

CMMCP WEEKLY SURVEILLANCE REPORT



EPI week #34
Aug. 21-27, 2022

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Central Mass. Mosquito Control Project
Weekly Report- 8/21/22-8/27/22
EPI Week #34

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	54	644	115	113	483	2438
Total Specimens	167	30464	491	1127	3145	38615
No. Pools WNV +	0	0	0	0	5 [†]	5 [†]
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

Weather Summary (Northborough, MA): The weather for this particular week averaged 72.79°F with a recorded high temperature of 92.80°F and a recorded low temperature of only 61.20°F. For this week there was also a total of 0.83 inches of rain observed. Compared to the previous week, it was approximately 1.35°F warmer on average, and rained about 0.81 inches more. There has been 1.75 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>	+766.7%	-94.82%	Hudson, Lowell
<i>Coquillettidia perturbans</i>	-85.64%	-37.60%	Littleton, Lowell, Westford
<i>Culiseta melanura</i>	+300.0%	+46.18%	Gardner
<i>Ochlerotatus canadensis</i>	+300.0%	-74.02%	Gardner
<i>Culex</i> Species	-32.28%	-68.10%	Natick
All Species	-57.59%	-50.50%	Hudson, Natick

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

General narrative: The temperatures for EPI week 34 averaged approximately 1.35°F warmer than the previous week, with 0.83 inches of precipitation observed. *Coquillettidia perturbans* has continued declining, largely contributing to the overall decrease in surveillance trap collections compared to EPI week 33. With this continued decline, *Coquillettidia perturbans* is now the second most abundant mosquito species for the week, behind *Culex*. *Aedes albopictus* surveillance using ovitraps has continued, with 160 new eggs collected and submitted. One mosquito pool submitted to MDPH in EPI

week 33 tested positive for West Nile virus, a collection of *Culex pipiens/restuans* from Natick.

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	160
27	1,823	35	
28	1,177	36	
29	1,074	37	
30	1,349	38	
	TOTAL	10,094	
No ATM detections to date			

Operational notes:

The ULV residential spray program ended August 25 due to drought conditions and subsequent low mosquito populations. Service requests are 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. 4,799 basins were treated in Epi week 34, with 101,415 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 in our service area.

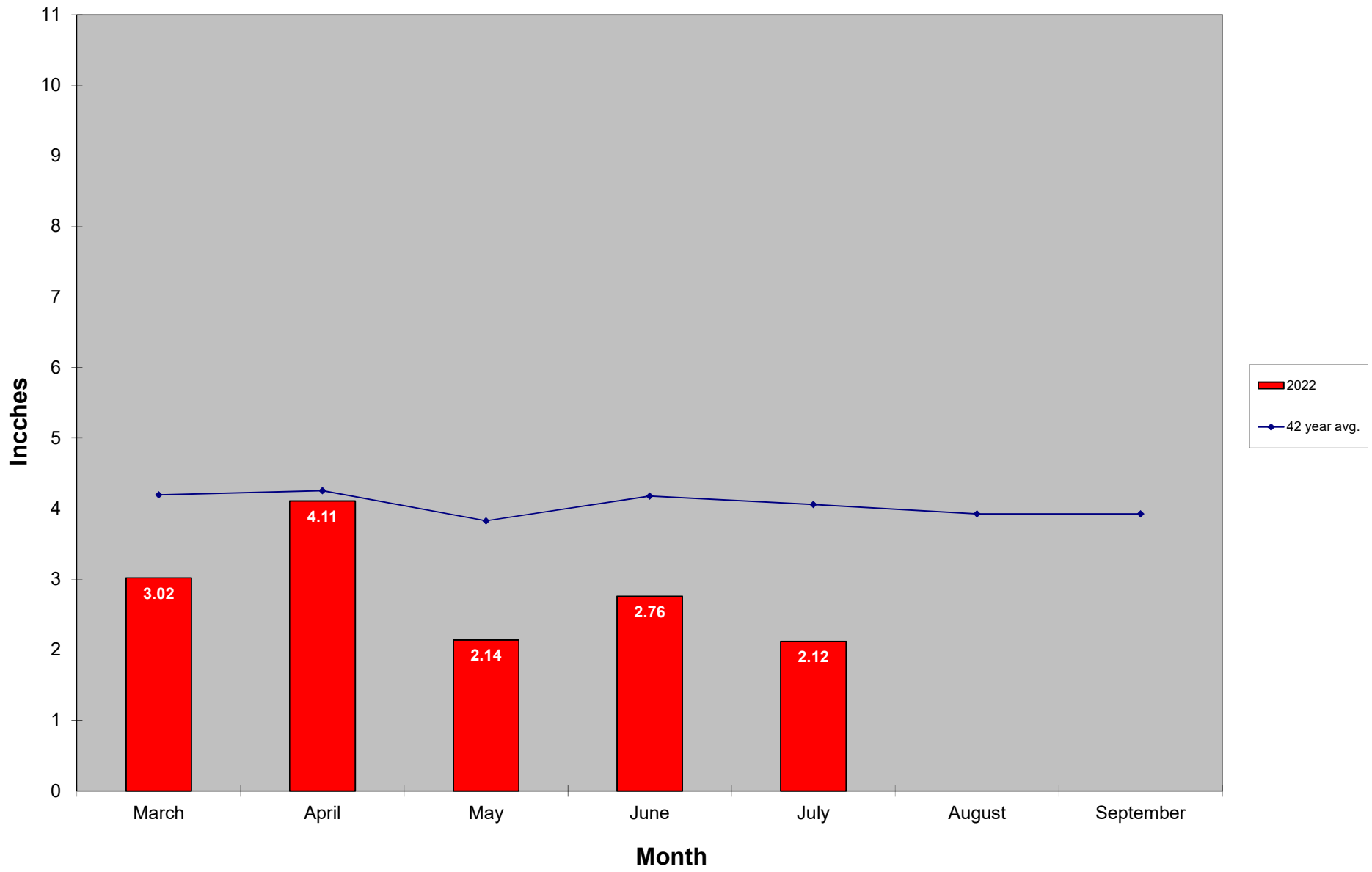
West Nile Virus was confirmed in a surveillance trap in Natick in a collect of *Culex*. Coordination with the Natick Board of Health resulted in an expanded ULV application on August 24. Catch basins were also treated in this area. We will continue to monitor the situation and respond if needed.

