

CMMCP WEEKLY SURVEILLANCE REPORT



EPI week #38
Sept. 18-25, 2022

Frank Cornine, Staff Biologist
Curtis Best, Staff Entomologist
Timothy McGlinchy, Director of Operations
Timothy Deschamps, Executive Director

Central Mass. Mosquito Control Project
Weekly Report- 9/18/22-9/24/22
EPI Week #38

Cumulative Surveillance Summary

Target Species	<i>Ae. vex</i>	<i>Cq. per</i>	<i>Cs. mel</i>	<i>Oc. can</i>	<i>Culex</i>	All Species
No. Pools	90	666	128	115	563	2836
Total Specimens	446	30728	509	1129	3438	39937
No. Pools WNV +	0	0	0	0	6 [†]	6 [†]
No. Pools EEE +	0	0	0	0	0	0

[†]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 60.10°F with a recorded high temperature of 84.30°F and a recorded low temperature of only 43.50°F. For this week there was also a total of 1.03 inches of rain observed. Compared to the previous week, it was approximately 3.91°F cooler on average, and rained about .75 inches more. There has been 4.03 inches of rain accumulated in September, after 2.03 inches for the month of August.

CMMCP Mosquito Summary-

Target Species	Δ From Last Week	Δ From Last Year	Predominant Trap Site(s)
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<i>Aedes vexans</i>	+56.73%	-97.87%	Milford, Blackstone, Billerica
<i>Coquillettidia perturbans</i>	+18.18%	-37.90%	Millville, Chelmsford
<i>Culiseta melanura</i>	+60.00%	-37.65%	Webster, Gardner
<i>Ochlerotatus canadensis</i>	+00.00%	-77.64%	Billerica
<i>Culex</i> Species	+1.35%	-74.30%	Blackstone, Millville
All Species	+4.53%	-63.94%	Blackstone, Milford, Billerica

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

General narrative: The temperatures for EPI week 38 averaged approximately 3.91°F cooler than the previous week, with approximately 1.03 inches of precipitation observed. *Aedes vexans* populations continued to increase this week, contributing to an overall weekly increase in specimens. *Aedes vexans* was again the most abundant target mosquito for the week, followed by *Culex*. *Aedes albopictus* surveillance using ovitraps has continued, with 141 new eggs collected and submitted. All mosquito pools submitted

to MDPH in EPI week 37 were negative for mosquito-borne disease. Next week will be the last mosquito surveillance collections for the 2022 season.

Ae. albopictus egg collections:

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	141
TOTAL		11,378	
No ATM detections to date			

Operational notes:

