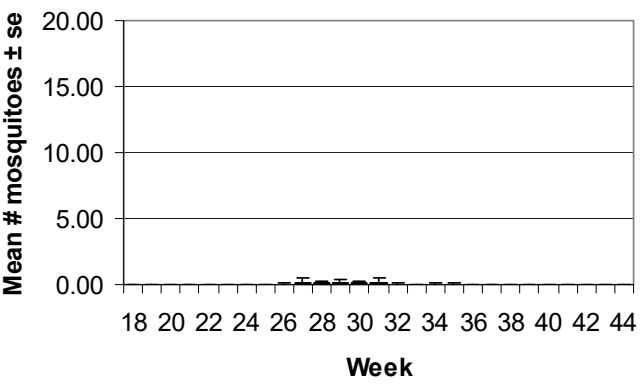
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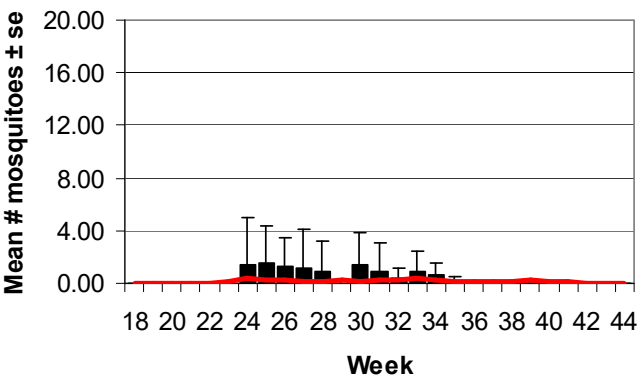
Culex Mix



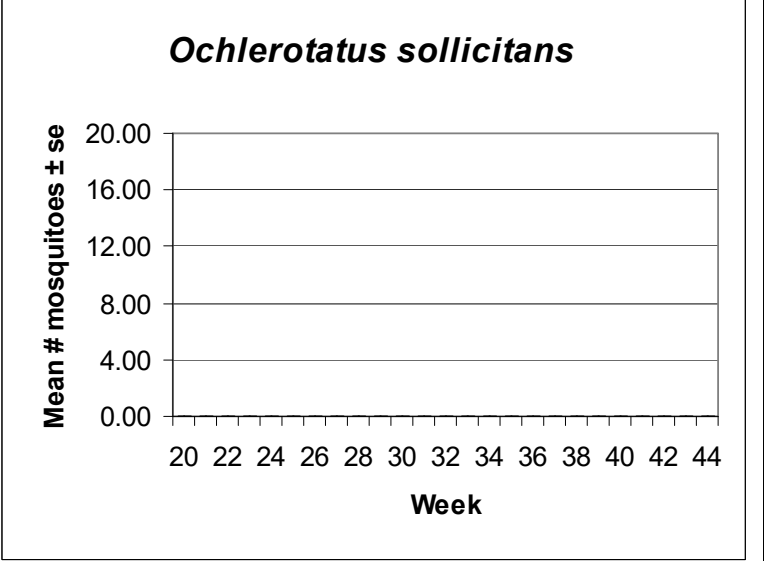
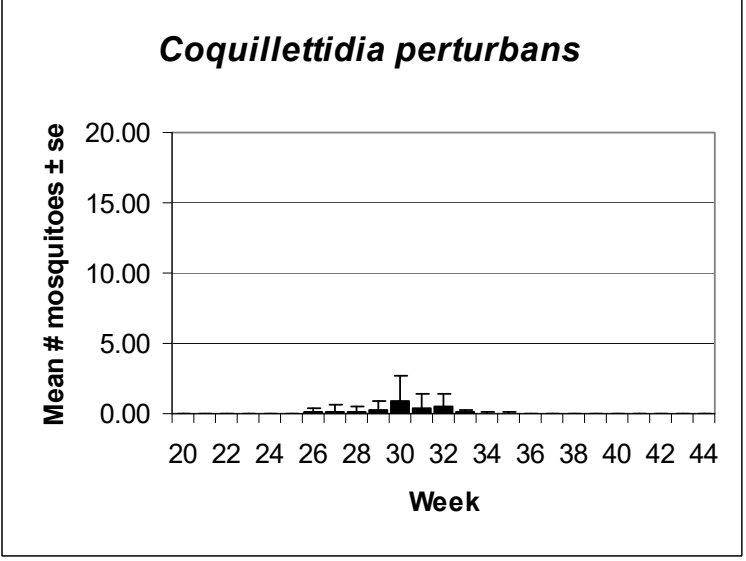
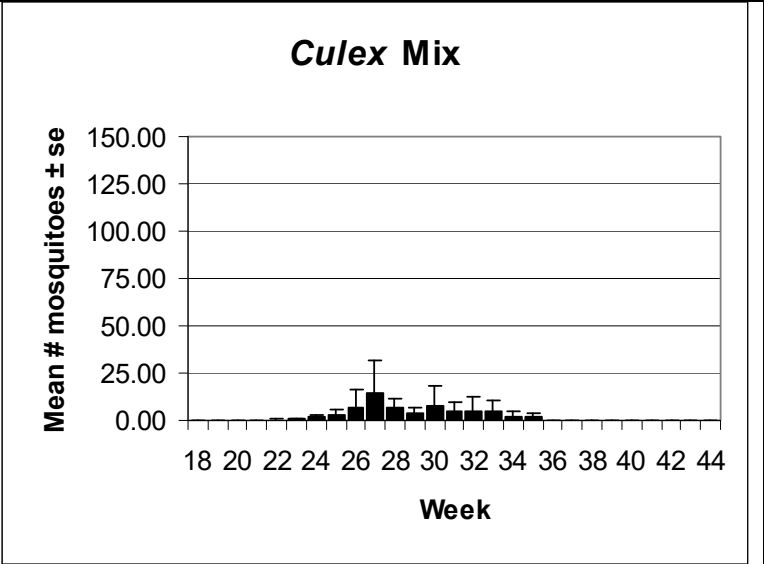
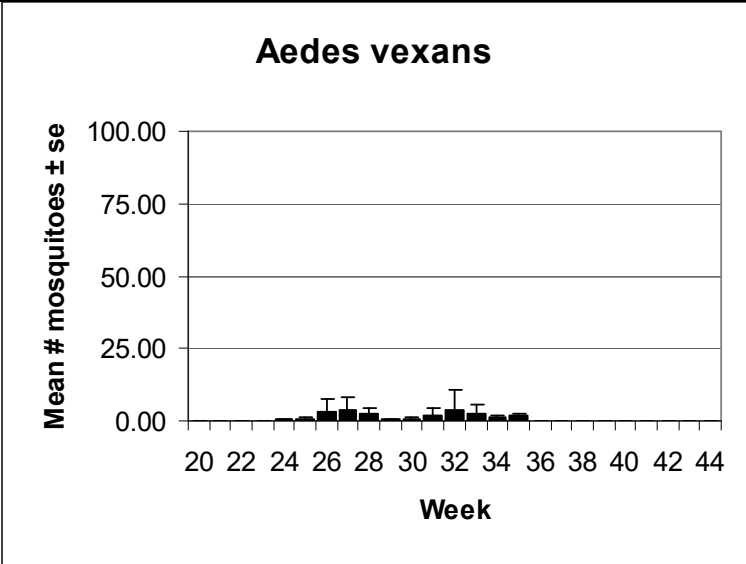
Coquillettidia perturbans



