

NEW JERSEY STATE SURVEILLANCE

Weekly Report for Week 25, 15 June – 21 June, 2003

Submitted by Lisa Reed and Wayne Crans

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Preface: Data from 84 New Jersey light traps from all 21 counties 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.

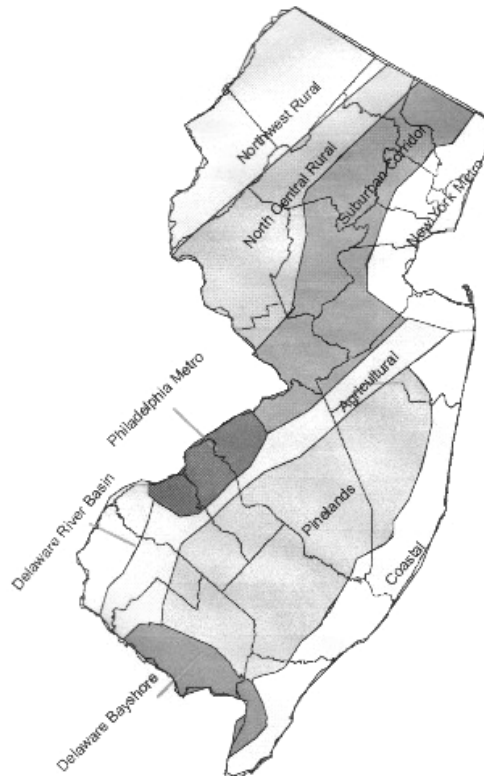
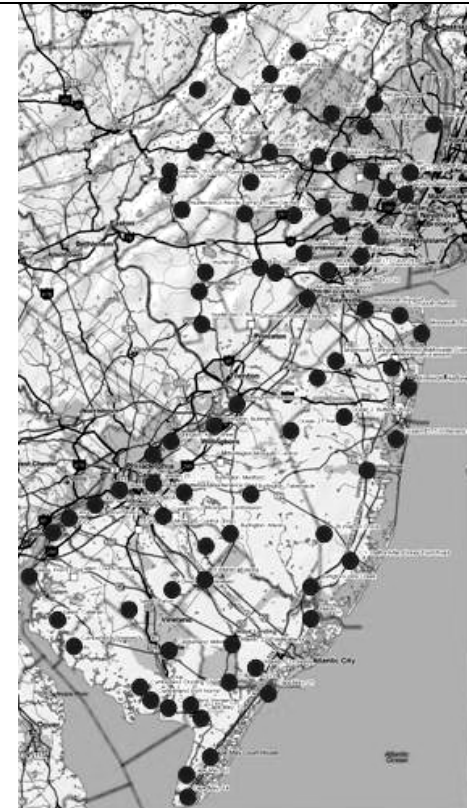


Figure 1b. Trap lat-long locations.



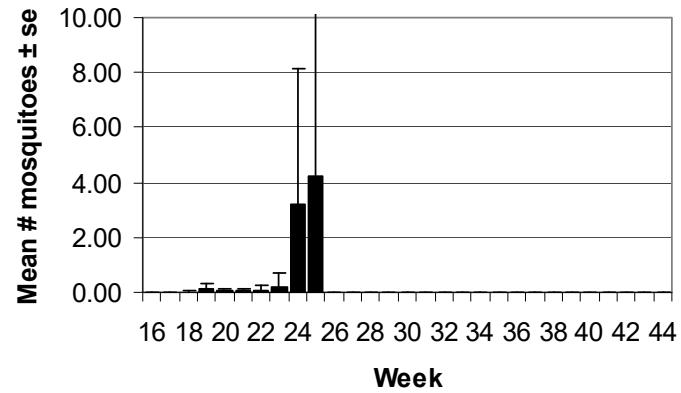
Summary table

	<i>Aedes vexans</i>		<i>Culex complex</i>		<i>Ochlerotatus canadensis</i>		<i>Ochlerotatus sollicitans</i>	
Region	This Week	Average*	This Week	Average*	This Week	Average*	This Week	Average*
Agricultural	4.21		7.46		0.10		0.38	
Coastal	0.00		0.00		0.00		0.00	
Delaware Bayshore	0.00		0.00		0.00		0.00	
Delaware River Basin	19.07		4.68		0.00		1.07	
New York Metro	1.97		4.88		0.00		0.00	
North Central Rural	0.02		0.24		0.00		0.00	
Northwest Rural	1.67		2.52		0.00		0.00	
Philadelphia Metro	0.00		0.00		0.00		0.00	
Pinelands	0.23		0.36		0.00		0.00	
Suburban Corridor	6.13		0.23		0.00		0.00	

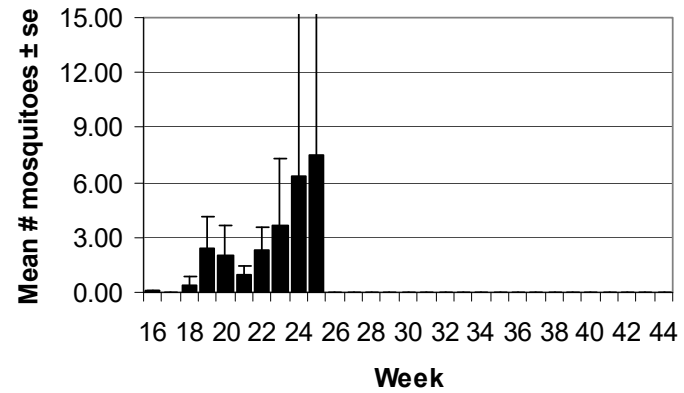
- Complete data not yet available.

