

CMMCP WEEKLY SURVEILLANCE REPORT



EPI week #36
Sept. 5-11, 2021

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**Central Mass. Mosquito Control Project
Weekly Report- 9/5/21-9/11/21
EPI Week #36**

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	439	816	147	382	962	5023
Total Specimens	10262	47463	403	4316	11543	92049
No. Pools WNV +	1 [†]	0	0	0	7 [†]	8 [†]
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

Weather Summary (Northborough, MA): The weather for this particular week averaged 66.90°F with a recorded high temperature of 84.10°F and a recorded low temperature of only 49.60°F. For this week there was also a total of 0.75 inches of rain observed. Compared to the previous week, it was approximately 0.04°F warmer on average, and rained about 2.73 inches less. There has been 4.21 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>	+209.8%	+443.5%	Bolton, Shrewsbury, Northbridge
<i>Coquillettidia perturbans</i>	+1.420%	+45.55%	Westborough, Sturbridge, Littleton
<i>Culiseta melanura</i>	+69.70%	+33.44%	Grafton
<i>Ochlerotatus canadensis</i>	+174.1%	+67.08%	Sturbridge, Southborough, Hudson
<i>Culex</i> Species	+27.67%	+176.8%	Westborough, Westford
All Species	+128.6%	+91.77%	Northbridge, Bolton, Shrewsbury

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

General narrative:

The temperatures for EPI week 36 averaged approximately 0.04°F warmer than the previous week, with 0.75 inches of precipitation observed. *Aedes vexans* was again the most abundant mosquito for the week, now followed by *Psorophora ferox*. All target mosquitoes were more abundant in EPI week 36 compared to the previous week.

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 35 tested positive for West Nile virus, one *Culex pipiens* (Millville) and one *Culex restuans* (Sturbridge). *Aedes albopictus* surveillance using ovitraps has continued, with an additional 1095 eggs submitted to the Massachusetts Department of Public Health.

Ae. albopictus egg collections:

Epi week#	# eggs Collected	Epi week#	# eggs Collected
23	0	30	21
24	43	31	928
25	530	32	546
26*	512	33	319
27	399	34	629
28	362	35	852
29	46	36	1,095
	TOTAL	5,187	
*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 37 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 inspections and catch basins treatments for *Culex* control during daytime hours but seasonal staff have been switched to adult mosquito surveillance, and the catch basin ended this week as *Culex* begin to enter diapause. 2,754 catch basins were treated in Epi week 36, bringing the total to 89,291 basins treated for 2021.

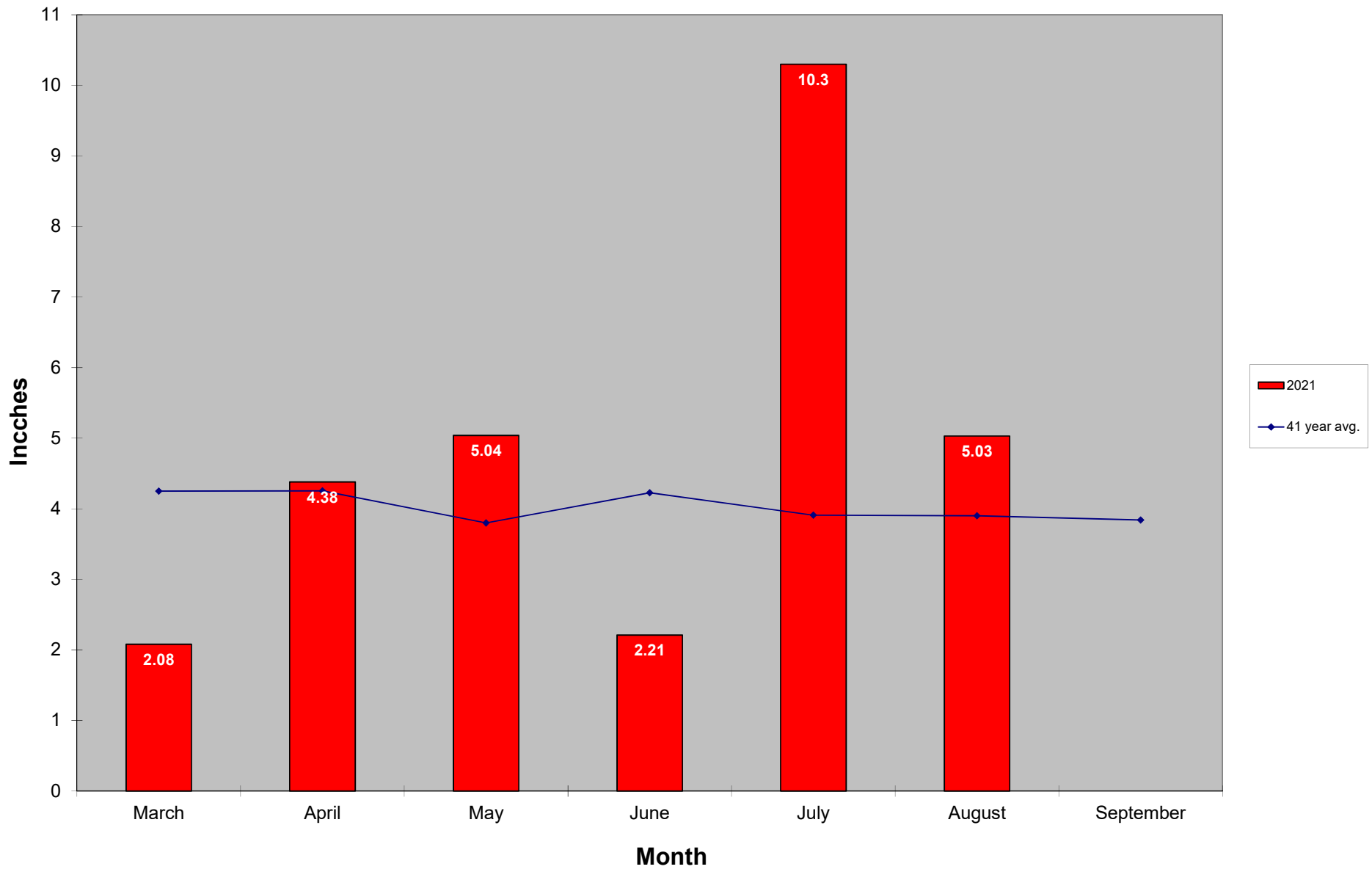
Two submitted mosquito pools from EPI week 35 tested positive for West Nile virus, one *Culex pipiens* (Millville) and one *Culex restuans* (Sturbridge). ULV spraying was done in the affected areas on Sept. 10 after coordination with LBOH. Three submitted mosquito pools from EPI week 34 tested positive 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.

