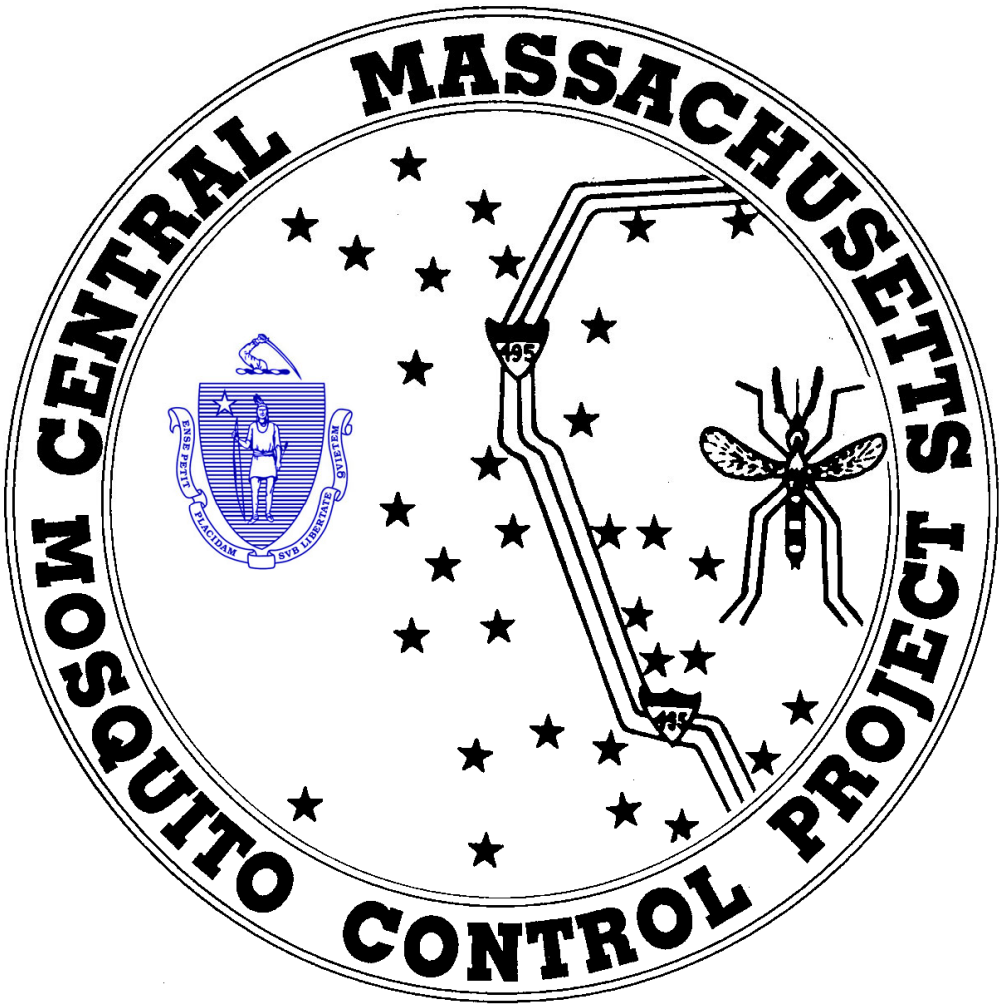
CMMCP WEEKLY SURVEILLANCE REPORT



EPI week #40
Oct. 1-7, 2023

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Central Mass. Mosquito Control Project
Weekly Report- 10/1/23-10/7/23
EPI Week #40

Cumulative Surveillance Summary

Target Species	*Ae. vex*	*Cq. per*	*Cs. mel*	*Oc. can*	*Culex*	All Species
No. Pools	491	640	84	437	1218	6321
Total Specimens	6294	25606	184	6798	26128	88248
No. Pools WNV +	0	3†	0	0	8†	11†
No. Pools EEE +	0	0	0	0	0	0

†Pool of WNV+ *Culex* collected in Worcester on 7/7/23
†Pool of WNV+ *Culex* collected in Worcester on 7/20/23
†Pool of WNV+ *Culex* collected in Chelmsford on 8/10/23
†Pool of WNV+ *Culex* collected in Northbridge on 8/10/23
†Pool of WNV+ *Culex* collected in Milford on 8/16/23
†Pool of WNV+ *Coquillettidia perturbans* collected in Lowell on 8/25/23
†Pool of WNV+ *Coquillettidia perturbans* collected in Lowell on 8/25/23
†Pool of WNV+ *Coquillettidia perturbans* collected in Lowell on 8/25/23
†Pool of WNV+ *Culex* collected in Worcester on 9/1/23
†Pool of WNV+ *Culex* collected in Ayer on 9/6/23
†Pool of WNV+ *Culex* collected in Worcester on 9/12/23