Agricultural

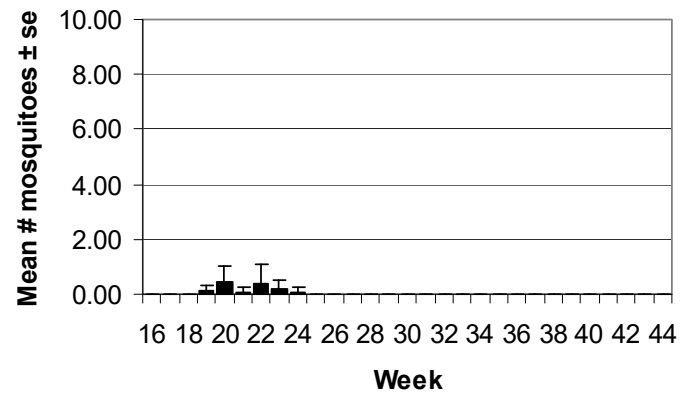
Aedes vexans



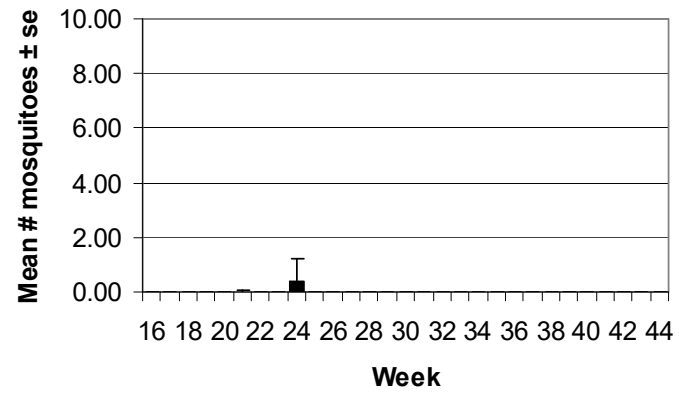
Culex Mix



Ochlerotatus canadensis

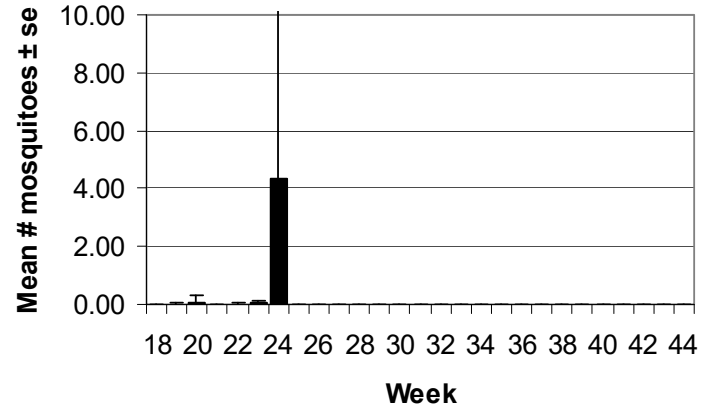


Ochlerotatus sollicitans

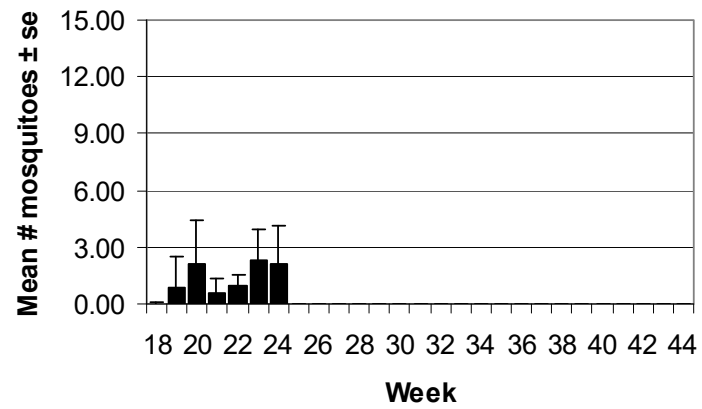


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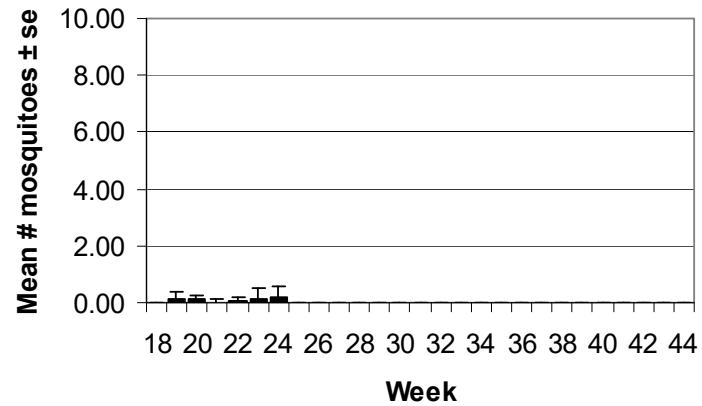
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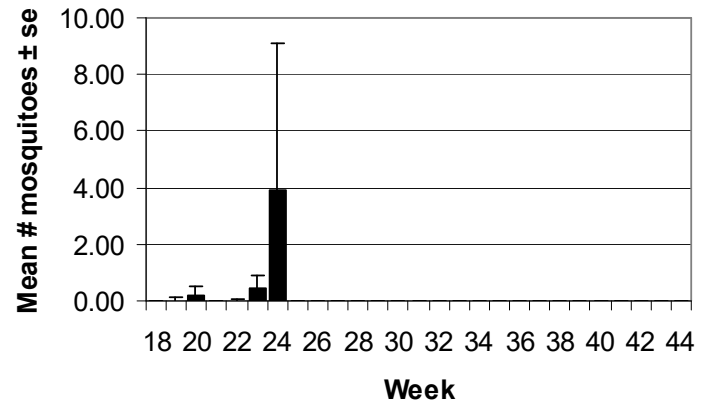
Culex Mix



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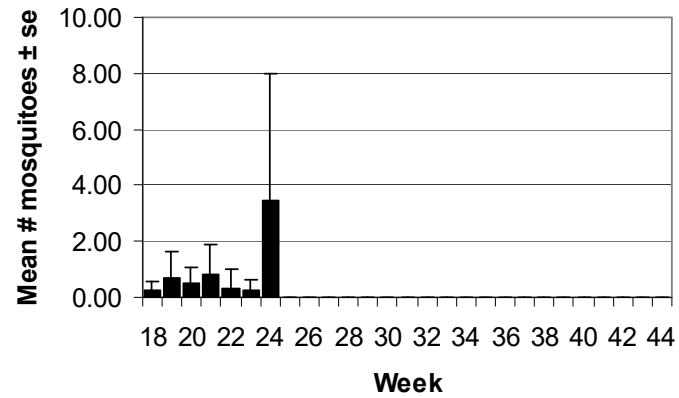


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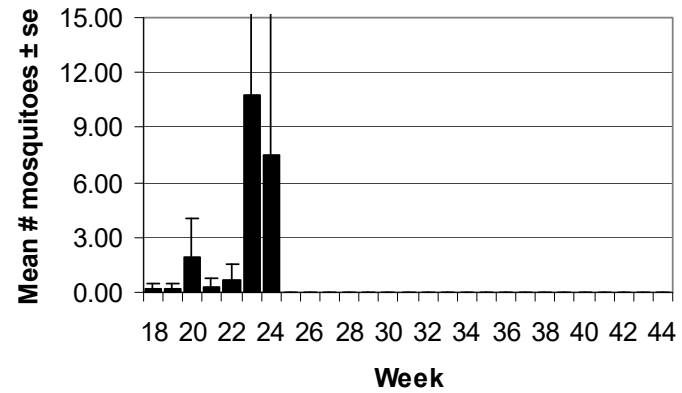


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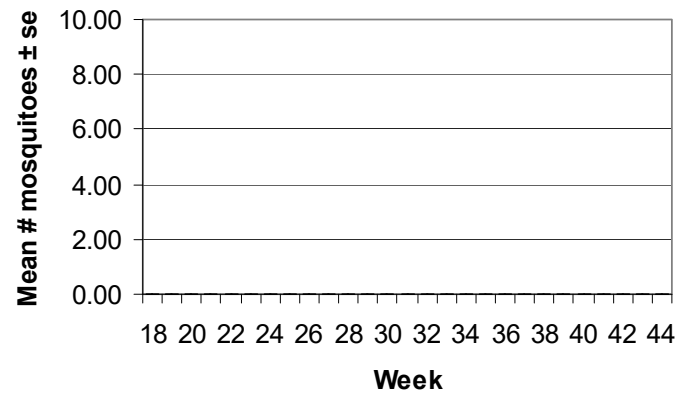
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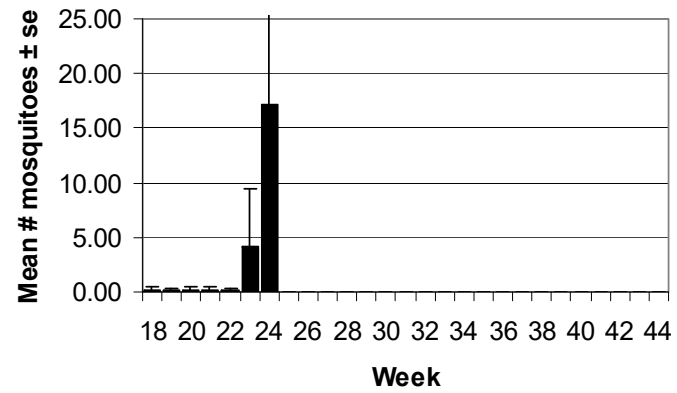
Culex Mix



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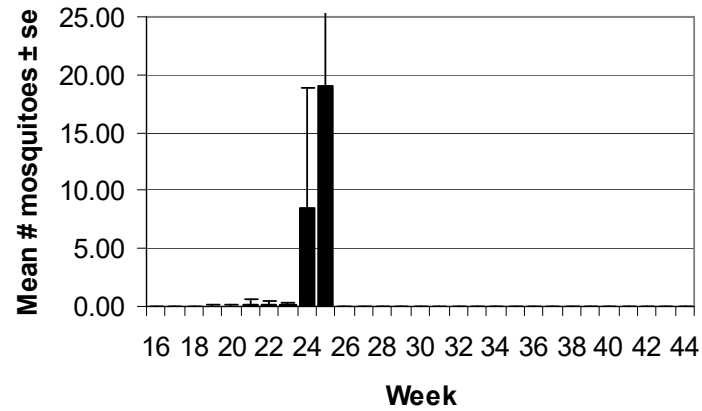