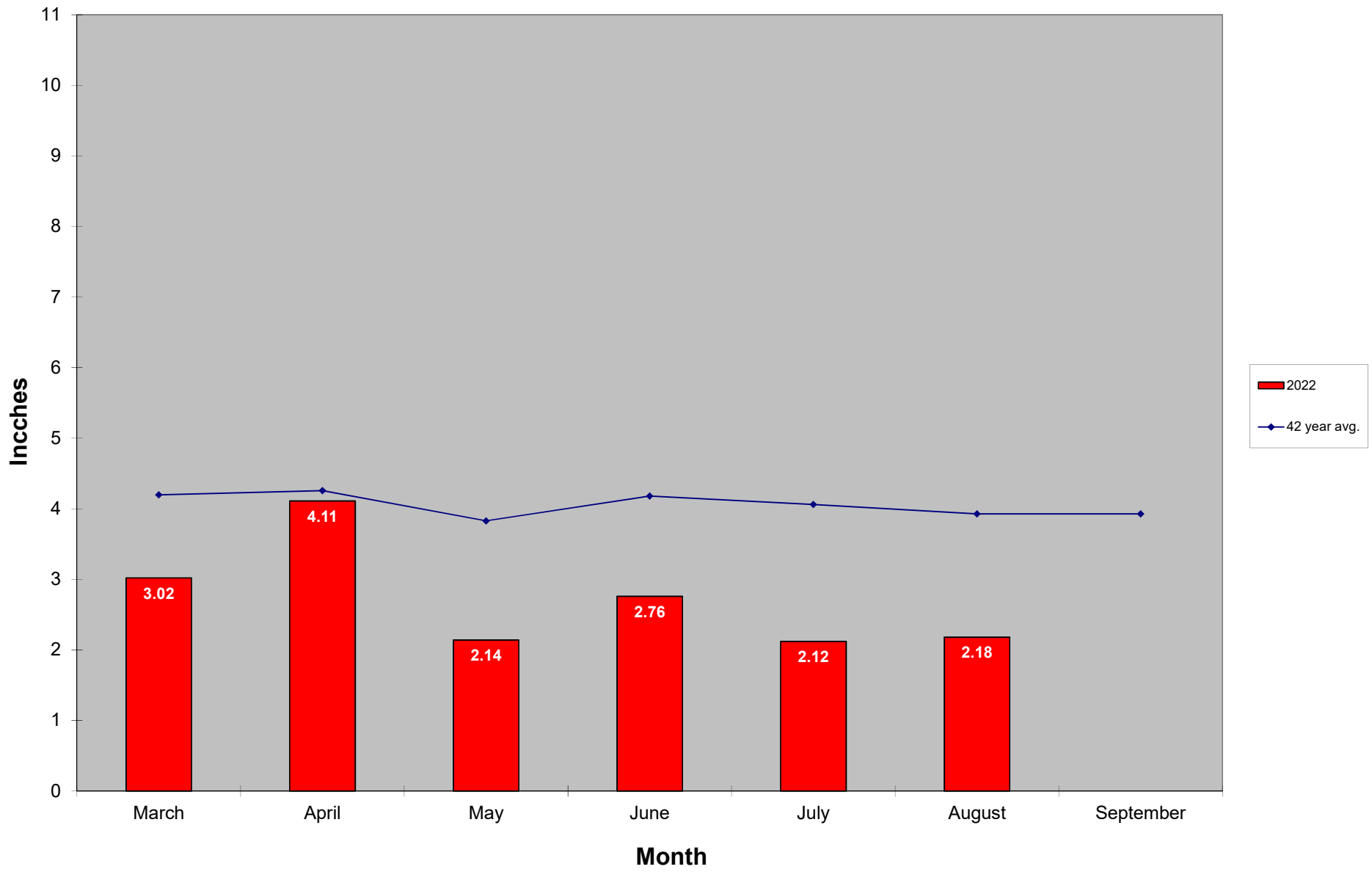
The ULV residential spray program ended August 25 due to drought conditions and subsequent low mosquito populations. Service requests were 9% below the 19-year average and a 48.4% decrease over 2021 numbers. We began accepting service requests on May 31 and 10,736 requests have been closed from 10,885 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

