

Central Mass. Mosquito Control Project Weekly Report- 9/11/22-9/17/22 EPI Week #37

Target Species	Ae. vex	Cq. per	Cs. mel	Oc. can	Culex	All Species
No. Pools	70	662	123	114	538	2702
Total Specimens	283	30715	501	1128	3363	39614
No. Pools WNV +	0	0	0	0	6†	6†
No. Pools EEE +	0	0	0	0	0	0

Cumulative Surveillance Summary

[†]Pool of WNV+ *Culex pipiens/restuans* collected in Worcester on 8/5/22 [†]Pool of WNV+ *Culex pipiens/restuans* collected in Millbury on 8/5/22 [†]Pool of WNV+ *Culex pipiens/restuans* collected in Worcester on 8/11/22 [†]Pool of WNV+ *Culex pipiens/restuans* collected in Worcester on 8/11/22 [†]Pool of WNV+ *Culex pipiens/restuans* collected in Natick on 8/18/22 [†]Pool of WNV+ *Culex pipiens* collected in Natick on 8/26/22

Weather Summary (Northborough, MA): The weather for this particular week averaged 64.01°F with a recorded high temperature of 79.40°F and a recorded low temperature of only 41.80°F. For this week there was also a total of 0.28 inches of rain observed. Compared to the previous week, it was approximately 1.88°F cooler on average, and rained about 2.44 inches less. There has been 3.00 inches of rain accumulated in September, after 2.03 inches for the month of August.

Target Species	Δ From	Δ From	Predominant Trap Site(s)					
	Last Week	Last Year						
Aedes vexans	+3367%	-98.57%	Milford, Gardner, Hopedale					
Coquillettidia perturbans	+450.0%	-37.89%	Gardner, Sturbridge					
Culiseta melanura	+66.67%	-1.47%	Natick, Marlborough, Webster					
Ochlerotatus canadensis	+100.0%	-76.88%	Gardner					
Culex Species	-9.76%	-73.53%	Leominster, Milford					
All Species	+38.57%	-62.77%	Gardner, Milford					

CMMCP Mosquito Summary-

The predominant mosquito for the week was *Aedes vexans*, followed by *Culex*.

General narrative: The temperatures for EPI week 37 averaged approximately 1.88°F cooler than the previous week, with approximately 0.28 inches of precipitation observed. *Aedes vexans* populations drastically increased this week, which largely contributed to the significant rise in weekly surveillance trap collections. This spike is likely due to the significant rain event from the previous week. *Aedes vexans* became the most abundant target mosquito for the week, followed by *Culex. Aedes albopictus* surveillance using

ovitraps has continued, with 285 new eggs collected and submitted. All mosquito pools submitted to MDPH in EPI week 36 were negative for mosquito-borne disease.

Epi week#	# eggs Collected	Epi week#	# eggs Collected			
23	0	31	TBD			
24	1,016	32	812			
25	1,580	33	482			
26	621	34	160			
27	1,823	35	392			
28	1,177	36	466			
29	1,074	37	285			
30	1,349	38				
	TOTAL	11,237				
		11,237				
No ATM detections to date						

Ae. albopictus egg collections:

Operational notes:

The ULV residential spray program ended August 25 due to drought conditions and subsequent low mosquito populations. Service requests were 9% below the 19-year average and a 48.4% decrease over 2021 numbers. We began accepting service requests on May 31 and 10,736 requests have been closed from 10,885 total (1% open). This is our lowest recorded number of service requests since 2010. Work crews began performing catch basins treatments for Culex control on May 16. 107,497 catch basins were treated intended to suppress *Culex* populations and lower risk of transmission from WNV by this species. This program ended in Epi week 35.

Enhanced larval control over 1,500 acres of *Cq. perturbans* habitat using Natular® G (spinosad) was done May 24 & 25 in 12-member communities designated as "Critical" risk from EEE in 2019. Adult and larval *Cq. perturbans* surveillance was conducted this season in these habitats in both treated and untreated areas. An advanced decrease was observed in the areas treated with Natular® G, but all locations experienced gradual decreases in both larvae present and adult emergence. Between natural emergence and the drought conditions, new specimens have become near zero, and so these collections have ceased for 2022.

Recently conducted ULV efficacy trials in conjunction with Tufts School of Veterinary Medicine using CDC and BG-Counter traps indicate over 70% control following an application of Zenivex® E4. Specimens are currently being age-graded which could help

identify whether mosquitoes collected post-spray are newly emerged and not present at the time of treatment. The results of this analysis could increase the degree of control achieved in the application. Initial comparisons of the BG-Counter traps with the CDC traps were very favorable. Additional ULV efficacy trials were performed this season, results are pending.