Weather Summary (Northborough, MA): The weather for this particular week averaged 63.57°F with a recorded high temperature of 88.60°F and a recorded low temperature of only 46.30°F. For this week there was also a total of 0.38 inches of rain observed. Compared to the previous week, it was approximately 9.37°F warmer on average, and rained about 1.61 inches less. There has been 0.38 inches of rain accumulated in October, after 6.69 inches for the month of September.

CMMCP Mosquito Summary-

Target Species	Δ From Last Week*	Δ From Last Year	Predominant Trap Site(s)
Aedes vexans	+227.2%	+725.3%	Lancaster, Littleton
Coquillettidia perturbans	+400.0%	-37.40%	Lancaster
Culiseta melanura	+1050%	-71.49%	Westborough, Millville
Ochlerotatus canadensis	+1500%	+433.1%	Lancaster
Culex Species	+11.00%	+617.1%	Shrewsbury, Acton, Lowell
All Species	+146.6%	+89.84%	Lancaster, Littleton

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

* Low seasonal numbers may contribute to these comparisons being not as significant as they appear

General narrative:
The temperatures for EPI week 40 averaged approximately 9.37°F warmer than the previous week, with 0.38 inches of precipitation observed. Overall surveillance trap collections increased this period compared to the last, with all target species following this trend. This was likely due in part to the aforementioned increase in temperatures. Only *Coquillettidia perturbans* and *Culiseta melanura* remain at lower levels compared to this point last season. *Aedes vexans* remains the most abundant mosquito species, followed now by *Ochlerotatus trivittatus*. Aedes *albopictus* surveillance using ovitraps has ended for the season. None of the mosquito pools submitted to MDPH in EPI week 39 tested positive for mosquito-borne disease.

Ae. albopictus egg collections:

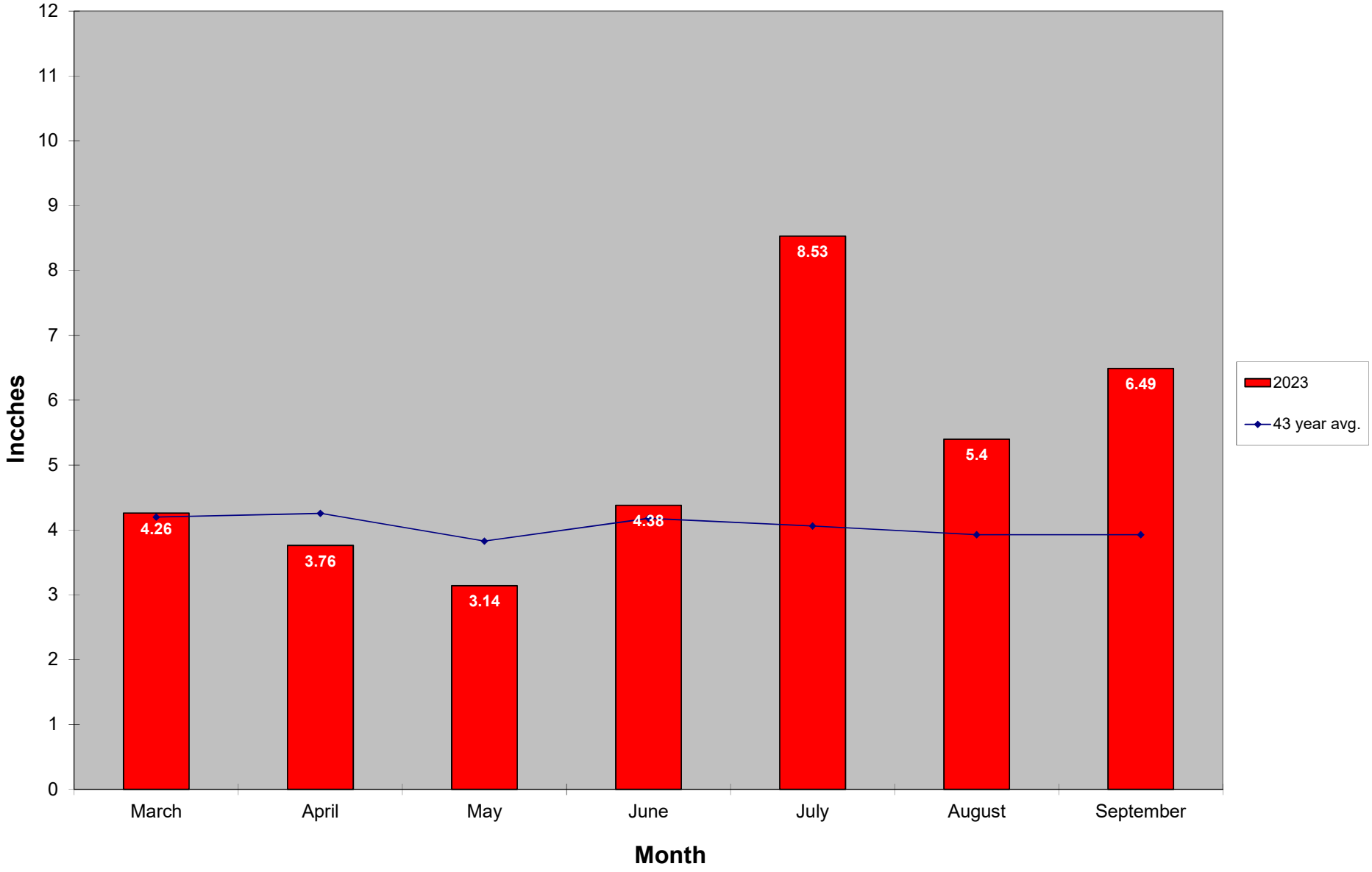
Epi week#	# eggs Collected		Epi week#	# eggs Collected
23	0		32	5,246
24	0		33	5,177
25	649		34	3,024
26	3,306		35	2,881
27	4,928		36	2,891
28	3,563		37	2,902
29	8,560		38	2,581
30	5,019		39	end
31	7,049		40	
	TOTAL		**57,776**	
16 ATM detections to date				

