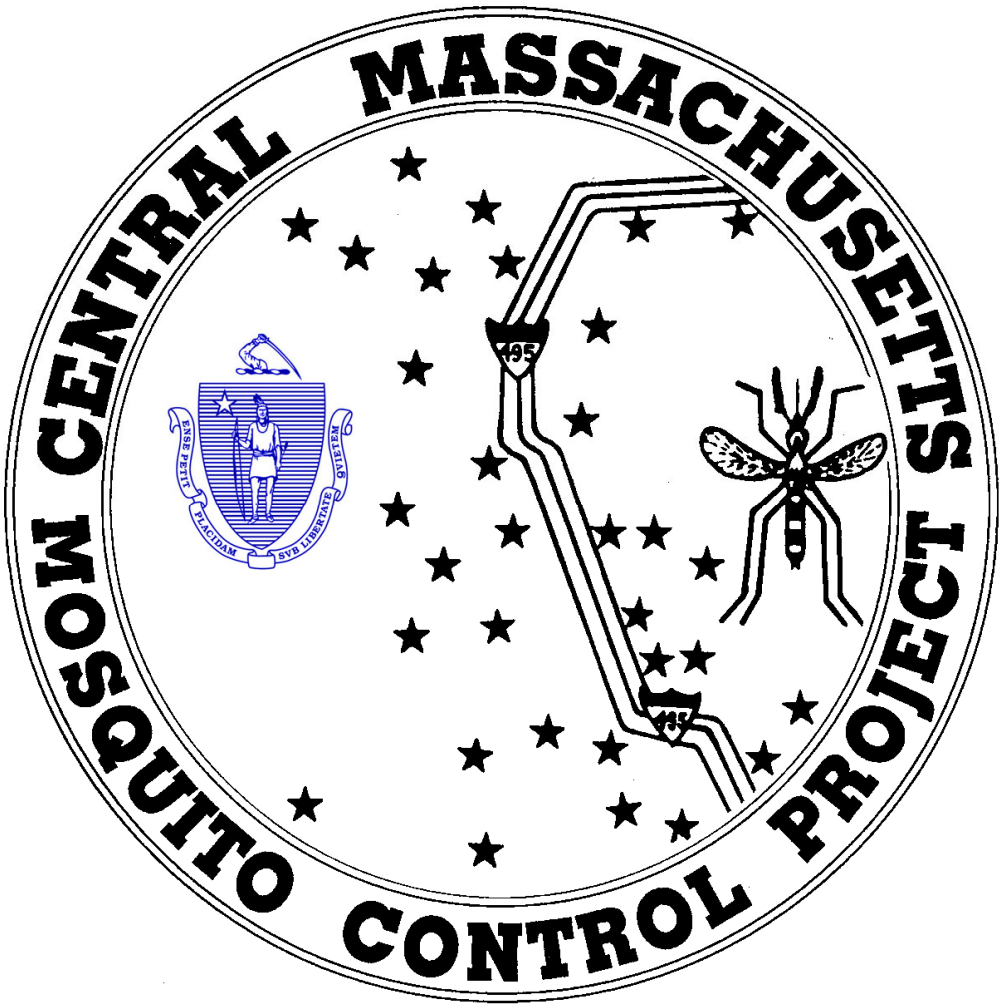
CMMCP WEEKLY SURVEILLANCE REPORT



EPI week #29
July 17-23, 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- 7/17/22-7/23/22
EPI Week #29

Cumulative Surveillance Summary

Target Species	*Ae. vex*	*Cq. per*	*Cs. mel*	*Oc. can*	*Culex*	All Species
No. Pools	29	439	99	102	328	1,631
Total Specimens	60	22,931	451	1,102	2,473	29,096
No. Pools WNV +	0	0	0	0	0	0
No. Pools EEE +	0	0	0	0	0	0

Weather Summary (Northborough, MA): The weather for this particular week averaged 80.26°F with a recorded high temperature of 98.00°F and a recorded low temperature of only 64.10°F. For this week there was also a total of 0.45 inches of rain observed. Compared to the previous week, it was approximately 6.95°F warmer on average. There has been 1.58 inches of rain accumulated in July, after 2.57 inches for the month of June.