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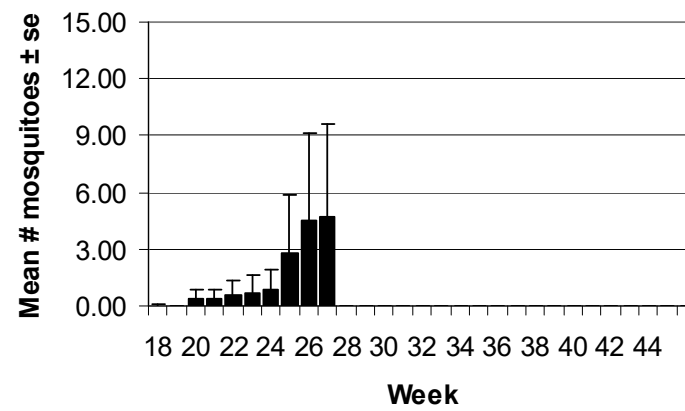


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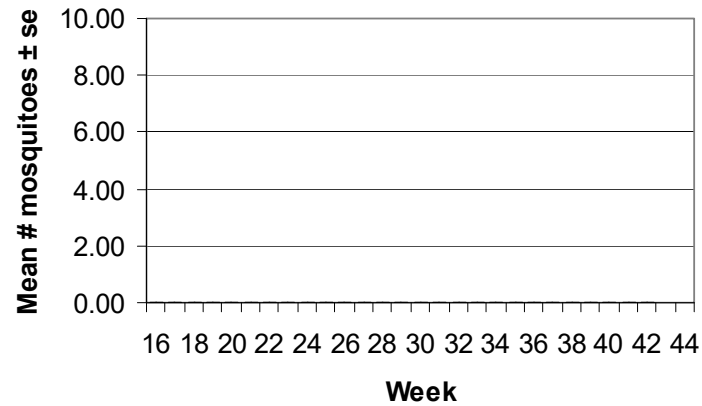
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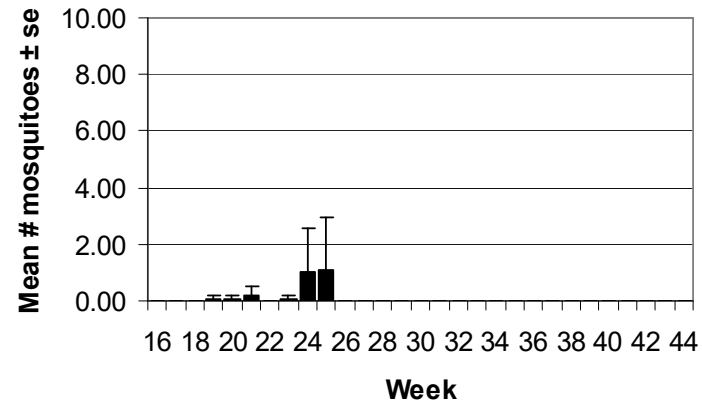
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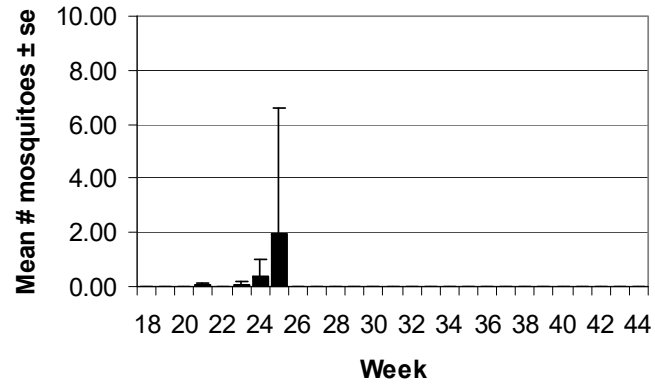


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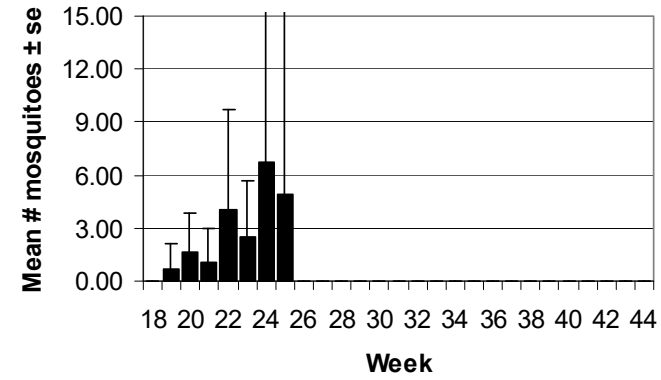


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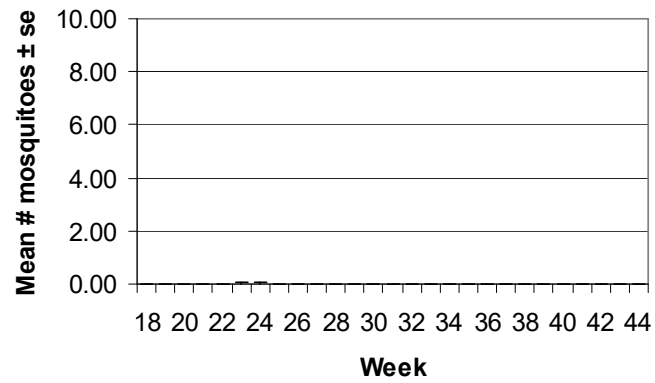
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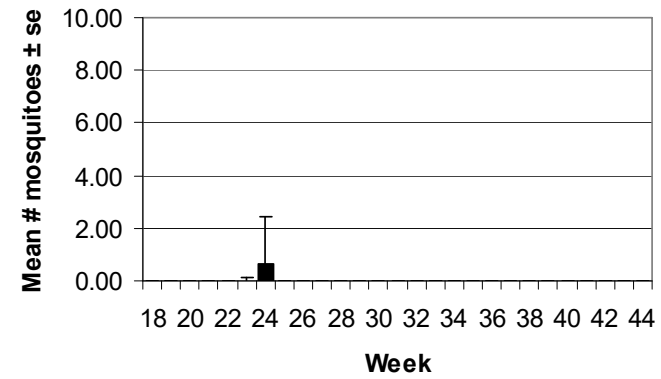
Culex Mix



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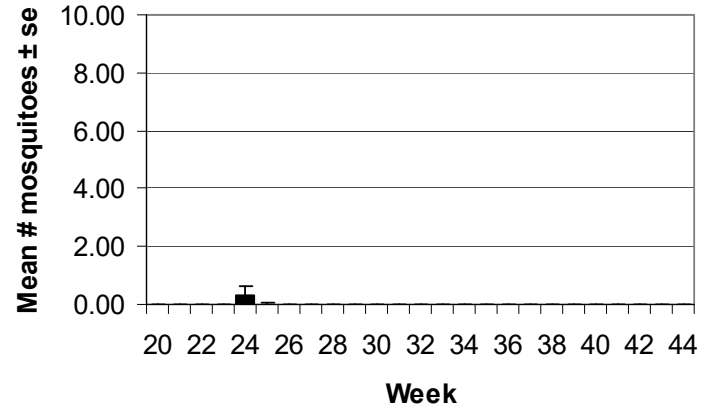


