

CMMCP WEEKLY SURVEILLANCE REPORT



EPI week #33
Aug. 14-20, 2022

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**Central Mass. Mosquito Control Project
Weekly Report- 8/14/22-8/20/22
EPI Week #33**

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	48	626	114	112	463	2341
Total Specimens	89	30380	487	1123	3059	38221
No. Pools WNV +	0	0	0	0	4 [†]	4 [†]
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

Weather Summary (Northborough, MA): The weather for this particular week averaged 71.44°F with a recorded high temperature of 96.00°F and a recorded low temperature of only 52.00°F. For this week there was also a total of 0.02 inches of rain observed. Compared to the previous week, it was approximately 4.19°F cooler on average, and rained about 0.23 inches less. There has been 0.92 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)
<i>Aedes vexans</i>	+80.00%	-97.21%	Gardner, Marlborough
<i>Coquillettidia perturbans</i>	-29.18%	-34.33%	Lancaster, Gardner
<i>Culiseta melanura</i>	-100.0%	+74.62%	-
<i>Ochlerotatus canadensis</i>	-100.0%	-70.00%	-
<i>Culex</i> Species	-1.55%	-46.35%	Northborough
All Species	-25.74%	-43.22%	Lancaster, Gardner, Acton

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

General narrative:

The temperatures for EPI week 32 averaged approximately 4.19°F cooler than the previous week, with only 0.02 inches of precipitation observed. *Coquillettidia perturbans* has continued declining, largely contributing to the overall decrease in surveillance trap collections compared to EPI week 32. Despite this continued decline, *Coquillettidia perturbans* was again the most abundant mosquito species for the week, followed now by *Culex*. The only target species to increase this past week was *Aedes vexans*, although by only a few individuals. *Aedes albopictus* surveillance using ovitraps has continued, with 482 new eggs collected and submitted. Two mosquito pools submitted to MDPH in

EPI week 32 tested positive for West Nile virus. Both collections were *Culex pipiens/restuans* and from the same Worcester location as the West Nile virus isolation in EPI week 31, and collections were made before the scheduled ULV application in that area.

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	
27	1,823	35	
28	1,177	36	
29	1,074	37	
30	1,349	38	
	TOTAL	9,934	
No ATM detections to date			

Operational notes:

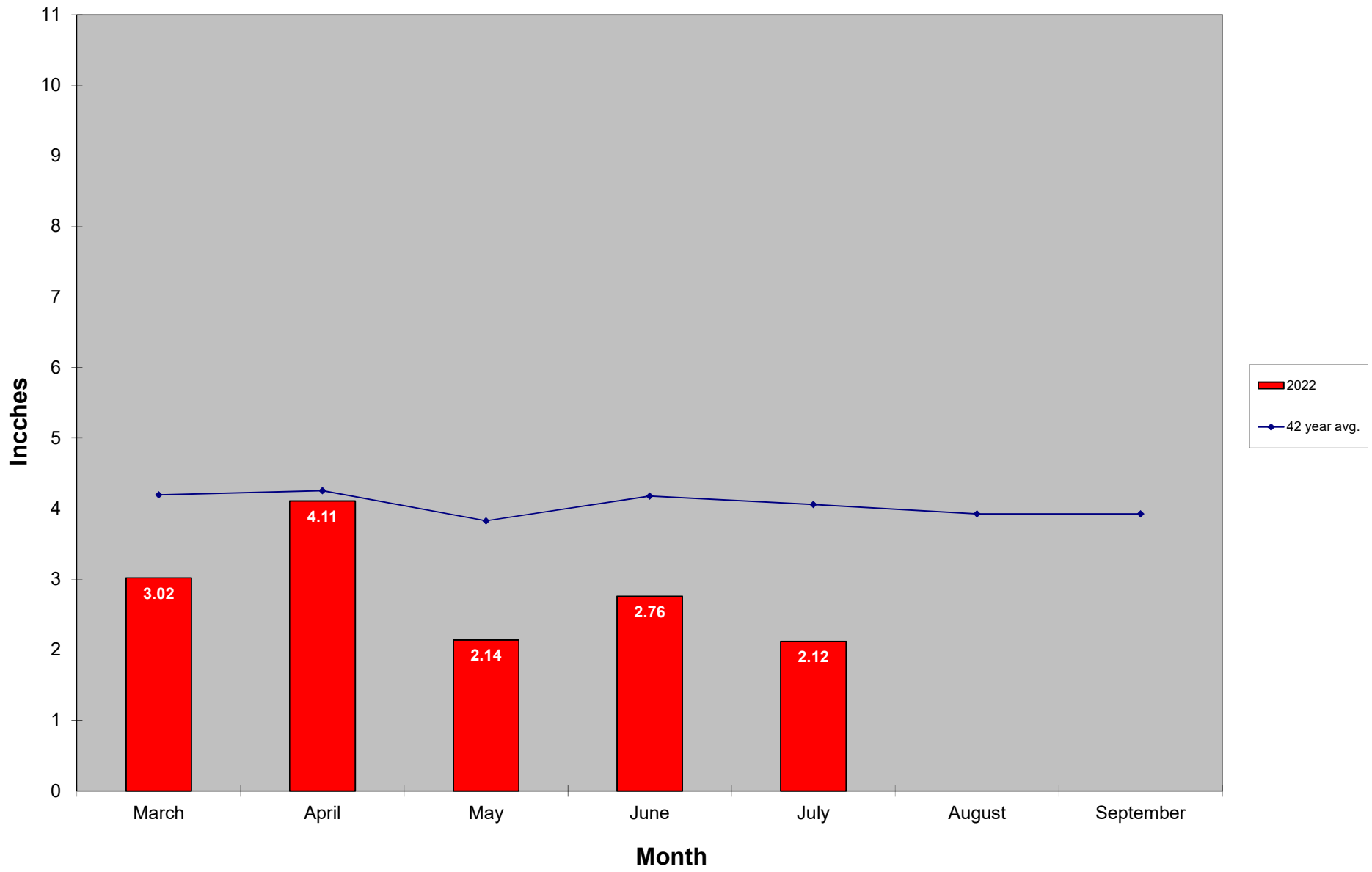
Service requests are 5.1% below the 19-year average and a 43.9% decrease over 2021 numbers to date. We began accepting service requests on May 31 and 10,615 requests have been closed from 10,843 total (2% open). The residential ULV spraying program will end on August 25 due to drought conditions and subsequent low mosquito populations. 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. 8,593 basins were treated in Epi week 33, with 96,616 catch basins treated to date intended to suppress *Culex* populations and lower risk of transmission from WNV by this species. This program will continue for the next few weeks since WNV has begun to appear.