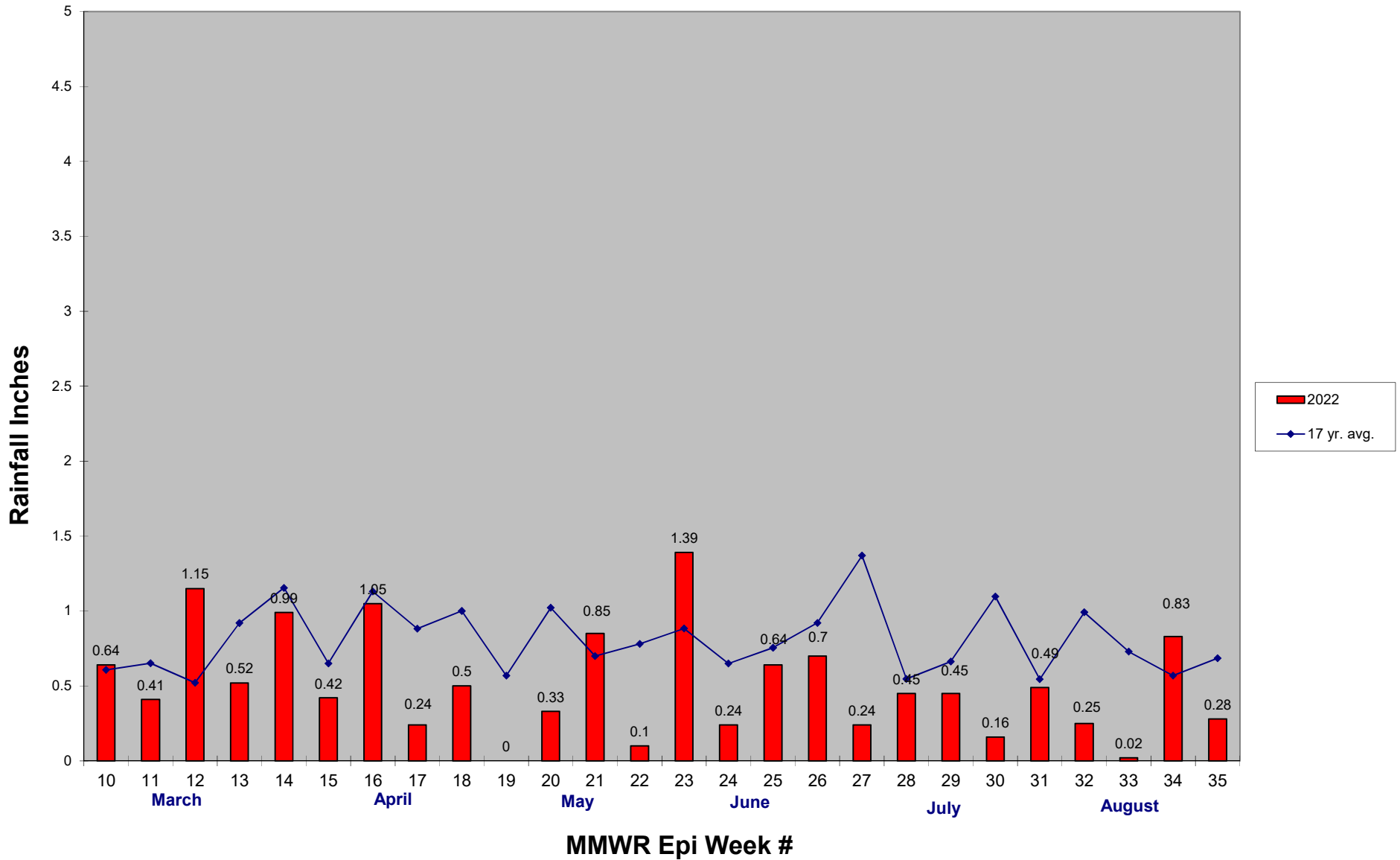
identify whether mosquitoes collected post-spray are newly emerged and not present at the time of treatment. The results of this analysis could increase the degree of control achieved in the application. Initial comparisons of the BG-Counter traps with the CDC traps were very favorable. Additional ULV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

