

CMMCP WEEKLY SURVEILLANCE REPORT



EPI week #35
August 29 – Sept. 4, 2021

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Central Mass. Mosquito Control Project
Weekly Report- 8/29/21-9/4/21
EPI Week #35

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	374	789	128	359	875	4585
Total Specimens	4810	47178	347	4094	10454	81042
No. Pools WNV +	1 [†]	0	0	0	5 [†]	6 [†]
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

Weather Summary (Northborough, MA): The weather for this particular week averaged 66.86°F with a recorded high temperature of 87.10°F and a recorded low temperature of only 52.20°F. For this week there was also a total of 3.48 inches of rain observed. Compared to the previous week, it was approximately 8.27°F cooler on average, and rained about 2.44 inches more. There has been 3.46 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>	+872.4%	+157.0%	Berlin, Billerica, Lowell
<i>Coquillettidia perturbans</i>	-67.92%	+44.98%	Lowell, Westborough, Lunenburg
<i>Culiseta melanura</i>	+00.00%	+15.67%	Stow, Westford, Boxborough
<i>Ochlerotatus canadensis</i>	-65.82%	+58.54%	Westford, Lowell
<i>Culex</i> Species	-54.41%	+159.1%	Chelmsford, Berlin, Blackstone
All Species	-0.560%	+70.09%	Berlin, Lowell, Billerica

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

General narrative:

The temperatures for EPI week 35 averaged approximately 8.27°F cooler than the previous week, with 3.48 inches of precipitation observed. *Aedes vexans* became the most abundant mosquito for the week, now followed by *Culex*. For target mosquitoes, only *Aedes vexans* was more abundant in EPI week 35 compared to the previous week. Despite this, overall mosquito population numbers were up in EPI week 35. Compared to the 2020 season, overall mosquito surveillance numbers are up this year, primarily due to increases in *Coquillettidia perturbans* and *Aedes vexans*. Three submitted mosquito

pool from EPI week 34 tested positive for West Nile virus, all *Culex pipiens/restuans* collections, from Clinton, Grafton, and Northbridge. *Aedes albopictus* surveillance using ovitraps has continued, with an additional 852 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	
	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 36 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 are 38.31% greater than the 18-year average but only a 1.56% decrease over 2020 numbers. Requests decreased 36.8% from the previous week. 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 program is winding down for the season as *Culex* begin to enter diapause. 2,254 catch basins were treated in Epi week 35, bringing the total to 86,537 basins. This program will end in Epi week 36.

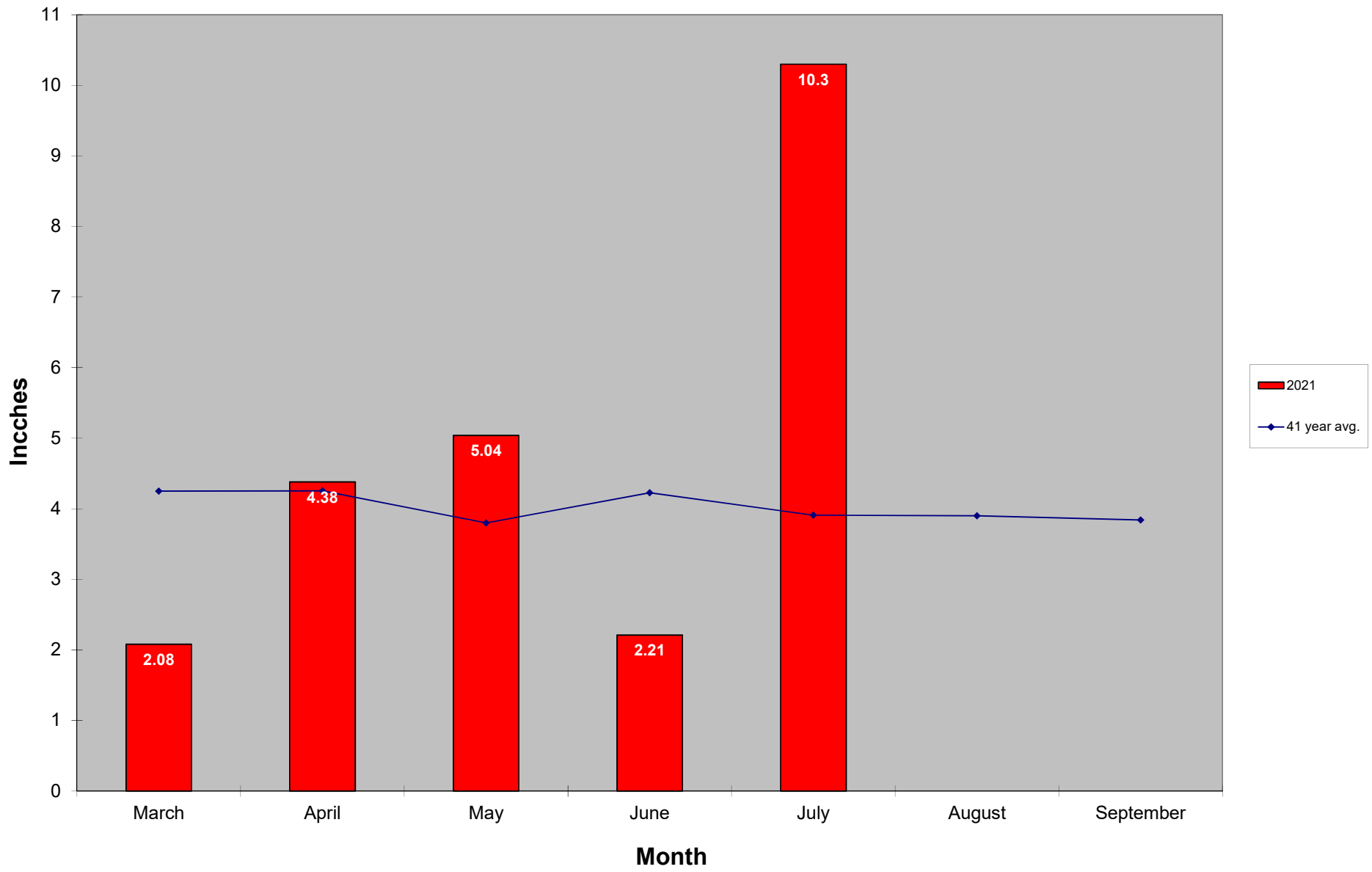
Three submitted mosquito pools from EPI week 34 tested positive for West Nile virus in Clinton, Grafton and Northbridge, all in *Culex pipiens/restuans*. ULV spraying was done in the affected areas on September 2 or 3 after coordination with LBOHs. Two submitted mosquito pools from EPI week 32 tested 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.

