

NEW JERSEY STATE SURVEILLANCE

Weekly Report for Week 33, 12 August – 18 August, 2003

Submitted by Lisa Reed and Wayne Crans

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Rutgers University, New Brunswick, NJ 08901

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.

This is New Jersey Agricultural Experiment Station publication No. PT-40500-33-03 supported by Hatch funds and funding from the NJ State Mosquito Control Commission. Prepared by Lisa M. Reed and Wayne J. Crans.

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



Figure 1b. Trap lat-long locations.



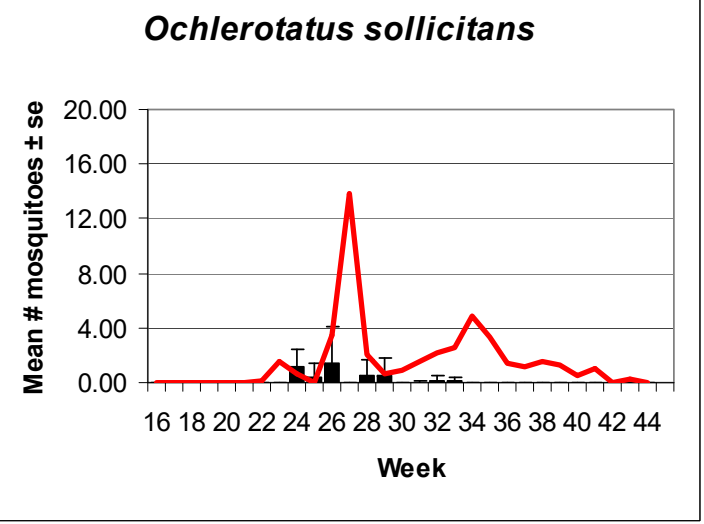
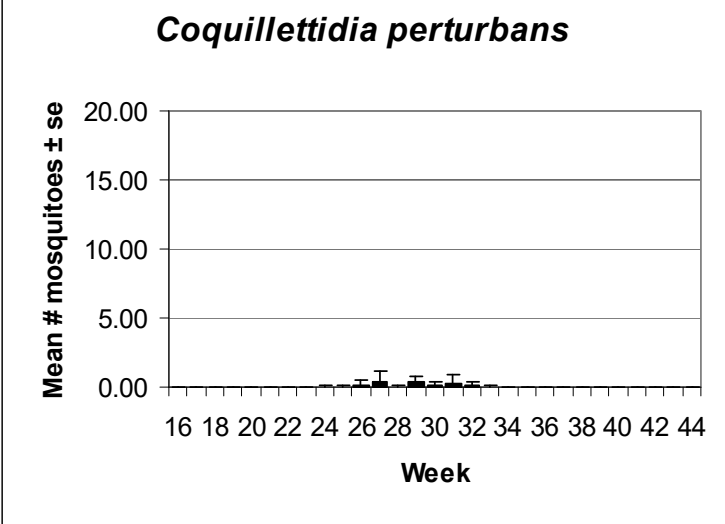
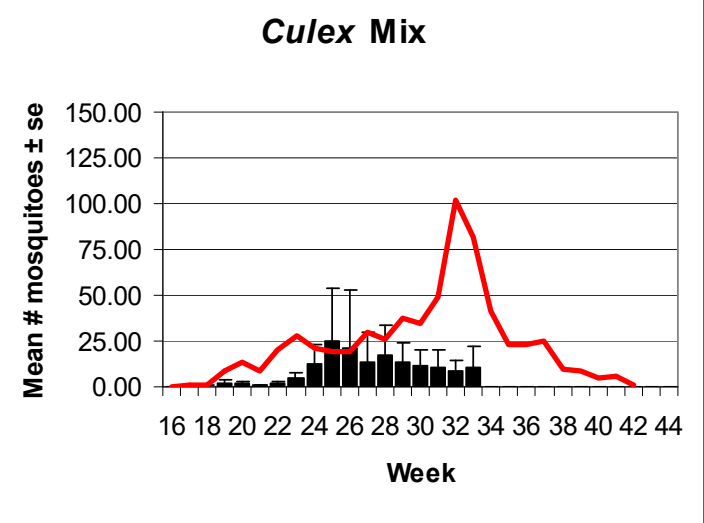
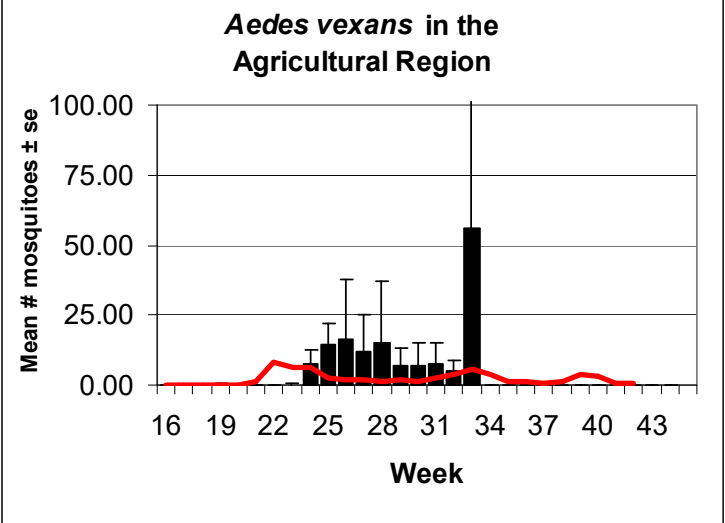
Summary table

	<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	55.71	2.72	11.05	48.70	0.05		0.12	2.57
Coastal	1.57	5.64	8.68	4.61	0.21		57.41	11.88
Delaware Bayshore	0.05		11.52		0.02		1.14	
Delaware River Basin	5.46	137.70	11.57	6.07	0.43		0.29	4.14
New York Metro	7.23	5.38	7.33	2.92	0.00		0.61	0.35
North Central Rural	2.27		3.16		0.06		0.00	
Northwest Rural	0.10		3.05		0.00		0.00	
Philadelphia Metro	2.74		1.07		0.02		0.00	
Pinelands	0.77	1.70	6.40	3.37	0.44		0.53	
Suburban Corridor	13.22	34.62	3.96	3.63	0.68		0.15	

- Complete data not yet available.

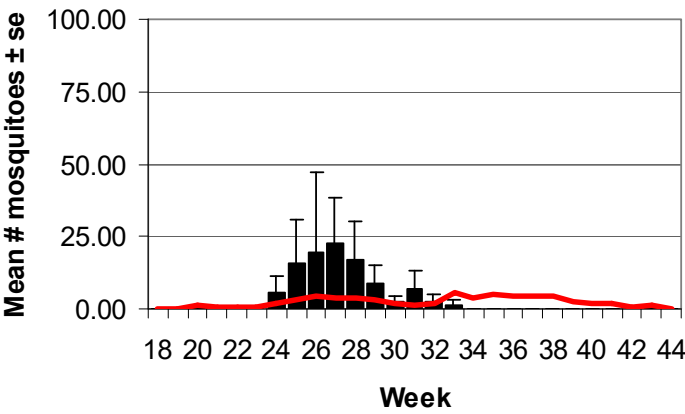
Please Note: Historical data is being entered and not yet complete. These values and graphics will change as more data is entered.