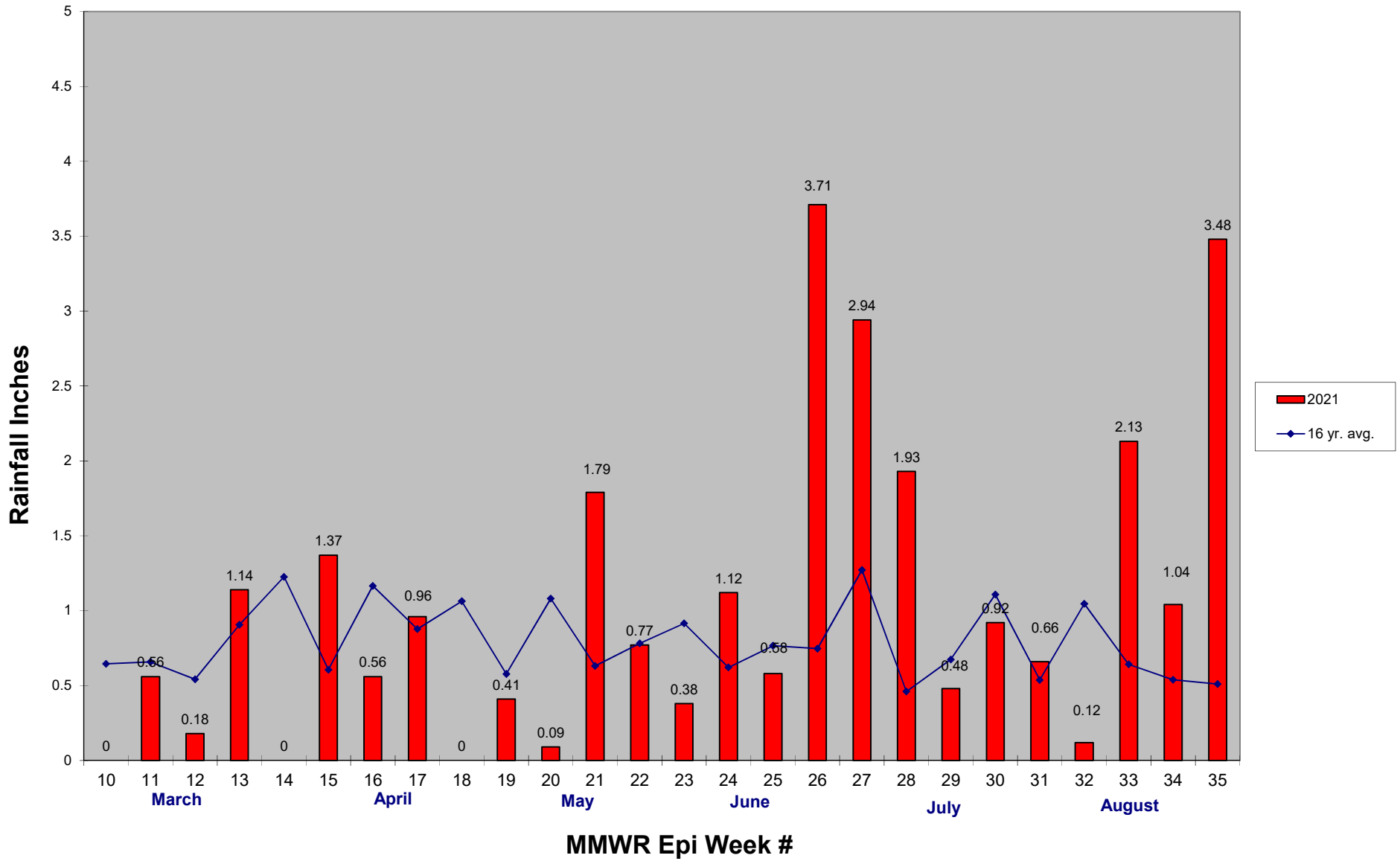
Results of the water sampling and bioassays during our enhanced larval control program in May showed that Spinosad is only minimally penetrating the *Cs. melanura* crypt habitat, and the control effect declines quickly both inside and outside of the crypts. Data is being collected and analyzed from emergence traps in *Cq. perturbans* habitat but initial results are showing efficacy. Additional applications using Spinosad for *Cq. perturbans* control are planned in areas of high light trap collections from 2021 and will begin in Epi week 37.