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.

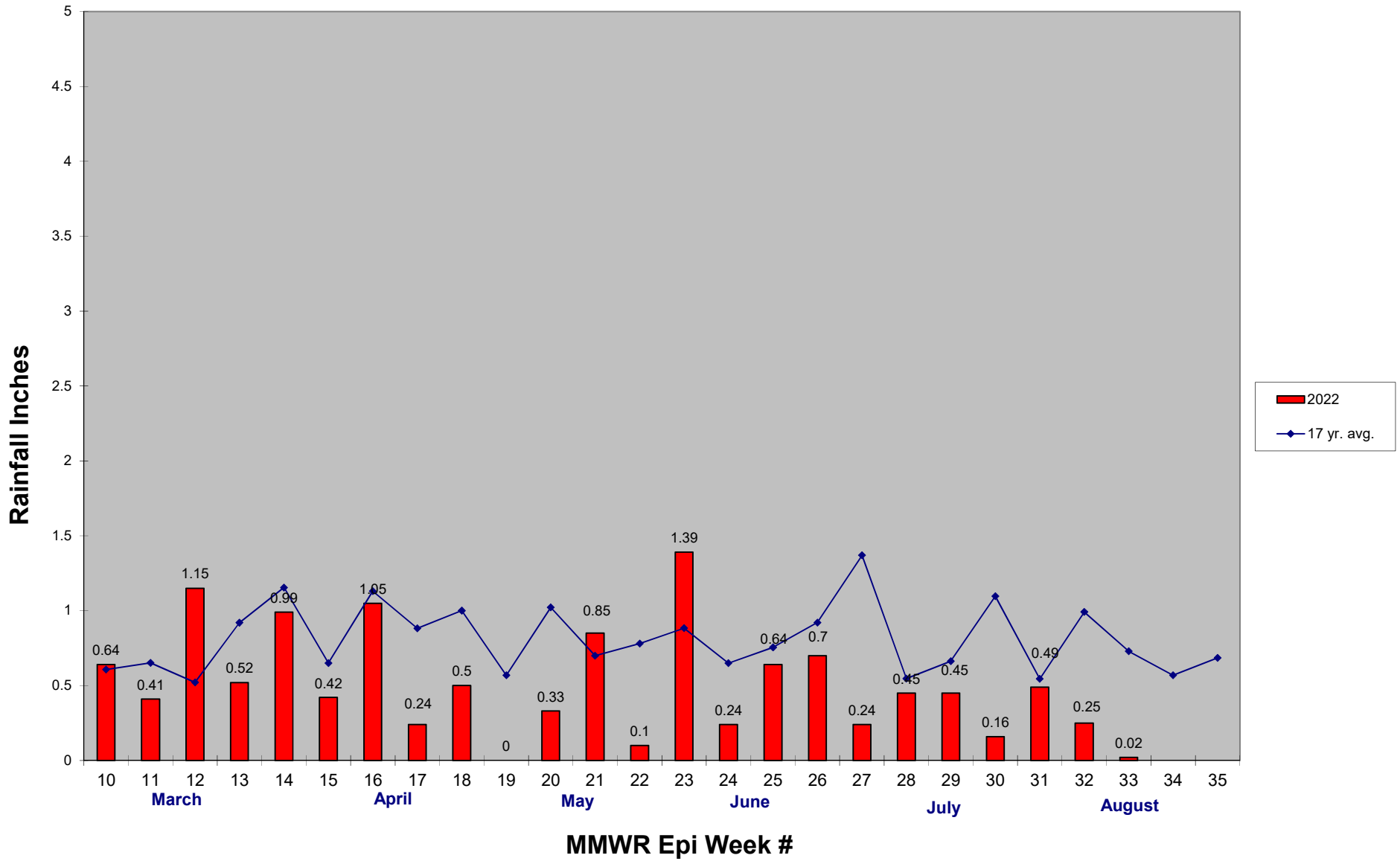
Recently conducted ULV efficacy trials in conjunction with Tufts School of Veterinary Medicine using CDC and BG-Counter traps indicate over 70% control following an application of Zenivex® E4. Specimens are currently being age-graded which could help identify whether mosquitoes collected post-spray are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