Operational notes:
Service requests ended the year 7.26% below the 20-year average and a 1% increase over 2022 numbers. The residential spray program ended Aug. 31. Work crews began performing catch basins treatments for *Culex* control on May 22. In total, 90,988 catch basins treated intended to suppress *Culex* populations and lower risk of transmission from WNV by this species.

Ae. albopictus numbers peaked and continue to drop off. MDPH has ended the egg rearing program. In total we submitted 57,776 egg with 16 collections of ATM hatched out. Control was initiated several times with varying degrees of success.

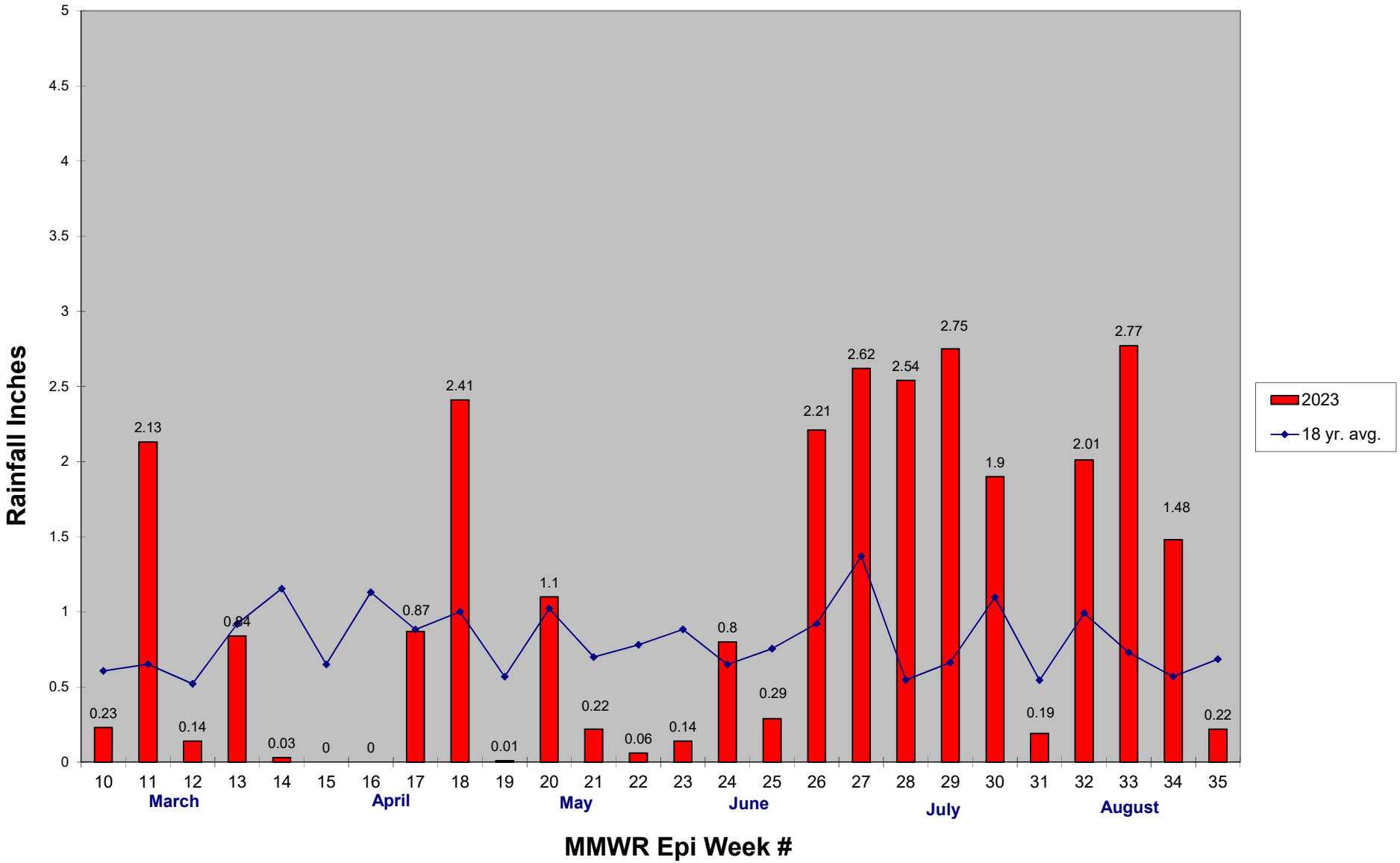
The adulticide program has ended for the season unless extraordinary circumstances present this as a viable option.

