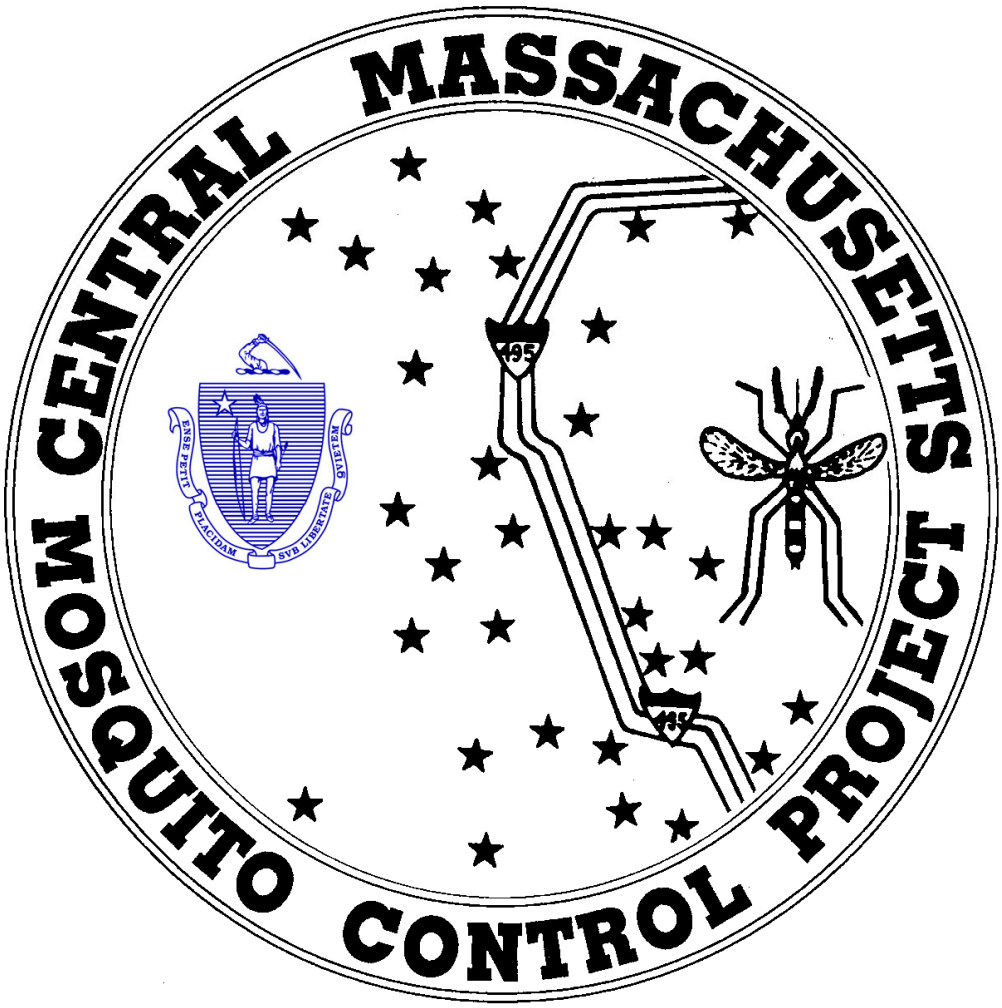
CMMCP WEEKLY SURVEILLANCE REPORT



EPI week #32
Aug. 7-13, 2022

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Central Mass. Mosquito Control Project
Weekly Report- 8/7/22-8/13/22
EPI Week #32

Cumulative Surveillance Summary

Target Species	*Ae. vex*	*Cq. per*	*Cs. mel*	*Oc. can*	*Culex*	All Species
No. Pools	41	596	114	112	431	2181
Total Specimens	80	29793	487	1123	2923	37268
No. Pools WNV +	0	0	0	0	2†	2†
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

Weather Summary (Northborough, MA): The weather for this particular week averaged 75.63°F with a recorded high temperature of 98.30°F and a recorded low temperature of only 57.00°F. For this week there was also a total of 0.25 inches of rain observed. Compared to the previous week, it was approximately 2.64°F cooler on average, and rained about 0.40 inches less. There has been 0.90 inches of rain accumulated in August, after 1.74 inches for the month of July.