Agricultural

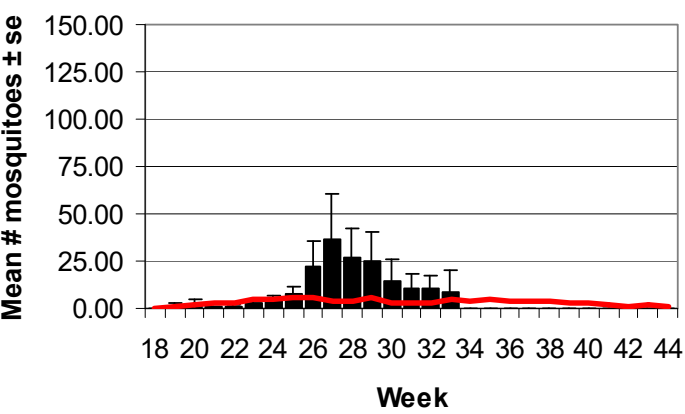


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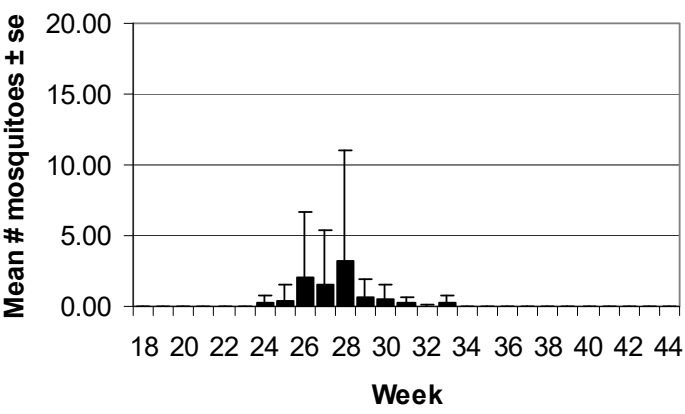
Aedes vexans



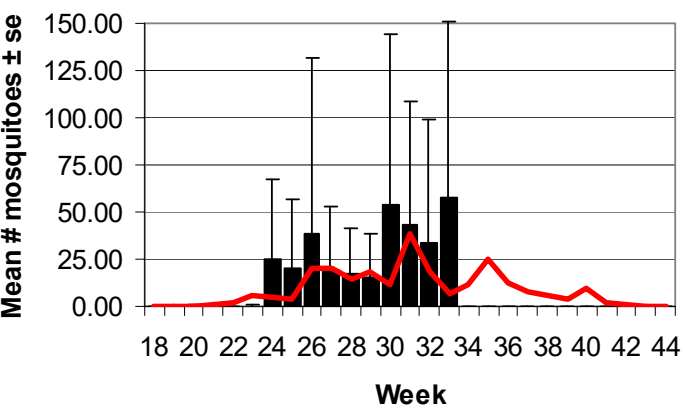
Culex Mix



Coquillettidia perturbans

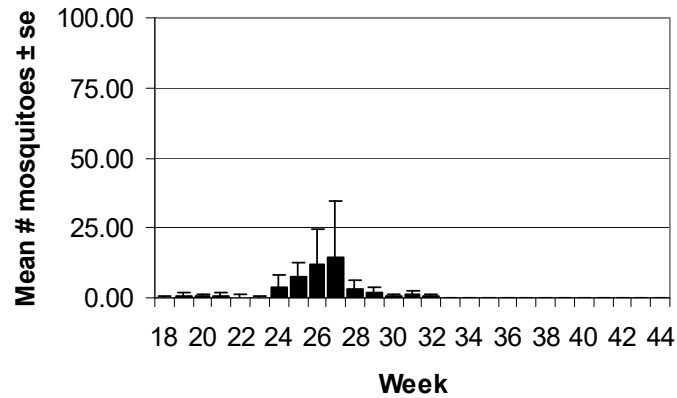


Ochlerotatus sollicitans

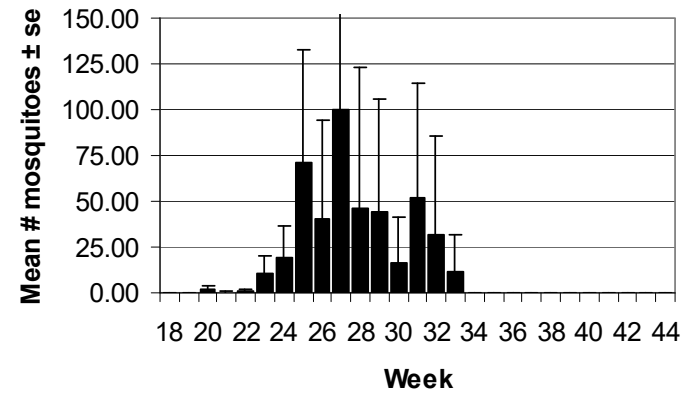


Delaware Bayshore

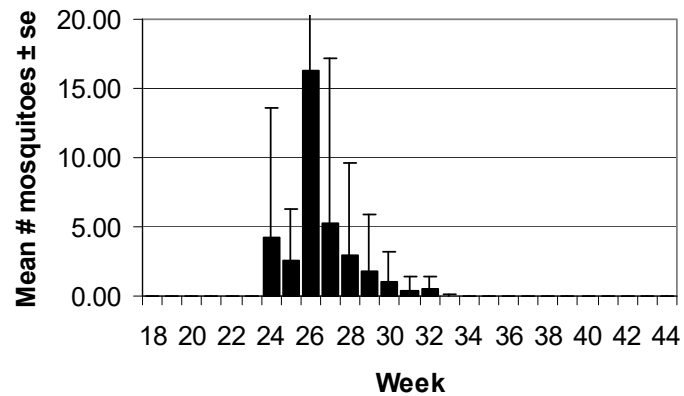
Aedes vexans



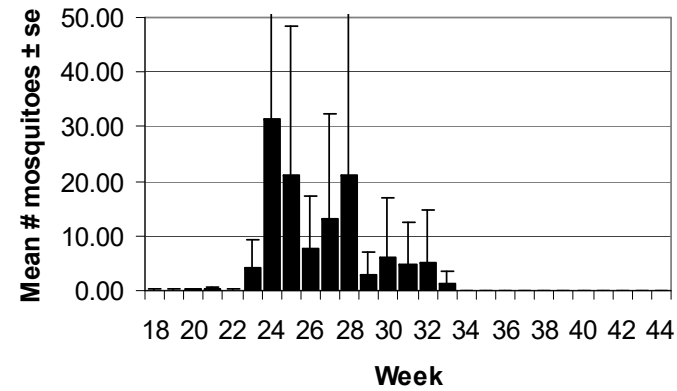
Culex Mix



Coquillettidia perturbans

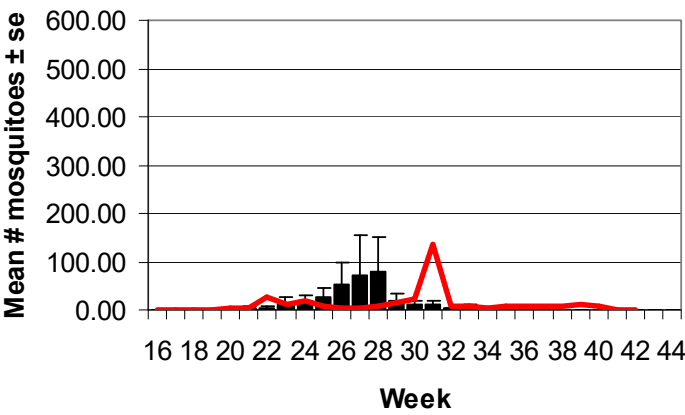


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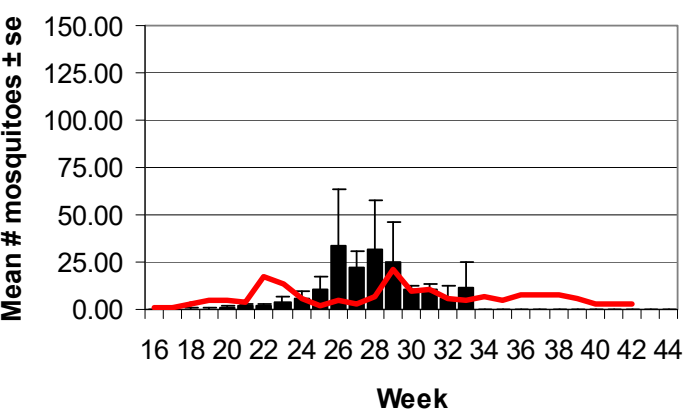