2022 Mass. Rainfall Data vs. 42 Year Average*



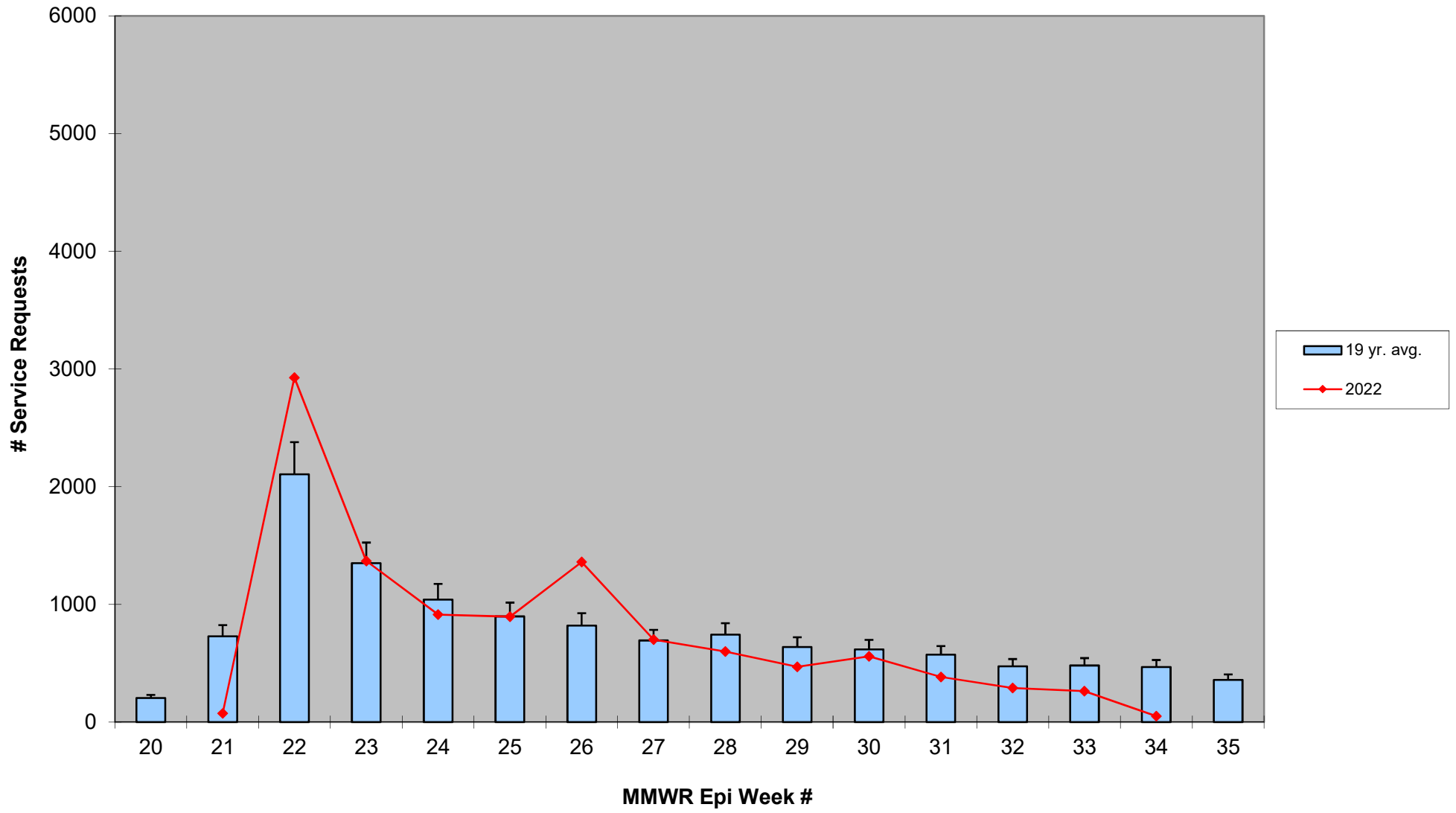
*source: <http://www.nrcc.cornell.edu/regional/tables/tables.html>