CMMCP Mosquito Summary-

Target Species	Δ From Last Week	Δ From Last Year	Predominant Trap Site(s)
Aedes vexans	+66.67%	-94.52%	Millbury
Coquillettidia perturbans	-39.22%	-40.91%	Wilmington, Bolton
Culiseta melanura	+30.77%	+211.9%	Hopkinton
Ochlerotatus canadensis	+53.33%	-33.72%	Bolton, Wilmington
Culex Species	-33.53%	+51.49%	Southborough, Worcester
All Species	-23.52%	-38.21%	Wilmington, Bolton

The predominant mosquito for the week was *Coquillettidia perturbans* followed by *Culex.*

General narrative:
The temperatures for EPI week 29 averaged approximately 6.95°F warmer than the previous week, with 0.45 inches of precipitation observed. Surveillance traps indicate that the adult emergence of *Coquillettidia perturbans* has reached its peak, with collections down approximately 39.22% compared to EPI week 28. Despite the significant decrease from the previous week, *Coquillettidia perturbans* was the most abundant mosquito species for the week, followed by *Culex*. *Aedes albopictus* surveillance using ovitraps continues, with 7,291 eggs collected and submitted so far. All mosquito pools submitted in EPI week 28 to MDPH for arbovirus testing were negative.

Ae. albopictus egg collections:

Epi week#	# eggs Collected		Epi week#	# eggs Collected
23	0		31	
24	1,016		32	
25	1,580		33	
26	621		34	
27	1,823		35	
28	1,177		36	
29	1,074		37	
30			38	
	TOTAL		**7,291**	
No ATM detections to date				

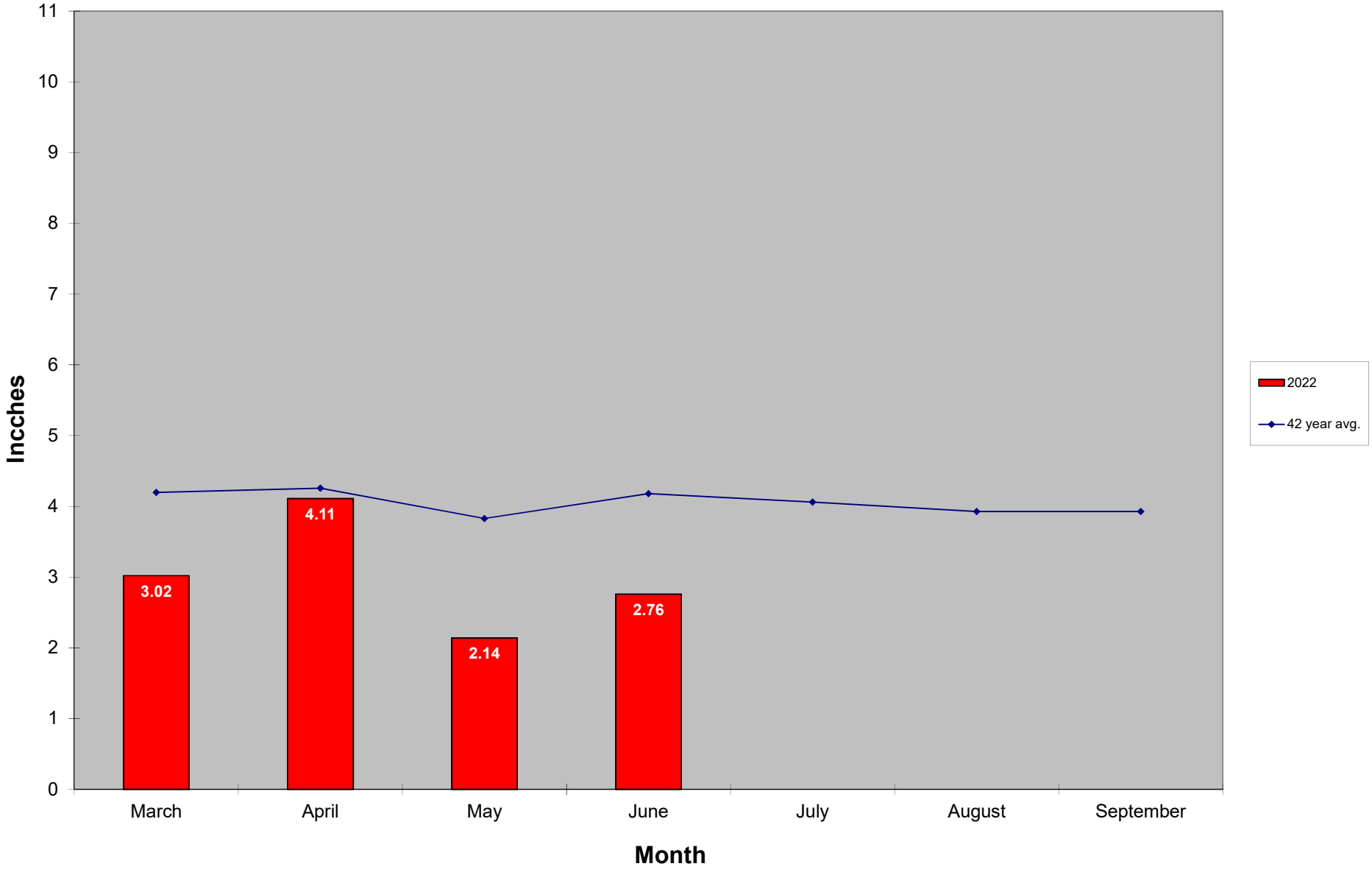
Operational notes:

Service requests are in line with the 19-year average but a 14.6% decrease over 2021 numbers to date. We began accepting service requests on May 31 and 8,662 requests have been closed from 9,617 total (11% open). Average temps have stabilized as have the *Cq. perturbans* populations so service calls have continued to drop off. Work crews began performing catch basins treatments for *Culex* control on May 16. 5,066 basins were treated in Epi week 29, with 62,264 catch basins treated to date intended to suppress *Culex* populations and lower risk of transmission from WNV by this species.

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.

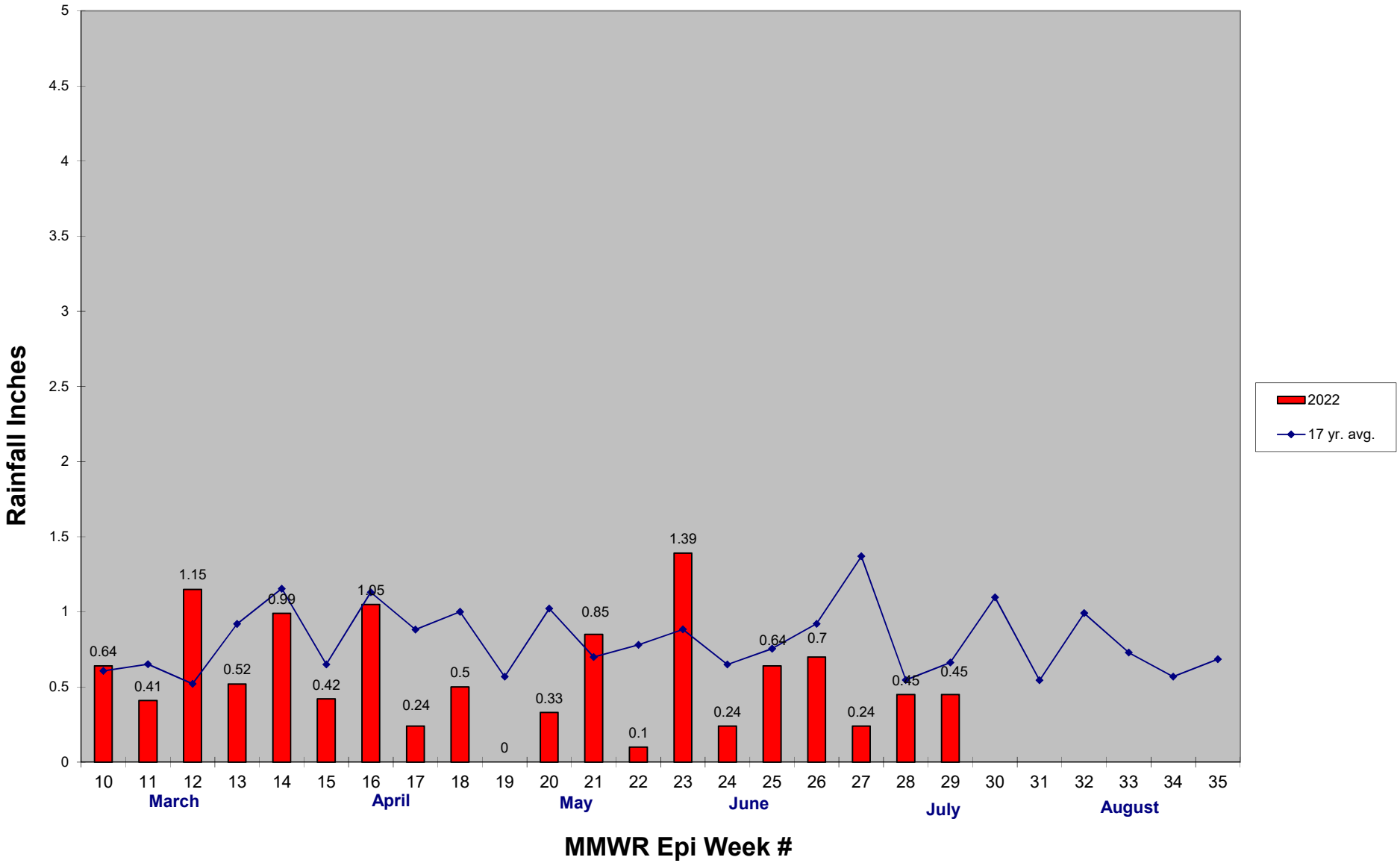
Recently conducted ULV efficacy trials in conjunction with Tufts School of Veterinary Medicine using CDC and BG-Counter traps indicate over 70% control following an application of Zenivex® E4. Specimens are currently being age-graded which could help identify whether mosquitoes collected post-spray are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