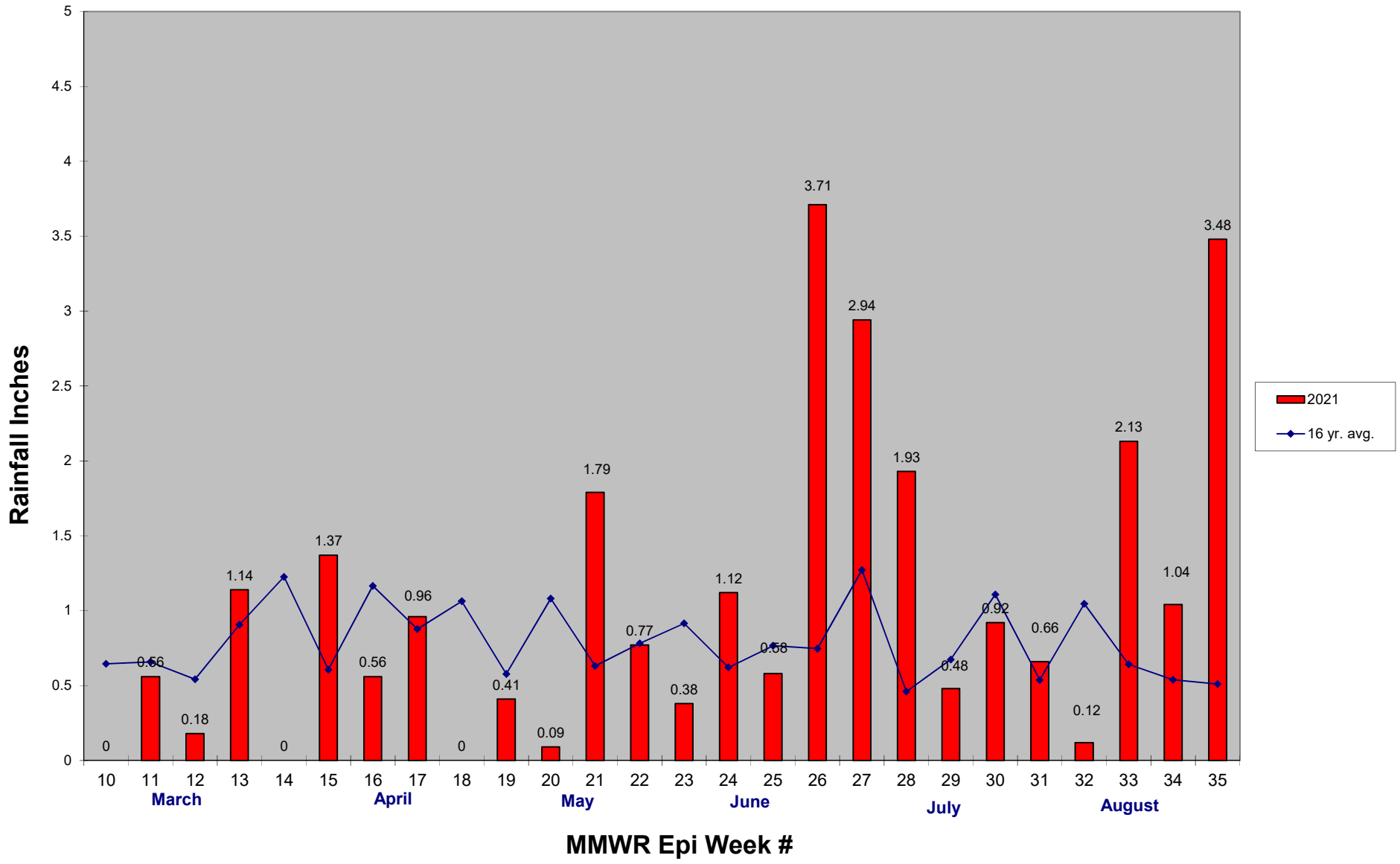
Results of the water sampling and bioassays during our enhanced larval control program in May showed that Spinosad is only minimally penetrating the *Cs. melanura* crypt habitat, and the control effect declines quickly both inside and outside of the crypts. Data is being collected and analyzed from emergence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



