

CMMCP WEEKLY SURVEILLANCE REPORT



EPI week #38
Sept. 19-25, 2021

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**Central Mass. Mosquito Control Project
Weekly Report- 9/19/21-9/25/21
EPI Week #38**

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	540	842	205	423	1125	5787
Total Specimens	20259	47553	765	4672	13056	108250
No. Pools WNV +	1 [†]	0	0	0	16 [†]	17 [†]
No. Pools EEE +	0	0	0	0	0	0

- †Pool of WNV+ *Culex pipiens* collected in Worcester on 8/13/21
- †Pool of WNV+ *Aedes vexans* collected in Worcester on 8/13/21
- †Pool of WNV+ *Culex pipiens/restuans* complex collected in Billerica on 8/20/21
- †Pool of WNV+ *Culex pipiens/restuans* collected in Grafton on 8/24/21
- †Pool of WNV+ *Culex pipiens/restuans* collected in Clinton on 8/24/21
- †Pool of WNV+ *Culex pipiens/restuans* complex collected in Northbridge on 8/26/21
- †Pool of WNV+ *Culex restuans* collected in Sturbridge on 8/31/21
- †Pool of WNV+ *Culex pipiens* collected in Millville on 9/1/21
- †Pool of WNV+ *Culex pipiens/restuans* collected in Worcester on 9/8/21
- †Pool of WNV+ *Culex pipiens/restuans* complex collected in Hopedale on 9/8/21
- †Pool of WNV+ *Culex restuans* collected in Milford on 9/8/21
- †Pool of WNV+ *Culex restuans* collected in Boylston on 9/10/21
- †Pool of WNV+ *Culex pipiens* collected in Marlborough on 9/15/21
- †Pool of WNV+ *Culex pipiens/restuans* collected in Wilmington on 9/17/21
- †Pool of WNV+ *Culex pipiens/restuans* collected in Sturbridge on 9/21/21
- †Pool of WNV+ *Culex pipiens/restuans* complex collected in Billerica on 9/21/21
- †Pool of WNV+ *Culex* species collected in Grafton on 9/24/21

Weather Summary (Northborough, MA): The weather for this particular week averaged 65.73°F with a recorded high temperature of 81.10°F and a recorded low temperature of only 46.50°F. For this week there was also a total of 0.35 inches of rain observed. Compared to the previous week, it was approximately 2.37°F cooler on average, and rained about 0.47 inches less. There has been 5.38 inches of rain accumulated in September, after 3.97 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>	-82.79%	+842.2%	Northbridge, Tewksbury
<i>Coquillettidia perturbans</i>	-47.46%	+45.73%	Westborough
<i>Culiseta melanura</i>	+295.9%	+139.8%	Boxborough, Wilmington
<i>Ochlerotatus canadensis</i>	-20.20%	+80.80%	Acton, Sturbridge, Gardner
<i>Culex</i> Species	-21.79%	+198.7%	Boxborough, Grafton

All Species	-64.12%	+122.5%	Northbridge, Devens, Tewksbury
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The predominant mosquito for the week was *Aedes vexans* followed by *Culex*.

General narrative:

The temperatures for EPI week 38 averaged approximately 2.37°F cooler than the previous week, with 0.35 inches of precipitation observed. *Aedes vexans* was again the most abundant mosquito for the week, now followed by *Culex*. For target mosquitoes, only *Culiseta melanura* was more abundant in EPI week 38 compared to the previous week. Overall mosquito population numbers were down in EPI week 38. Compared to the 2020 season, overall mosquito surveillance numbers are up this year, primarily due to increases in *Coquillettidia perturbans* and *Aedes vexans*. Two submitted mosquito pools from EPI week 37 tested positive for West Nile virus, both being collections of *Culex* (Marlborough and Wilmington). There were zero eggs collected for *Aedes albopictus* surveillance this week.

Ae. albopictus egg collections:

Epi week#	# eggs Collected	Epi week#	# eggs Collected
23	0	31	928
24	43	32	546
25	530	33	319
26*	512	34	629
27	399	35	852
28	362	36	1,095
29	46	37	2,497
30	21	38	0
TOTAL		8,779	
*ATM detected in Lowell			

Operational notes:

Service requests for adulticiding have ended for 2021, but our ULV program will remain in place for Epi week 38 to respond to any outstanding requests on file. Additional virus confirmation(s) may result in ULV applications but will depend on weather conditions, mosquito population data and consent/agreement from LBOHs.