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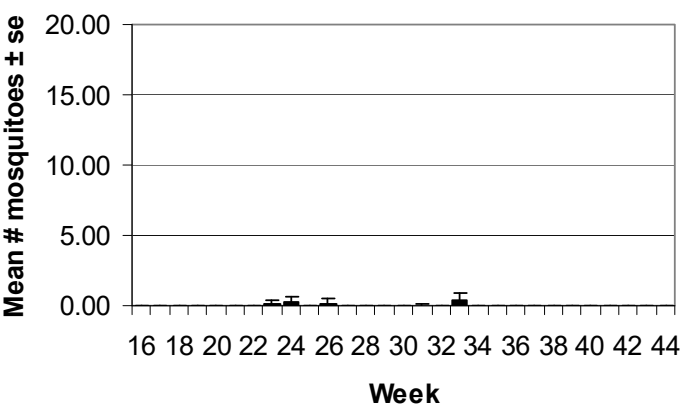
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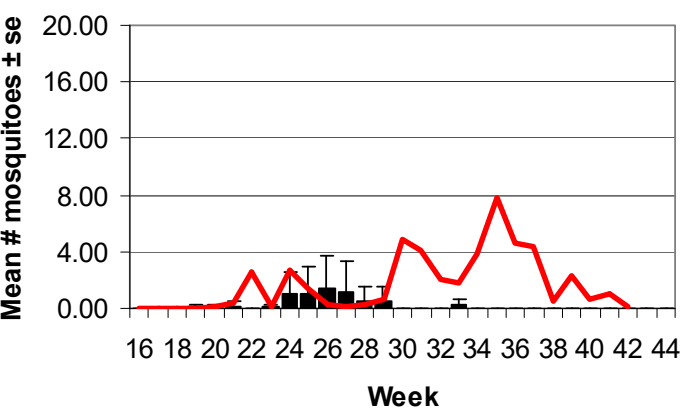
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Coquillettidia perturbans

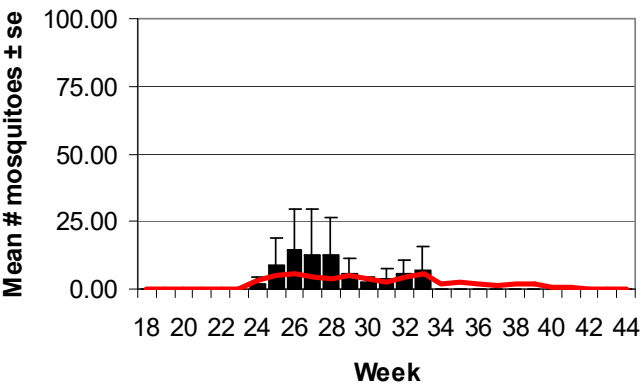


Ochlerotatus sollicitans

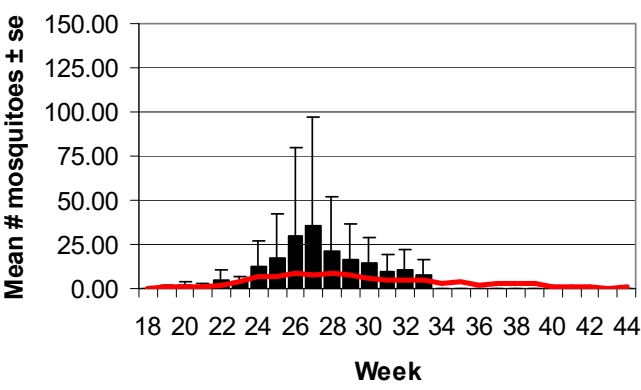


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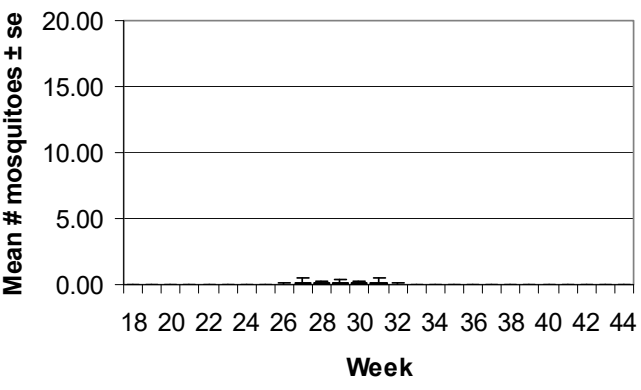
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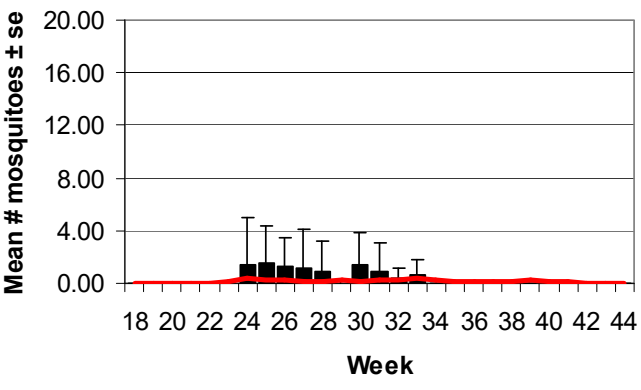
Culex Mix



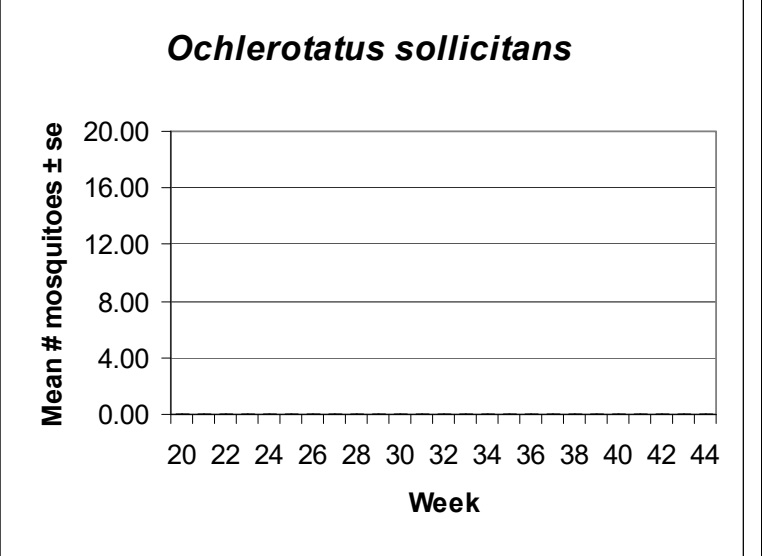
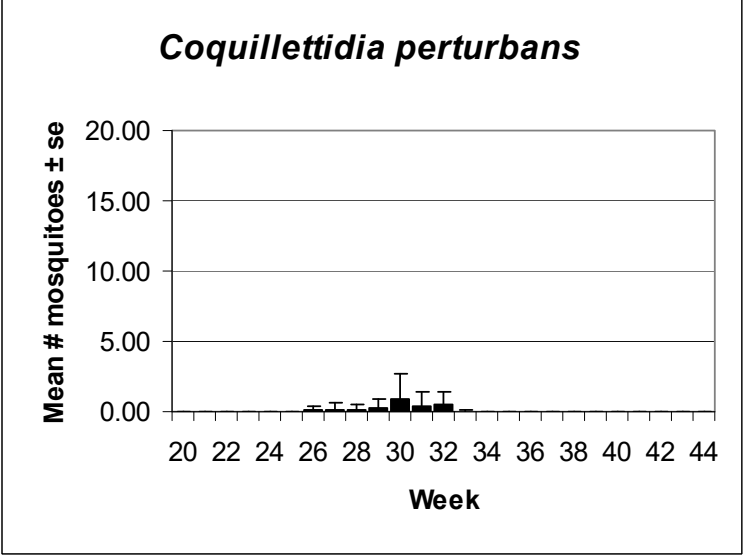
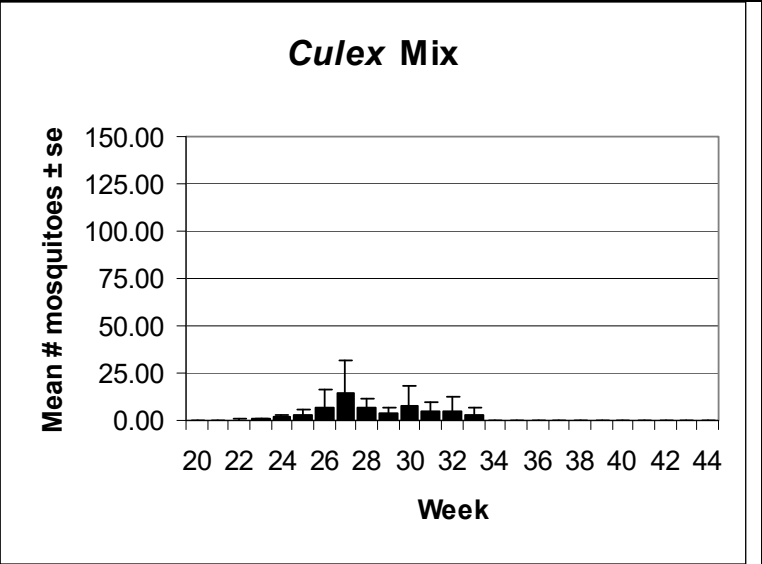
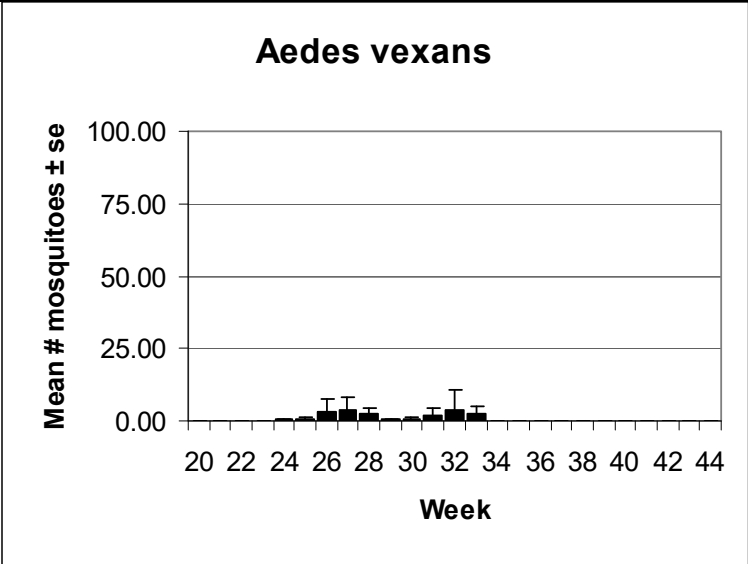
Coquillettidia perturbans