2022 CMMCP Weekly Rainfall vs. 17 Year Average*

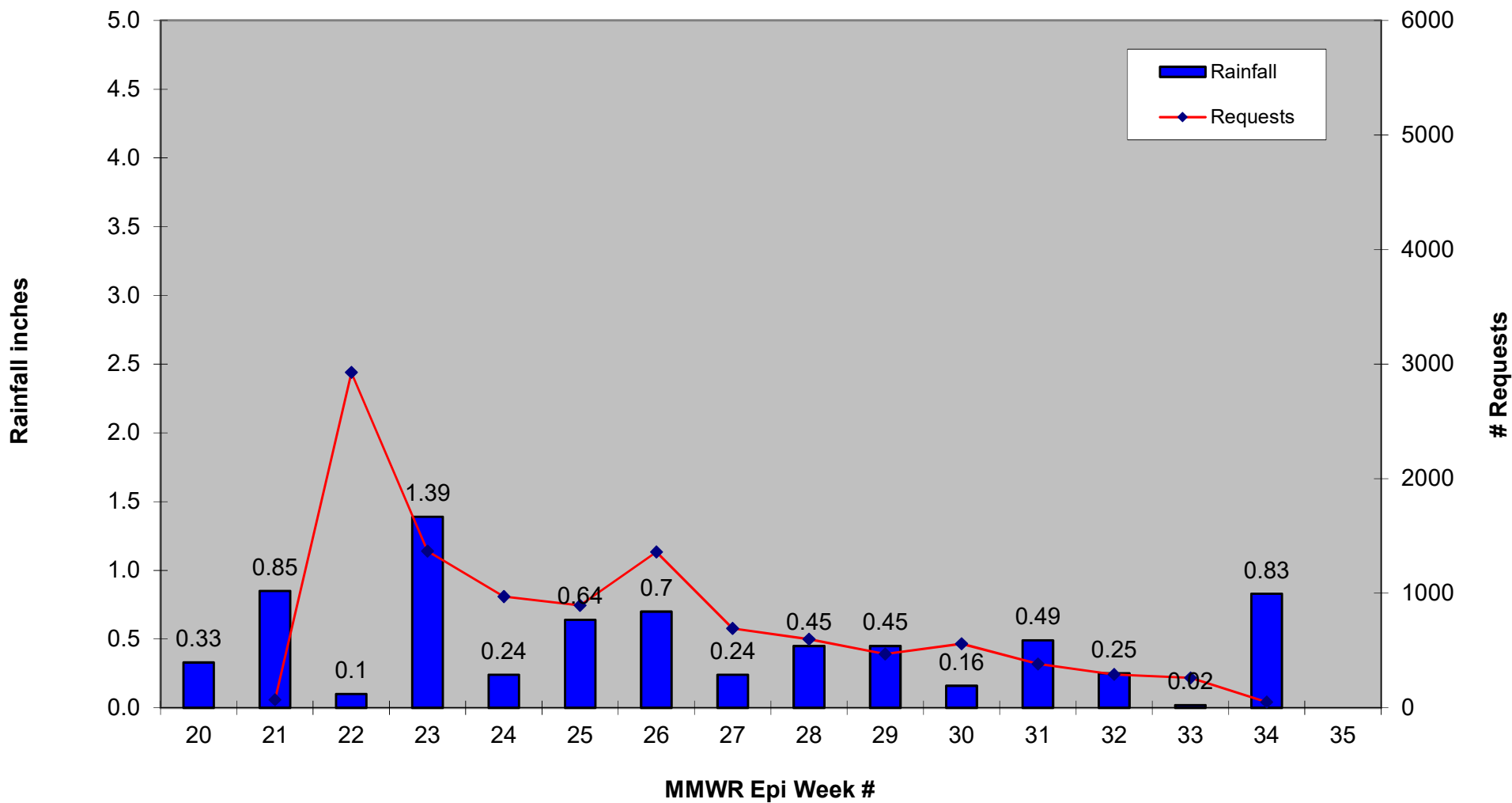


*source: CMMCP weather station Northborough, MA

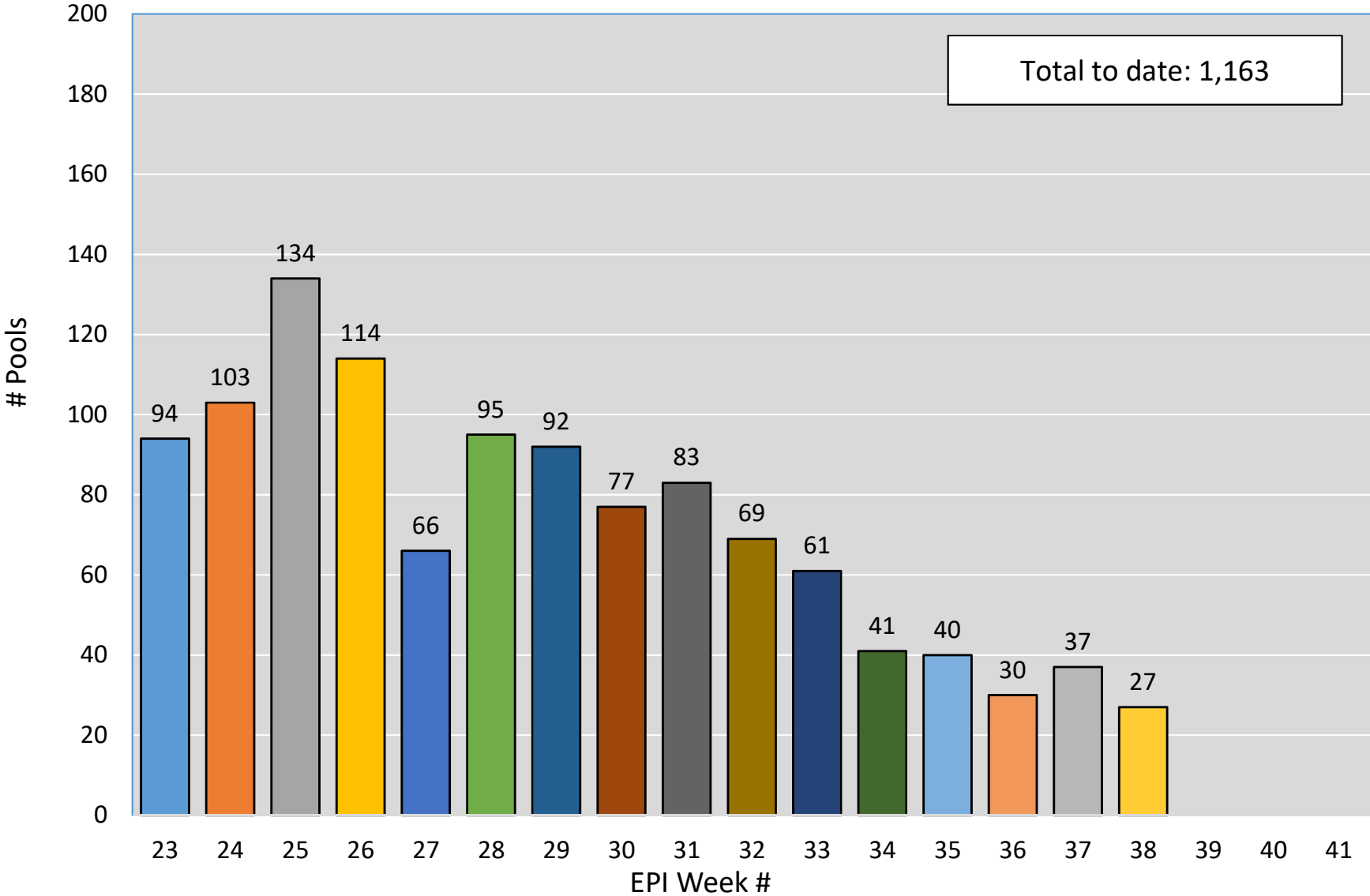
ULV Service Request History 2003-2022



2022 Rainfall vs. Requests



2022 Mosquito Pools Submitted for Virus Testing



2022 Catch Basins Treated

