

CMMCP WEEKLY SURVEILLANCE REPORT



EPI week #39
Sept. 26 – Oct. 1, 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- 9/25/22-10/1/22
EPI Week #39**

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	102	667	130	115	583	3111
Total Specimens	710	30730	516	1129	3489	52693
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 56.27°F with a recorded high temperature of 73.60°F and a recorded low temperature of only 40.00°F. For this week there was also a total of 0.21 inches of rain observed. Compared to the previous week, it was approximately 3.83°F cooler on average, and rained about .82 inches less. There was 4.22 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)
----------------	---------------------	---------------------	--------------------------

<i>Aedes vexans</i>	+61.96%	-96.56%	Webster, Milford
<i>Coquillettidia perturbans</i>	-84.62%	-37.90%	Gardner
<i>Culiseta melanura</i>	-12.50%	-36.73%	Gardner, Westborough
<i>Ochlerotatus canadensis</i>	-100.0%	-77.64%	-
<i>Culex</i> Species	-32.00%	-73.91%	Blackstone, Stow, Westborough
All Species	+83.59%	-63.39%	Webster

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

General narrative:

The temperatures for EPI week 39 averaged approximately 3.83°F cooler than the previous week, with approximately 0.21 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 now by *Psorophora ferox*. *Aedes albopictus* surveillance using ovitraps has continued, with 540 new eggs collected and submitted. All mosquito pools submitted to

MDPH in EPI week 38 were negative for mosquito-borne disease. The mosquito surveillance collections this week were the last for the 2022 season.

Ae. albopictus egg collections:

Epi week#	# eggs Collected	Epi week#	# eggs Collected
23	0	32	812
24	1,016	33	482
25	1,580	34	160
26	621	35	392
27	1,823	36	466
28	1,177	37	285
29	1,074	38	141
30	1,349	39	540
31	TBD	40	0
TOTAL		11,918	
No ATM detections			

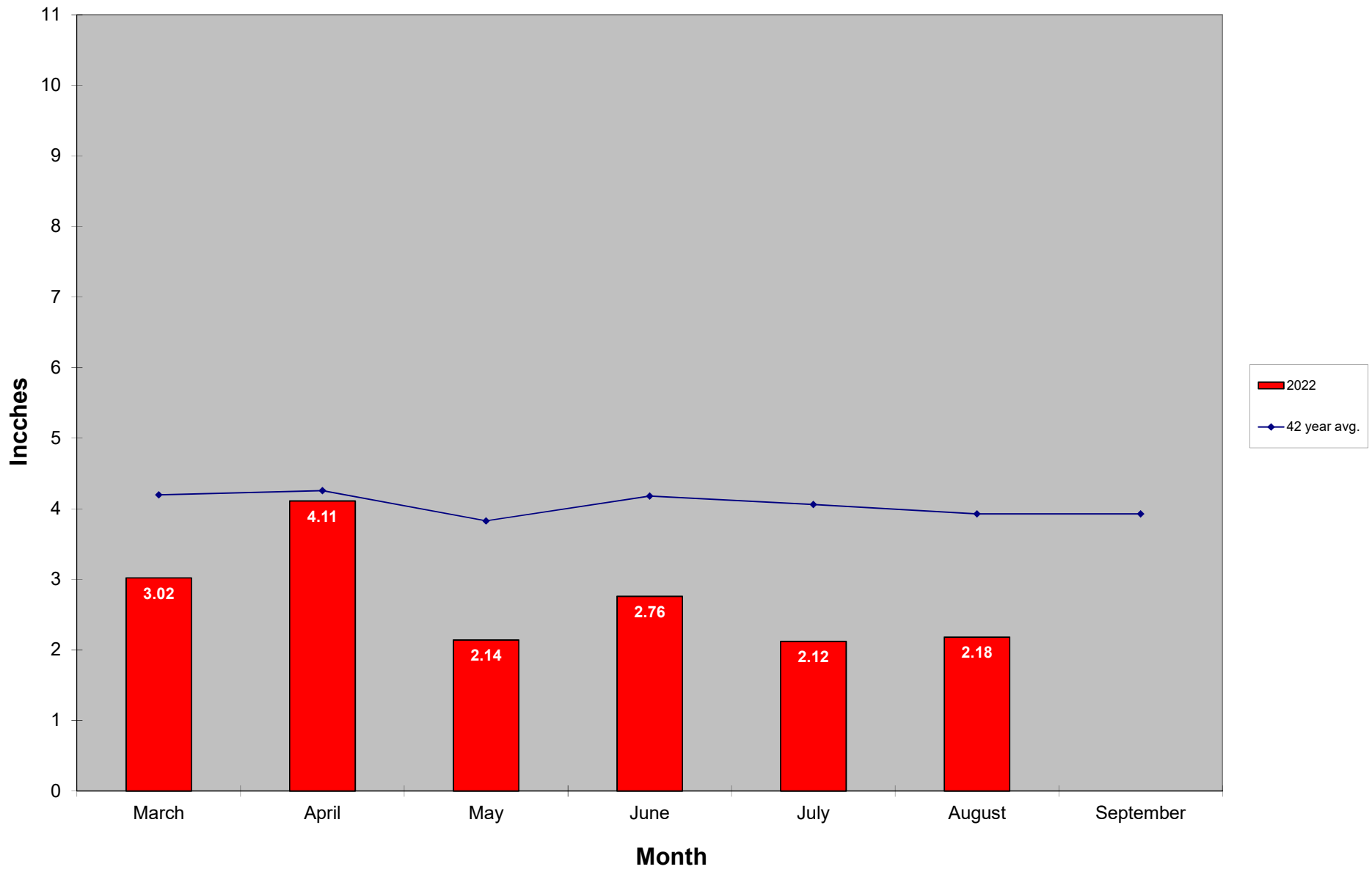
Operational notes:

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.

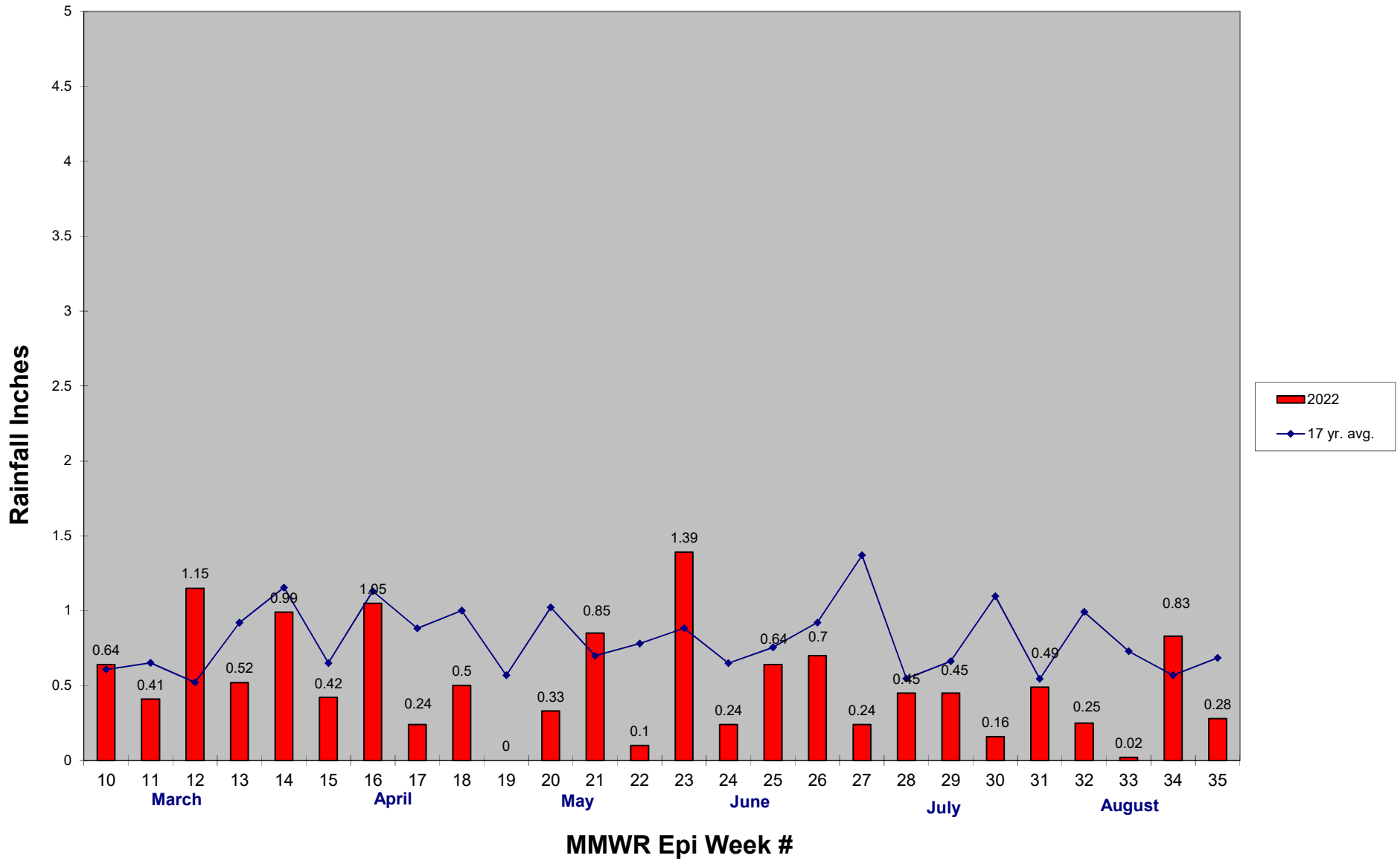
Recently conducted ULV efficacy trials in conjunction with Tufts School of Veterinary Medicine using CDC and BG-Counter traps indicate over 70% control following an application of Zenivex® E4. Specimens are currently being age-graded which could help identify whether mosquitoes collected post-spray are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