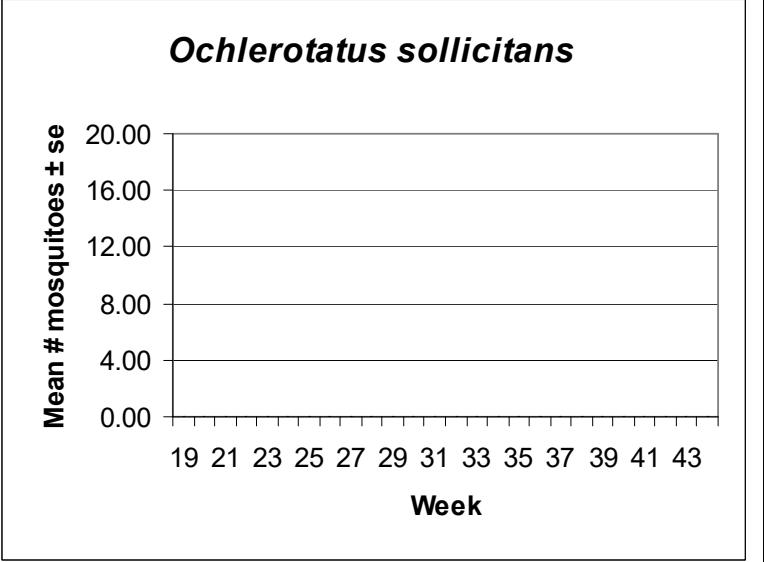
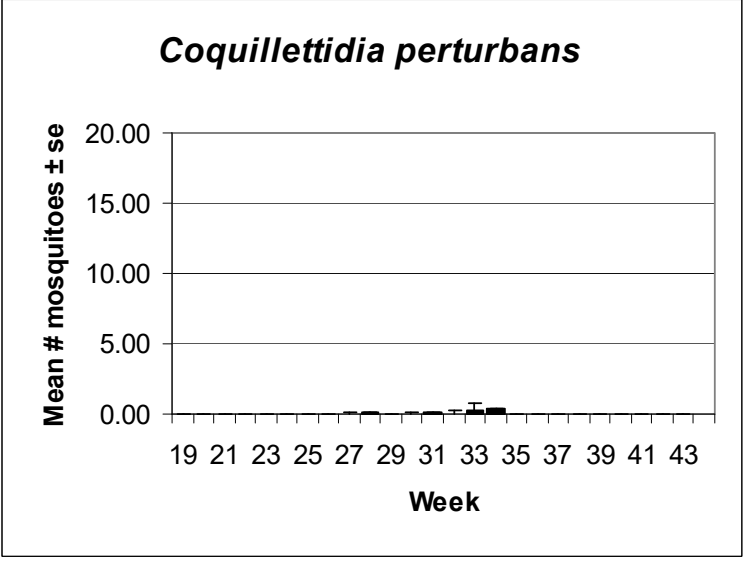
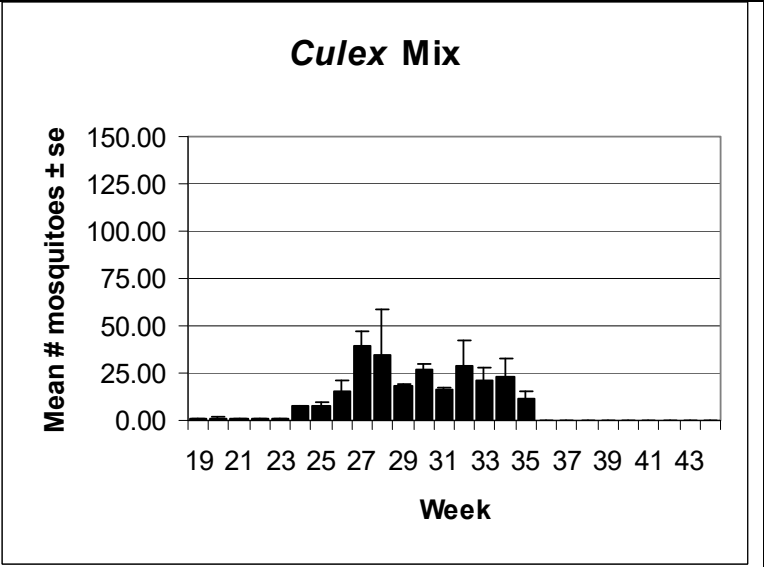
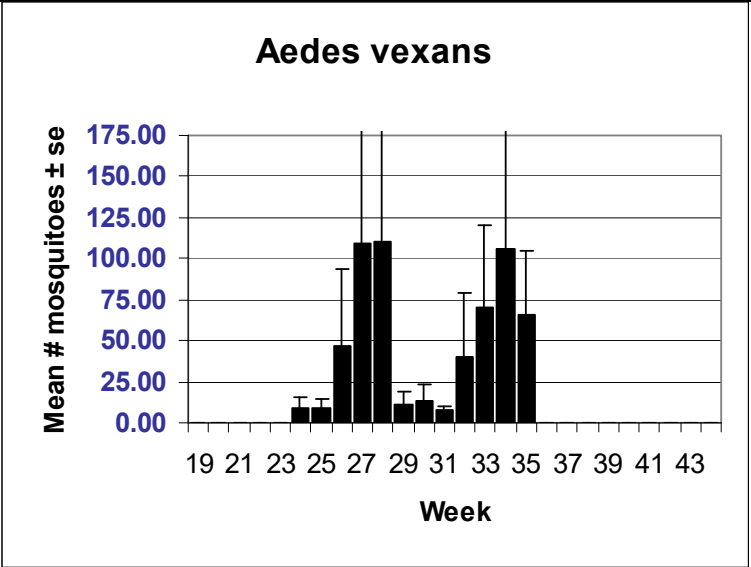
Ochlerotatus sollicitans