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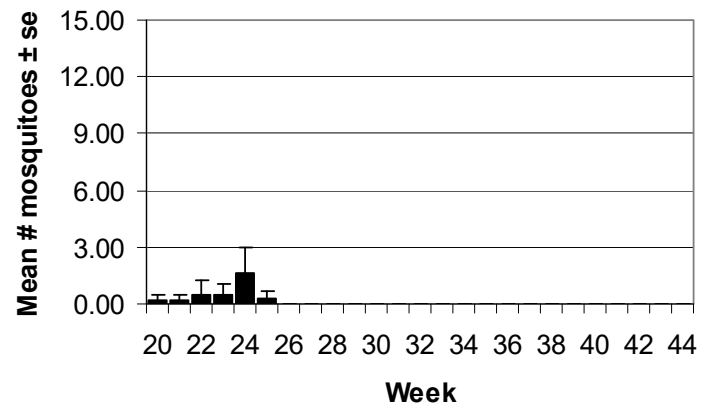


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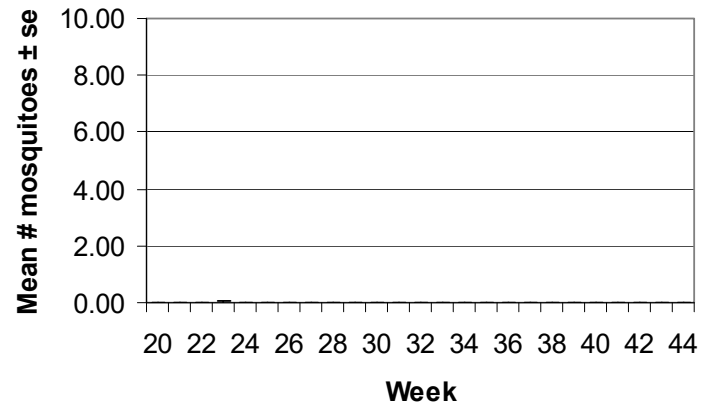
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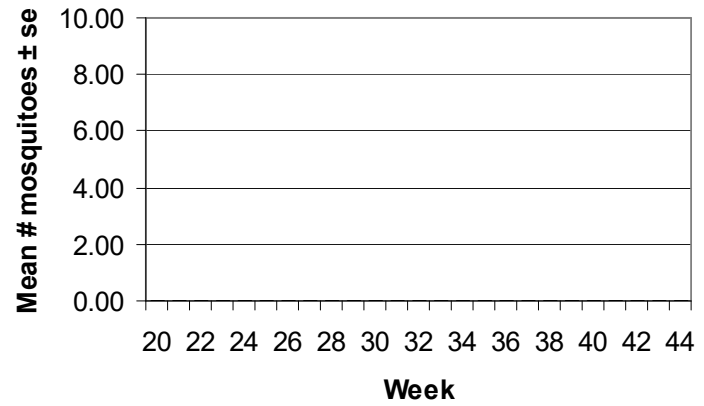
Culex Mix



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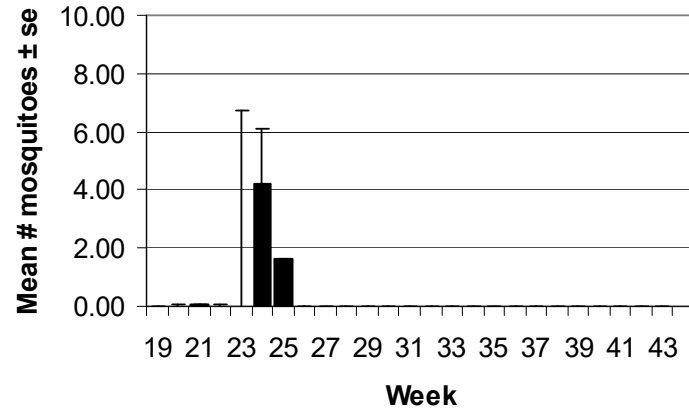


Ochlerotatus sollicitans

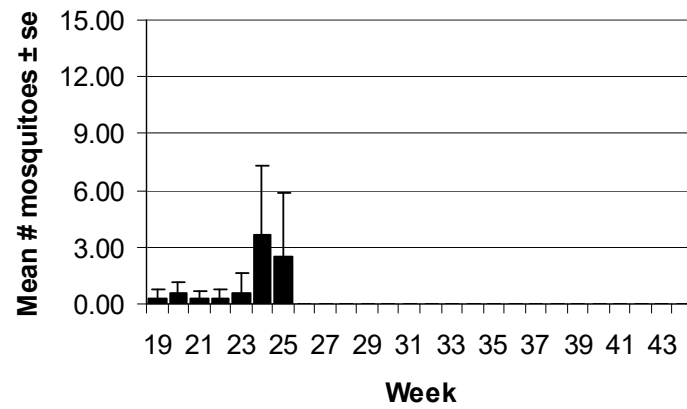


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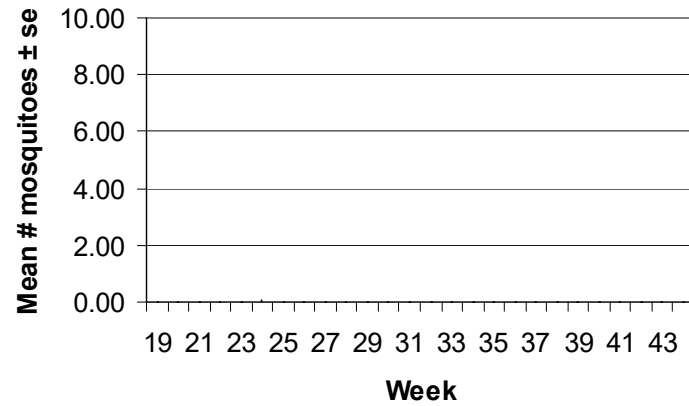
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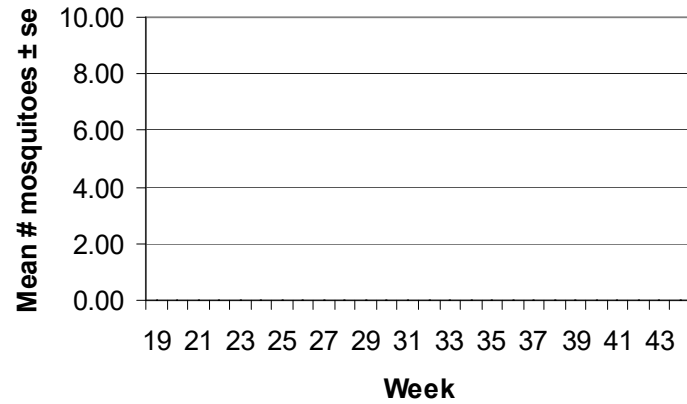
Culex Mix