Service requests for the year are 38.31% greater than the 18-year average but only a 1.56% decrease over 2020 numbers. Work crews are performing wetland treatments for

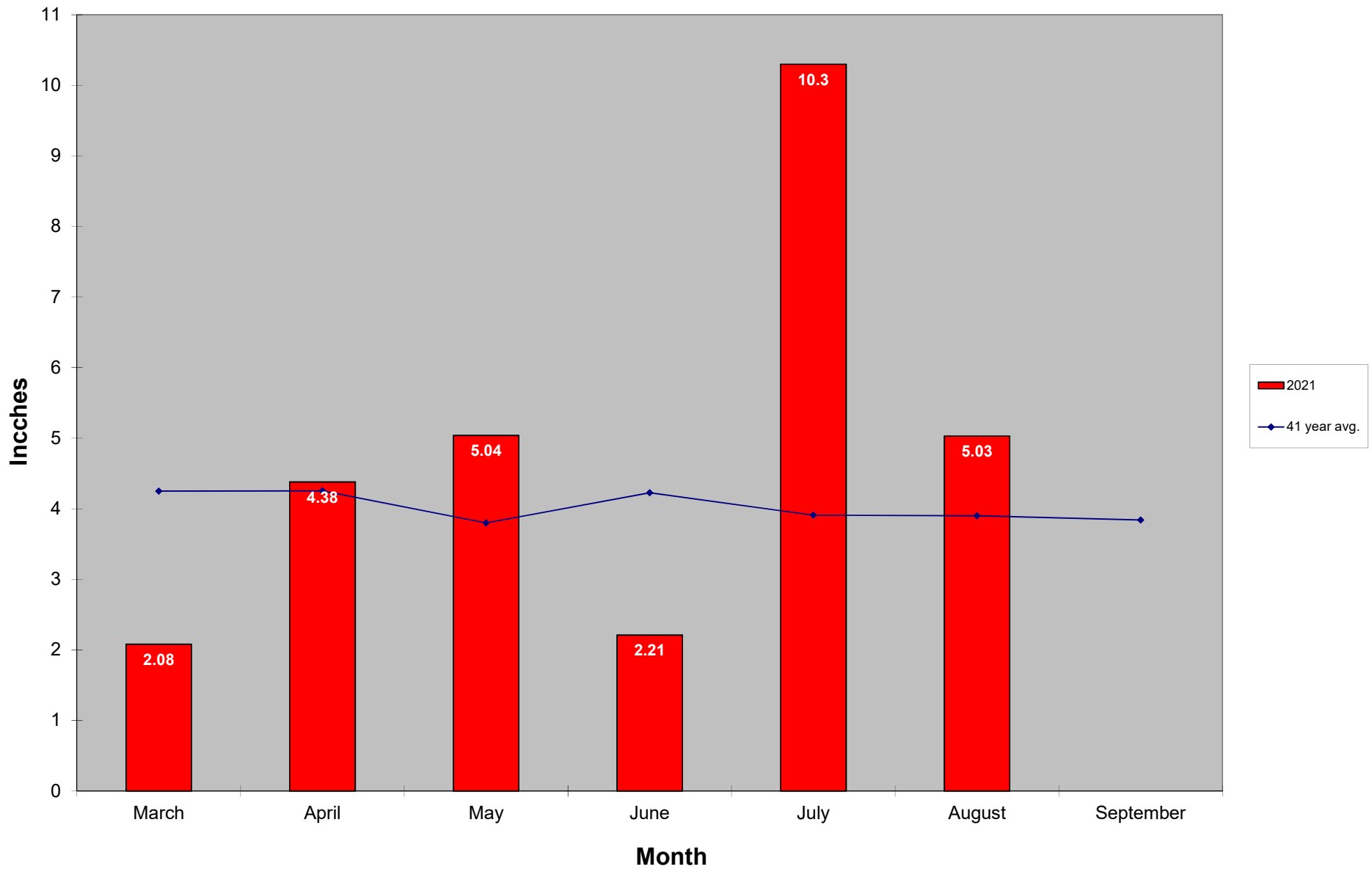
Cq. perturbans; catch basins treatments for *Culex* control last week as *Culex* begin to enter diapause. The total for 2021 is 89,291 basins treated.

In Epi week 38, our last week of testing due to MDPH ending this program, on October 1, we identified three pools of WNV in Billerica, Grafton & Sturbridge. Nighttime temperatures are turning cooler but a short window of warm enough temps and no rain allowed us to perform ULV applications in these areas. For Epi week 37, two submitted pools were identified with WNV in Marlboro & Wilmington. The Wilmington trap site was close to the Billerica town line so coordination with all 3 LBOH was done prior to ULV applications in these areas. Four pools submitted in Epi week 36 were positive for WNV, in Boylston, Hopedale, Milford & Worcester. ULV applications were performed in the affected areas after coordination with LBOH. Two submitted mosquito pools from EPI week 35 tested positive for West Nile virus, one *Culex pipiens* (Millville) and one *Culex restuans* (Sturbridge). ULV spraying was done in the affected areas on Sept. 10 after coordination with LBOH. Three submitted mosquito pools from EPI week 34 tested positive for West Nile virus in Clinton, Grafton and Northbridge, all in *Culex pipiens/restuans*. ULV spraying was done in the affected areas on September 2 or 3 after coordination with LBOHs. Two submitted mosquito pools from EPI week 32 tested positive for West Nile virus in Worcester, one *Aedes vexans*, the other *Culex pipiens*. ULV spraying was done in the affected area on August 18 after coordination with the Worcester Dept. of Health and the City Manager's office. One pool of *Culex pipiens/restuans* tested positive for West Nile virus in Billerica; targeted ULV spraying was performed August 26 in the affected area after coordination with the LBOH.