2022 Mass. Rainfall Data vs. 42 Year Average*



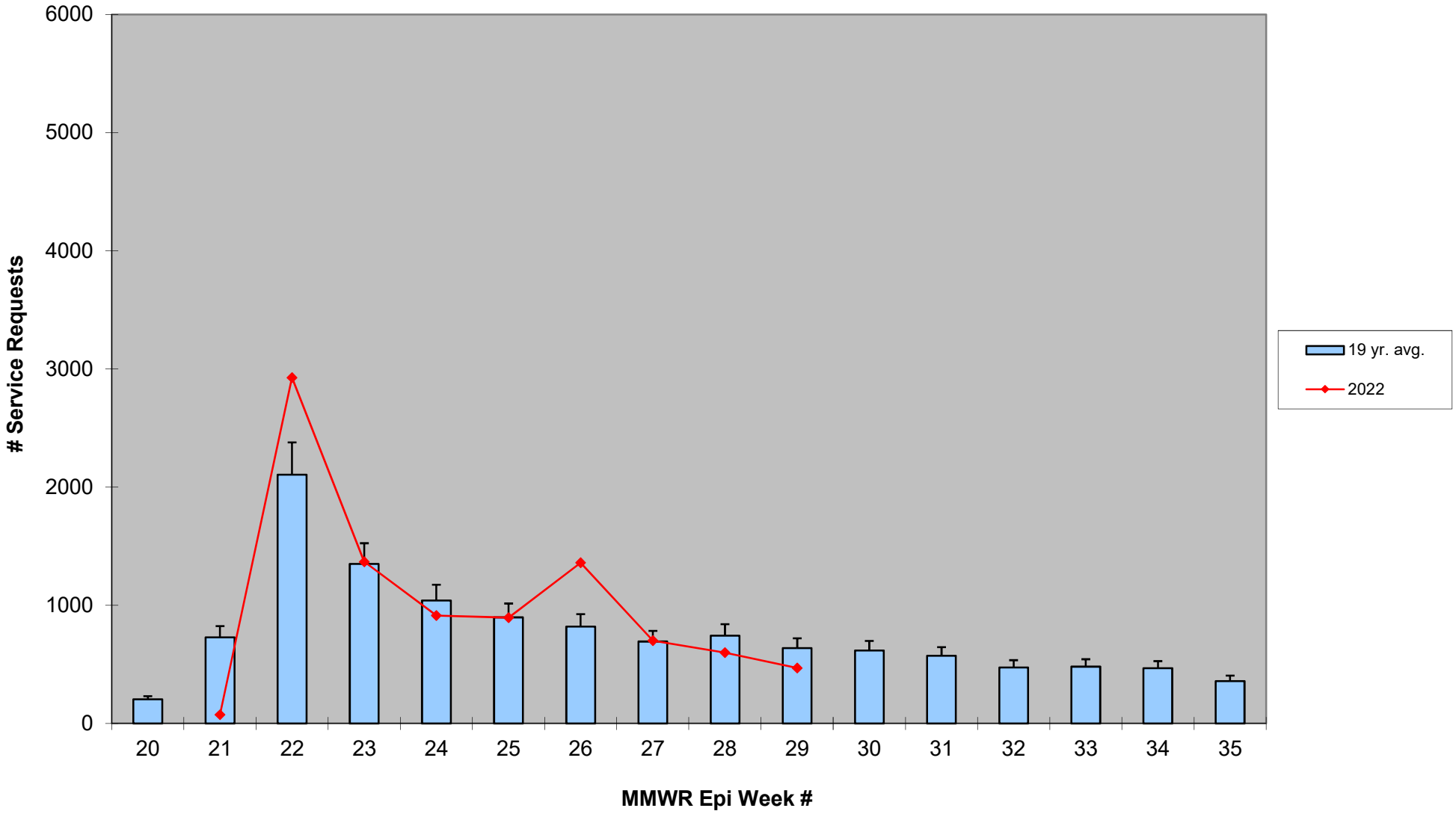
*source: http://www.nrcc.cornell.edu/regional/tables/tables.html