Ochlerotatus canadensis

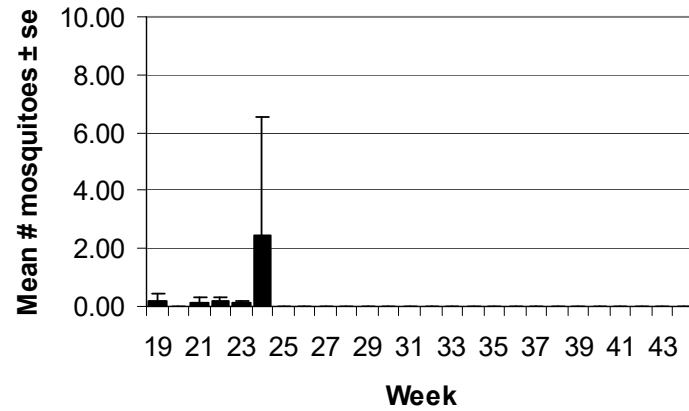


Ochlerotatus sollicitans

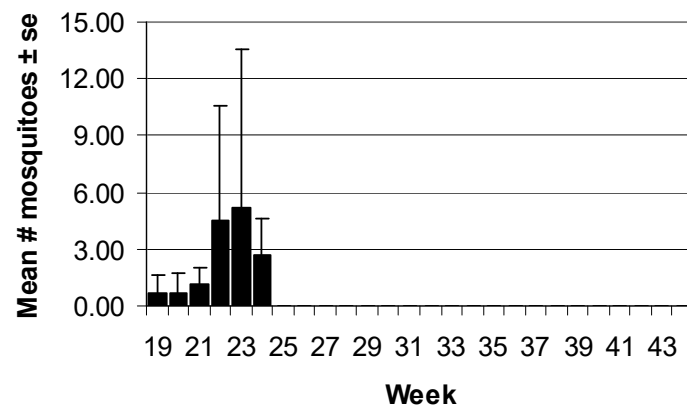


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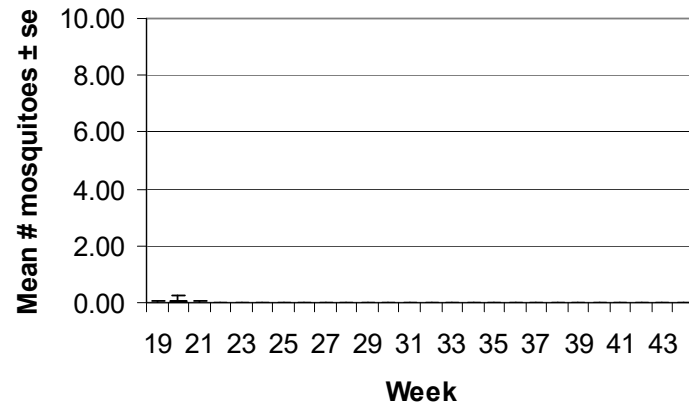
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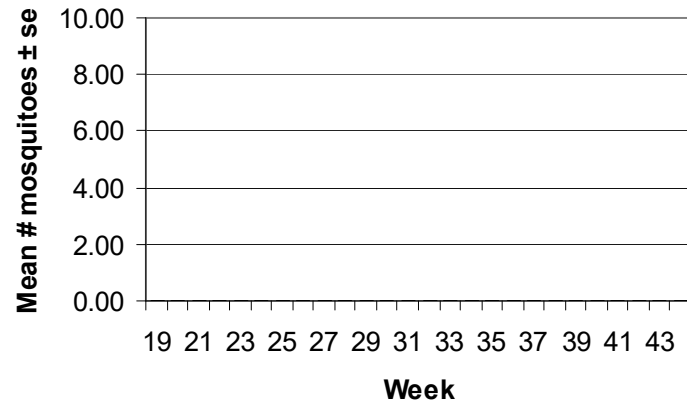
Culex Mix



Ochlerotatus canadensis

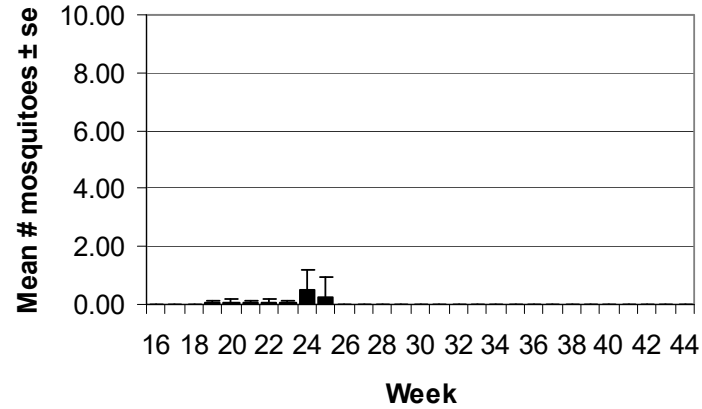


Ochlerotatus sollicitans

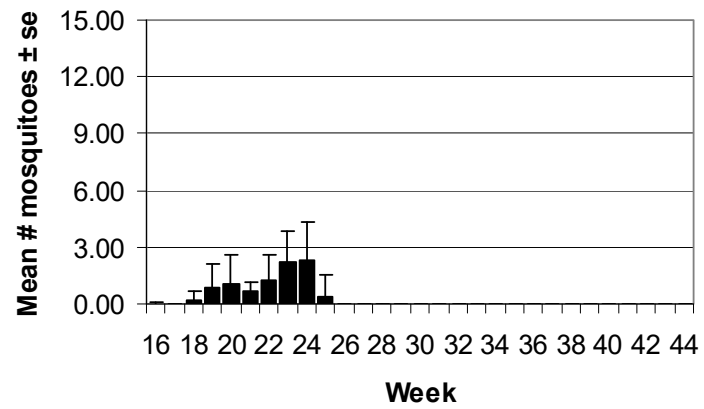


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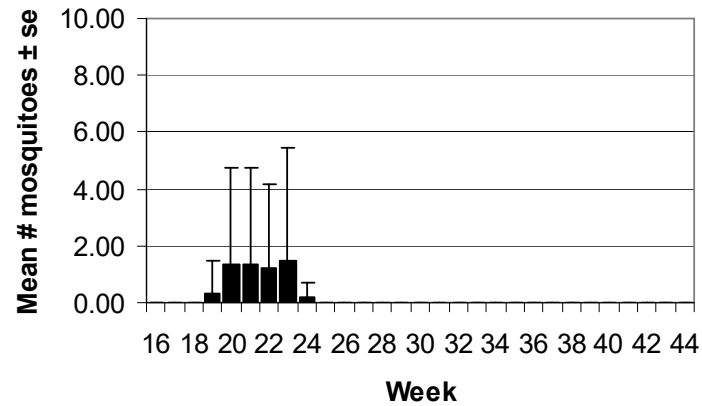
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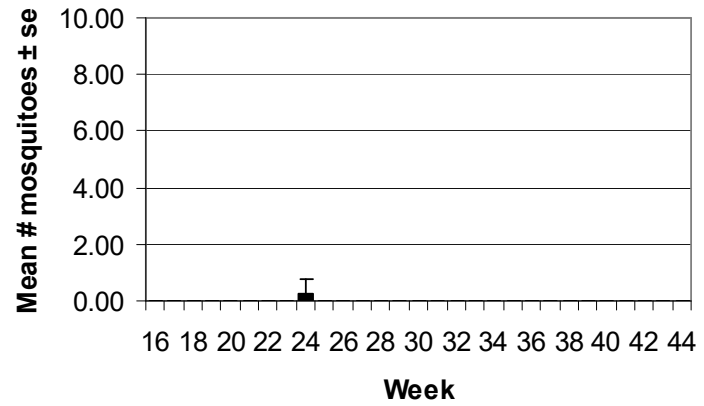
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Ochlerotatus canadensis