2023 Mass. Rainfall Data vs. 43 Year Average*



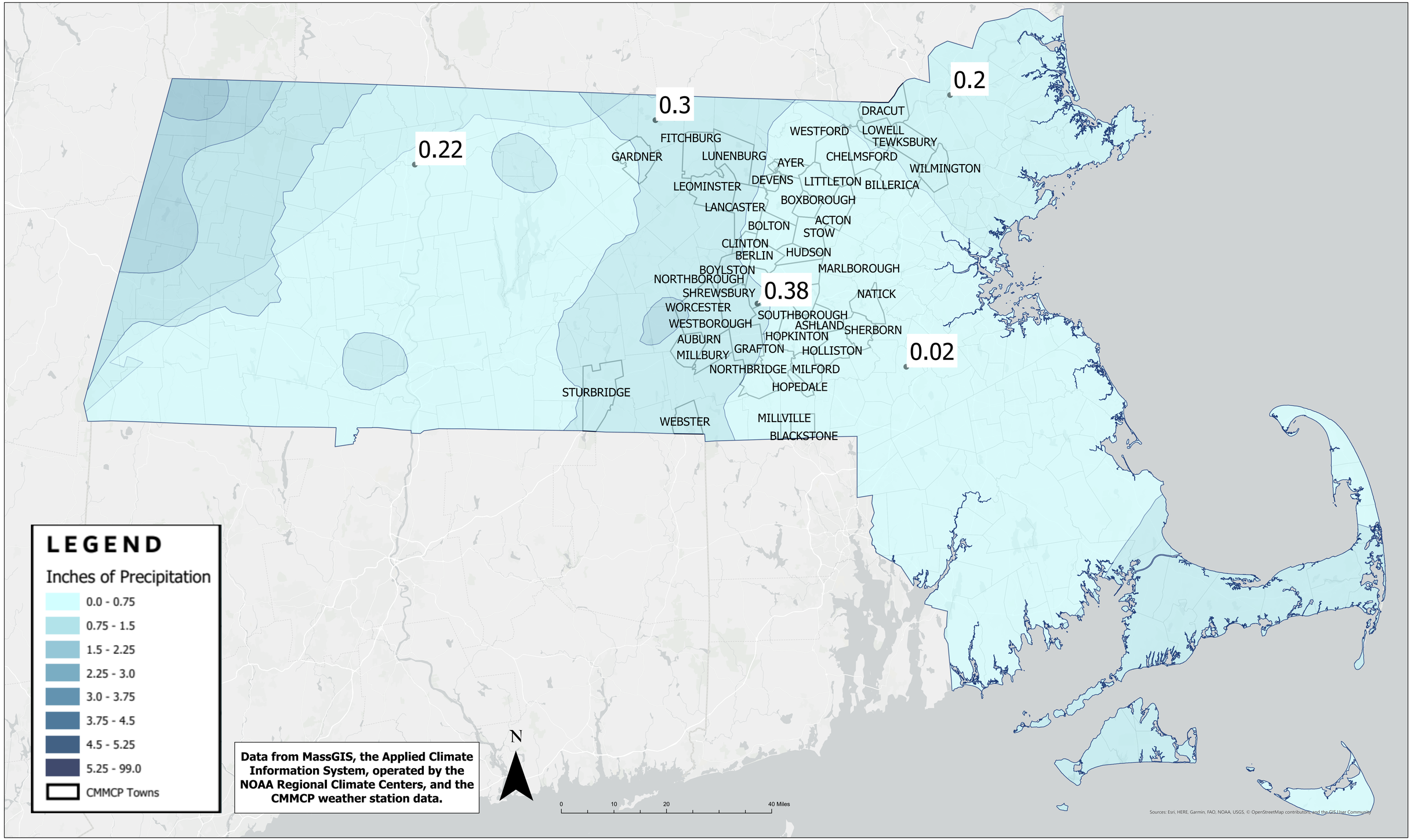
*source: http://www.nrcc.cornell.edu/regional/tables/tables.html