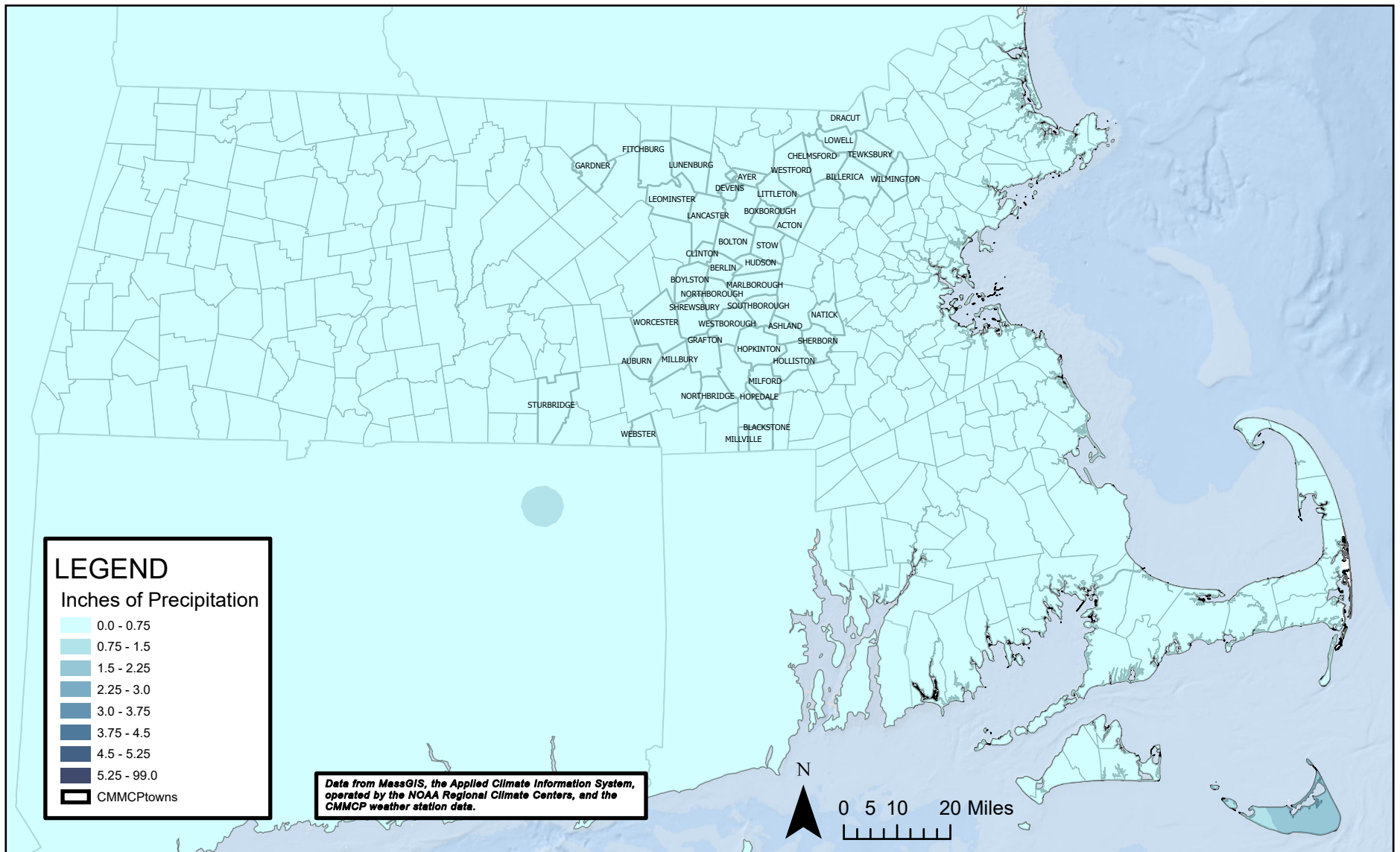
*source: <http://www.nrcc.cornell.edu/regional/tables/tables.html>