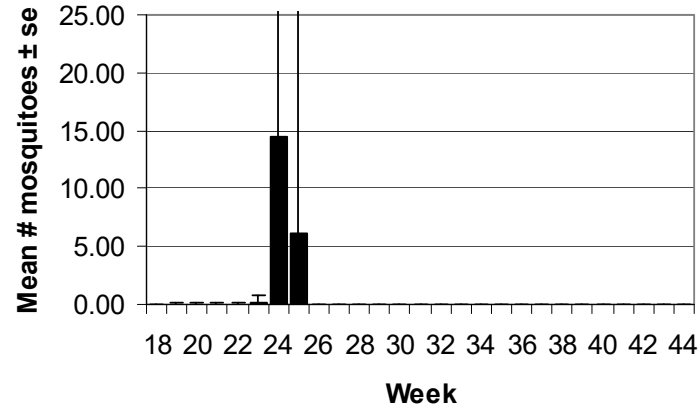


Ochlerotatus sollicitans

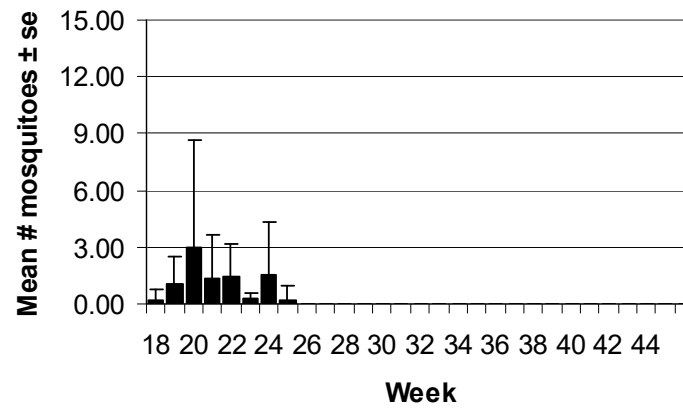


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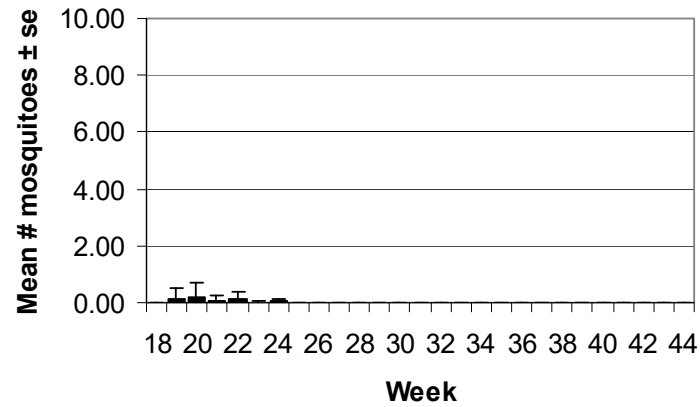
Aedes vexans



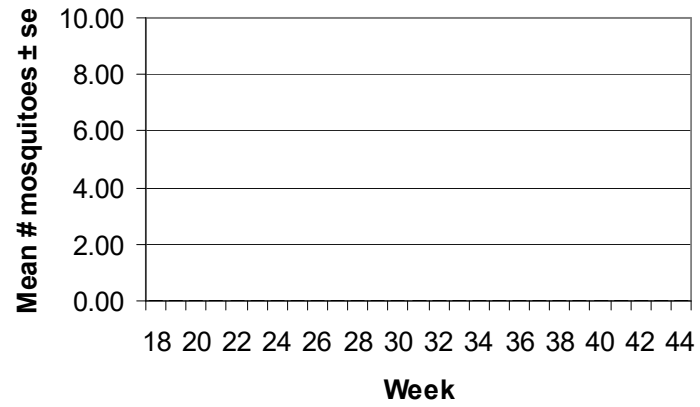
Culex Mix



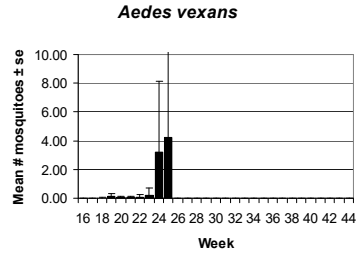
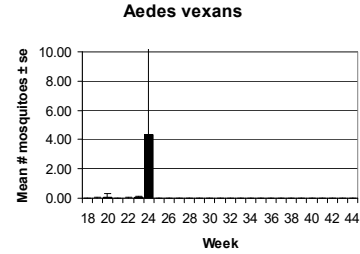
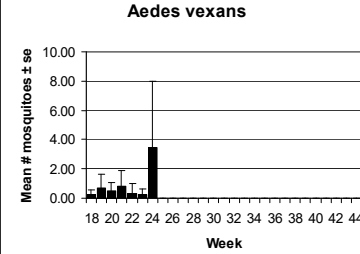
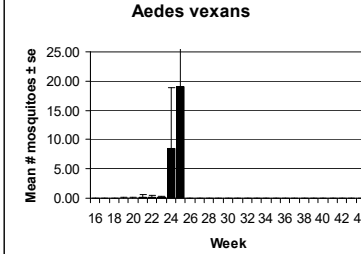
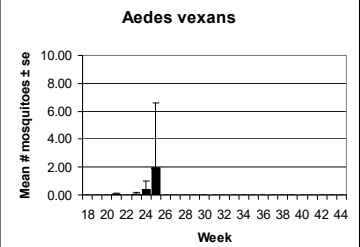
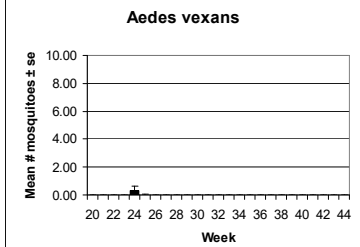
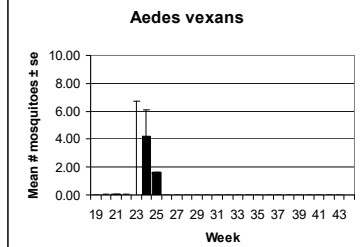
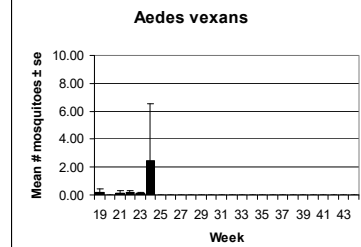
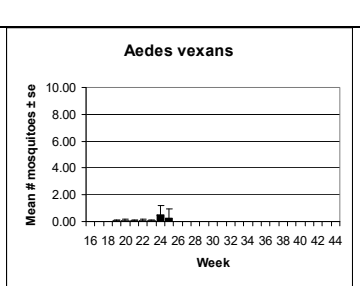
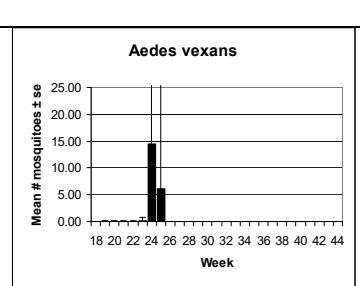
Ochlerotatus canadensis



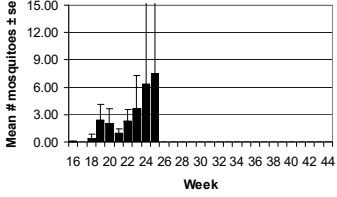
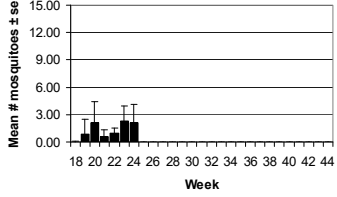
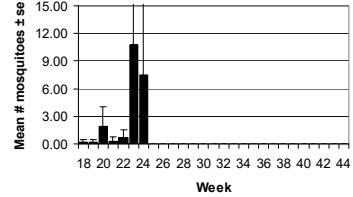
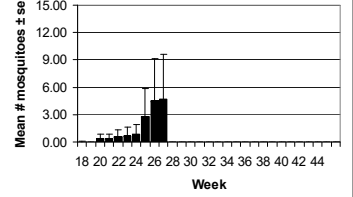
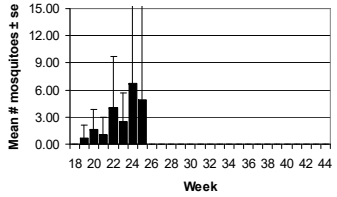
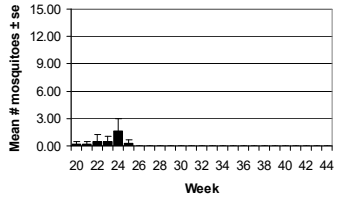
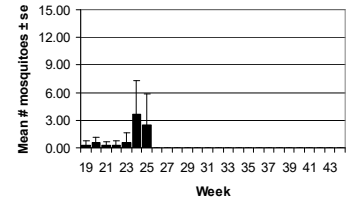
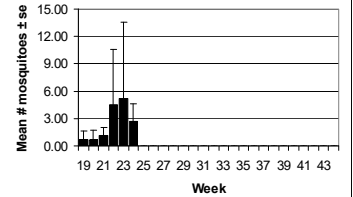
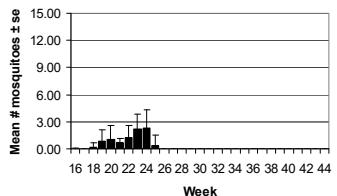
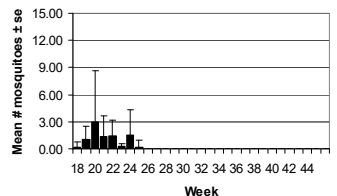
Ochlerotatus sollicitans