Ochlerotatus sollicitans

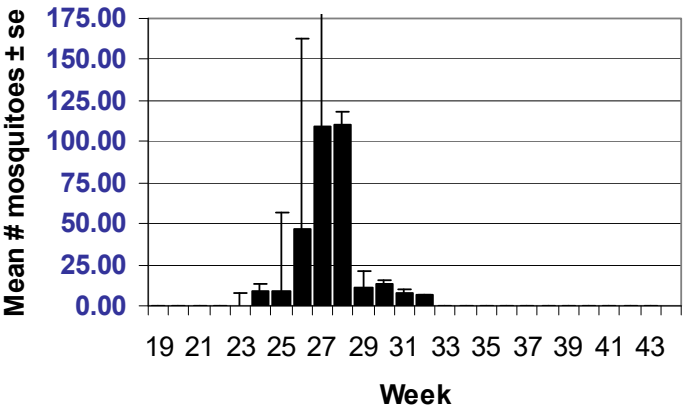


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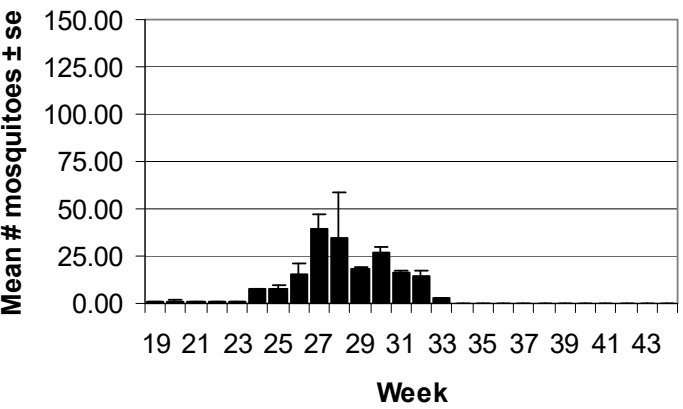


Northwestern Rural

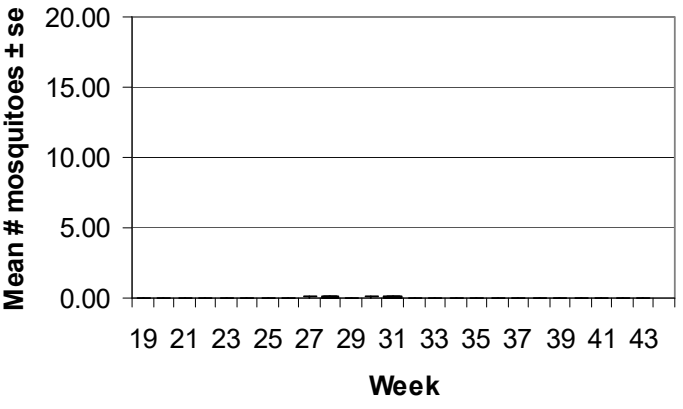
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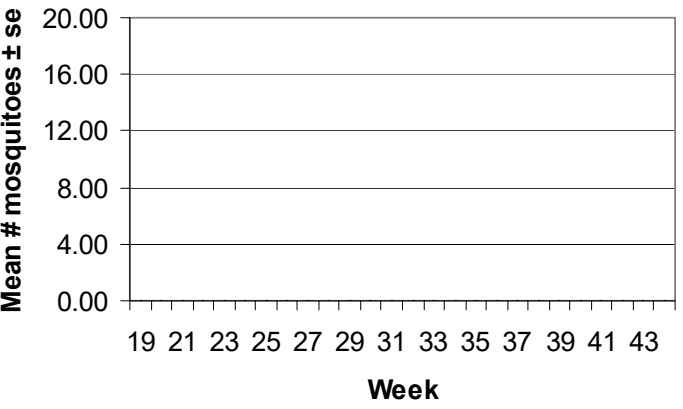
Culex Mix