CMMCP Mosquito Summary-

Target Species	**Δ From Last Week**	**Δ From Last Year**	**Predominant Trap Site(s)**
Aedes vexans	-16.67%	-97.39%	Northbridge, Ayer, Clinton
Coquillettidia perturbans	-66.92%	-35.65%	Stow, Marlborough, Boxborough
Culiseta melanura	-61.11%	+74.62%	Wilmington, Milford
Ochlerotatus canadensis	+33.33%	-70.00%	Dracut, Ayer
Culex Species	+4.03%	-48.64%	Worcester
All Species	-56.49%	-44.64%	Stow, Marlborough, Boxborough

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

General narrative:
The temperatures for EPI week 32 averaged approximately 2.64°F cooler than the previous week, with 0.25 inches of precipitation observed. *Coquillettidia perturbans* has continued declining, largely contributing to the overall decrease in surveillance trap collections compared to EPI week 31. Despite this continued decline, *Coquillettidia perturbans* was again the most abundant mosquito species for the week, followed again by *Anopheles quadrimaculatus*. The only target species to increase this past week were *Ochlerotatus canadensis* and *Culex*, albeit both small increases. *Aedes albopictus* surveillance using ovitraps has continued, with 812 eggs collected and submitted this period. Two mosquito pools submitted to MDPH in EPI week 31 tested positive for West

Nile virus. Both collections were *Culex pipiens/restuans*, one pool in Worcester and the other in Millbury.

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	
26	621		34	
27	1,823		35	
28	1,177		36	
29	1,074		37	
30	1,349		38	
	TOTAL		**9,452**	
No ATM detections to date				

Operational notes:

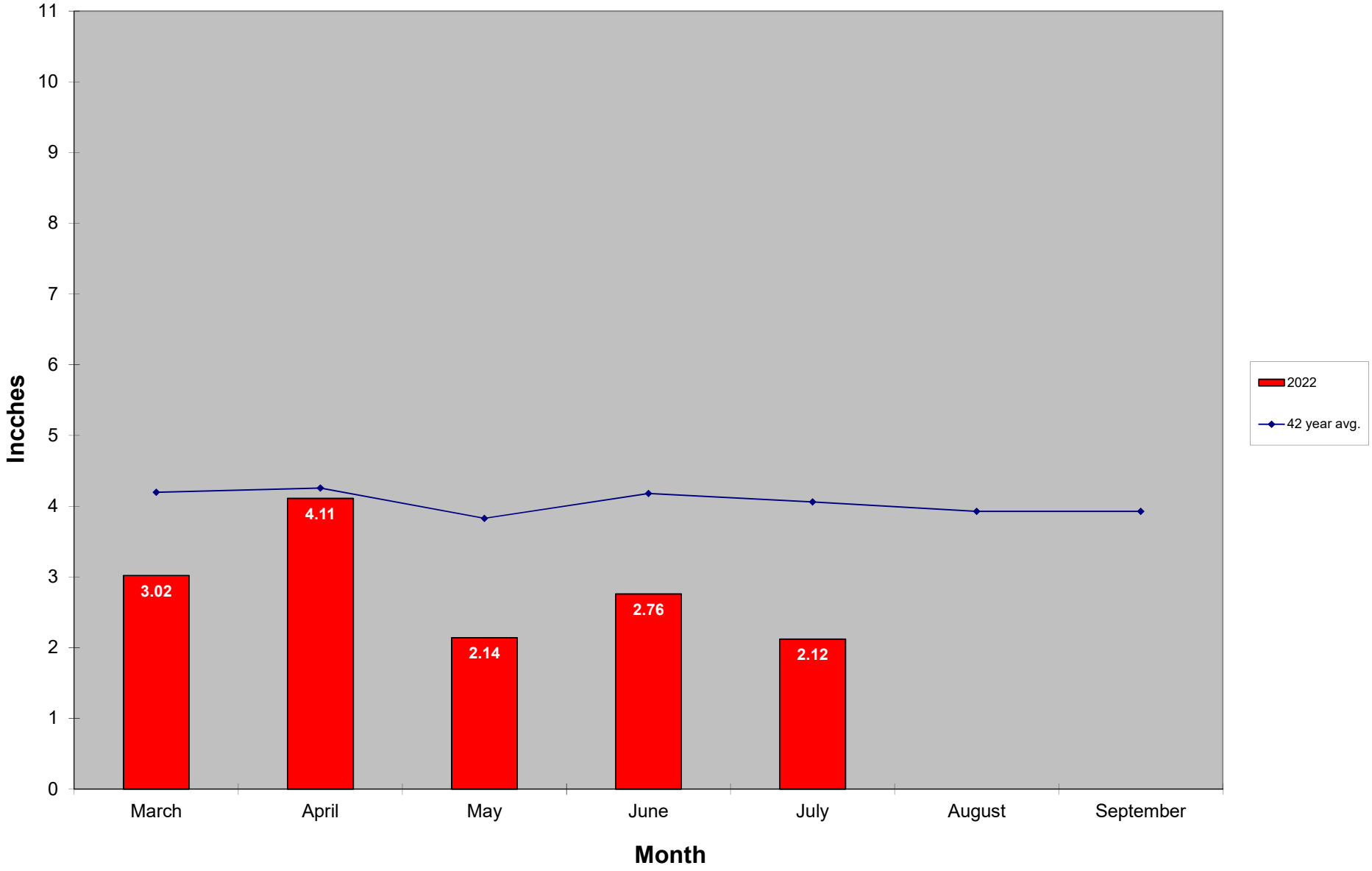
Service requests are just slightly below the 19-year average but a 41.1% decrease over 2021 numbers to date. We began accepting service requests on May 31 and 10,195 requests have been closed from 10,642 total (4% open). Average temps have stabilized as have the *Cq. perturbans* populations so service calls have continued to drop off. Work crews began performing catch basins treatments for *Culex* control on May 16. 8,986 basins were treated in Epi week 32, with 88,023 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