2022 CMMCP Weekly Rainfall vs. 17 Year Average*

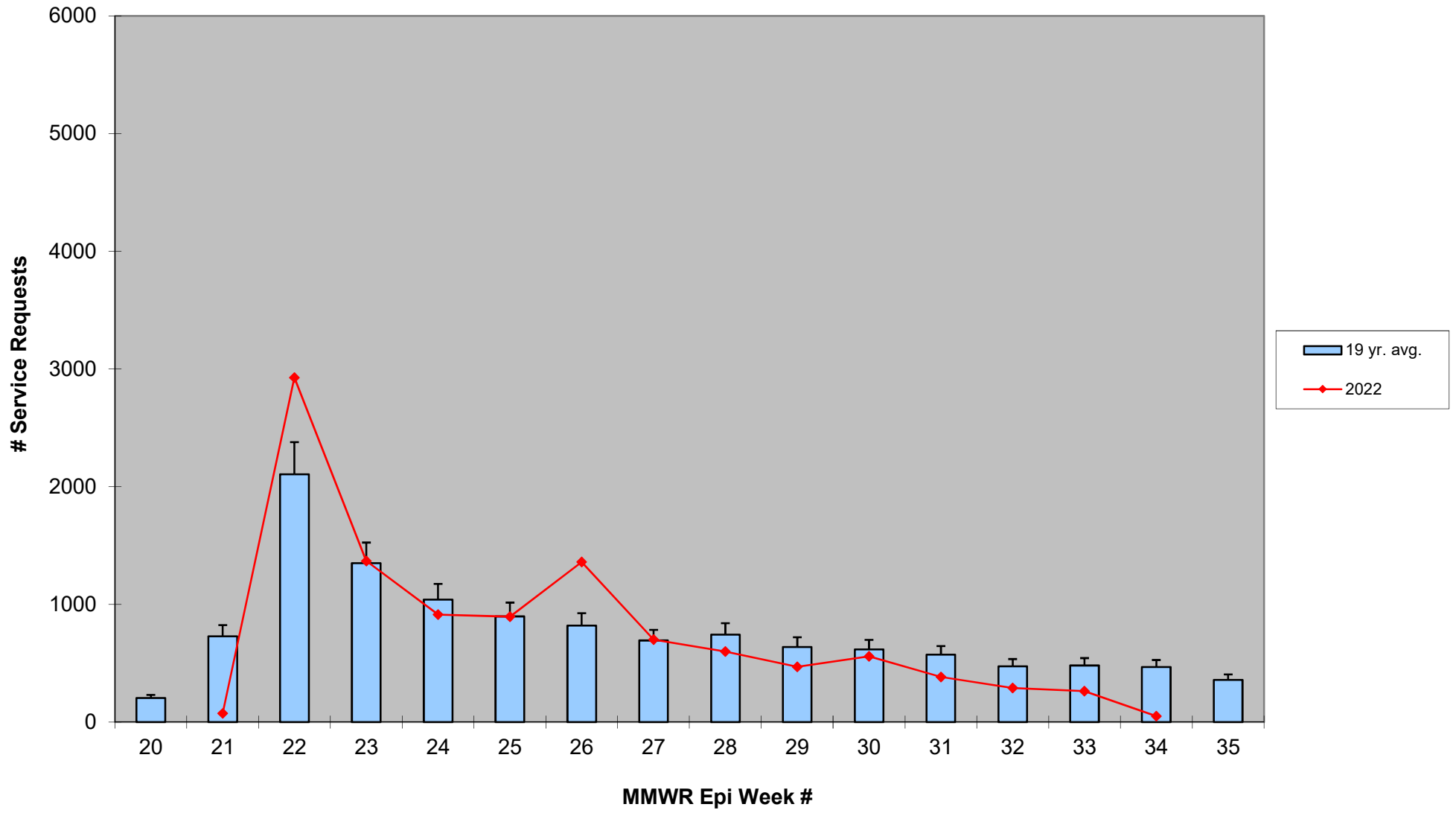


*source: CMMCP weather station