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.

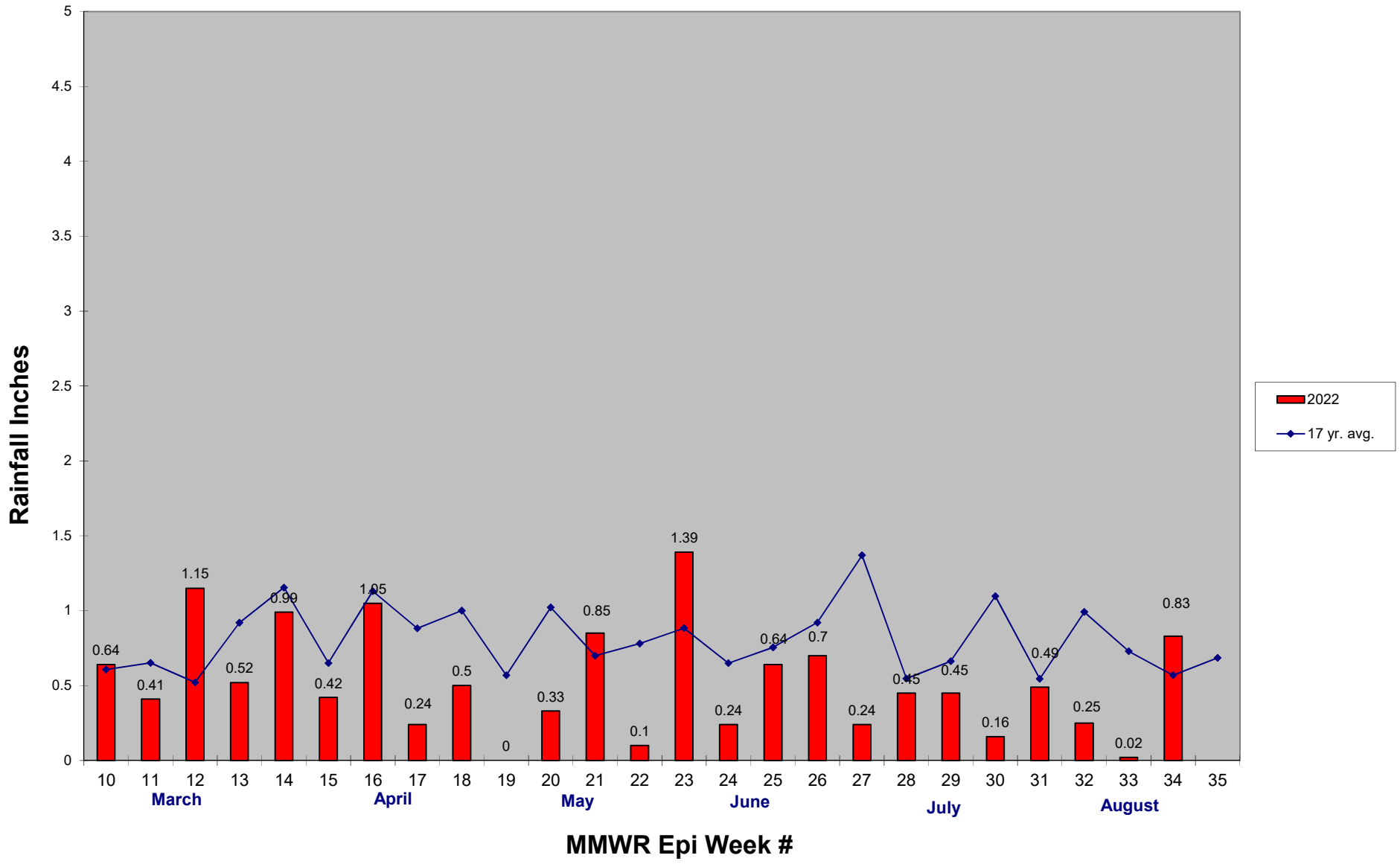
Recently conducted ULV efficacy trials in conjunction with Tufts School of Veterinary Medicine using CDC and BG-Counter traps indicate over 70% control following an application of Zenivex® E4. Specimens are currently being age-graded which could help identify whether mosquitoes collected post-spray are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