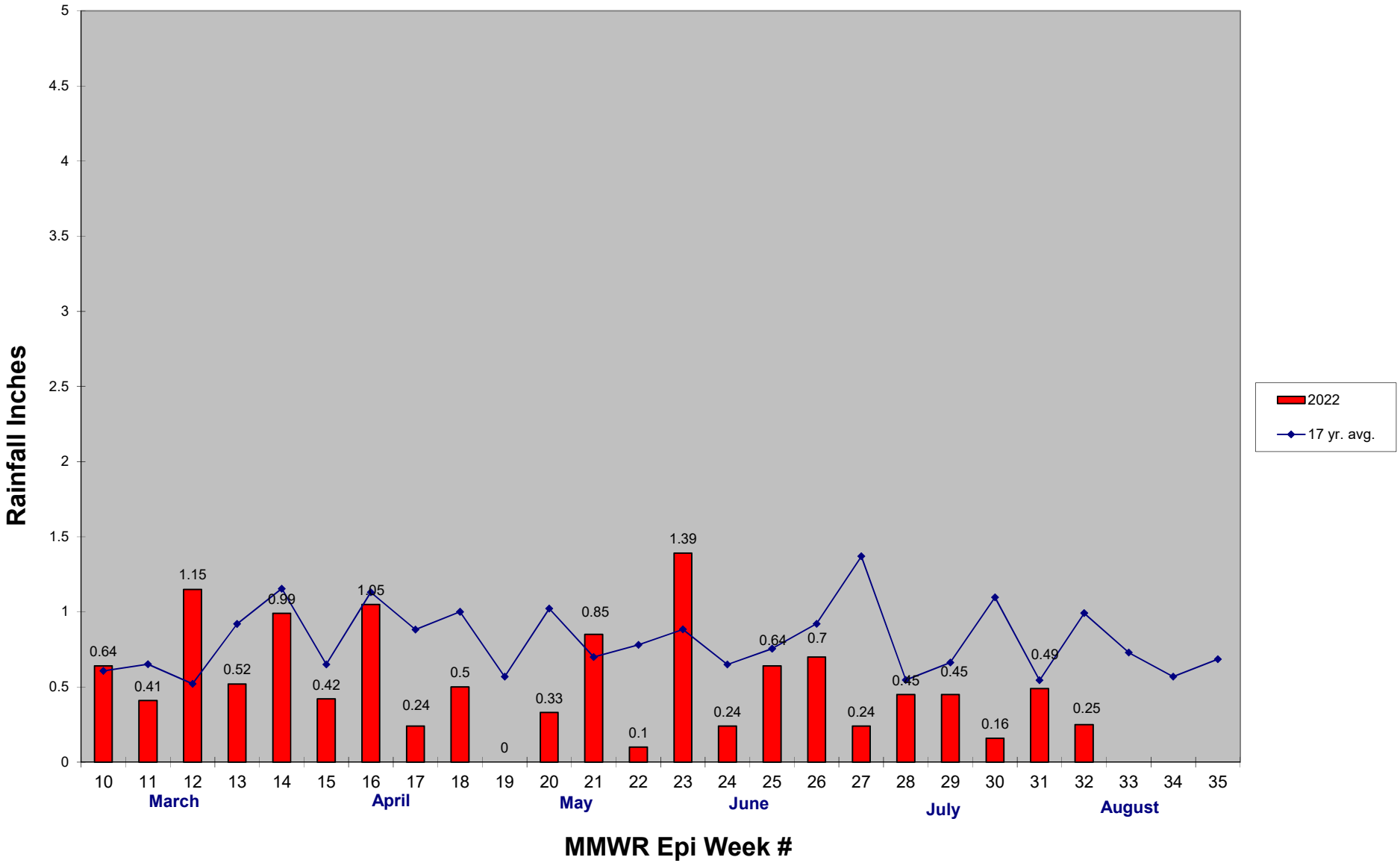
the time of treatment. The results of this analysis could increase the degree of control achieved in the application. Initial comparisons of the BG-Counter traps with the CDC traps were very favorable. Additional ULV efficacy trials are scheduled for this season.