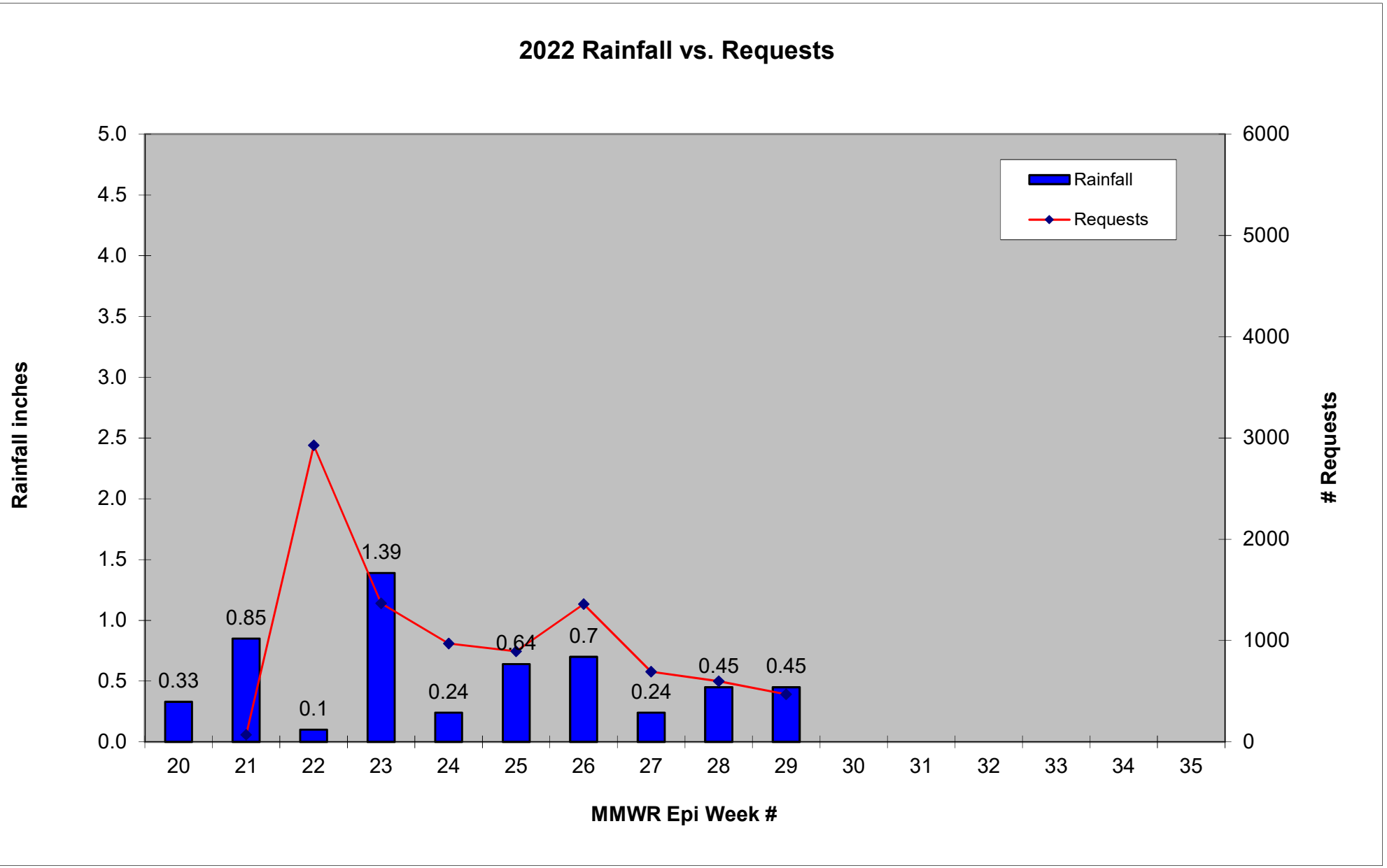
2022 CMMCP Weekly Rainfall vs. 17 Year Average*