North Central Rural

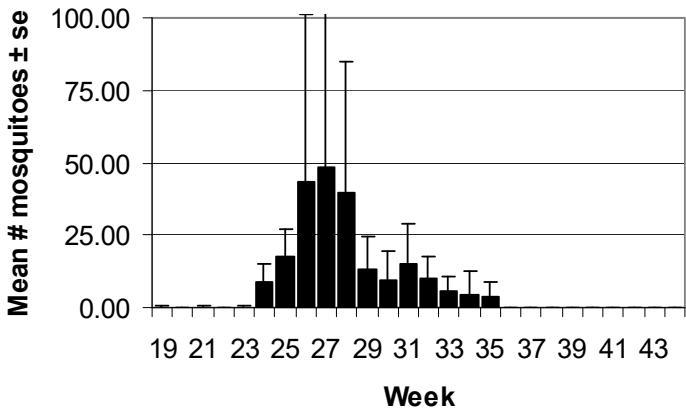


Northwestern Rural

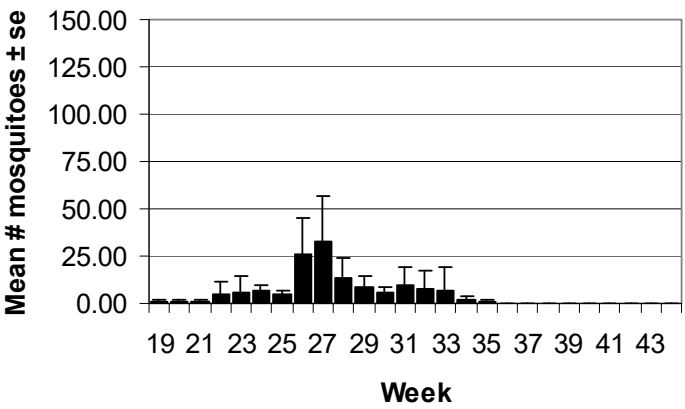


Philadelphia Metro

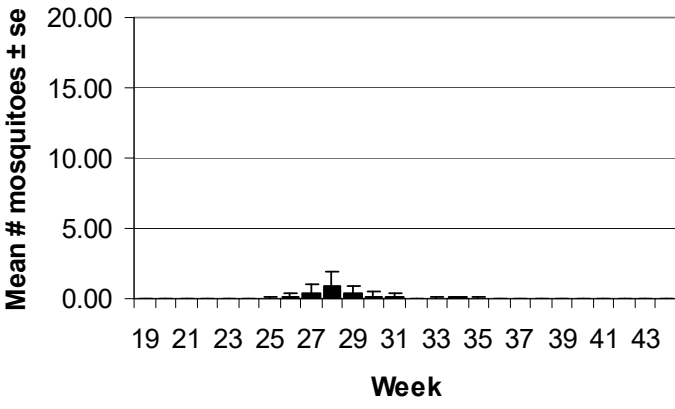
Aedes vexans



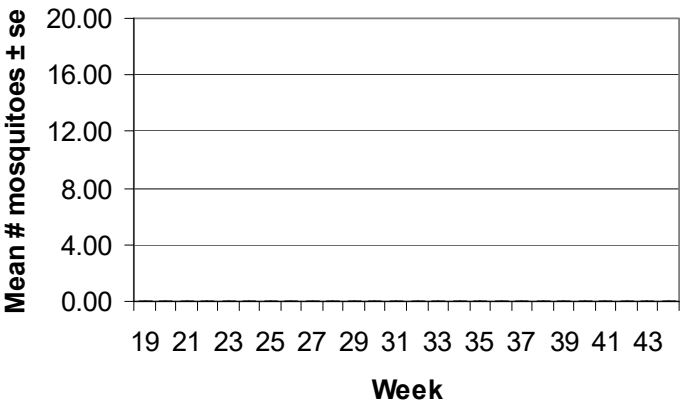