2022 Mass. Rainfall Data vs. 42 Year Average*

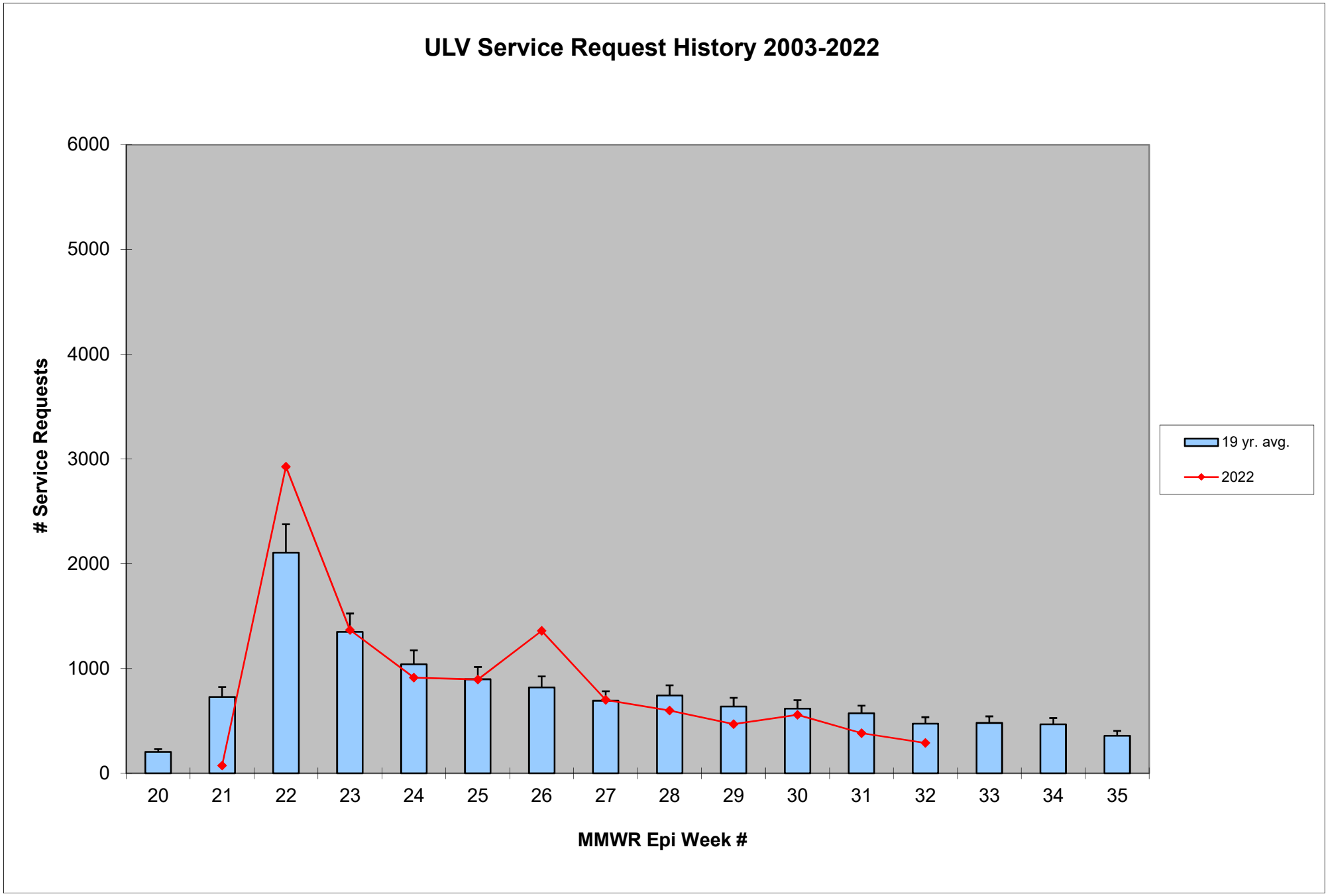


