

Central Mass. Mosquito Control Project Weekly Report- 8/28/22-9/3/22 EPI Week #35

Target Species	Ae. vex	Cq. per	Cs. mel	Oc. can	Culex	All Species
No. Pools	55	657	117	113	500	2516
Total Specimens	171	30702	493	1127	3207	39070
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 70.79°F with a recorded high temperature of 92.60°F and a recorded low temperature of only 47.00°F. For this week there was also a total of 0.28 inches of rain observed. Compared to the previous week, it was approximately 2.00°F cooler on average, and rained about 0.55 inches less. There has been 2.03 inches of rain accumulated in August, after 1.74 inches for the month of July.

Target Species	Δ From	Δ From	Predominant Trap Site(s)				
	Last Week	Last Year					
Aedes vexans	-94.87%	-96.63%	Wilmington				
Coquillettidia perturbans	+183.3%	-37.46%	Millville, Lancaster, Milford				
Culiseta melanura	-50.00%	+32.85%	Westford, Acton				
Ochlerotatus canadensis	-100.0%	-74.54%	-				
Culex Species	-27.91%	-70.11%	Lowell				
All Species	+15.48%	-52.88%	Millville, Lancaster				

CMMCP Mosquito Summary-

The predominant mosquito for the week was *Coquillettidia perturbans* followed by *Anopheles quadrimaculatus*

General narrative: The temperatures for EPI week 35 averaged approximately 2.00°F cooler than the previous week, with 0.28 inches of precipitation observed. *Coquillettidia perturbans* rebounded this week, which largely contributed to an overall increase in surveillance trap collections compared to EPI week 34. With this increase, *Coquillettidia perturbans* was back to being the most abundant mosquito species for the week, followed by *Anopheles quadrimaculatus*. *Aedes albopictus* surveillance using ovitraps has continued, with 392 new eggs collected and submitted. One mosquito pool submitted to

MDPH in EPI week 34 tested positive for West Nile virus, a collection of *Culex pipiens* from the same Natick location that produced a positive pool in EPI week 33.

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				
29	1,074	37				
30	1,349	38				
	TOTAL	10,486				
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 are 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. 6,082 basins were treated in Epi week 35, with 107,497 catch basins treated to date intended to suppress *Culex* populations and lower risk of transmission from WNV by this species. This program will end this week.

West Nile Virus was confirmed again in a surveillance trap in Natick in a collect of *Culex*. Coordination with the Natick Board of Health resulted in an expanded ULV application on September 1. Catch basins were also treated in this area. We will continue to monitor the situation and respond if needed.

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 are scheduled for this season.