Coquillettidia perturbans

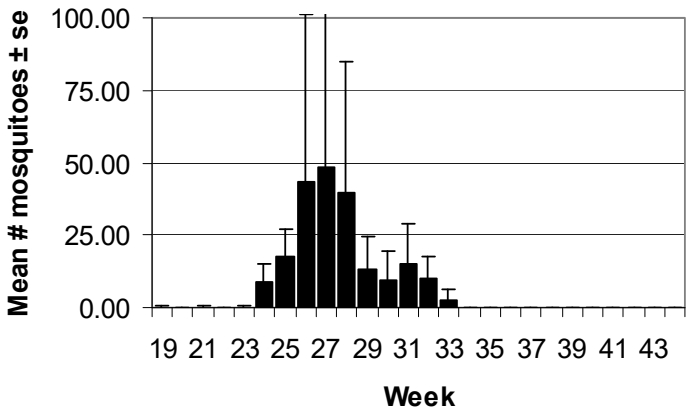


Ochlerotatus sollicitans

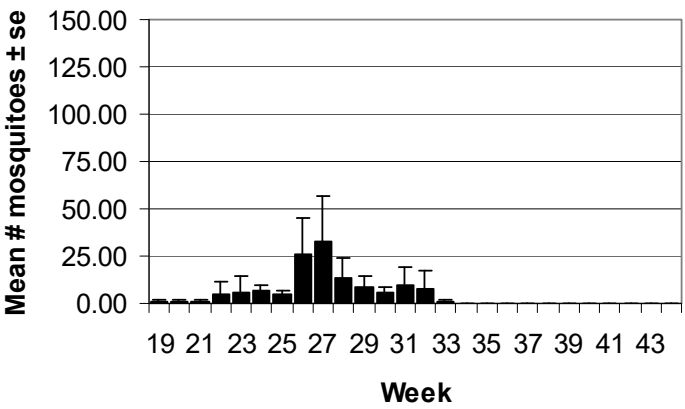


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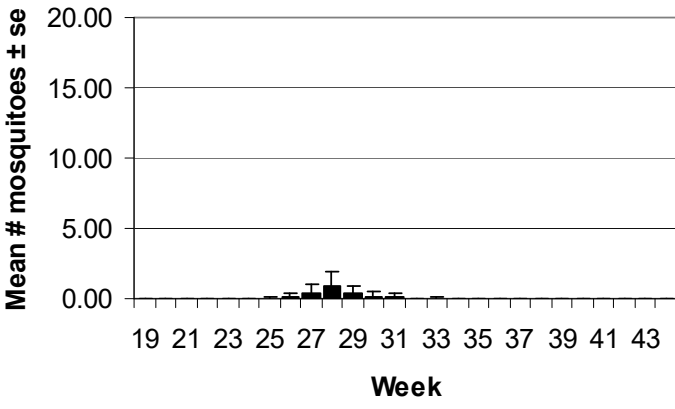
Aedes vexans



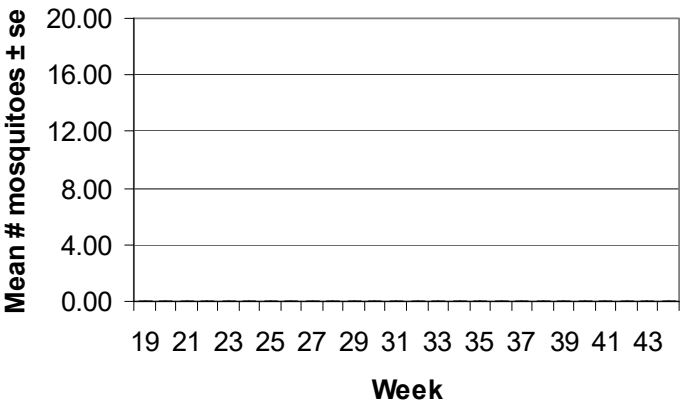
Culex Mix



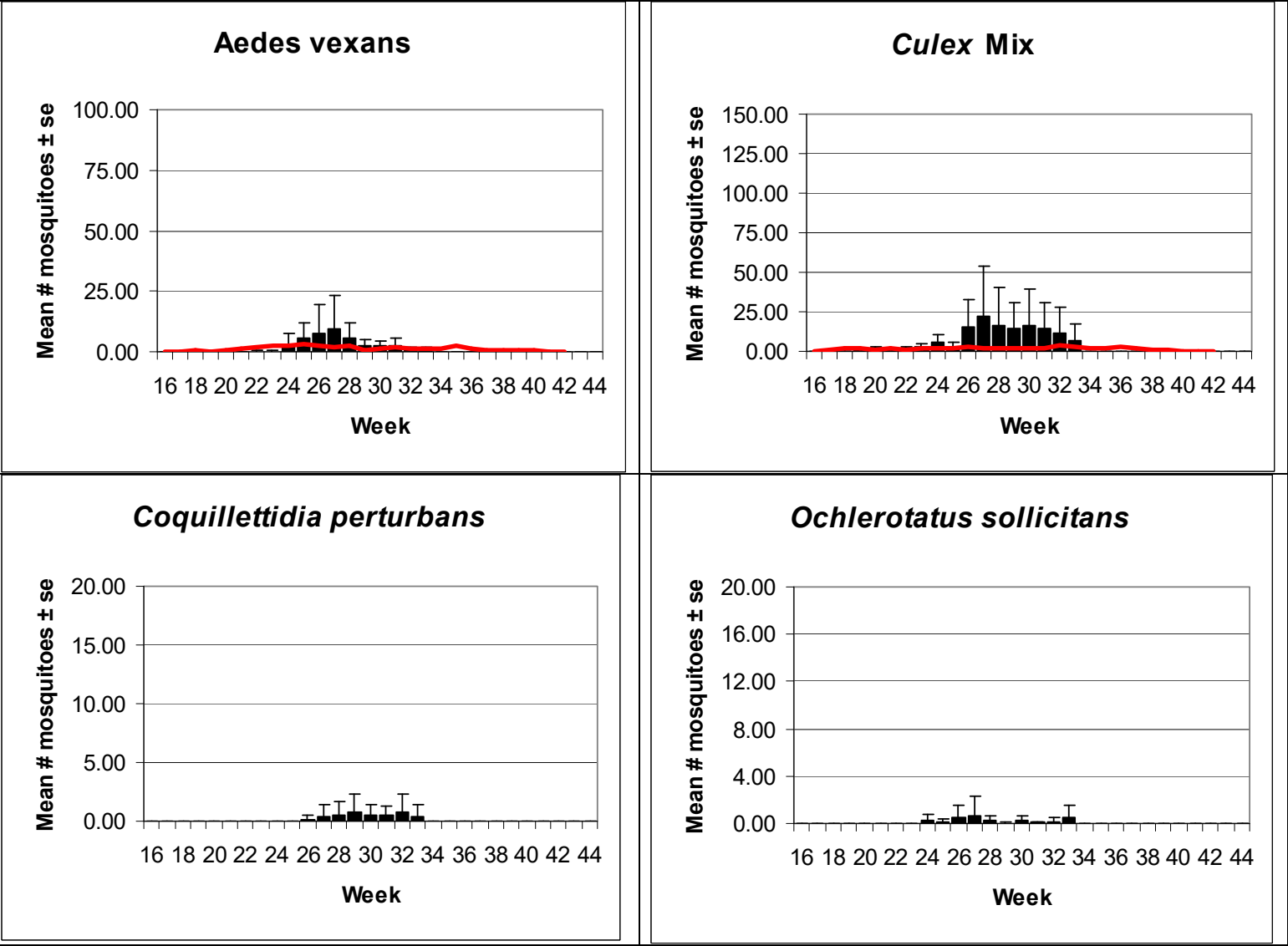
Coquillettidia perturbans



Ochlerotatus sollicitans

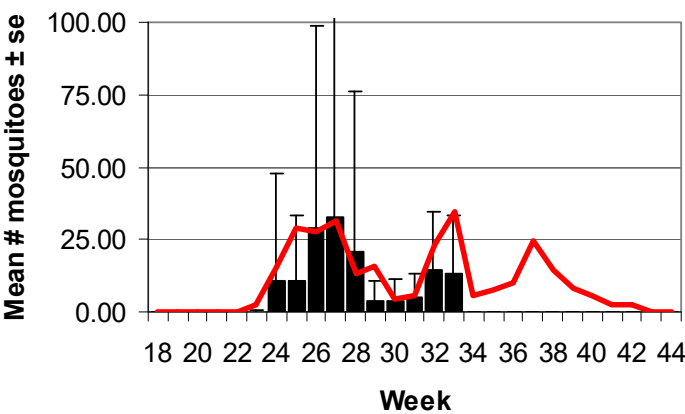


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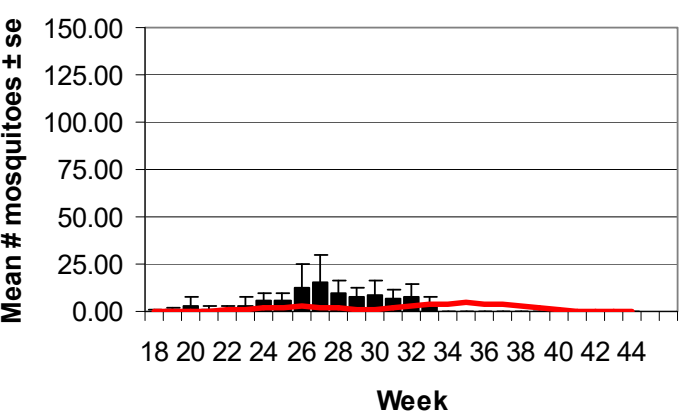