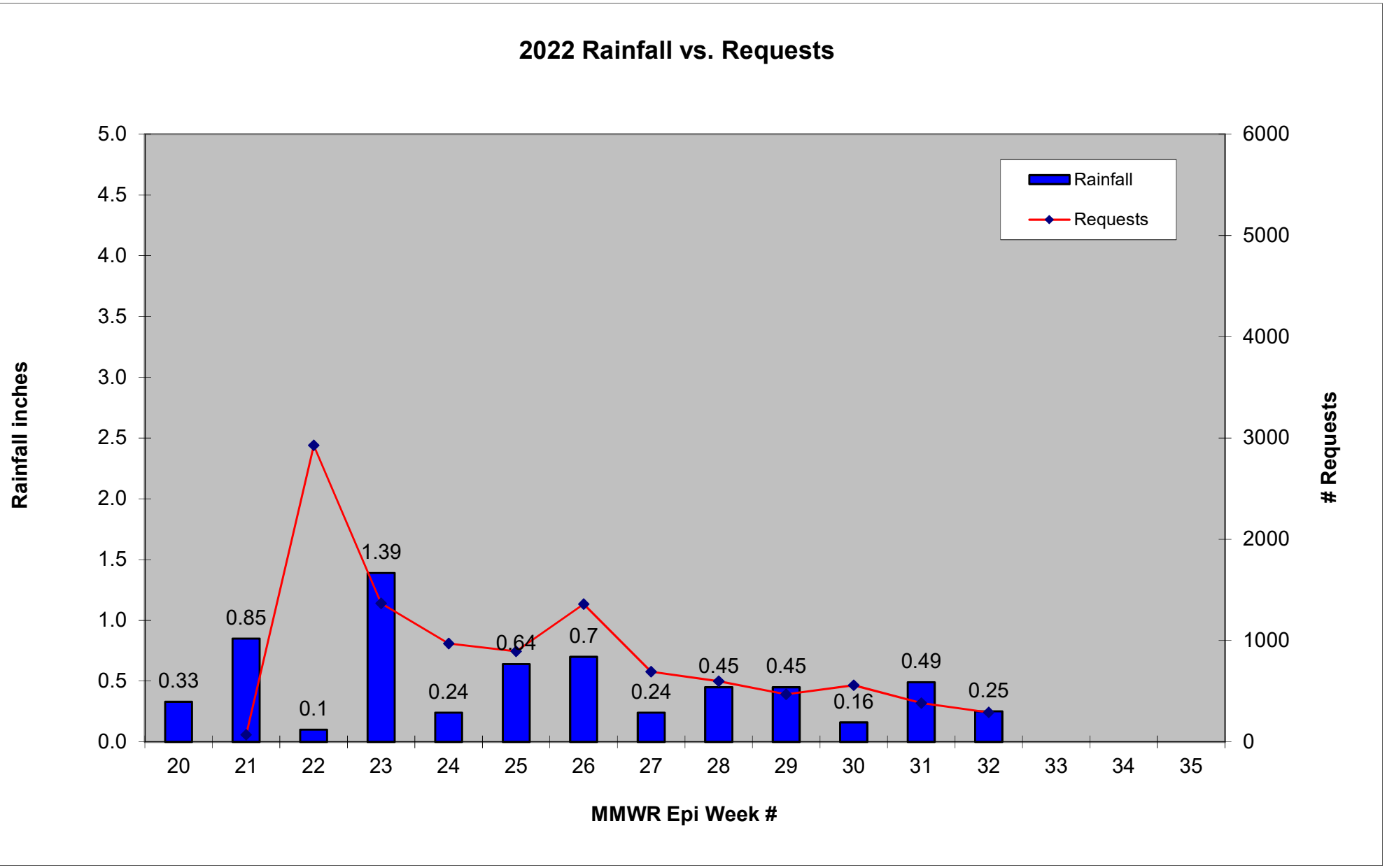
*source: http://www.nrcc.cornell.edu/regional/tables/tables.html