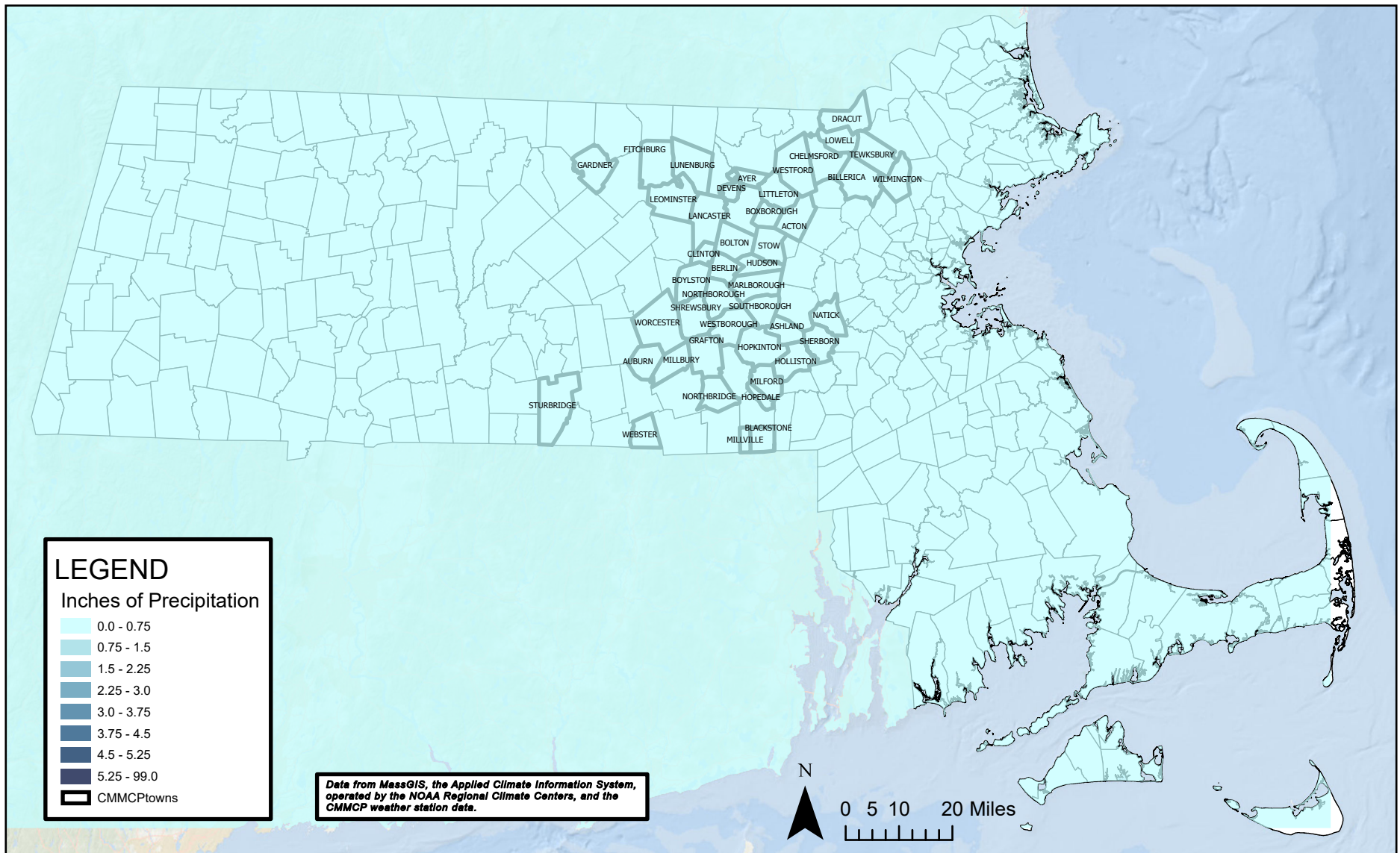
*source: <http://www.nrcc.cornell.edu/regional/tables/tables.html>