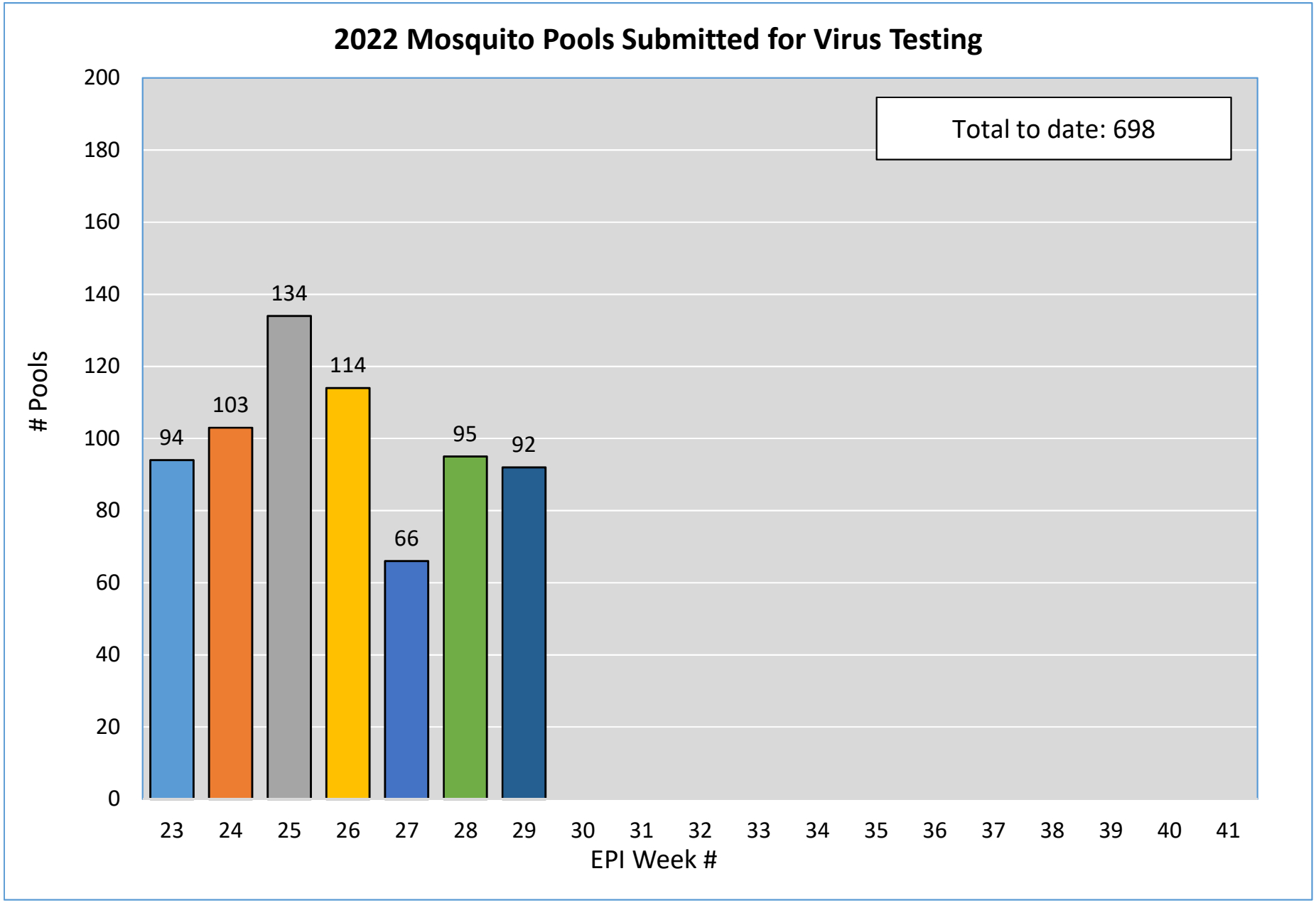


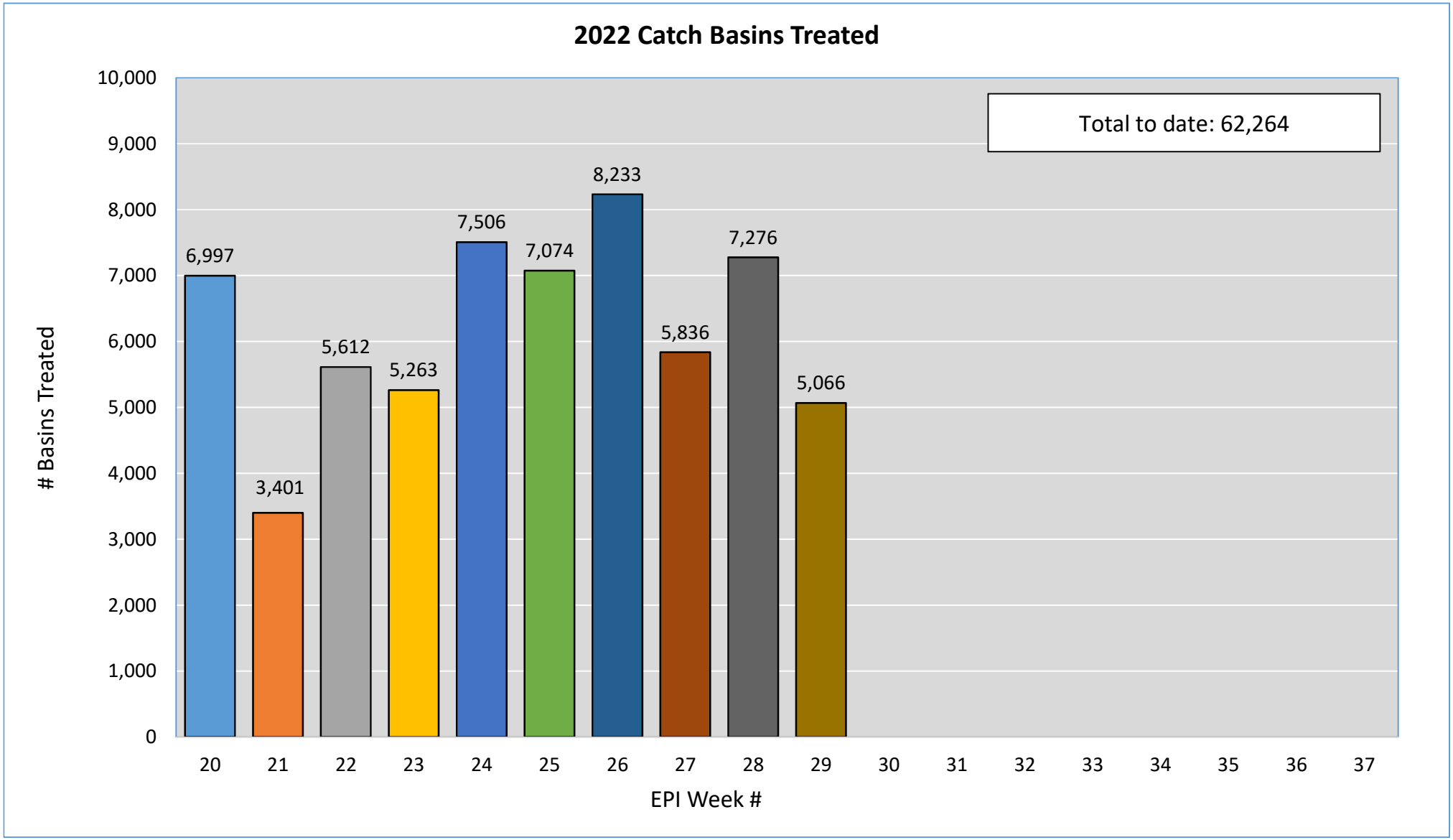
*source: CMMCP weather station Northborough, MA

ULV Service Request History 2003-2022




2022 Rainfall vs. Requests
Rainfall inches
Requests
MMWR Epi Week #
Rainfall
Requests
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
6000
5000
4000
3000
2000
1000
0
0.33
0.85
0.1
1.39
0.24
0.64
0.7
0.24
0.45
0.45
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35


2022 Mosquito Pools Submitted for Virus Testing
Total to date: 698
Pools
EPI Week #
200
180
160
140
120
100
80
60
40
20
0
94
103
134
114
66
95
92
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41


2022 Catch Basins Treated
Total to date: 62,264
Basins Treated
EPI Week #
10,000
9,000
8,000
7,000
6,000
5,000
4,000
3,000
2,000
1,000
0
6,997
3,401
5,612
5,263
7,506
7,074
8,233
5,836
7,276
5,066
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37