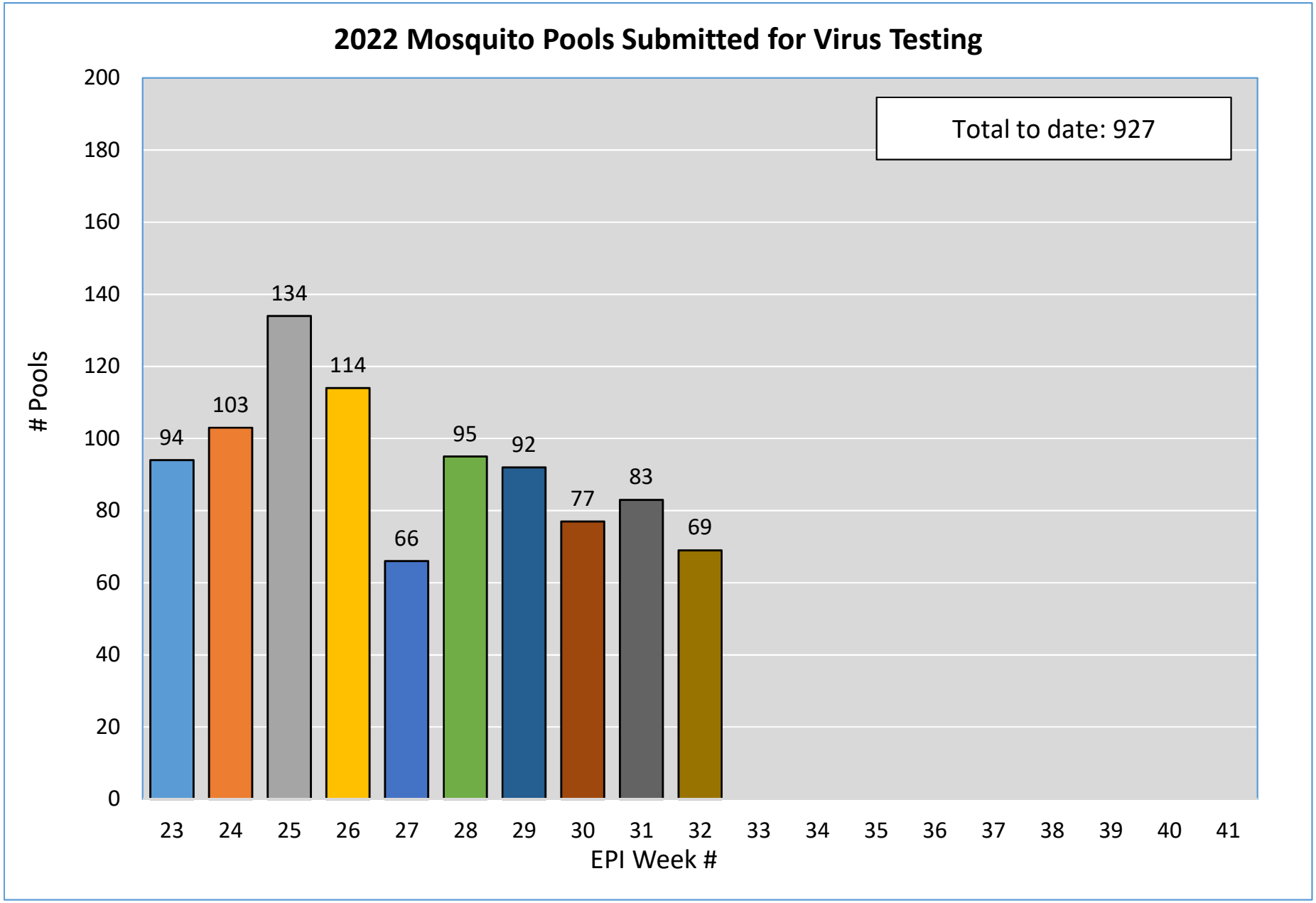
2022 CMMCP Weekly Rainfall vs. 17 Year Average*



*source: CMMCP weather station Northborough, MA


ULV Service Request History 2003-2022
Service Requests
6000
5000
4000
3000
2000
1000
0
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
MMWR Epi Week #
19 yr. avg.
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
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
0.33
0.85
0.1
1.39
0.24
0.64
0.7
0.24
0.45
0.45
0.16
0.49
0.25


2022 Mosquito Pools Submitted for Virus Testing
Total to date: 927
Pools
EPI Week #
200
180
160
140
120
100
80
60
40
20
0
94
103
134
114
66
95
92
77
83
69
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: 88,023
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
8,093
8,680
8,986
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37