Culex Mix



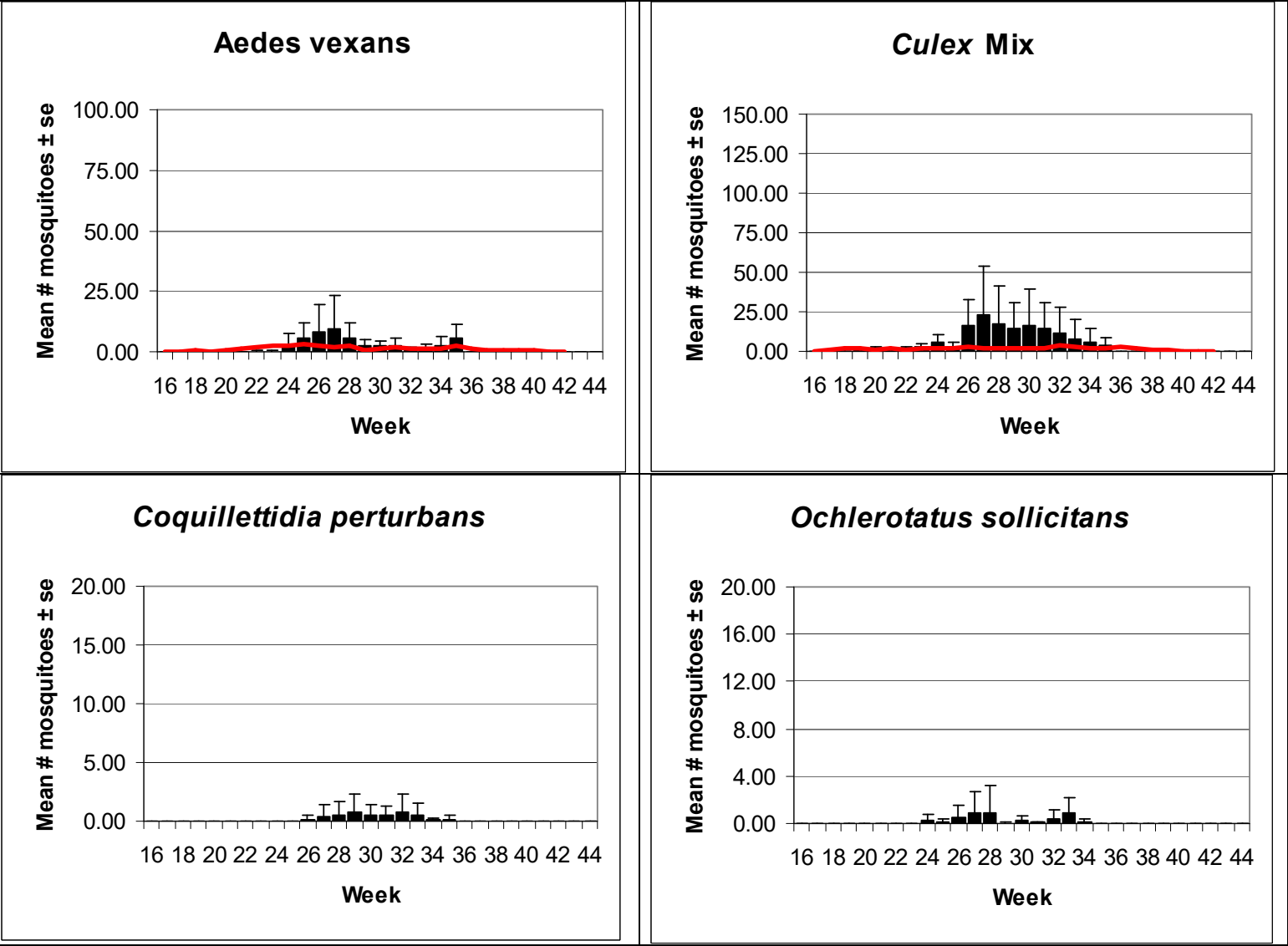
Coquillettidia perturbans



Ochlerotatus sollicitans

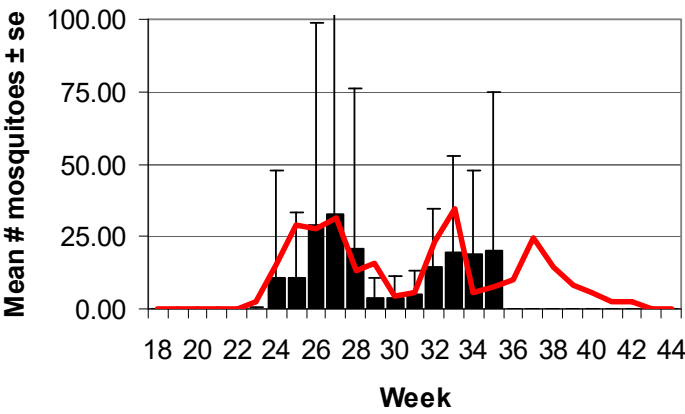


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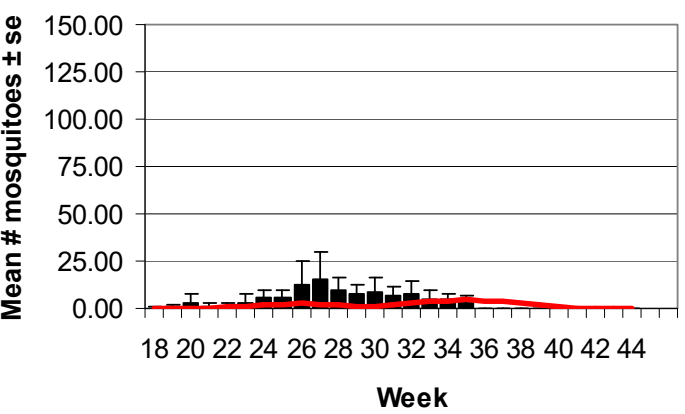