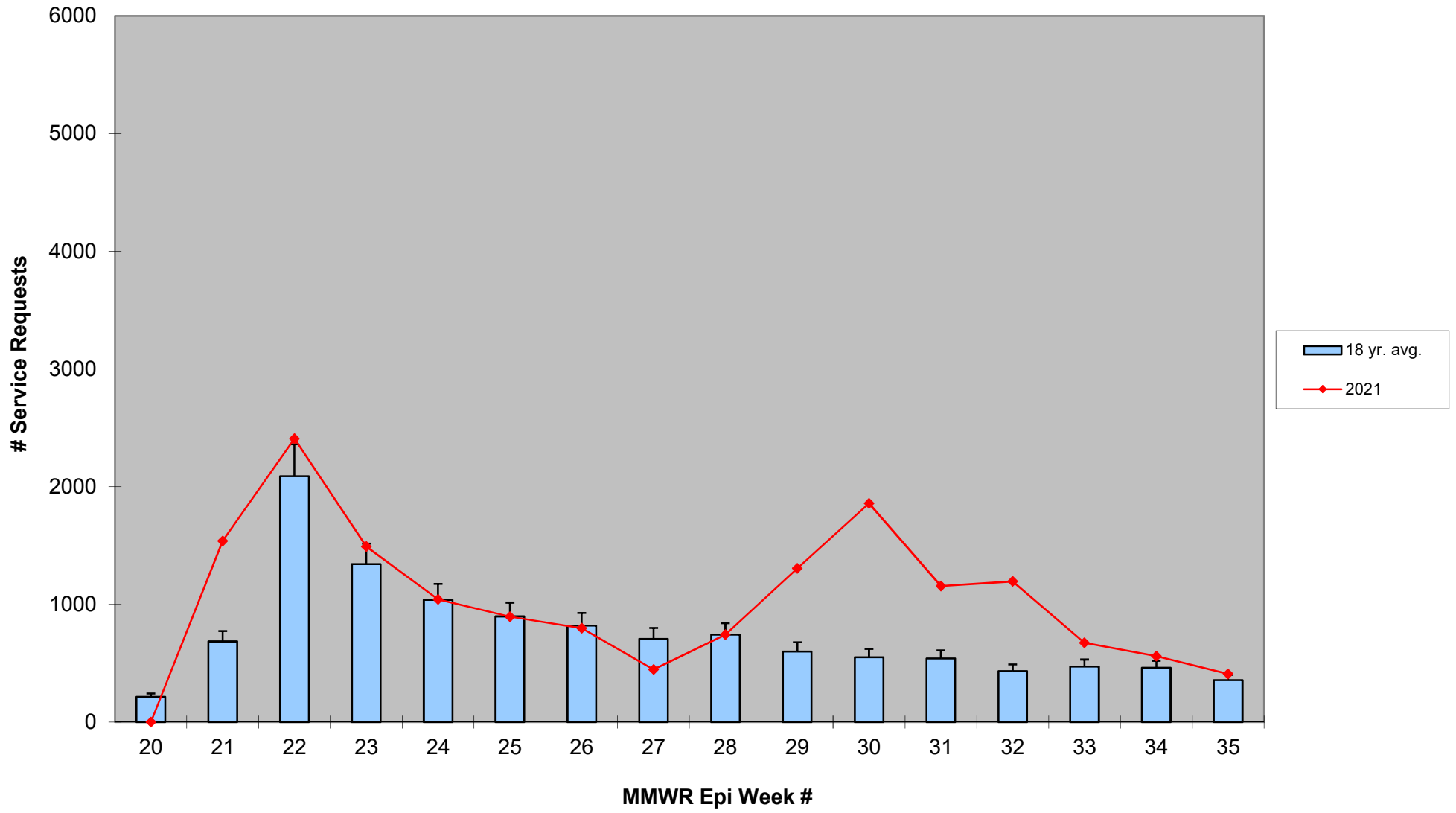
*source: <http://www.nrcc.cornell.edu/regional/tables/tables.html>

2021 CMMCP Weekly Rainfall vs. 16 Year Average*



*source: CMMCP weather station Northborough, MA

ULV Service Request History 2003-2021



2021 Rainfall vs. Requests