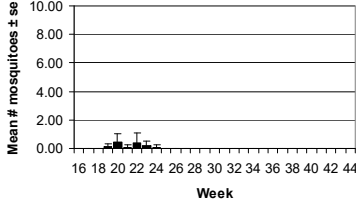
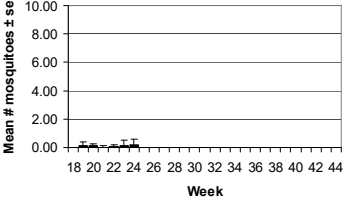
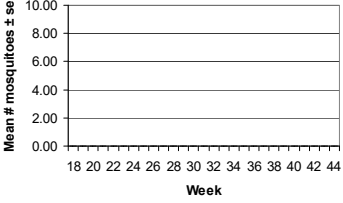
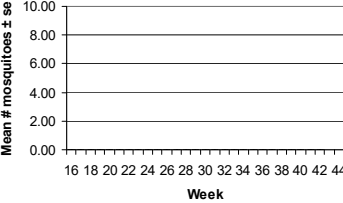
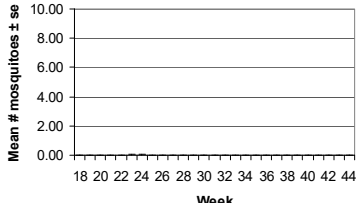
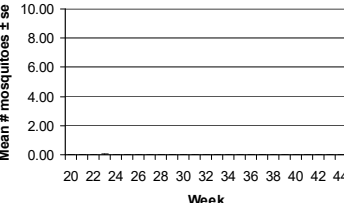
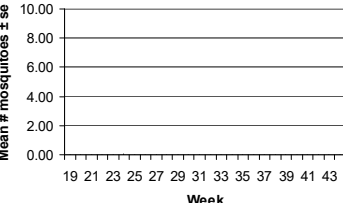
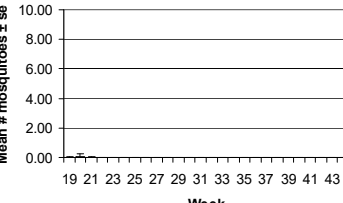
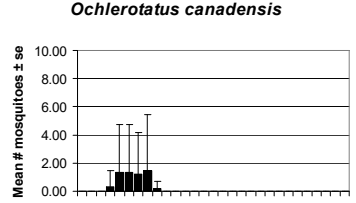
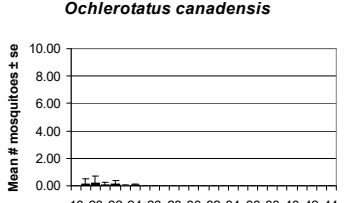
Aedes vexans

Agricultural	Coastal	Delaware Bayshore	Delaware River Basin
 Aedes vexans Mean # mosquitoes $\pm$ se Week	 Aedes vexans Mean # mosquitoes $\pm$ se Week	 Aedes vexans Mean # mosquitoes $\pm$ se Week	 Aedes vexans Mean # mosquitoes $\pm$ se Week
New York Metro	North Central Rural	Northwestern Rural	Philadelphia Metro
 Aedes vexans Mean # mosquitoes $\pm$ se Week	 Aedes vexans Mean # mosquitoes $\pm$ se Week	 Aedes vexans Mean # mosquitoes $\pm$ se Week	 Aedes vexans Mean # mosquitoes $\pm$ se Week
Pinelands	Suburban Corridor	Comments	
 Aedes vexans Mean # mosquitoes $\pm$ se Week	 Aedes vexans Mean # mosquitoes $\pm$ se Week	Data from the State Surveillance program clearly show that an <i>Ae. vexans</i> brood emerged during the week 24-25 of the 2003 season. The emergence was virtually statewide with highest numbers in the Agricultural, Coastal, Delaware Bayshore, Delaware River Basin, Northwest Rural and Suburban Corridor regions. Dredge spoil areas appear to have produced the highest numbers. The emergence was lowest in the Northwest Rural and Pinelands regions. <i>Aedes vexans</i> populations normally build to a quick peak and then decline rapidly. It is not possible to determine if the somewhat asynchronous emergence patterns in the various regions were the result of asynchronous rainfall patterns or control interventions.	

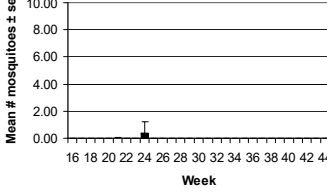
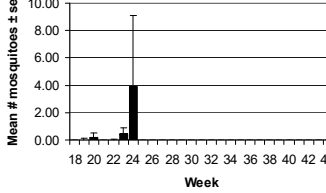
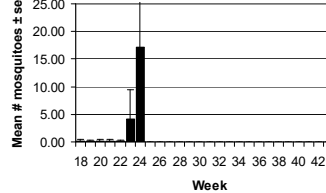
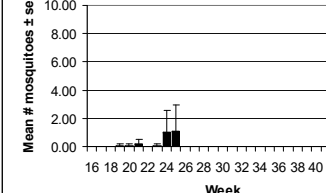
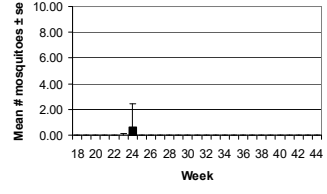
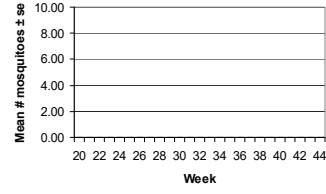
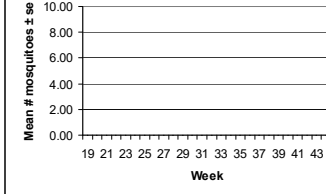
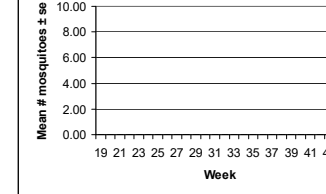
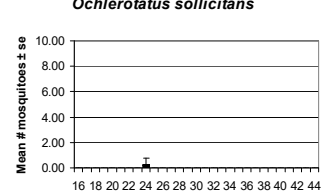
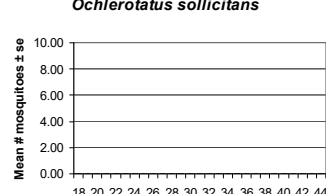
Culex Complex

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 	<i>Culex</i> populations continue to build as the season advances. Interestingly, populations in the Agricultural region are as high as or higher than in either of the Metropolitan areas monitored by this program. <i>Culex</i> from the Delaware Bayshore region are primarily <i>Cx. salinarius</i> and are generally reduced significantly by adulticiding activity directed toward saltmarsh mosquito control.	