Suburban Corridor

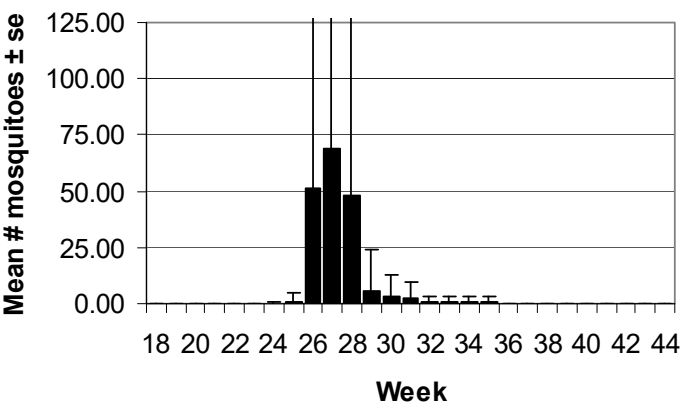
Aedes vexans



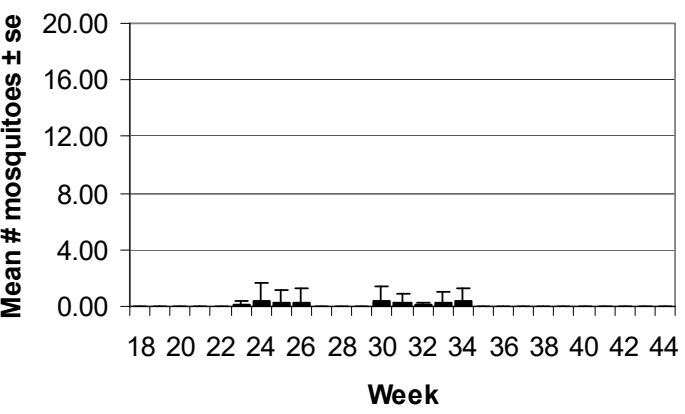
Culex Mix



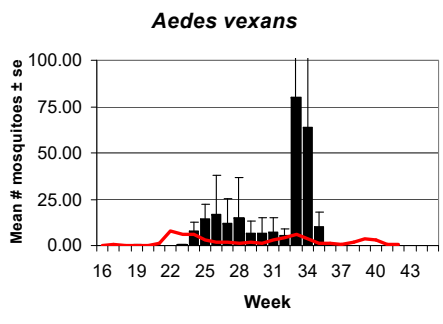
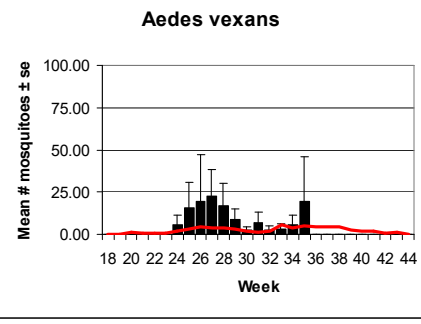
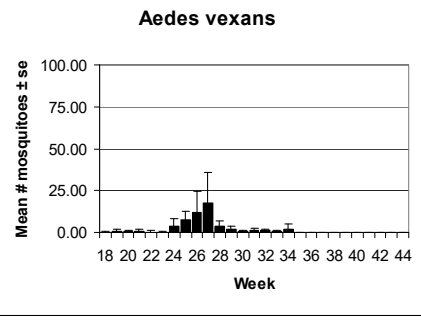
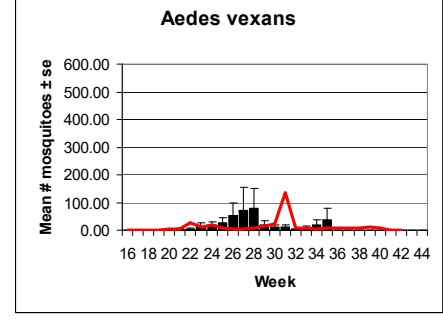
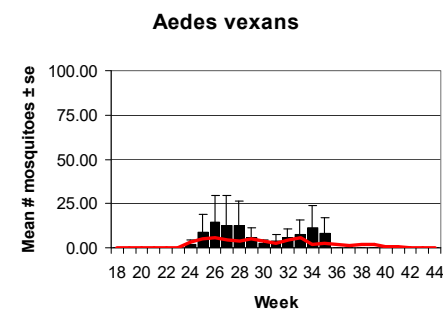
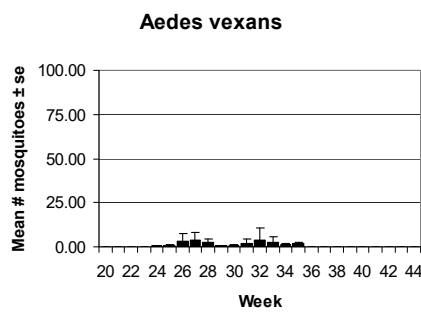
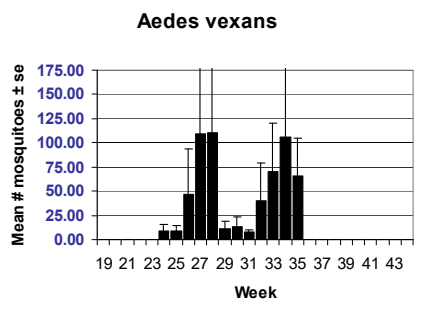
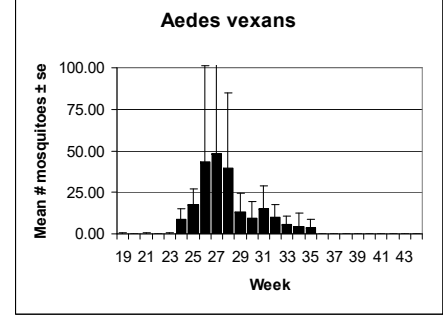
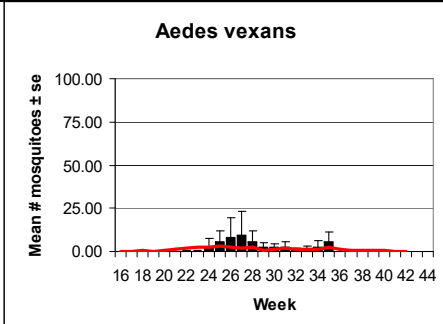
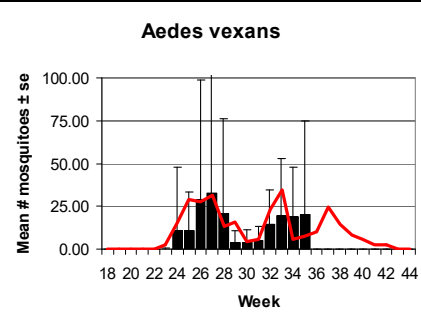
Coquillettidia perturbans