Our Asian Tiger Mosquito (ATM) control protocols were instituted in Epi week 28 in Lowell after confirmation of a positive specimen from one of our ovitraps. To date no additional ATM has been identified in this area, and we will continue to monitor for this invasive species throughout the remainder of the season.

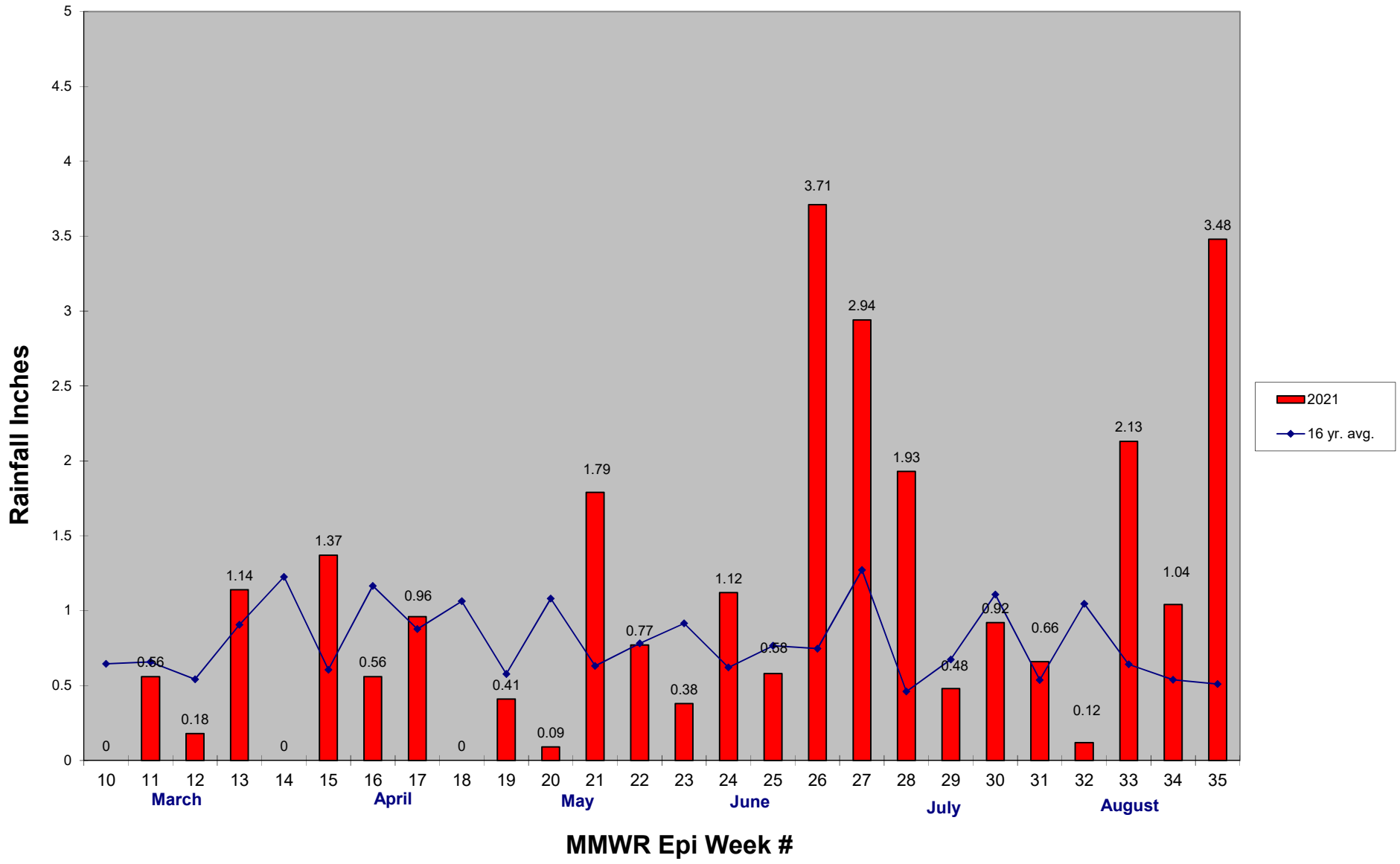
Results of the water sampling and bioassays during our enhanced larval control program in May showed that Spinosad is only minimally penetrating the *Cs. melanura* crypt habitat, and the control effect declines quickly both inside and outside of the crypts. Data is being collected and analyzed from emergence traps in *Cq. perturbans* habitat but initial results are showing efficacy.