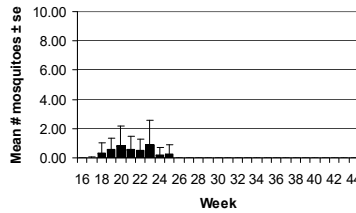
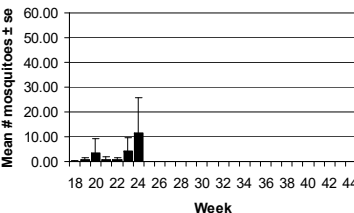
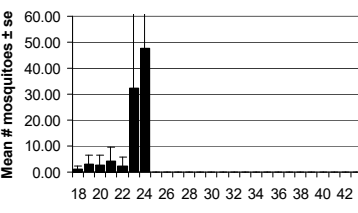
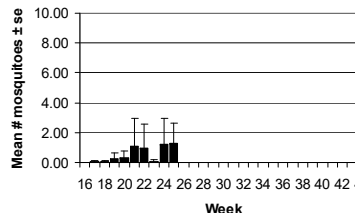
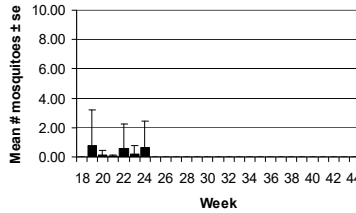
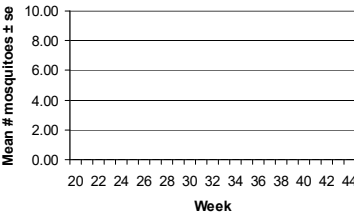
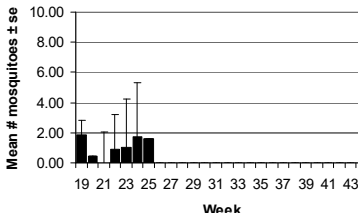
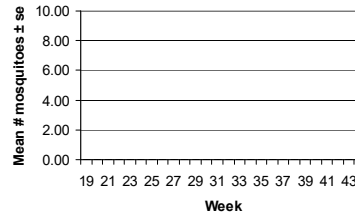
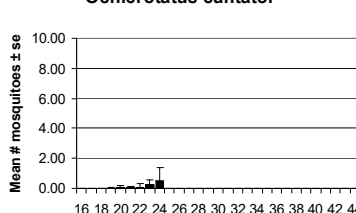
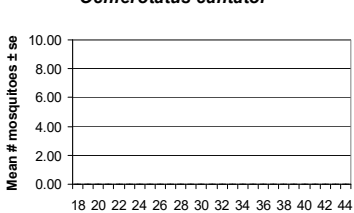
Ochlerotatus canadensis

Agricultural	Coastal	Delaware Bayshore	Delaware River Basin
<i>Ochlerotatus canadensis</i> 	<i>Ochlerotatus canadensis</i> 	<i>Ochlerotatus canadensis</i> 	<i>Ochlerotatus canadensis</i> 
New York Metro	North Central Rural	Northwestern Rural	Philadelphia Metro
<i>Ochlerotatus canadensis</i> 	<i>Ochlerotatus canadensis</i> 	<i>Ochlerotatus canadensis</i> 	<i>Ochlerotatus canadensis</i> 
Pinelands	Suburban Corridor	Comments	
<i>Ochlerotatus canadensis</i> 	<i>Ochlerotatus canadensis</i> 	<i>Oc. canadensis</i> populations remain a mystery considering the amount of early season rainfall New Jersey experienced this year. Populations of this species were well below expected levels during the months of May and June. The upcoming warm months of July & August should all but eliminate nuisance from this species. Late summer rains, however, could stimulate egg hatch and produce isolated pockets of biting <i>Oc. canadensis</i> during September.	

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> 	Missing data points may be interfering with our ability to accurately assess <i>Oc. sollicitans</i> populations in coastal areas. The State surveillance graphs indicate no residual populations following last week's emergences in the Coastal and Delaware Bayshore areas. As data come in, we should be able to evaluate the relative effectiveness of any control measures that were undertaken.	

Other Species - *Ochlerotatus cantator*

Agricultural	Coastal	Delaware Bayshore	Delaware River Basin																																		
Ochlerotatus cantator <table><caption>Agricultural Region Data (Approximate)</caption><thead><tr><th>Week</th><th>Mean # mosquitoes ± se</th></tr></thead><tbody><tr><td>18</td><td>0.5</td></tr><tr><td>20</td><td>1.0</td></tr><tr><td>22</td><td>1.0</td></tr><tr><td>24</td><td>1.0</td></tr><tr><td>26</td><td>1.0</td></tr></tbody></table>	Week	Mean # mosquitoes ± se	18	0.5	20	1.0	22	1.0	24	1.0	26	1.0	Ochlerotatus cantator <table><caption>Coastal Region Data (Approximate)</caption><thead><tr><th>Week</th><th>Mean # mosquitoes ± se</th></tr></thead><tbody><tr><td>22</td><td>5.0</td></tr><tr><td>24</td><td>10.0</td></tr><tr><td>26</td><td>10.0</td></tr></tbody></table>	Week	Mean # mosquitoes ± se	22	5.0	24	10.0	26	10.0	Ochlerotatus cantator <table><caption>Delaware Bayshore Region Data (Approximate)</caption><thead><tr><th>Week</th><th>Mean # mosquitoes ± se</th></tr></thead><tbody><tr><td>22</td><td>35.0</td></tr><tr><td>24</td><td>50.0</td></tr></tbody></table>	Week	Mean # mosquitoes ± se	22	35.0	24	50.0	Ochlerotatus cantator <table><caption>Delaware River Basin Region Data (Approximate)</caption><thead><tr><th>Week</th><th>Mean # mosquitoes ± se</th></tr></thead><tbody><tr><td>22</td><td>1.0</td></tr><tr><td>24</td><td>1.0</td></tr><tr><td>26</td><td>1.0</td></tr></tbody></table>	Week	Mean # mosquitoes ± se	22	1.0	24	1.0	26	1.0
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Ochlerotatus cantator <table><caption>New York Metro Region Data (Approximate)</caption><thead><tr><th>Week</th><th>Mean # mosquitoes ± se</th></tr></thead><tbody><tr><td>20</td><td>1.0</td></tr><tr><td>22</td><td>1.0</td></tr><tr><td>24</td><td>1.0</td></tr></tbody></table>	Week	Mean # mosquitoes ± se	20	1.0	22	1.0	24	1.0	Ochlerotatus cantator <table><caption>North Central Rural Region Data (Approximate)</caption><thead><tr><th>Week</th><th>Mean # mosquitoes ± se</th></tr></thead><tbody><tr><td>22</td><td>0.0</td></tr><tr><td>24</td><td>0.0</td></tr><tr><td>26</td><td>0.0</td></tr></tbody></table>	Week	Mean # mosquitoes ± se	22	0.0	24	0.0	26	0.0	Ochlerotatus cantator <table><caption>Northwestern Rural Region Data (Approximate)</caption><thead><tr><th>Week</th><th>Mean # mosquitoes ± se</th></tr></thead><tbody><tr><td>21</td><td>2.0</td></tr><tr><td>23</td><td>1.0</td></tr><tr><td>25</td><td>2.0</td></tr></tbody></table>	Week	Mean # mosquitoes ± se	21	2.0	23	1.0	25	2.0	Ochlerotatus cantator <table><caption>Philadelphia Metro Region Data (Approximate)</caption><thead><tr><th>Week</th><th>Mean # mosquitoes ± se</th></tr></thead><tbody><tr><td>22</td><td>0.0</td></tr><tr><td>24</td><td>0.0</td></tr><tr><td>26</td><td>0.0</td></tr></tbody></table>	Week	Mean # mosquitoes ± se	22	0.0	24	0.0	26	0.0		
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Ochlerotatus cantator <table><caption>Pinelands Region Data (Approximate)</caption><thead><tr><th>Week</th><th>Mean # mosquitoes ± se</th></tr></thead><tbody><tr><td>24</td><td>1.0</td></tr><tr><td>26</td><td>1.0</td></tr></tbody></table>	Week	Mean # mosquitoes ± se	24	1.0	26	1.0	Ochlerotatus cantator <table><caption>Suburban Corridor Region Data (Approximate)</caption><thead><tr><th>Week</th><th>Mean # mosquitoes ± se</th></tr></thead><tbody><tr><td>22</td><td>0.0</td></tr><tr><td>24</td><td>0.0</td></tr><tr><td>26</td><td>0.0</td></tr></tbody></table>	Week	Mean # mosquitoes ± se	22	0.0	24	0.0	26	0.0	Light trap data for Week 25 indicate that <i>Oc. cantator</i> populations are persisting. This is an early season species that reaches greatest numbers along the coast in May and June. Although the species is not specifically targeted for control, adulticides directed toward <i>Oc. sollicitans</i> can reduce this species' numbers significantly																					
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