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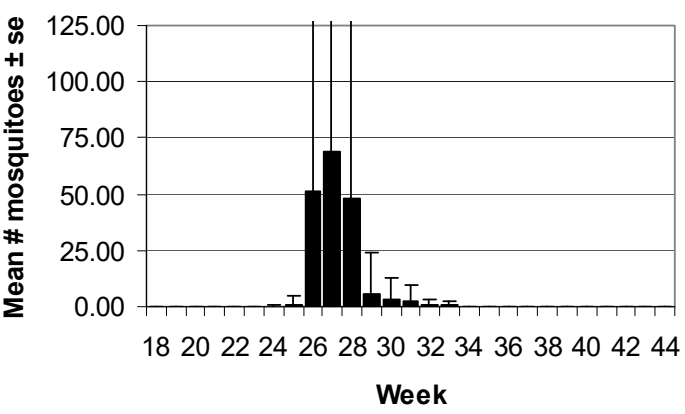
Aedes vexans



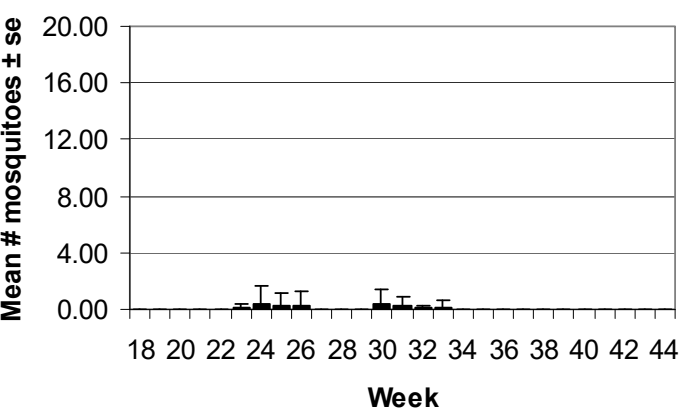
Culex Mix



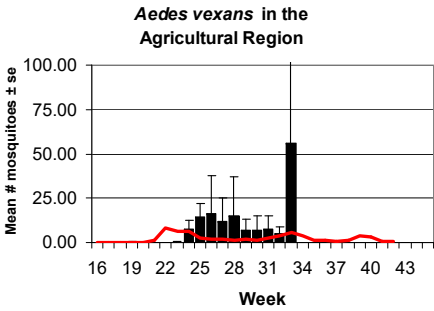
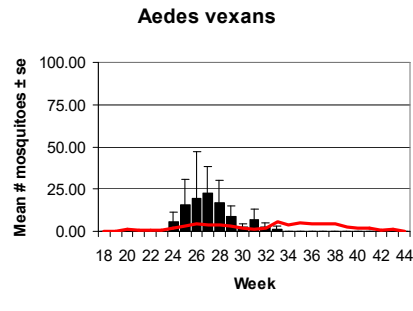
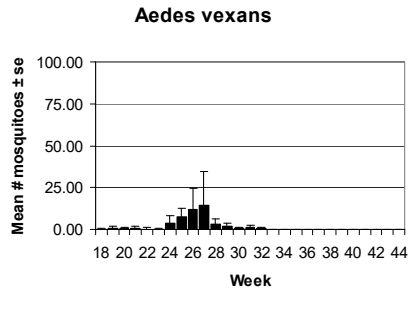
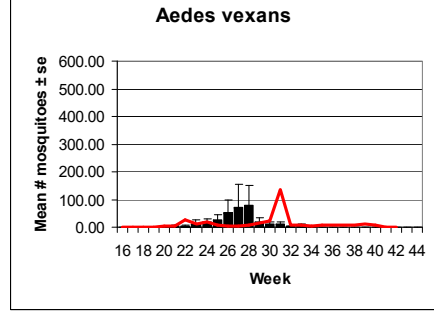
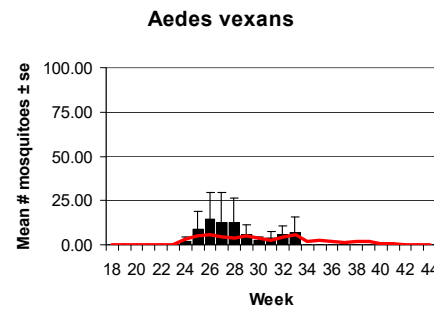
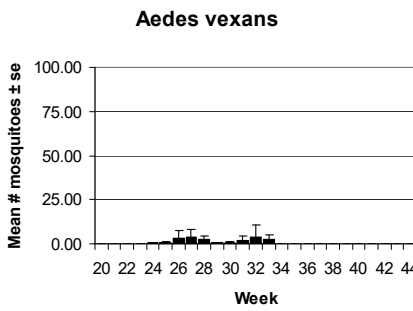
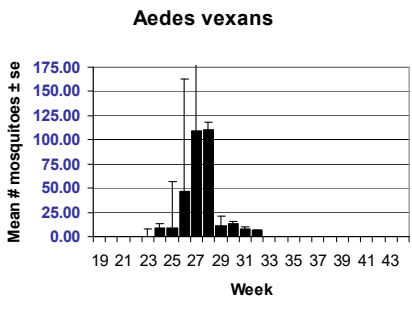
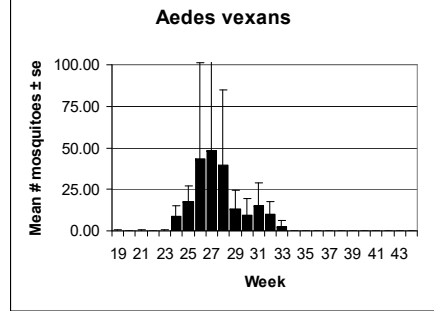
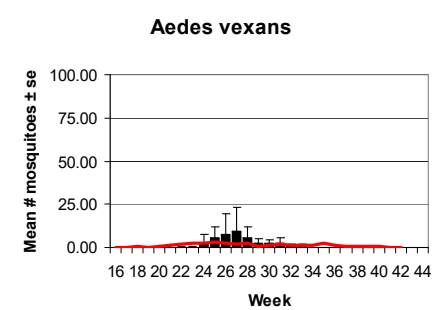
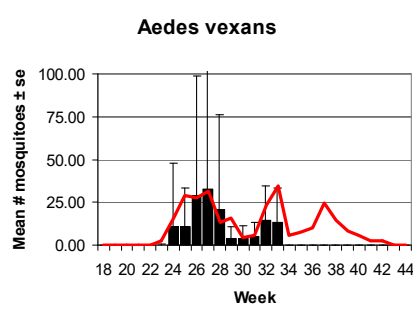
Coquillettidia perturbans