Northborough, MA

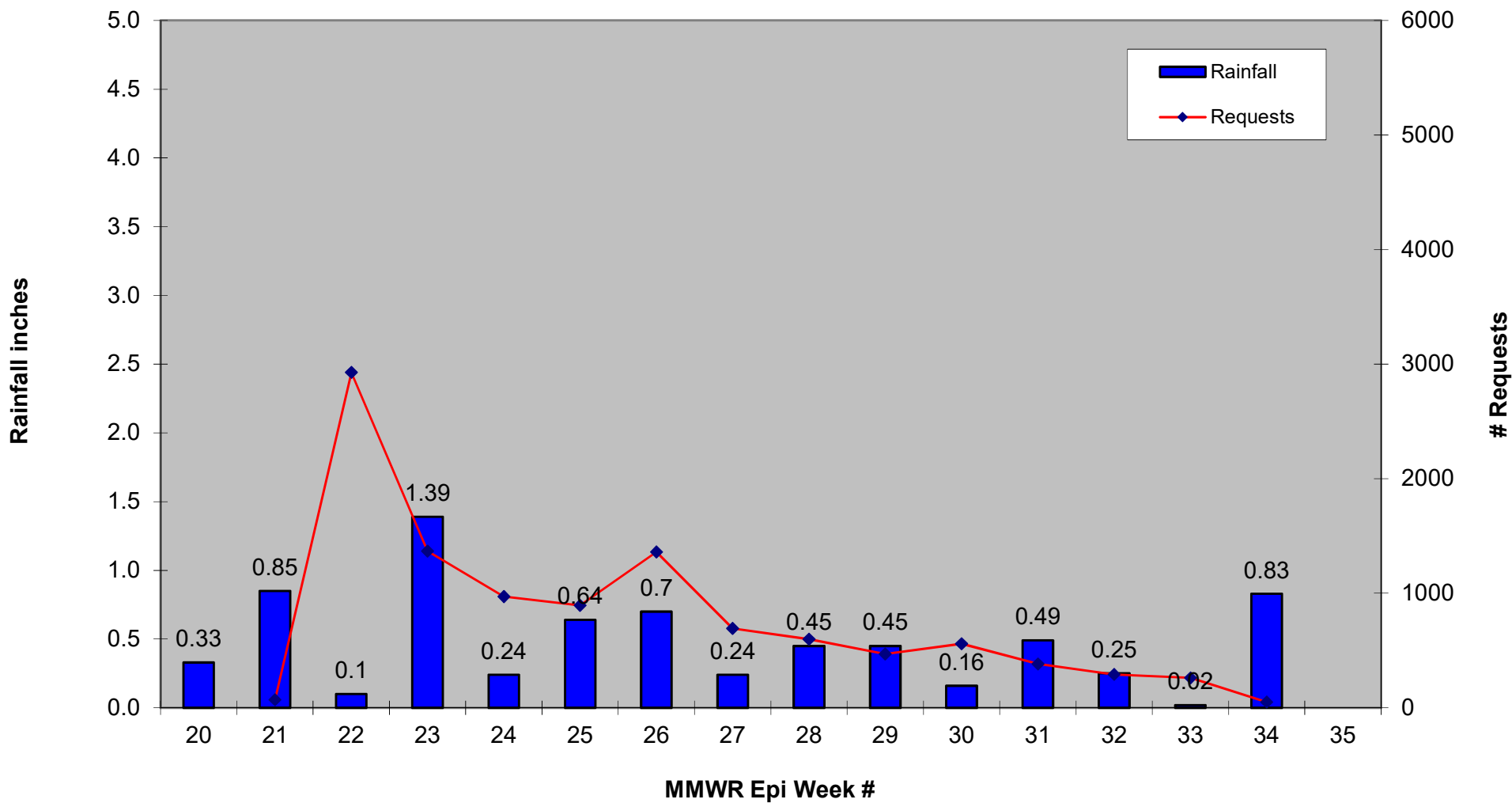
Precipitation in CMMCP Towns for EPI Week 38 (9/18/22)