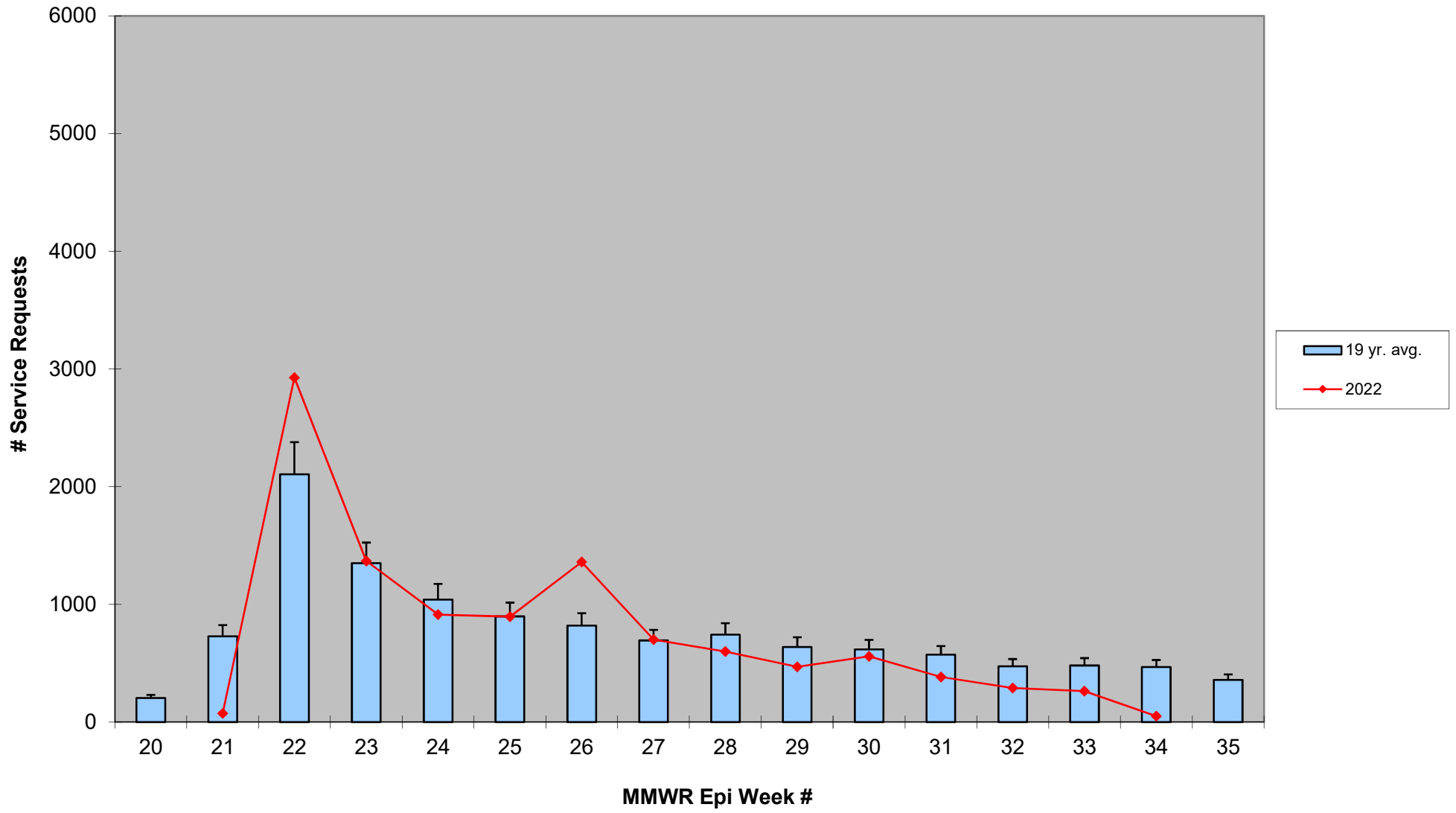
*source: <http://www.nrcc.cornell.edu/regional/tables/tables.html>