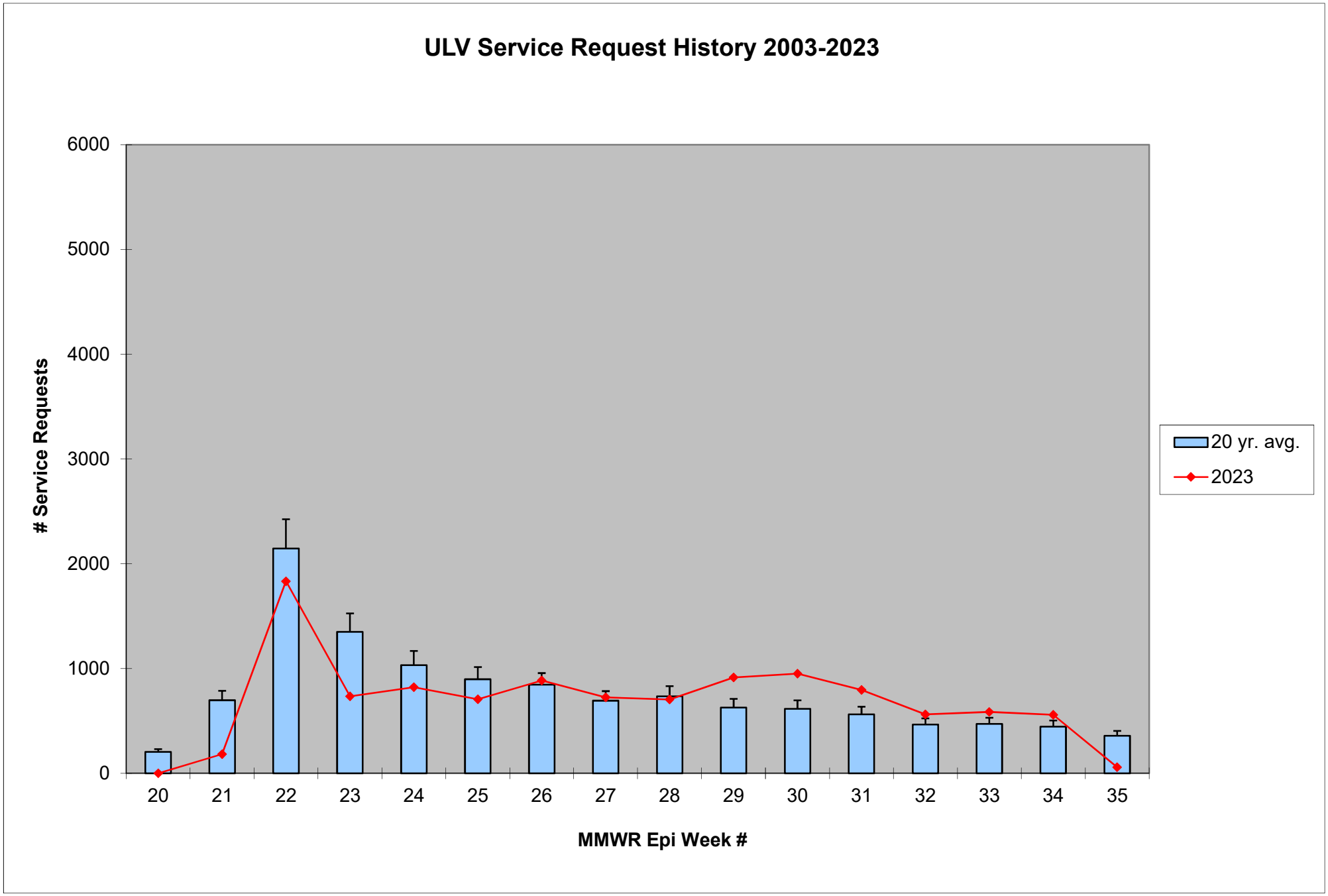
2023 CMMCP Weekly Rainfall vs. 18 Year Average*