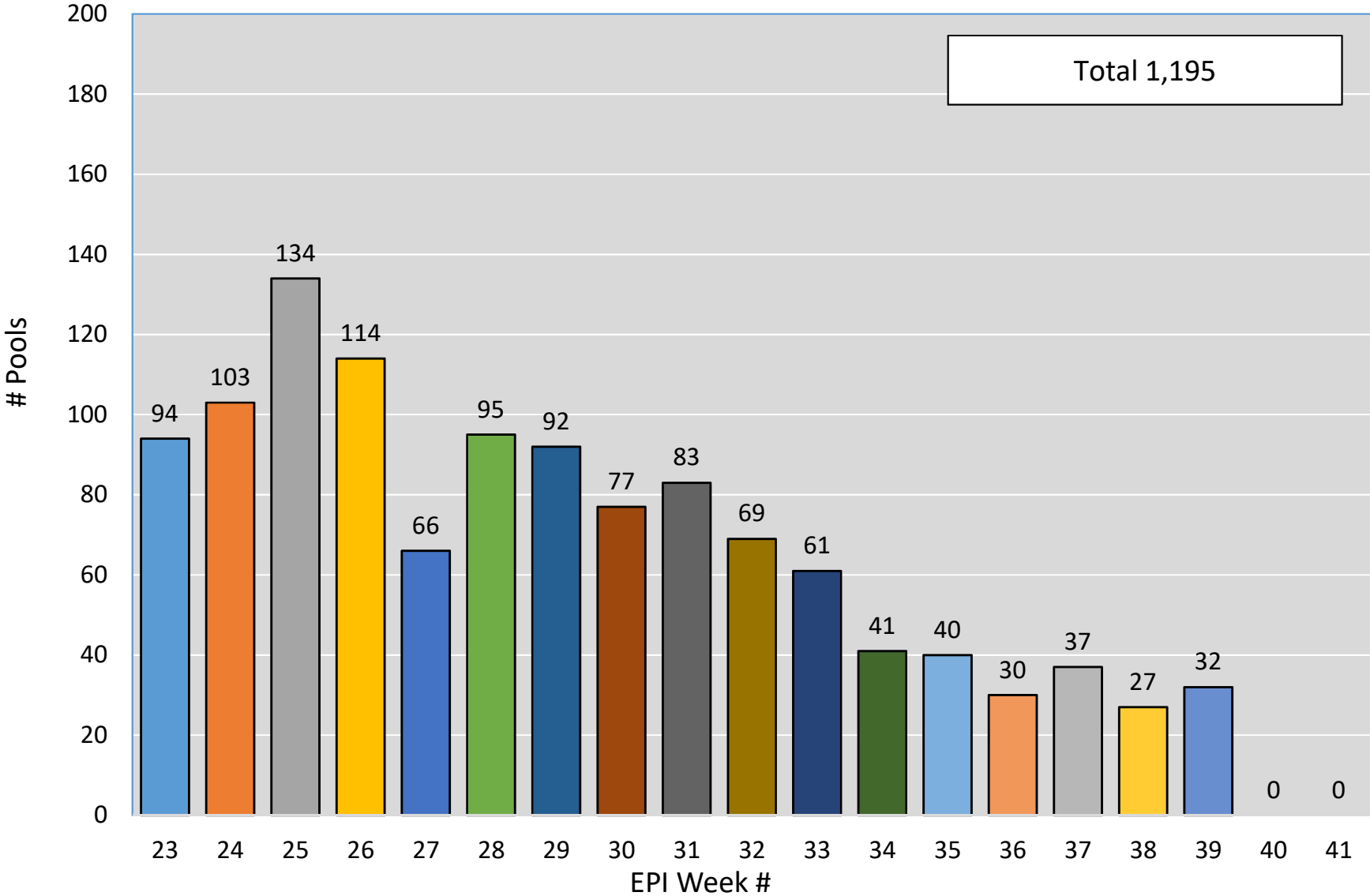
ULV Service Request History 2003-2022



2022 Rainfall vs. Requests



2022 Mosquito Pools Submitted for Virus Testing



2022 Catch Basins Treated