2022 CMMCP Weekly Rainfall vs. 17 Year Average*

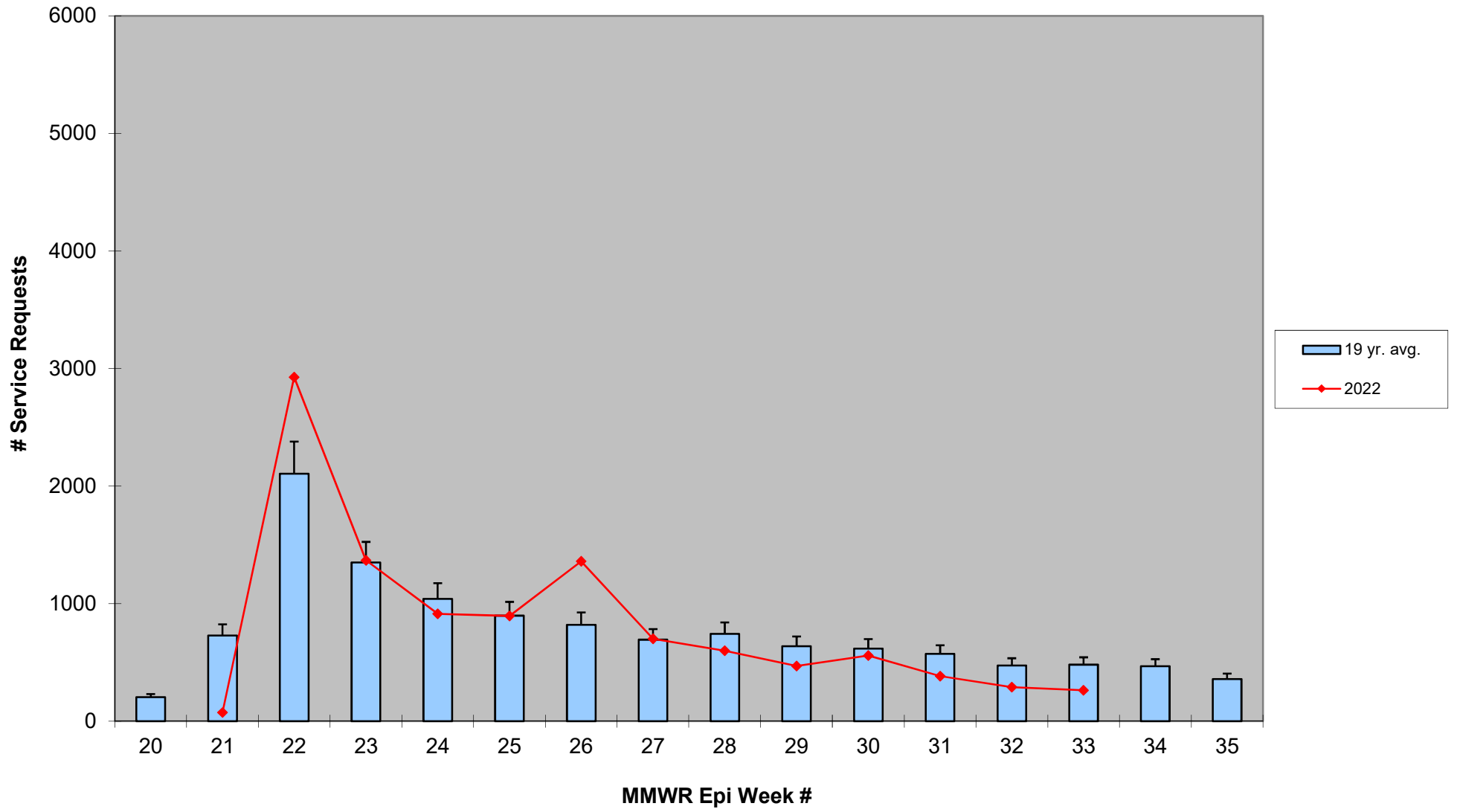


*source: CMMCP weather station