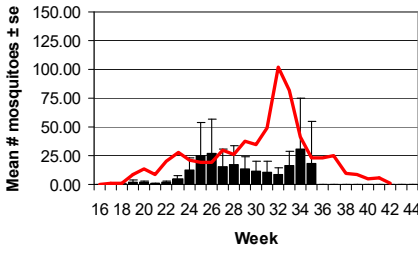
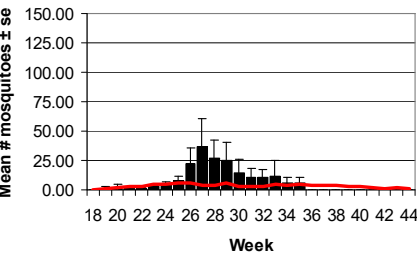
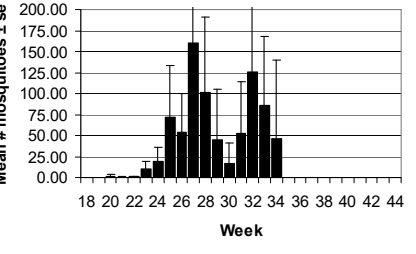
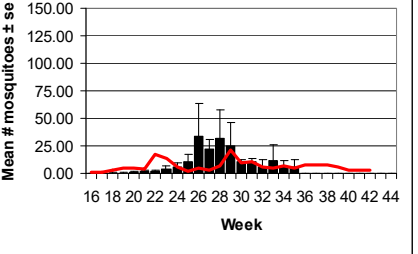
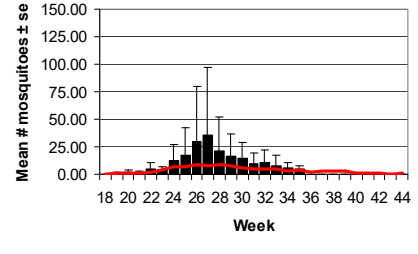
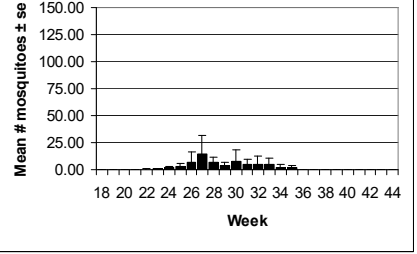
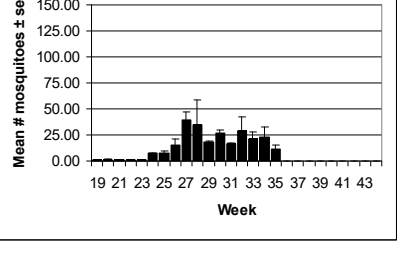
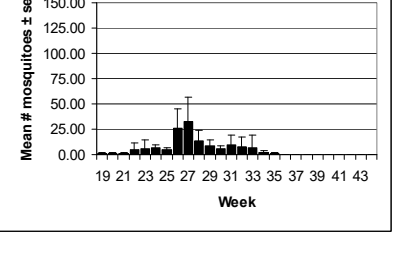
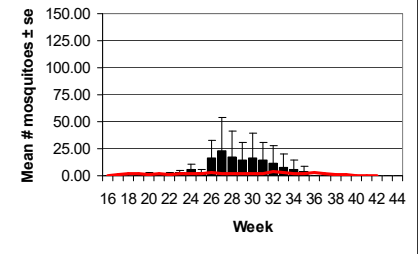
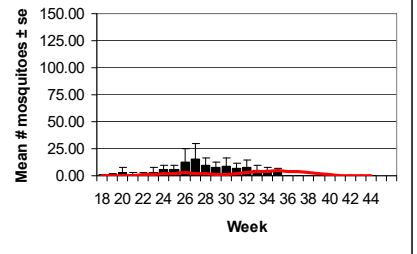
Ochlerotatus sollicitans



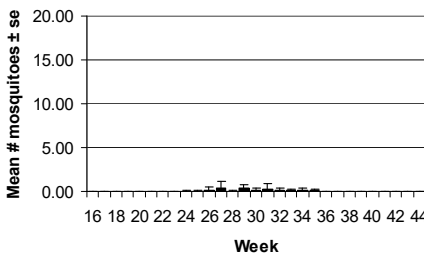
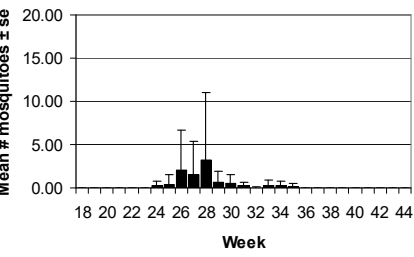
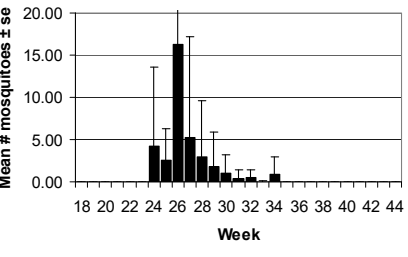
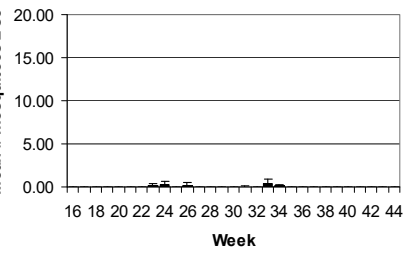
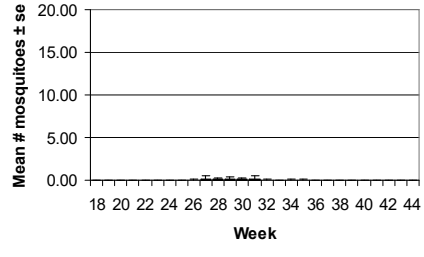
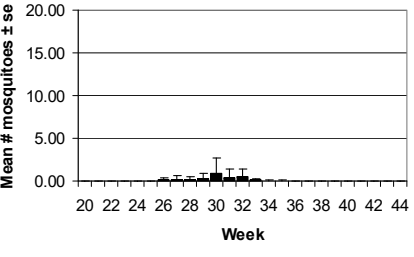
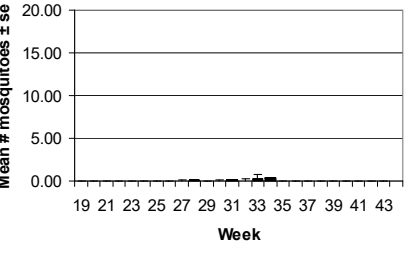
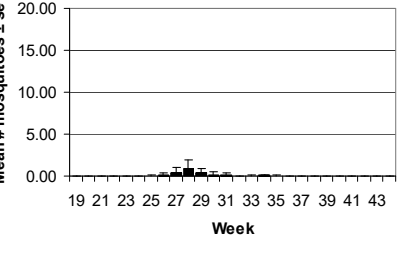
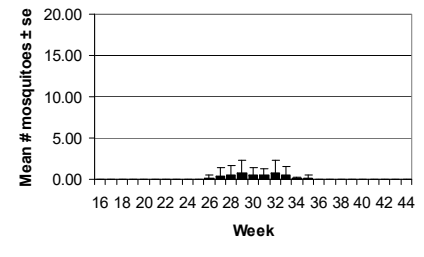
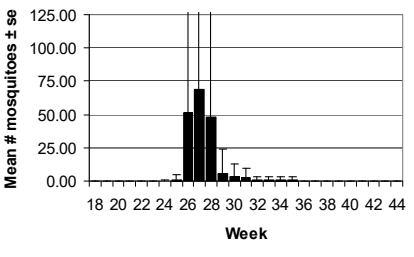
Aedes vexans