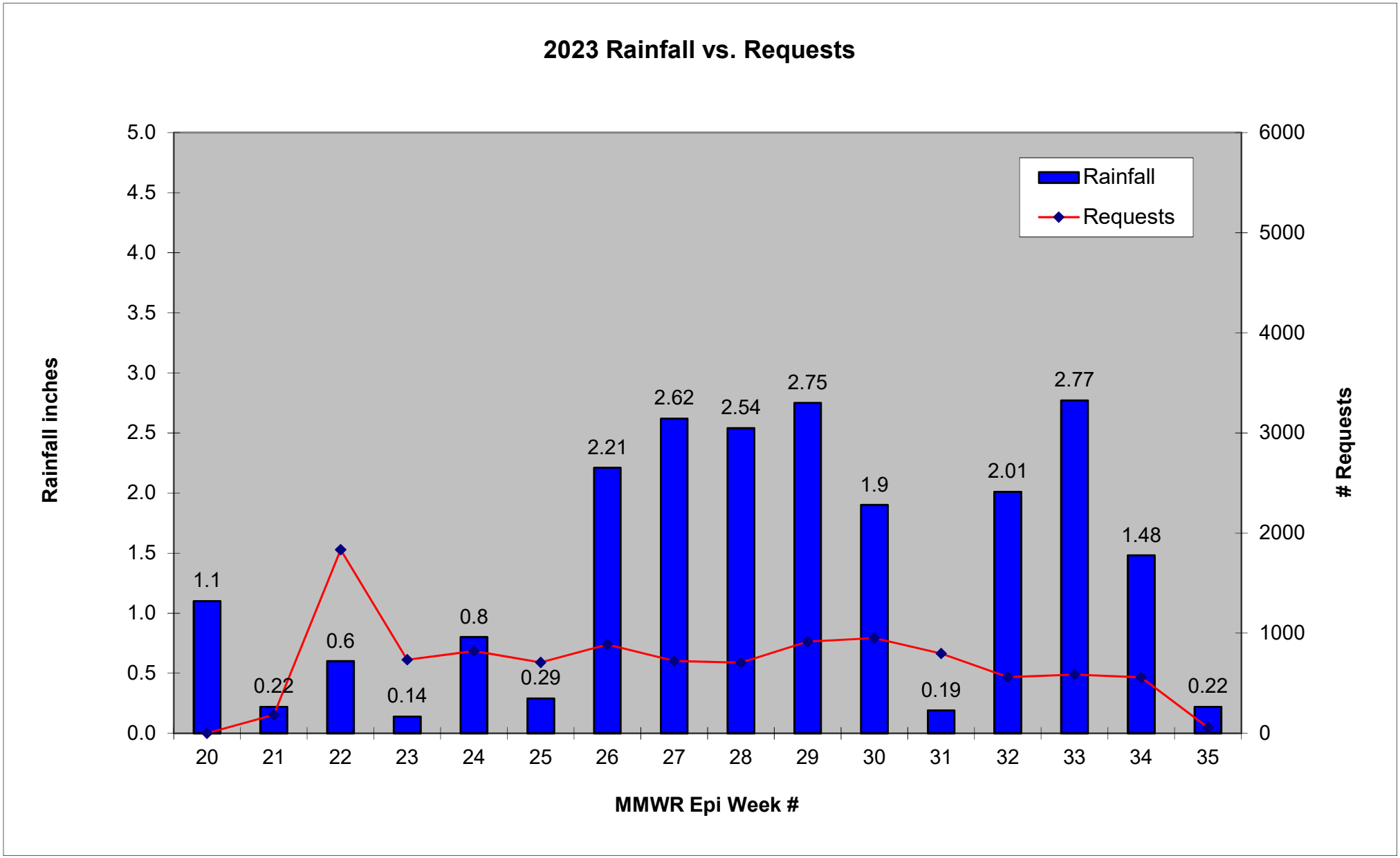


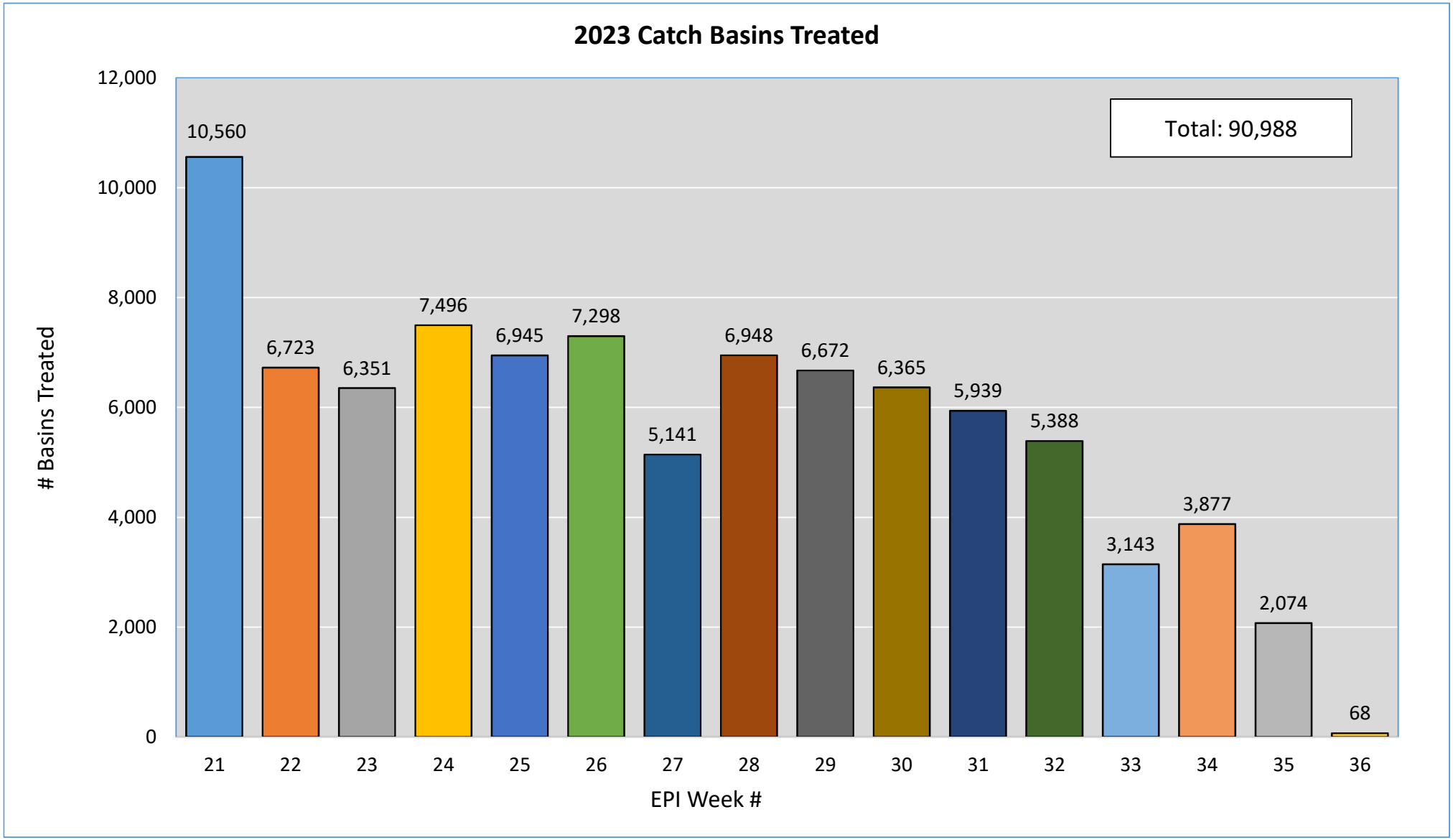
*source: CMMCP weather station Northborough, MA