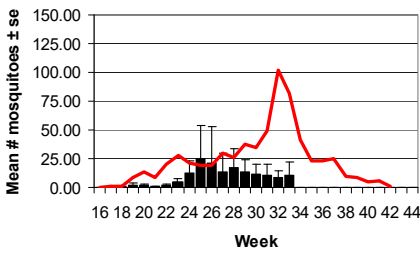
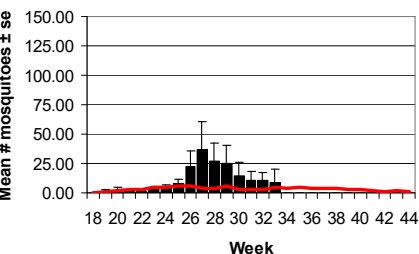
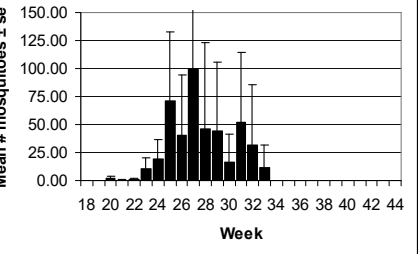
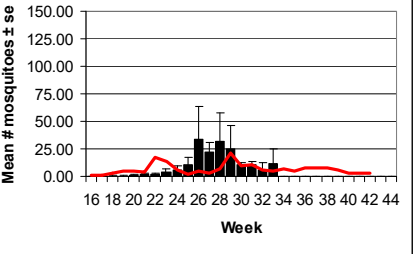
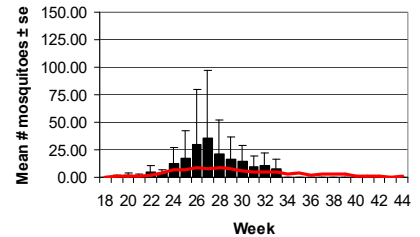
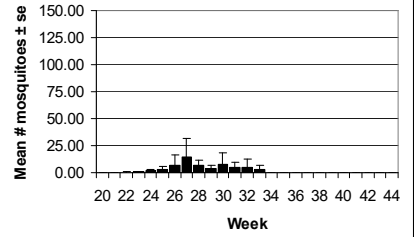
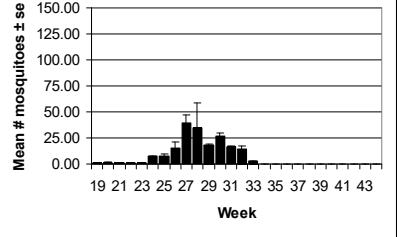
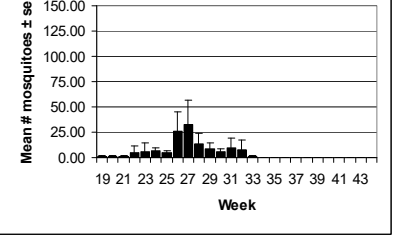
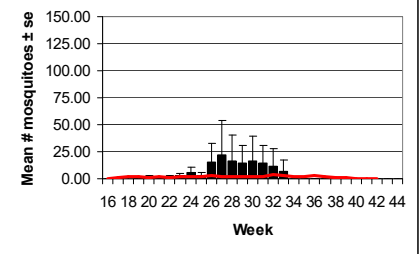
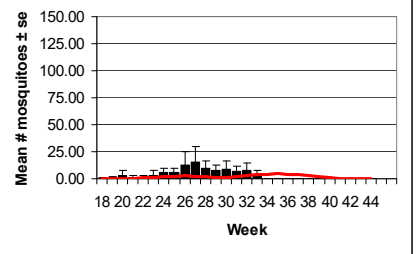
Ochlerotatus sollicitans



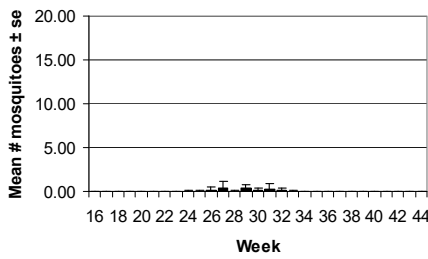
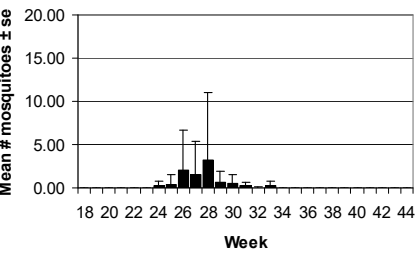
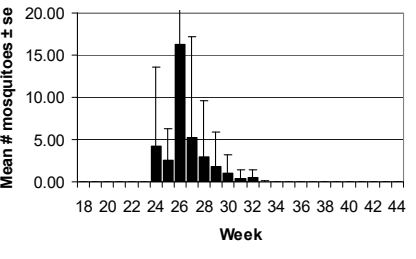
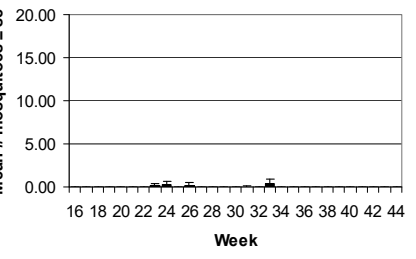
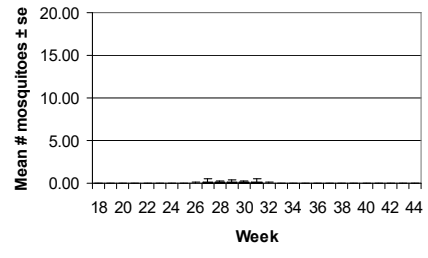
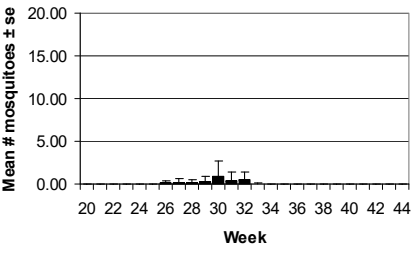
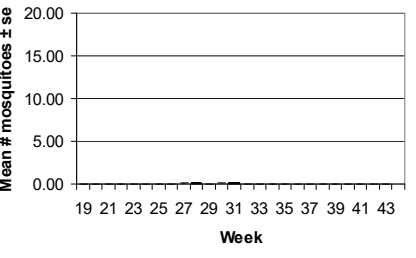
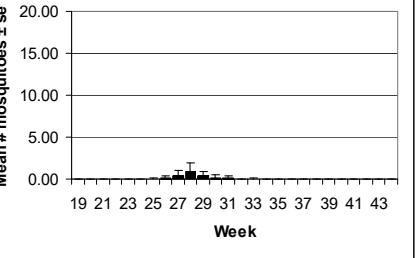
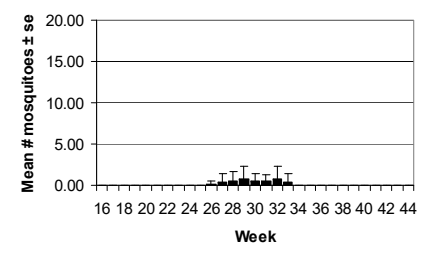
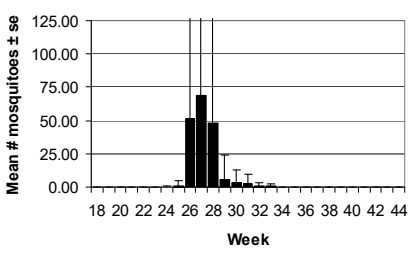
Aedes vexans

Agricultural	Coastal	Delaware Bayshore	Delaware River Basin
Aedes vexans in the Agricultural Region 	Aedes vexans 	Aedes vexans 	Aedes vexans 
New York Metro	North Central Rural	Northwestern Rural	Philadelphia Metro
Aedes vexans 	Aedes vexans 	Aedes vexans 	Aedes vexans 
Pinelands	Suburban Corridor	Comments	
Aedes vexans 	Aedes vexans 	Ae. vexans – Light trap data indicate that recent rains have produced a second brood of <i>Ae. vexans</i> in most regions of the state. The size of current populations, however, varies considerably in the 10 regions that are being monitored by this program. <i>Ae. vexans</i> populations in the Suburban Corridor Region come very close to the historical mean. This second brood of the season is somewhat smaller than the spring emergence in most areas of the state. The Agricultural Region provides an important exception with light trap collections above 50 mosquitoes per trap night. This sizeable emergence places large numbers of an important bridge vector of West Nile virus in contact with horses at the peak of the West Nile transmission season.	