Agricultural	Coastal	Delaware Bayshore	Delaware River Basin
			
New York Metro	North Central Rural	Northwestern Rural	Philadelphia Metro
			
Pinelands	Suburban Corridor	Comments	
		Ae. vexans – The August brood of <i>Ae. vexans</i> is well on the decline in most geographic regions of the state. Populations were highest in the Northwestern Rural & Agricultural Regions. Populations remained below 25 mosquitoes per trap night in most of the other regions monitored by this program. An influx of equine cases of WNV appear to be associated with floodwater mosquito involvement, in general, with <i>Ae. vexans</i> as a primary suspect. Equine cases of WNV, however, normally appear in late August and September so this year's association could be circumstantial.	

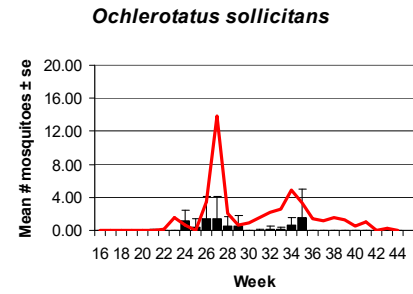
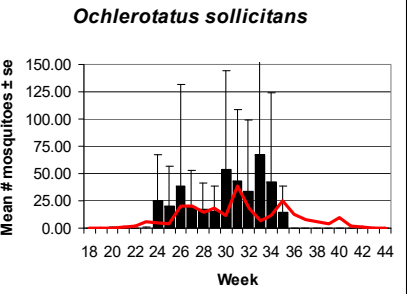
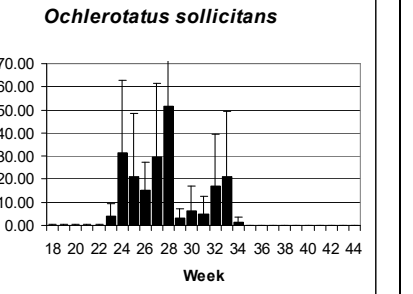
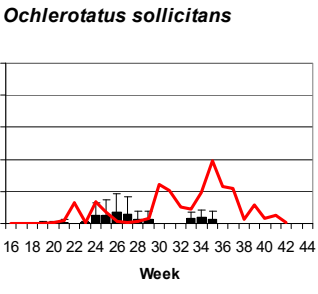
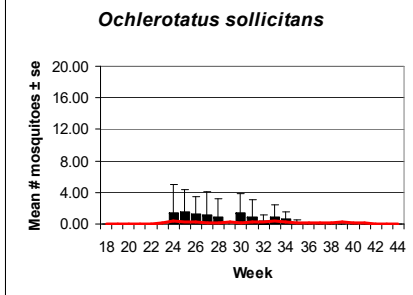
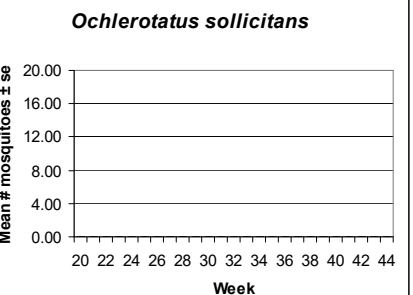
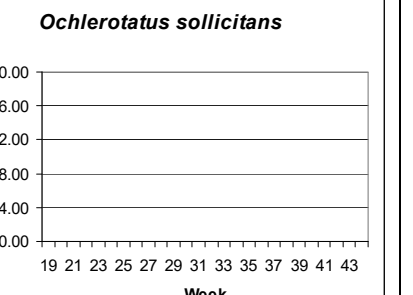
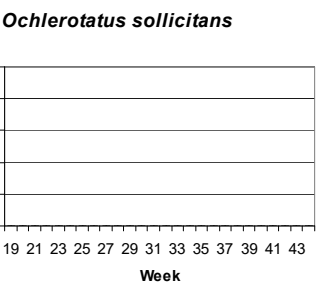
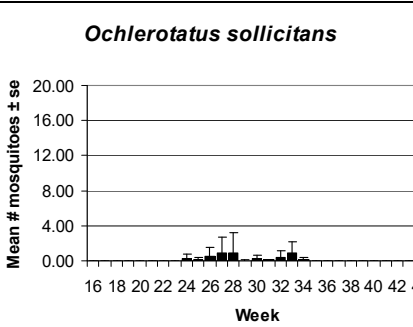
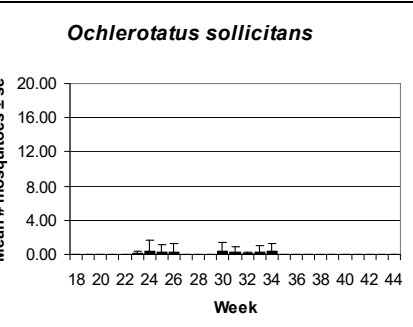
Culex Complex