Northborough, MA

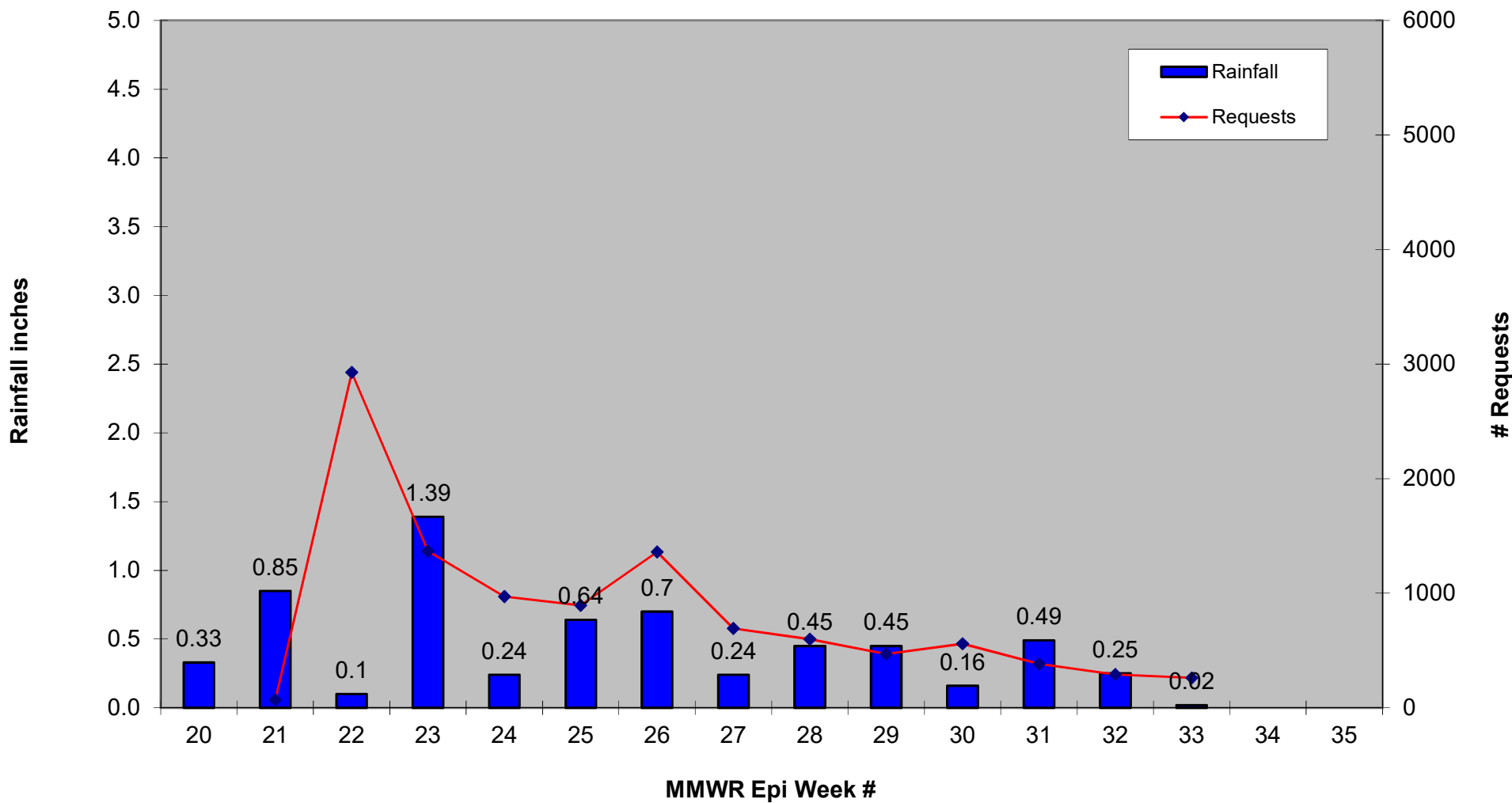
Precipitation in CMMCP Towns for EPI Week 32 (8/7/22)