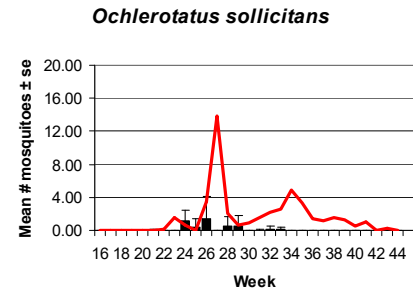
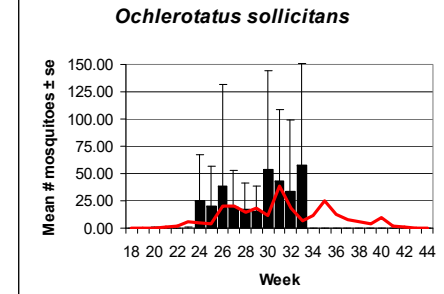
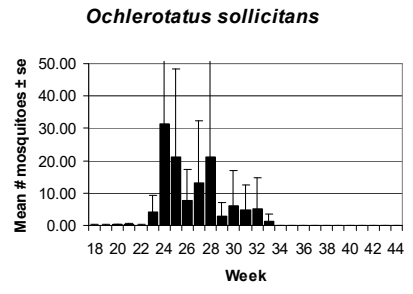
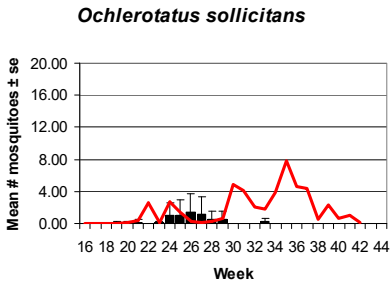
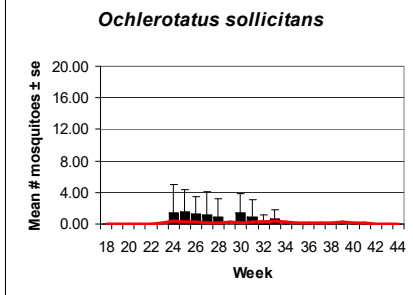
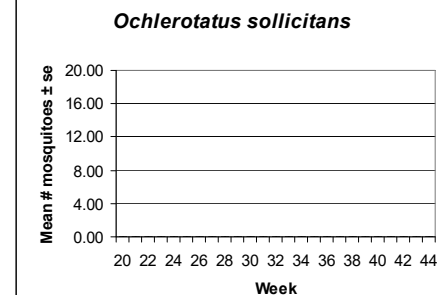
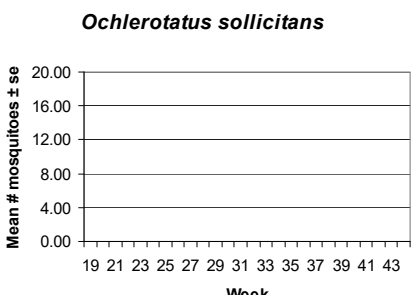
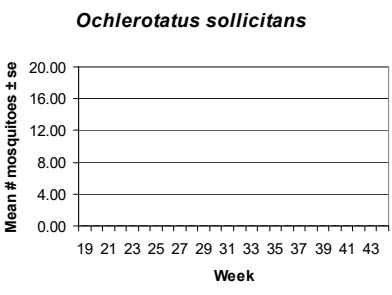
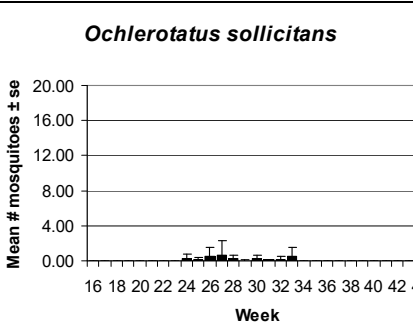
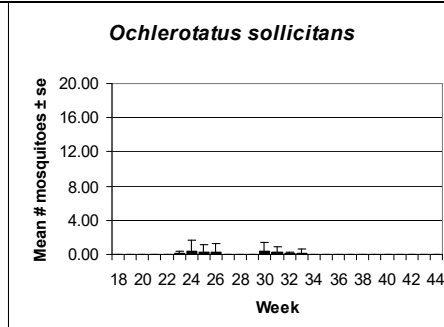
Culex Complex

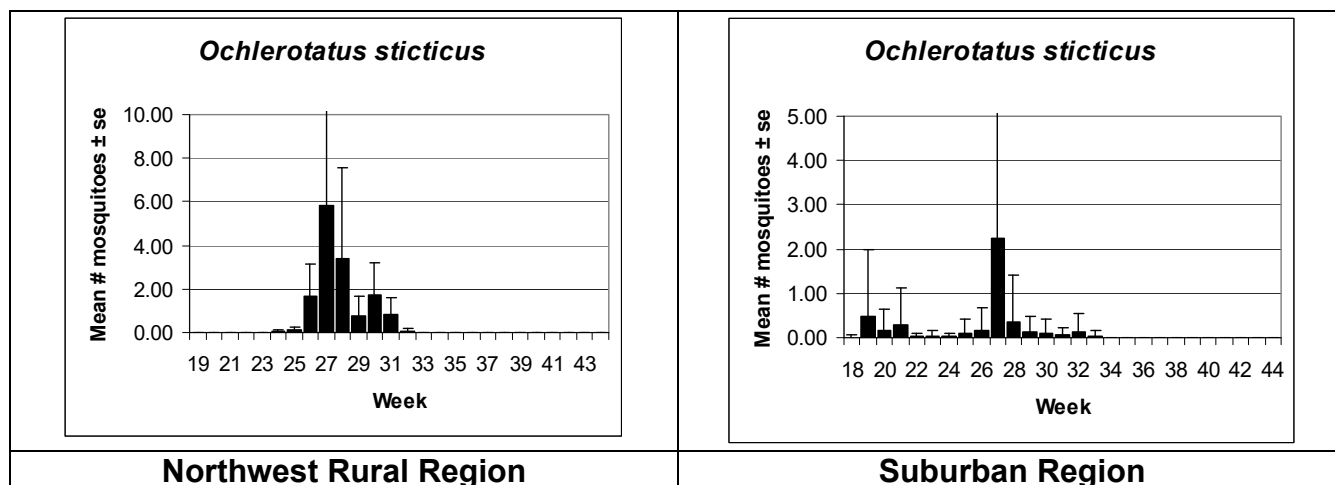
Agricultural	Coastal	Delaware Bayshore	Delaware River Basin
Culex Mix 	Culex Mix 	Culex Mix 	Culex Mix 
New York Metro	North Central Rural	Northwestern Rural	Philadelphia Metro
Culex Mix 	Culex Mix 	Culex Mix 	Culex Mix 
Pinelands	Suburban Corridor	Comments	
Culex Mix 	Culex Mix 	Culex Complex – Historical data indicate that <i>Culex</i> populations are above average in a number of the regions being monitored by this program. In contrast, populations are much lower than the norm in the Agricultural Region this year. The relative size of <i>Culex pipiens</i> and <i>Culex restuans</i> populations are of particular interest because of their vector involvement with West Nile virus. These species normally build rapidly during the month of August to assure that large numbers of adults are available at the end of the year for the overwintering generation. Shortened day length will soon cue onset of diapause in larval population and feeding changes in adults that emerge during the fall months.	

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> appear to have completed their emergence for the 2003 season. Most of the females from this year's generation have blood fed and laid their egg rafts for next year's generation. Larvae from eggs that were laid early in the season are probably near 3rd instar at this point in time. Light trap data suggest that the majority of this year's <i>Cq. perturbans</i> will overwinter in the 4th instar and emerge as adults next June.	

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> – No new information is evident in the light trap data for <i>Oc. sollicitans</i> populations. Several emergences have taken place in coastal areas where suitable larval habitat can be found. Light trap numbers are currently very low in most regions of the state.	



Oc. sticticus – *Oc. sticticus* is a univoltine species that can reappear if multiple floodings reach eggs that did not hatch during an earlier flooding. Data from the State Surveillance Program show that the species demonstrated very different nuisance patterns in different areas of the state, suggesting that the flooding patterns were different this year. The Northwest Rural Region had a large emergence in late June followed by a smaller emergence in early August. In the Suburban Corridor Region, *Oc. sticticus* appeared very early in May and again in early July.

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