Agricultural	Coastal	Delaware Bayshore	Delaware River Basin
Culex Mix 	Culex Mix 	Culex Mix 	Culex Mix 
New York Metro	North Central Rural	Northwestern Rural	Philadelphia Metro
Culex Mix 	Culex Mix 	Culex Mix 	Culex Mix 
Pinelands	Suburban Corridor	Comments	
Culex Mix 	Culex Mix 	Culex Complex –<i>Culex</i> populations continue to drop in all regions indicating that diapause mechanisms may be setting in as the group prepares to overwinter. Population curves from previous years indicate that a drop in overall light trap collections can be expected from this point on in the season. The declining numbers probably represent newly emerged individuals that are nectar feeding to build up fat body. Adult females that emerged prior to the onset of diapause will remain on the wing and continue to host seek until cool nights limit their activity.	

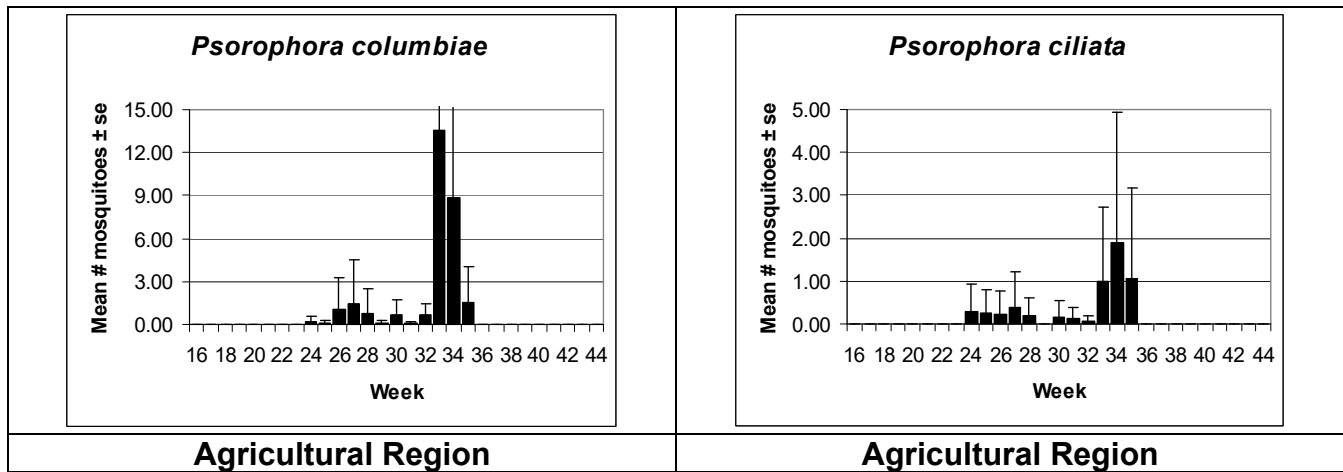
Coquillettidia perturbans

Agricultural	Coastal	Delaware Bayshore	Delaware River Basin
<i>Coquillettidia perturbans</i> 	<i>Coquillettidia perturbans</i> 	<i>Coquillettidia perturbans</i> 	<i>Coquillettidia perturbans</i> 
New York Metro	North Central Rural	Northwestern Rural	Philadelphia Metro
<i>Coquillettidia perturbans</i> 	<i>Coquillettidia perturbans</i> 	<i>Coquillettidia perturbans</i> 	<i>Coquillettidia perturbans</i> 
Pinelands	Suburban Corridor	Comments	
<i>Coquillettidia perturbans</i> 	<i>Coquillettidia perturbans</i> 	<i>Cq. perturbans</i> – <i>Cq. perturbans</i> populations have all but disappeared from light trap collections. Minor emergences during the month of August are evident in light trap data from several of the regions being monitored by this program. Fresh <i>Cq. perturbans</i> adults in August represent larvae that overwintered in the 2nd instar. In some years, the August emergence of <i>Cq. perturbans</i> is high enough to accelerate transmission of EEE to horses. Light trap data do not point toward <i>Cq. perturbans</i> as an important vector to horses this year.	

Ochlerotatus sollicitans

Agricultural	Coastal	Delaware Bayshore	Delaware River Basin
<i>Ochlerotatus sollicitans</i> 	<i>Ochlerotatus sollicitans</i> 	<i>Ochlerotatus sollicitans</i> 	<i>Ochlerotatus sollicitans</i> 
New York Metro	North Central Rural	Northwestern Rural	Philadelphia Metro
<i>Ochlerotatus sollicitans</i> 	<i>Ochlerotatus sollicitans</i> 	<i>Ochlerotatus sollicitans</i> 	<i>Ochlerotatus sollicitans</i> 
Pinelands	Suburban Corridor	Comments	
<i>Ochlerotatus sollicitans</i> 	<i>Ochlerotatus sollicitans</i> 	<i>Oc. sollicitans</i> – Light trap data indicate 3 broods of <i>Oc. sollicitans</i> for the Coastal, Delaware Bayshore and New York Metro Regions. Two minor influxes of <i>Oc. sollicitans</i> entered light traps in the Delaware River Basin, Pinelands and Suburban Corridor Regions. As expected, populations were highest in areas directly on the coast but light trap data clearly show that small numbers flew well inland in their quest for a blood meal host.	

The Psorophora



(Note the different scales used on the Y-axis.)

Psorophora columbiae*/*Psorophora ciliata – Light trap data clearly show that August rains produced a variety of floodwater mosquito species in addition to *Ae. vexans* and *Oc. trivittatus*. Population graphs for *Ps. columbiae* and *Ps. ciliata* from the Agricultural Region show a sharp increase in numbers over the past several weeks. *Ps. columbiae* is particularly attracted to large mammal hosts and may well be important as a vector of WNV to horses. *Ps. ciliata* is an exceptionally large species with a predacious larva that hatches with and feeds on the larvae of other floodwater species found in its habitat.