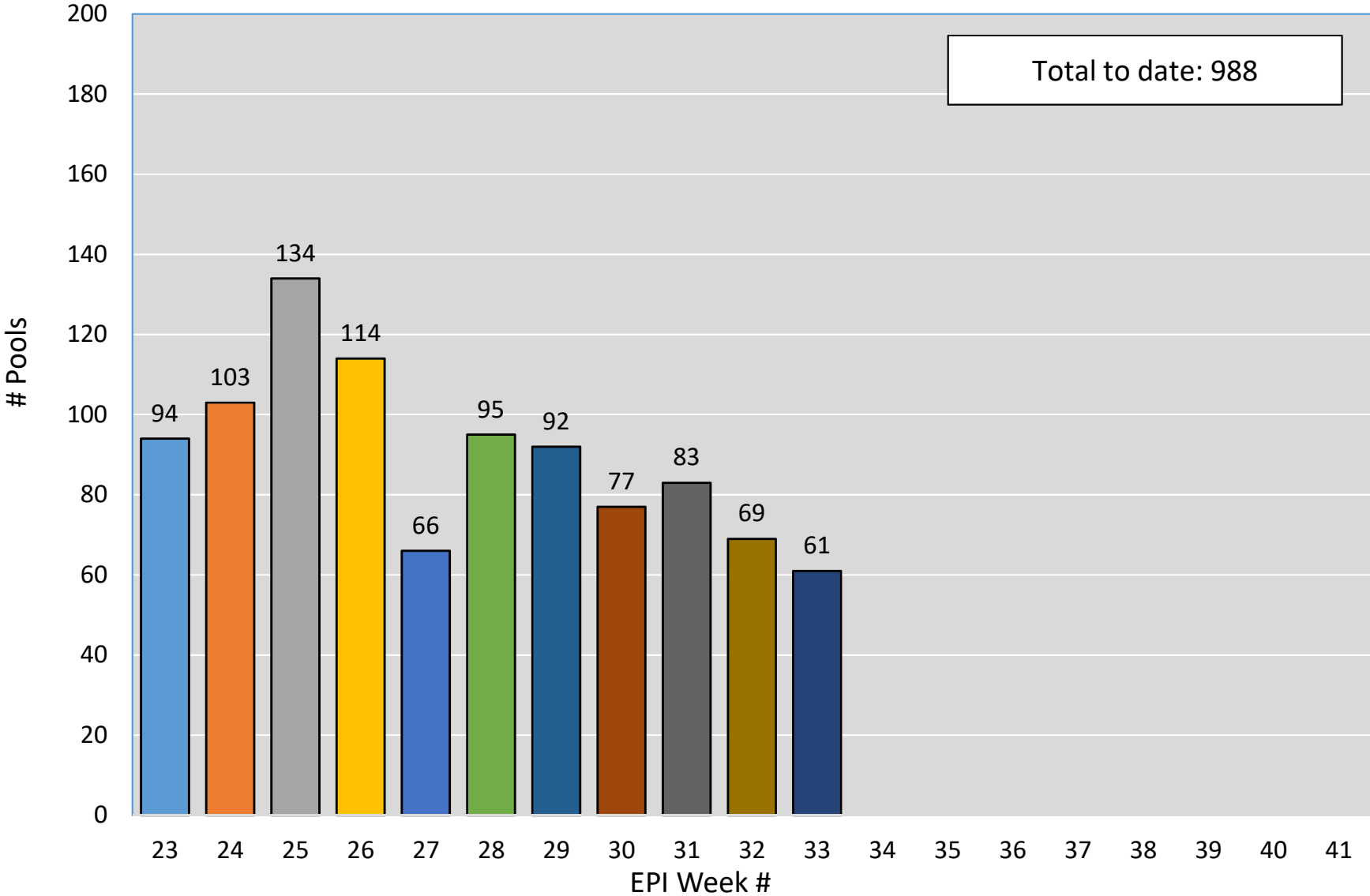
ULV Service Request History 2003-2022



2022 Rainfall vs. Requests



2022 Mosquito Pools Submitted for Virus Testing



2022 Catch Basins Treated