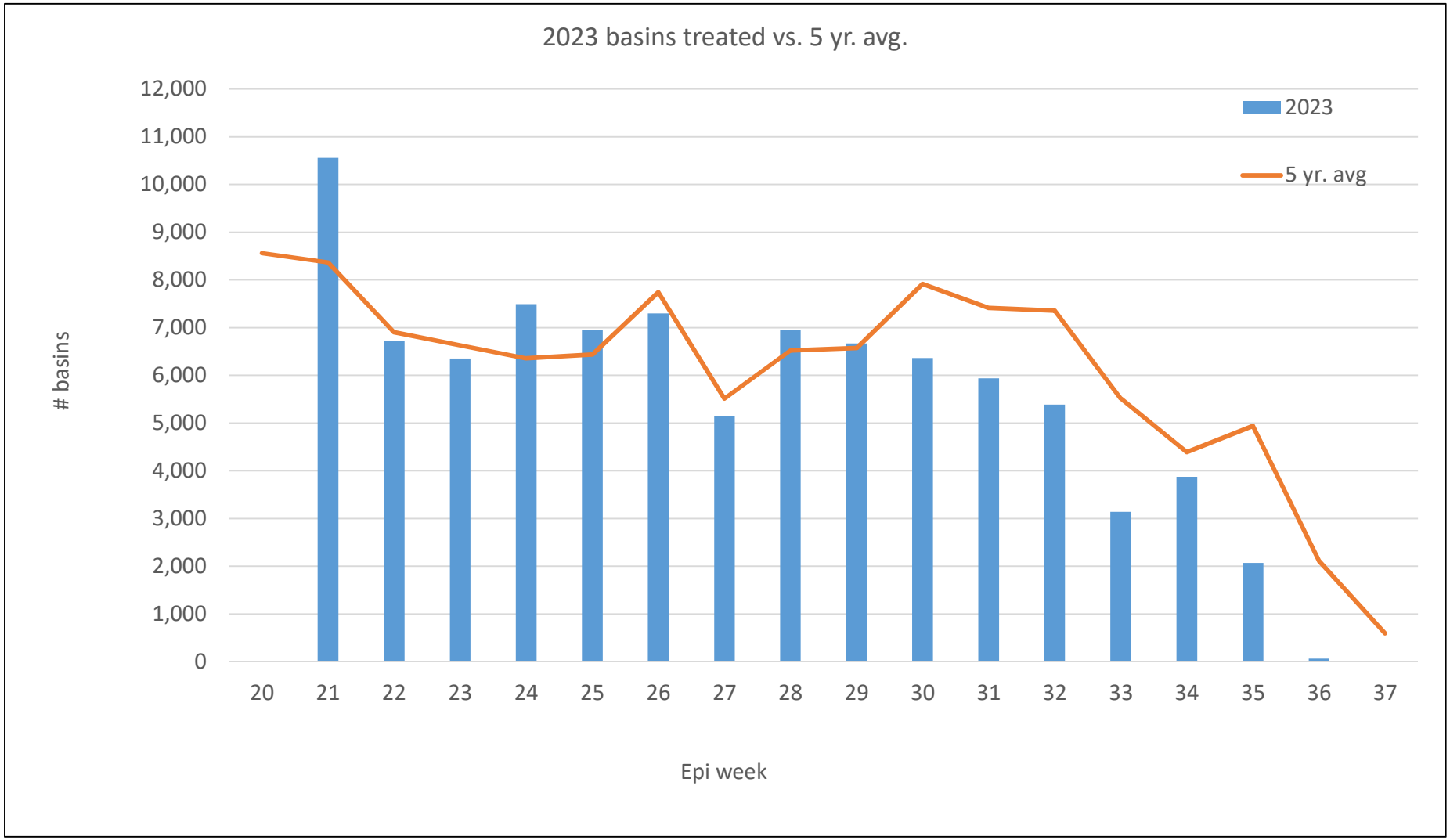
Precipitation in CMMCP Towns
EPI Week 40 (10/1-10/7/2023)




ULV Service Request History 2003-2023
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 #
20 yr. avg.
2023


2023 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
1.1
0.22
0.6
0.14
0.8
0.29
2.21
2.62
2.54
2.75
1.9
0.19
2.01
2.77
1.48
0.22
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35


2023 Catch Basins Treated
Total: 90,988
Basins Treated
EPI Week #
12,000
10,000
8,000
6,000
4,000
2,000
0
10,560
6,723
6,351
7,496
6,945
7,298
5,141
6,948
6,672
6,365
5,939
5,388
3,143
3,877
2,074
68
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36


2023 basins treated vs. 5 yr. avg.
12,000
11,000
10,000
9,000
8,000
7,000
6,000
5,000
4,000
3,000
2,000
1,000
0
basins
2023
5 yr. avg
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
Epi week