2022 CMMCP Weekly Rainfall vs. 17 Year Average*

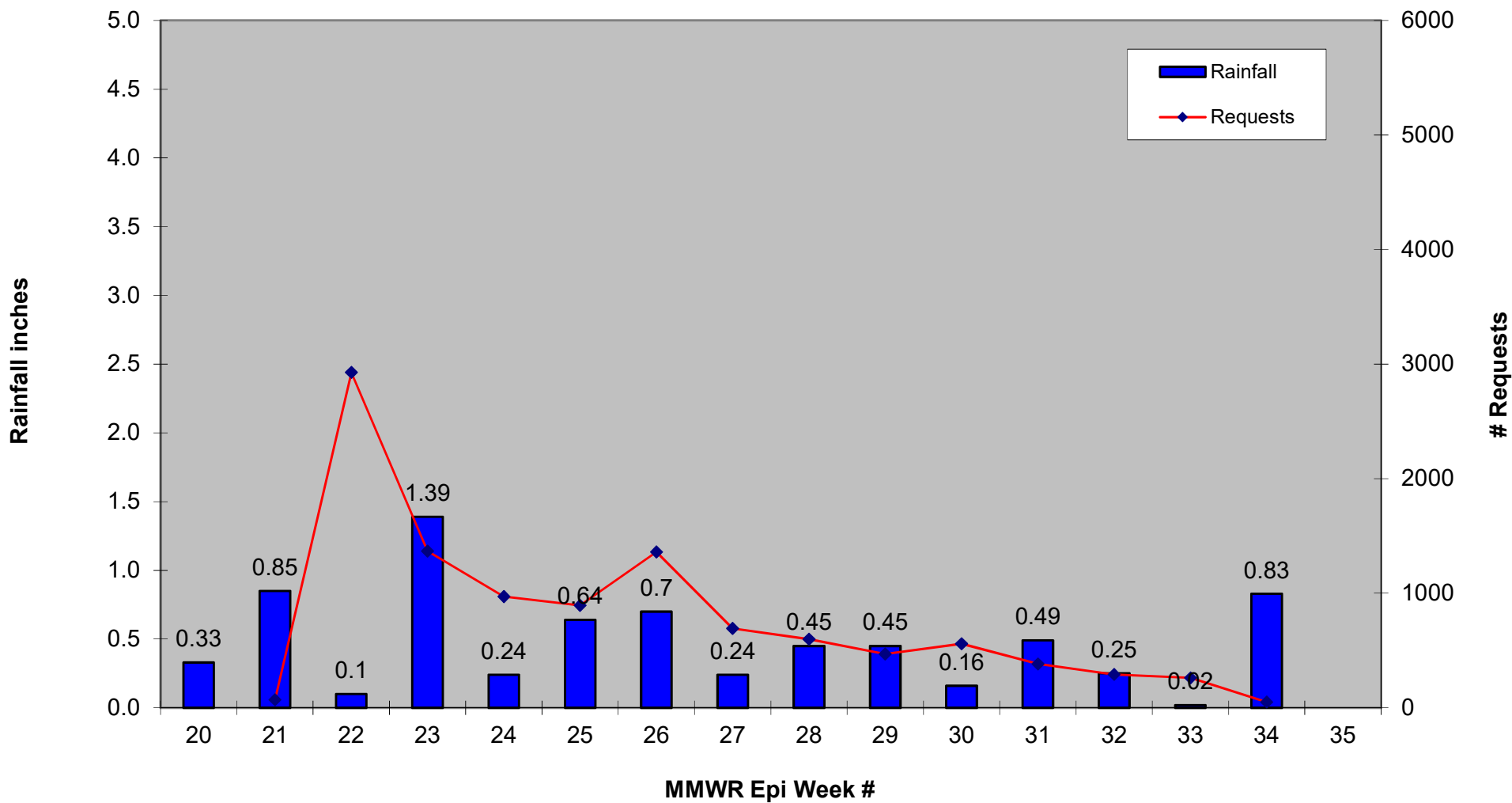


*source: CMMCP weather station Northborough, MA