2021 Mass. Rainfall Data vs. 41 Year Average*



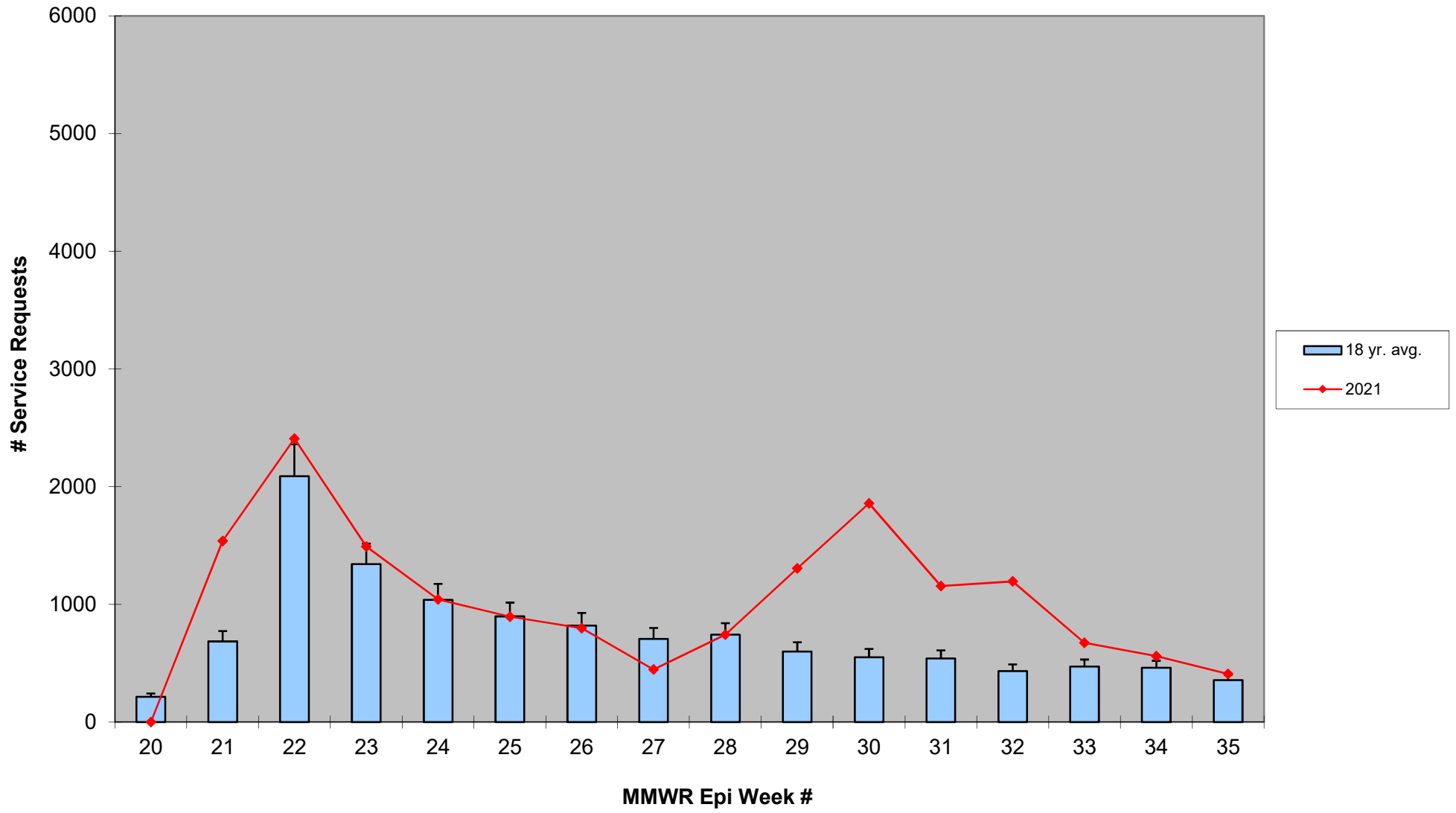
*source: <http://www.nrcc.cornell.edu/regional/tables/tables.html>

2021 CMMCP Weekly Rainfall vs. 16 Year Average*



*source: CMMCP weather station Northborough, MA

ULV Service Request History 2003-2021



2021 Rainfall vs. Requests