2021 Mass. Rainfall Data vs. 41 Year Average*



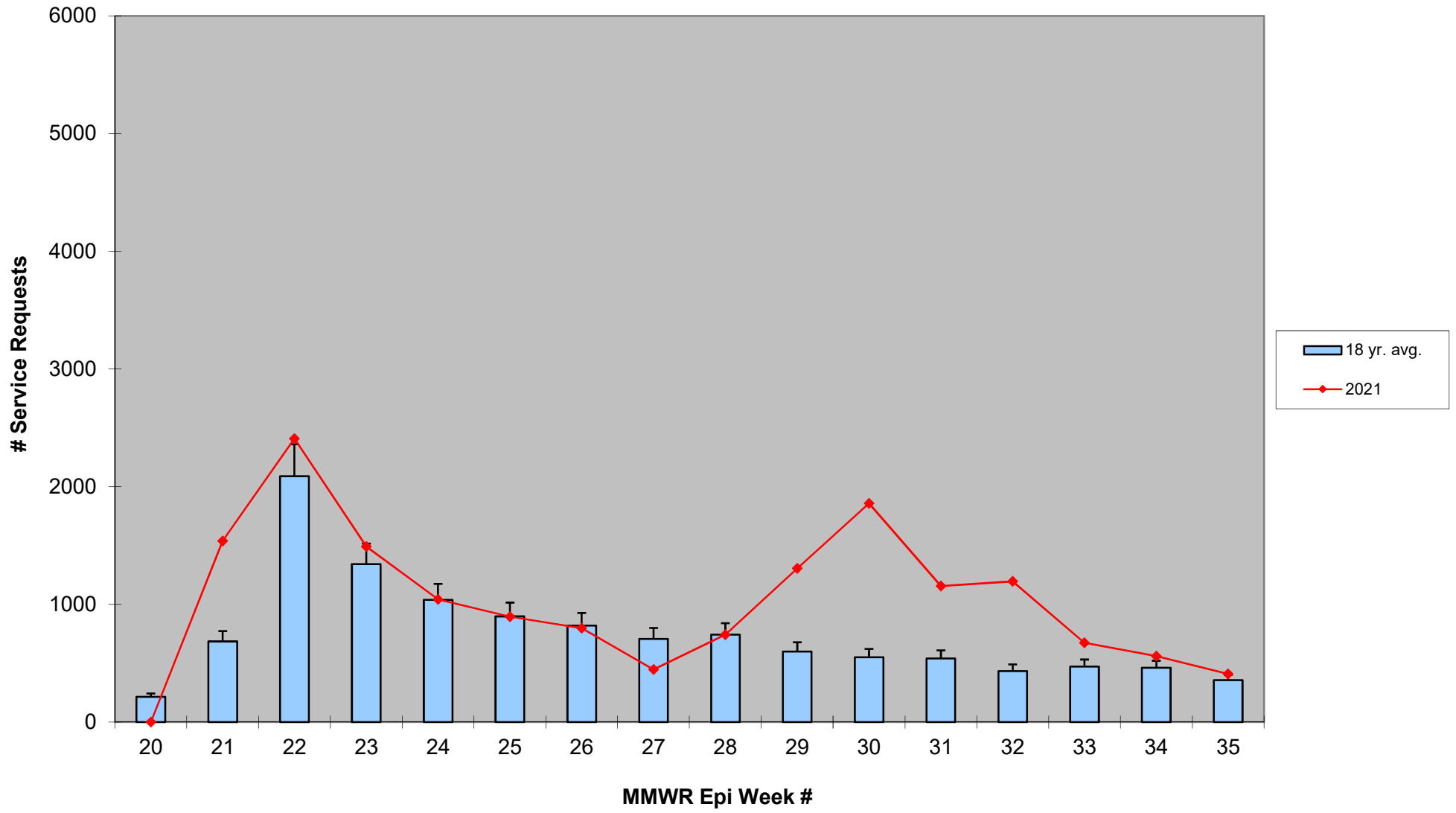
*source: <http://www.nrcc.cornell.edu/regional/tables/tables.html>

2021 CMMCP Weekly Rainfall vs. 16 Year Average*



*source: CMMCP weather station Northborough, MA

ULV Service Request History 2003-2021



2021 Rainfall vs. Requests