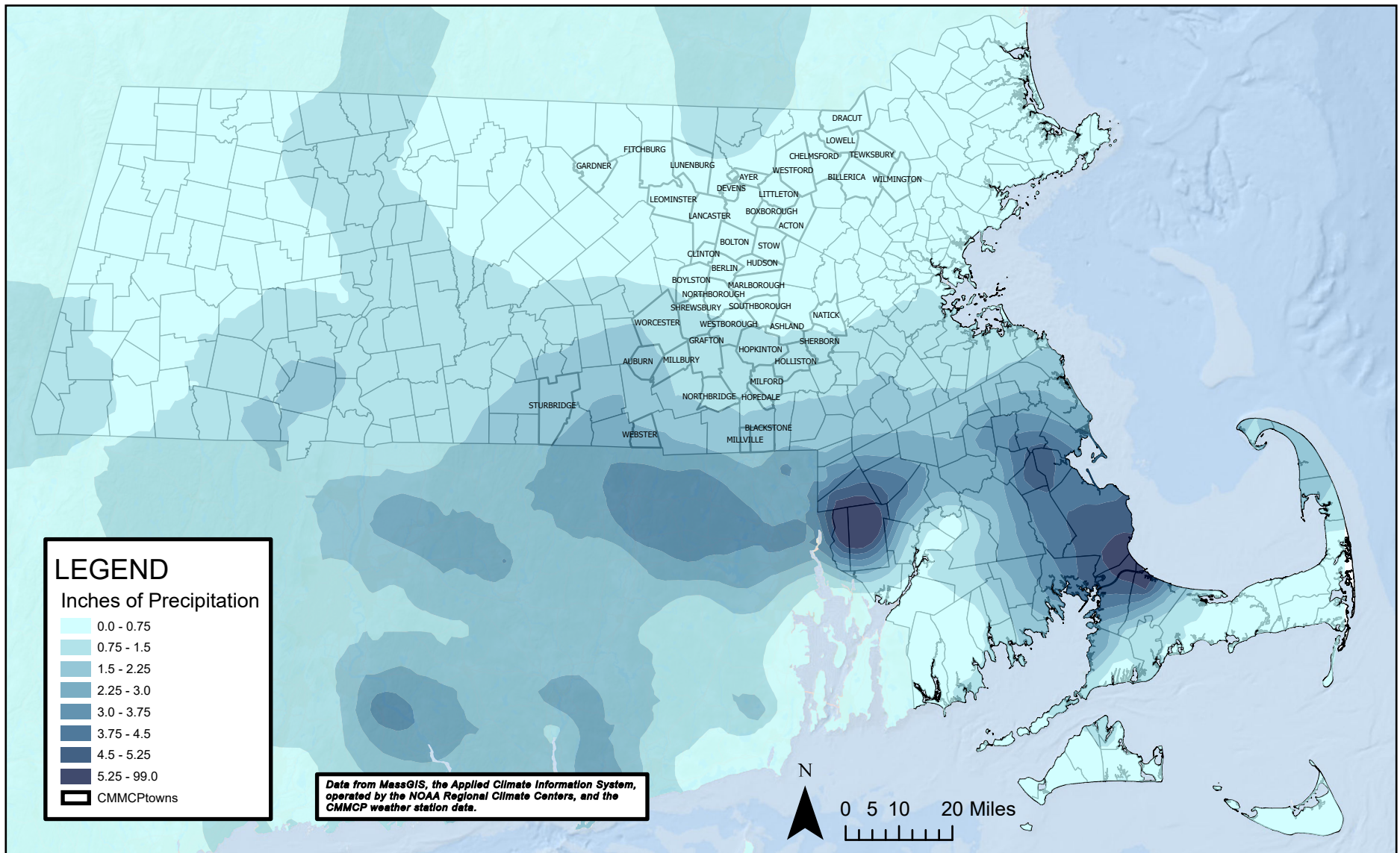
ULV Service Request History 2003-2022



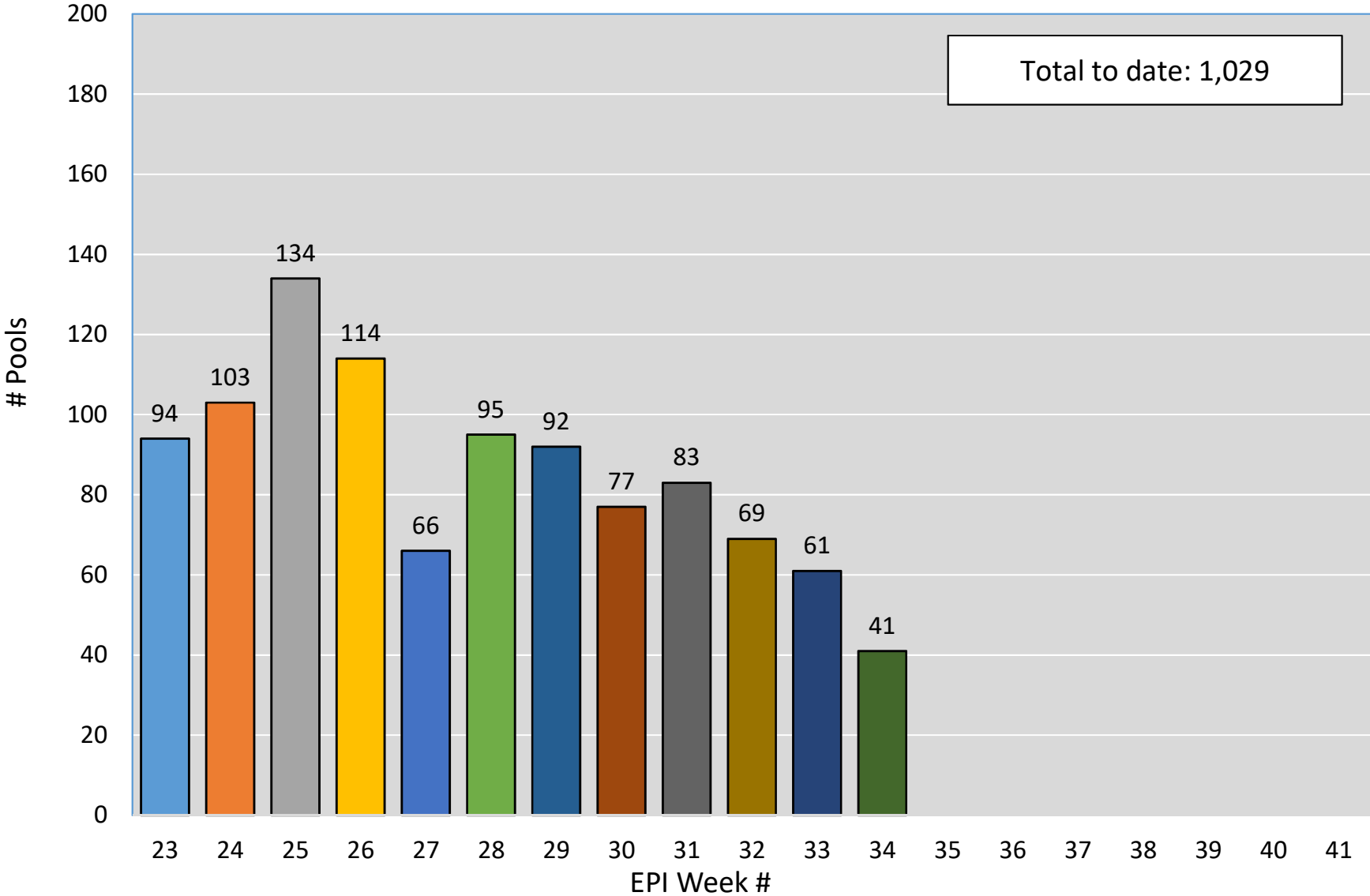
2022 Rainfall vs. Requests



Precipitation in CMMCP Towns for EPI Week 33 (8/21/22)



2022 Mosquito Pools Submitted for Virus Testing



2022 Catch Basins Treated

